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THE MAGAZINE
OF
HORTICULTURE,
BOTANY,
AND ALL USEFUL DISCOVERIES AND IMPROVEMENTS IN
RURAL AFFAIRS.

“Je voudrais échauffer tout l'univers de mon gout pour les jardins. Il me semble qu'il est impossible qu'un méchant puisse l'avoir. Il n'est point de vertus que je ne suppose à celui que aime à parler et à faire des jardins. Pères de famille, inspirez a jardinomanie à vos enfans.”—*Prince de Ligne.*

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AUTHOR OF THE “FRUITS OF AMERICA.”

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THE MAGAZINE OF HORTICULTURE.

THE PROGRESS OF HORTICULTURE.

THE progress of horticulture during the last twenty-five years has not only been recorded in our pages, but its annual advancement has been so fully detailed that the young amateur or zealous cultivator has but to turn to our yearly summary to trace its regular progress during a quarter of a century.

Early impressed with the idea that it was well to review from time to time what had already been accomplished, we have selected the commencement of a new volume as a fitting occasion to do so; and though to some extent a recapitulation of the results of the year, it has enabled us to bring more prominently before our readers many important topics—to discuss others which should receive attention—to combine the experiences of the year, and, from them, to draw such information as will have a bearing upon future operations, or in any way aid in extending a more complete knowledge of the art and practice of horticulture. We think we have not mistaken the wishes of our readers, or at least of all who truly estimate the importance of horticultural science, in continuing our summary of the progress of the year.

The country has not yet fully recovered from the depression of the last two years. Though there is a return to more activity in the planting and cultivation of fruit trees, there has not been that zealous and enthusiastic devotion to horticultural pursuits and rural art generally which prevailed a few years ago. In some parts of the country this change has been less than in others, and gardening generally may be said to be in a flourishing condition; but improvement on an extended scale—the formation of large gardens—the planting of

collections of trees—the construction of conservatories and forcing-houses, and the higher departments of culture, have not engaged the attention of the people as in former years. This state of things will undoubtedly soon wear away, and a return to the usual prosperity of the country will bring with it increased attention to all departments of gardening.

We give, as heretofore, a brief account of the peculiar and rather unfavorable season just brought to a close.

January was a rather cold month. It was moderate for the first week, with a snow storm on the 4th, which fell to the depth of 10 inches. On the 10th, the temperature suddenly fell to 4° below zero—a bitter cold day—the mercury only zero at noon, and 6° below at night. The 11th it fell to 14° below zero, the coldest morning but one for twenty-five years. On the 14th, it was mild again, with rain; and the remainder of the month was moderate, without snow.

The month of February was milder, and with but little snow. On the 9th it rained, with the temperature at 40° . The 11th it was colder, the mercury falling to 7° . From the 15th to the 21st, it was mild again, with cold rains. The remainder of the month was cool, with four inches of snow on the 26th.

March opened cool, but was immediately followed by a warm rain on the 4th, and on the 6th, the song sparrow, the harbinger of spring, made his appearance. Continued mild weather followed, with warm rains on the 12th, 15th, 18th, and 25th, when all snow had disappeared and the ground was quite dry; the few remaining days were mild, with only white frosts.

The month of April was cool. The first week the temperature fell below freezing every morning; cold rains succeeded, with a light snow on the 15th, and frost again up to the 20th. The remainder of the month was variable, with cold rain, and frost on the 29th. Vegetation made but little progress up to the close of April.

May commenced more favorably. On the 2d, the temperature reached 75° , and, on the 8th, the very unusual altitude, at this period of the year, of 90° . Vegetation made a rapid start, and summer seemed fairly set in, peaches, cherries,

pears and plums being in full bloom; but on the 10th, it became cool again, with chilly rains, and on the 16th, the temperature fell to the dreaded point of 32° , with a white frost so thick and heavy as to appear like snow; even the ground was frozen stiff in many places. Such a frost, so late in the season, could not otherwise than prove injurious to all fruit trees. The remainder of the month, with the exception of three or four days, continued cool.

June was scarcely more favorable than May. The first two weeks were cool and rainy, with a slight frost in many localities on the 11th, and an average temperature at sunrise of less than 50° . The 14th was warmer, with the temperature at 88° . It was, however, cool again from the 18th to the 25th, with heavy rains. The 29th was the only really warm day of the summer, the temperature being 98° . Up to this period there had been an abundance of rain.

The month of July was exceedingly variable, with great alternations of heat and cold, and without rain. On the 4th, the temperature fell to 58° . The 8th was warm again (96°), and the week ending on the 17th was the only warm weather of the season, the thermometer ranging from 90° to 94° at noon. The remainder of the month was cool and very dry.

August commenced more favorably, being warm but without rain: on the 14th, the temperature was 90° . A change now set in, and on the 17th the thermometer fell to 44° . On the 25th, a heavy rain fell, the first to thoroughly wet the ground since the 20th of June, a drought of full nine weeks. The remainder of the month was very cool, with easterly winds and light showers.

The month of September continued cool. On the 7th, the temperature fell to 39° , unusual so early in the autumn; succeeding this it was warmer, accompanied by strong westerly gales, which did great damage to the fruit. On the 16th, the temperature was only 32° , with a white frost, which injured all tender vegetation. Easterly storms, with high wind, succeeded; on the 27th, it was warmer, but the month ended cool.

After so much cool weather, a warm and pleasant October was anticipated; but the result did not verify it. The 4th

was the only warm day, with the temperature at 75° . The 11th, the thermometer fell to 30° , with a heavy frost. On the 15th it was 28° , and the remainder of the month was cool, windy, frosty and unseasonable, reminding one of the last of November. It was the coolest October for many years.

November was the only month of the season which appeared of more than average warmth. With the exception of two days, the temperature fell as low in October as in November. The 13th was warm—easterly winds succeeded, with a light snow on the 21st, which, however, soon disappeared. The few remaining days were mild and pleasant, and favorable for all gardening operations.

December inaugurated a change, and, as if the autumn had already been too prolonged, cold weather set in on the 4th, with a snow storm, and the thermometer at 22° ; the 7th was showery and very warm, with the temperature at 60° ; but on the 9th it fell to 8° , and the following week was cold. On the 13th it was 10° ; three inches of snow fell on the 14th, and on the 16th, the temperature was 8° , so that, as we close our article, the winter seems fairly commenced, the ground being well protected with snow.

The characteristics of the year may be summed up as follows:—a variable winter, a wet and cold spring, a dry and cool summer, and a windy and frosty autumn. Every month in the year has been attended with frosts of greater or less severity, and September and October were accompanied with frequent and heavy gales. The effect of such a season could not be otherwise than unfavorable for fruit of all kinds.—Peaches were an entire failure in New England, and indeed in a portion of the peach region at the West. Pears were considerably below the average crop, owing undoubtedly to the late and severe frosts. Apples in some parts of the country gave but a meagre crop, while in others the yield was abundant. Strawberries suffered much from the open winter, but the cool and rainy June made up in part for this loss. Currants, scarcely ever failing, were not so plentiful as usual; in some localities the frost of May severely injured the young fruit. Quinces, usually a very reliable fruit, were so scarce as to command the price of the best pears. Grapes

suffered less from mildew than usual, and, notwithstanding the cool season, ripened their fruit more completely than they have done for two or three years.

But while the season has thus been unfavorable to the crop, trees of all kinds appear to have made a fine growth, and ripened up their wood better than usual; this has probably been caused by the abundance of moisture in May and June, which gave them a good start, and the drought of July and August, which checked the growth and matured the wood; while the cool weather of September and October prevented that prolonged growth which often continues, to the injury and sometimes loss of the trees. The prospect now is, that the ensuing season will be more than usually fruitful, thus making up in a degree the scanty yield of the last.

HORTICULTURE.

Pear culture has lost but little of its interest. In the West, where it is comparatively a new fruit, the experiments of prominent cultivators have been highly favorable to the growth of dwarf trees. The Cincinnati Horticultural Society have discussed the subject at their meetings, and the evidence adduced in their favor, together with the exhibition of splendid specimens raised on such trees, have done much to dispel the prejudice which had begun to prevail among those who listened to the opinions of the writers who have so zealously denounced them as an utter failure. But the inspection of the fruit is the best proof of their importance, and column upon column of objections will have little weight against the evidence of our own eyes. We doubt not those who worked so industriously to invalidate the claims of dwarf pears, have written out, and henceforth we shall hear but little on this subject. Our own views we have reaffirmed in an article in our last volume, (p. 193.)

A variety of opinions have been expressed in reference to the varieties of apples suited for general culture, and we have made the subject one of especial attention, (p. 49.) It has been urged by some, that our Eastern apples were not suited to the climate of the Western States; but from all the evidence that we can get, this does not appear to be correct: on

the contrary, the Eastern apples seem to be the only varieties that can be cultivated to a good profit. A recent writer in the *Ohio Farmer* substantiates this. In speaking of apples for the West, he says: "One thing I have observed to be notorious, which is, that New York State apples, both dried and green, are equally sought after, at better prices, than Ohio apples. Even Michigan apples sell better and at better prices. Ohio is my native State, and previous to coming here (Milwaukee) I supposed we were, par excellence, in the apple line. But I find the State has nothing to do with it, but the producers are to blame in *not having the proper kinds*, at least for this market. * * * I would advise those who intend setting out an orchard, to plant 400 R. I. Greenings, 300 Spitzenbergs, 100 Winter Rambo, 100 Roxbury Russets, 100 Baldwins, and, if you wish to make a large orchard, to add a few more Greenings." Yet the Greening, the Russet and Baldwin, the three popular apples, were, on motion of Mr. Bateham of Columbus, at the last meeting of the Pomological Society in New York, voted as unsuited to Southern Ohio, and in a list of the best six apples for general cultivation in Ohio, recommended by the committee from that State, not one of the above are named, but their places filled with White Pippin, Rawle's Janet, Winesap, &c., good apples enough, but unsaleable in the market. The cultivator may grow as many varieties as he pleases for his own use, but when he raises for the market, he must supply such as the consumers want—otherwise there can be little profit in the crop. We think when this subject is fully considered the prejudice against Eastern apples will disappear.

The Grape continues a prominent fruit. At no period has it engrossed more attention. The new varieties are so numerous that cultivators can scarcely recollect them. What proportion of these new sorts will ultimately be found worthy of preservation it is impossible to say, but probably only a limited number. A good many qualities are demanded in a new grape, and by the possession of these qualities their merits must be judged. If it takes the public as long to find them out as it has the Diana, it will be a long time before they find a place in our gardens. In 1844 we first brought the Diana

to the notice of cultivators, and it is gratifying to know that after sixteen years our opinion of its qualities is generally acknowledged. We then stated (Vol. X. p. 243) it would prove "a more valuable variety than any we possess." The recent action of the fruit growers of New York substantiate this. It is our object to record every new grape of any merit; but we are willing to confess that if all the native grapes are truly meritorious, we have been sadly negligent of a duty we have ever made it our first effort to perform. Of the one hundred and fifty American grapes offered for sale by some of our cultivators, we have no knowledge of one quarter of the number.

The production of seedlings, or the introduction of accidental varieties, is a meritorious object; but the mere multiplication of names only serves to confuse. That these may be increased indefinitely there is no doubt; yet, unless they possess some excellences which should entitle them to notice, it is hardly worth while to recommend them to trial. It is better to throw them aside altogether, that attention may be directed to those which appear really deserving, that these may be the more rapidly tested. Even zealous amateurs, fond of making collections, care little for varieties which are but the slightest remove from our wild grapes.

While our cultivators are so busy with the improvement of our native grapes, European cultivators are no less enthusiastic in the production of new exotic varieties. Already two of the most noted have been introduced and fruited in our collections. There are several more of reputed excellence, two of which, the Muscat Hamburgh and Trentham Black, have been added to our gardens; the first a black grape, with a rich Muscat flavor, and both good growers, fine setters, and abundant bearers. We doubt not they will be great acquisitions to our limited supply of foreign grapes. Other sorts are named in European journals and catalogues, some of which we have noticed in our Pomological Gossip.

Twenty-five years ago, we urged upon the attention of all who love the Peach, its cultivation in pots, giving the details of our own experience, and showing that in no other way could this delicious fruit be produced with any certainty in

our variable climate. After so long a period, this simple mode of culture comes to us from the English under the name of orchard houses, and we learn that this new mode of growing fruit, which has attracted much attention in Great Britain, is prevailing to some extent with our own cultivators. We are pleased to know that this is so. For though orchard houses, for the growth of fruits in general, can be of comparatively little value with us, the culture of the peach, the fig, the nectarine, the apricot and the grape in this manner becomes of the greatest importance to all who would have an annual crop of these fruits in our uncertain climate. It should be recollected, if it is not, that many sorts of pears are quite as uncertain a crop in the climate of Great Britain as the peach is here. Mr. Rivers has stated that, for several successive years, the Marie Louise and some other kinds have failed to fruit in consequence of late spring frosts. Orchard houses, therefore, in that country are indeed a real treasure. But here, where our climate is so favorable for all the hardy fruits, though desirable appendages to every good garden, they are not the desideratum they are in England.

Notwithstanding we have, in every volume of our Magazine, given numerous articles upon the culture of the Strawberry, which will guide the amateur in the raising of this delicious fruit, we have thought the subject still far from being exhausted; more especially its cultivation on an extended scale, as well as to a higher degree of perfection. No fruit yields more generously, even under bad treatment, and hence, few cultivators give it that care which it so well repays. We have consequently thought we could not do a better service than to give the thorough mode of culture adopted by the gardeners who supply the Boston and London markets. Mr. Underwood's report of the Belmont Farmers' Club (p. 117) supplies the former information, and Mr. Thompson's account (p. 506) of the celebrated Bath growers, the latter. Though somewhat different in treatment, they both lead to the best results. We need not refer to the new strawberries which have been introduced, as these will be found under our Pomological Gossip of the year.

We should not close this portion of the year's progress in

horticulture without adverting to the introduction of some new vegetables of more than ordinary merit. The first of these is the Hubbard squash, which, from the more abundant supply of seed, has been distributed over the whole country, so that a fair opportunity has been had to test its quality. On all sides, we have but one report, which is, that it gives the very highest satisfaction, being superior in quality to the Marrow, keeping much longer, improving with age, and, in fact, supplying the place of the sweet potato. It is undoubtedly one of the most valuable additions to our finer vegetables. The Pineapple Short-top beet, introduced for the first time, is a most superior variety, as sweet as the Bassano, of the deepest blood purple, and with a top no larger than a raddish. The Frogmore Protecting broccoli is a new and superior white variety, extremely hardy, very dwarf in growth, its outer leaves closing over the large head of flowers and protecting it from the action of severe weather. The striped purple Egg plant, also new, is as tender and fine flavored as the purple, and very ornamental in its growth. All these are acquisitions of great merit.

We are glad to find the Chinese potato more appreciated. What we have said of it before, we repeat now, that it is a most delicious vegetable, easy to grow, producing a sure crop, and deserving the attention of all cultivators. As a market product, we do not doubt it will pay well when its merits are fully known. Under the most ordinary culture, our crop has been four or five bushels from four or five rows a hundred feet long, some of the tubers weighing a pound. We do not think its excellence has been in the least over-estimated.

FLORICULTURE.

That there is an evident increase in the taste for new and rare plants, the superior specimens exhibited at our Horticultural Societies abundantly testify. A few years since, these exhibitions comprised only large plants, more remarkable for the space they occupied than for any other merit. Now the demand is that they shall possess some ornamental properties, either in flowers or foliage, and even more skill in their culture. An ill-shaped, straggling plant finds few admirers;

but a neatly-trained specimen becomes the centre of attraction. This is the effect of a higher degree of skill among our gardeners: just so long as nothing remarkable is produced, we remain satisfied with what we have; but when it has been shown to what perfection good culture may be carried, the public taste is improved, the mediocre specimens no longer please, and only plants which exhibit skill attract the eye. Not many years ago, the pelargonium was a long, lean, lank object, with a few flowers at the top; now they are large, broad, compact bushes, studded with blossoms. The fuchsia, from a straggling object, has become a fountain of foliage and flowers; and the Chinese azalea, till recently a broad, irregular bush, has now become a pyramid or cone of the most faultless shape, presenting such a dense mass of flowers as to completely screen the foliage. Other plants have gone or are undergoing the same change; what has been accomplished with one thing may be done with another. The result of these improvements is, that our conservatories have been rendered not only doubly attractive from the collective effect of such specimens, but from their great individual beauty, which at all times render them the most pleasing objects.

The introduction of the ornamental and variegated-foliaged plants,—now so much sought after in European collections,—just at a period when more novelty in the popular flowers was needed, has not only directed attention to the cultivation of these truly beautiful objects, but to fine specimens of plants generally. For though so ornamental of themselves, their novelty is heightened in contrast with beautiful flowering plants. The introduction of the former into small collections, where the extent of glass does not admit of separate departments for special purposes, greatly enhances the general effect by breaking up that sameness which results from the use of flowering plants alone. The Continental collections are famous for their rich specimens of ornamental-foliaged plants, which have been gathered from all parts of the globe by the indefatigable botanists who have been sent out especially to search for such objects. It is through them that most of the fine *Marantas*, *Dracænas*, *Begonias*, *Caladiums*, &c., have been introduced.

There is but one objection to these beautiful plants; that is, they require, most of them, the high temperature of the hothouse, with an abundance of moisture, to grow them in perfection, which renders them unsuitable for general collections. In our climate this does not apply so much as it does in British collections; still, the hothouse is necessary for some; but there are others which in winter,—that being the period when many require rest,—may be kept in the warmest part of the greenhouse, and grown in the summer when the temperature of the latter is sufficient to bring them to perfection. English cultivators have already perceived this, and their efforts are now directed to the introduction of such as may be easily grown in ordinary collections of plants; the *Farfugium grande*, one of the most striking of all, is one of these, the Striped *Yucca* another, and the variegated-leaved *Agapanthus* a third. What we need for the information of amateurs is a list of all the best, with hints in regard to their proper treatment. This we intend to give, and shall commence with the *Farfugium* in our present number.

We have referred before to the improvement in the *Gladioli*, and have briefly described many of the best; but a flower which has now become so popular, and which, in fact, is one of the most brilliant our gardens contain, deserves more than a passing notice. That so much splendor could be worked out of the old *gandavensis*, shows the remarkable results of hybridization, and the riches in store for the intelligent cultivator who is ready to experiment with other plants. The *Liliums* would no doubt afford like results. Certainly the Japan lilies have shown what careful hybridization will accomplish, and their further improvement is well worthy the attention of all who appreciate this most splendid of hardy bulbs. It is to the labors of Truffaut, Souchet, Verdier and other French cultivators that we are indebted for the new *Gladioli*. What they have done, others can do; and as the seedlings are easily raised, our cultivators should not remain content with the possession of foreign varieties alone, but try their own hand in the growth of choice varieties.

The Hollyhock, from one of the most common and almost discarded garden plants, has arisen to one of the greatest im-

portance, disputing with the dahlia the most prominent position. It is another triumph of special attention to a single class of plants. The English, here, have done all that has been accomplished. In the place of the irregularly-formed and muddy-colored flowers, we have now perfectly double and clear tinted blossoms, forming dense spikes of the greatest splendor. No plant can be introduced to the garden more conspicuous than the hollyhock, and its easy culture and free blooming qualities should render it one of the most popular of flowers.

We cannot pass over, in our annual summary, some notice of that shrub, *par excellence*, the Rhododendron. Though seen more frequently in our gardens than formerly, it is yet far from being generally known or generally cultivated. We omit no opportunity to give all the information in our power in regard to its culture, and, as especially valuable, we may refer to the series of articles on its growth, in our last volume. They comprise the experience of the best cultivators in Great Britain, where the rhododendron is so extensively planted, and where the most hardy kinds have been produced. With what we have published in our previous volumes, there is nothing wanted to enable everybody to cultivate this most superb shrub in the highest perfection. The Kalmia, and particularly the Hardy Azalea, are fitting companions to the rhododendron, requiring the same soil, culture, and general management. Though perhaps less effective from its deciduous character, the azalea, in its many-hued and often dazzling colored blossoms, merits no less attention than the rhododendron. We look forward to the time when all these will be more extensively cultivated than any other flowering shrubs.

We might refer to other plants which deserve especial notice; but a reference to our volume for the year will best supply what would be in part a repetition here. The Chinese Azalea, the Pelargonium and the Rose do not command that attention their great merits deserve. The two former are magnificent conservatory plants, displaying their blossoms from January to July, and when seen in the perfection that skilful culture can achieve, we know of no plants which so well repay all the care that may be bestowed upon them.

Among the more important acquisitions of the year are the *Tritoma uvària* and *Tritonia àurea*, both half hardy plants, which flower abundantly during the summer in the open ground. The Pampas grass has bloomed for the first time, and proves to be a very ornamental object. The *Lilium giganteum* is also a noble plant. The Bouvardias, the Monthly Carnations, the Double Petunias and the Bedding Geraniums have had many superior acquisitions, all of which enthusiastic amateurs will eagerly add to their collections. For a more extended notice of these and other plants, our Floricultural Notices of the year may be consulted with great interest.

ARBORICULTURE.

Renewed attention has been directed to the culture of ornamental trees by the timely publication of Mr. Sargent's Supplement to Downing's Landscape Gardening. The information so much needed in regard to the Evergreen or Coniferous trees is of great value, as showing what number among the increasing quantity of these trees are sufficiently hardy to stand the climate of the Middle States. To New England planters, who have a more severe climate to deal with, the information is less practical, though not without great interest, serving at least as a guide to experiments which may lead ultimately to success; for so limited is our knowledge of many of the species that we know not how to treat them, or whether in many instances it is cold or heat that affects them most. These can only be learned by actual experience, which must be the result of time and close observation. Mr. Sargent has contributed a fund of information, which we hope to aid in increasing through our own pages.

Another work, not without value to American cultivators, is Mr. Gordon's *Pinetum*, which unfortunately, from its high price, will not fall into the hands of many lovers of evergreen trees. It gives us all the details of the present condition of planting in Great Britain, and the success which has attended the introduction of many of the rarer species: these, with an account of the various localities where they have been found growing, the altitude, &c., will again serve, in a slight degree, to give some idea of the probable hardiness of each.

The introduction of many new seedling trees, accidental varieties, discovered in extensive plantations of young trees, is changing naturally the aspect of our plantations. Variegated-foliaged plants of many of the most popular and favorite trees have been produced, as well as weeping, fastigate and other distinct forms, unlike the original species. These, scattered sparingly throughout our pleasure grounds, form conspicuous objects, and add much to the interest of any ornamental plantation. We shall endeavor to keep our readers informed of all the prominent acquisitions of this character.

HORTICULTURAL LITERATURE.

We have but little to notice in the horticultural literature of the year. The principal works have been SARGENT'S EDITION OF DOWNING'S LANDSCAPE GARDENING; AMERICAN WEEDS AND USEFUL PLANTS, by Dr. Darlington, exceedingly interesting; and FARM DRAINAGE, by H. F. French. The TRANSACTIONS of the New York Agricultural Society for 1858, prepared by Col. Johnson, the indefatigable Secretary, are more than usually interesting, containing another paper from Dr. Fitch, on the insects injurious to vegetation. The Agricultural Journals continue to maintain their accustomed excellence in all departments of culture.

THE CACTUS TRIBE.

BY WILSON FLAGG.

ONE of the most singular of all the vegetable tribes which are designed to adorn or to disfigure the surface of the earth, is the Cactus. Like most other extremely succulent vegetables, the plants of this family are found in abundance and perfection only in warm climates, and in countries which are devastated a great part of the year by drought, and deluged by rain during the remainder. It is remarkable that in such countries only do we find the plants characterized by a superabundance of sap. It seems indeed to be a provision of nature, not only for the perpetuity of vegetation, but to supply

animals with moisture to quench their thirst, in those parts of the earth, during the dry season, where they must otherwise perish. But lest they should waste these vegetable fountains, the plant that contains them is surrounded with sharp thorns, so that, except in a state of extreme necessity, no animal ventures to suffer the wounds that follow the attempt to rob the plant of its juices.

The watermelon, though of entirely different botanical characters, is another plant which is employed by nature for the same purpose. But as nature, for the preservation and propagation of the generality of fruit-bearing plants, designs that the fruit shall be eaten, she has protected the seed by a hard shell, while she has given the fruit a wholesome quality and an agreeable flavor. She, therefore, invites the animals to consume the melon, while she protects the vine that yields it by giving it a nauseous smell and taste.

Both the cactus and the melon, however, obtain their juices during the season of moisture, and hoard them, as it were, for future use. The melon, having ripened its fruit and its seed, perishes,—and the plant is renewed, on the following year, by the seeds which have been scattered by the animals that consumed its juicy pulp. The cactus does not perish in the drought; it retains its succulence until its fruit and seed have ripened; it then withers and sinks into a state resembling hybernation,—apparently dead, but ready to start into new life with the arrival of the periodical rains.

No where on the face of the earth does the cactus tribe form so important a part of the landscape as on the coast of Peru. This coast, being subject to perpetual drought, receives all its irrigation from the streams that flow down the mountains, which are periodically full and dry, and from excessive dews. No rain falls, at any time, upon this desolate region. It is not remarkable, therefore, that the face of the country should be characterized by sterility. In many parts there is no vegetation at all of a character that affords any refreshment to the eye. The principal plants consist of the different species of cactus, which are universal. Here they are periodically refreshed, and dried up, as the streams from the mountains are full or dry. Under the burning heat of the tropical sun,

where scarcely another plant could live, the cacti thrive in the greatest luxuriance, and seem to say to the traveller—“Man, this is not thy country!”

We, who have seen the cactus only in greenhouses, look upon it as very susceptible of injury from frost; but some species are found upon all heights of the mountains in Peru, stopped only by the line of perpetual snow. Though the Cactaceæ belong mostly to tropical regions, they are not strictly confined to places of high temperature. The Cactus opuntia is found in the northern states of North America, and two other species are found in Missouri. The banks of the Rainy Lake, lat. 48°, are entirely covered with the C. opuntia. Humboldt found three species of cactus on elevated plains, in that part of the chain of the Andes that lies within the tropics, between nine and eleven thousand feet above the level of the sea. “The yellow-flowering *Opuntia ovallei*, which has a creeping stem, does not descend below 6746 feet, advancing as high as the line of perpetual snow, and even above it, wherever a few masses of rock remain uncovered!”

It is worthy of notice, that while the cactus is found in North America as far north as 48°, it does not advance farther than 37° south latitude. This is the more remarkable, because South America is peculiarly the country of this tribe of plants, where it is not found much below Valparaiso. On the same continent, within the tropics, these plants extend far above the mountain elevation that corresponds with the latitude of Cape Horn.

The most conspicuous subdivisions of this family of plants comprehends the *Cerei* or Tree Cacti. These are tall and branched, often thirty feet high, covered with thorns, but entirely wanting in foliage. Their stems are commonly angular, sometimes nearly cylindrical, generally upright and slender, sometimes creeping upon the ground. They often consist of a single slender stem or shaft, of great height, making a forest of a most extraordinary appearance. The summits of the mountains in Brazil are said to be, in many cases, completely covered with *Cerei*, as if nature designed to exclude all living creatures from approaching them.

The cactus tribe assumes a variety of shapes, and, by these

shapes, the different families are distinguished. The *Cerei*, already described, have upright columns, single or branched, rising in tall polygonal shafts, like organ pipes, or spreading out in ramifications, like candelabra. Others, as the *Melo-cacti*, are ribbed, and round or oval, so that the whole plant resembles a vast melon. Such are the species which the Abbe de St. Pierre termed the "vegetable fountains of the desert." The animals, during the dry season, resort to these to quench their thirst, and often perish of the wounds occasioned by the thorns that surround the plant. There are other cacti of a vine-like or creeping habit, termed *Rhipsalides*; others, like the *Pereskia*, that have foliage, resembling the *Euphorbias*.

The cactus tribe is peculiar to the New Continent: those few species which have spread over the southeast of Asia are supposed to have been introduced. In Peru and Chili, "there are wide plains which, for vast distances, are covered solely by groups of *Cerei*, presenting a singular and striking, though cheerless prospect, particularly when, as often happens, some of these columns are dead and still continue to stand, after all their fleshy covering has disappeared,—straight, white, woody pillars, in the midst of the green columns surrounding them, frequently adorned and almost concealed by a profusion of flowers." "There is hardly (says Humboldt) any physiognomical character of exotic vegetation that produces a more singular and ineffaceable impression on the mind of the traveller than an arid plain, densely covered with the columnar or candelabra-like stems of cactuses," such as are beheld in various parts of South America.

Mexico abounds in this description of vegetation; and one of the most singular features of the landscape, in some parts of that country, is caused by the extensive use of a species of *Opuntia* for hedges! That generally employed is the *O. cochinnifera*, on which the cochineal insect is fed. Great quantities of cochineal were formerly exported from Mexico, obtained from these sources. The hedges also supplied the inhabitants with a fruit, resembling the gooseberry both in appearance and quality. The gooseberry indeed bears, in many respects, a close botanical affinity to the cactus. It

might hardly be supposed that any species of this tribe of plants could be ornamental to a landscape. Yet such is said to be the effect of some of the Brazilian species. The large branches of the *C. truncatus*, hanging from the rocks, with a profusion of beautiful crimson flowers, forms one of the ornamental features of a Brazilian landscape. The flowers of the cactus always seemed to me to contrast disagreeably with the ugliness of the plant, and nature seems in these instances to affect the ludicrous, as if she were to crown a porcupine with a wreath of roses.

Another singular fact connected with the cacti is the use to which their wood may be applied. The history of these remarkable plants seems to abound in anomalies. The wood of this juicy and pulpy vegetable is used extensively both for fuel and in the arts. Being extremely light and easy of transportation, it is carried up the mountains and used for various purposes in housebuilding. This wood is almost imperishable, and is employed by the Indians for the manufacture of oars, for which it is peculiarly adapted.

The cactus is exceedingly grotesque under all circumstances, assuming a great variety of shapes, from that of a tree-like plant, or from an aggregation of jointed leaves, as in the *Opuntia*, to a simple globular shape, like a melon. The plant itself, in the latter case, affects the character of a fruit, being succulent and full of sap, and yet, at the same time, bearing a profusion of berries on its surface. This tribe of plants constitutes a monstrous form of vegetation, springing from an effort of nature to support vegetable life in regions so arid that it is capable of being sustained only in this and other anomalous forms.

The dimensions of different species of cacti present striking contrasts. A species of *Echino-cactus* has a circumference of seven and a half feet, with a height of four and a quarter feet. This is surpassed by the *E. ingens*. Another attains a diameter of from two feet to two and a half. Another—the *E. visnago*, belonging to Mexico—has a diameter of upwards of three feet, with a height of more than four feet, and often weighs 2000 lbs.; while the *Cactus nanus* is so small, and so loosely rooted in the sand, that it gets between the toes of dogs!

POMOLOGICAL GOSSIP.

POPULAR PEARS IN BELGIUM.—M. de Jonghe, whose communications we have before noticed, in writing to the Gardeners' Chronicle, enumerates the following new pears, which are much esteemed among the Belgian amateur pomologists:

Commisare Delmotte (Gregoire)—a fine tree, with a close habit of growth, productive, bearing fruit in clusters of three or four: the fruit is of a dark green at the time of gathering, but becomes yellow in ripening, which takes place from the end of January till March: the skin is thin, the flesh melting, sugary and vinous, without grit. The cells of the core are large, the seeds long, and of a fine nut-brown color. The fruit is not liable to be blown off by the wind, its ripening is easily known, and its flavor very satisfactory.

Aglæe Gregoire—a variety for which there is a great demand. The tree is more handsome but not so hardy as the preceding: the fruit is nearly of the same form and quality, and ripens a month later.

Prince Albert is a third variety, also in great demand on account of the fine growth of the tree and the late ripening of its excellent fruit.

Bezi de Mai is a variety beginning to come into great request. Of this fruit, M. de Jonghe states he ate the last of the crop of 1858 on June 6th, 1859, and he believes that it will prove a great acquisition.

THE MAXATONY GRAPE.—This is a new variety which is highly spoken of. We have not seen it, but our correspondent, L. E. Berekmans, Esq., the eminent pomologist, has kindly promised us a full account of it for an early number.

THE SOUTHERN APPLES.—A pleasant visit from our esteemed correspondent, Mr. Berekmans, now residing near Augusta, Georgia, has enabled us to gather some information in regard to the Southern seedling apples, which have been so highly praised as equal or superior to Northern varieties. Mr. Berekmans informs us that the early varieties of the South,—those ripening there before November,—will undoubtedly be valuable acquisitions with us; but that the later sorts, which

require the warmer autumn of Georgia to fully mature, will most probably fail to maintain that superiority which they have acquired in that climate. Mr. Berckmans has kindly promised to send us specimens of fruit another year, that we may judge for ourselves of their excellence.

THE DELAWARE GRAPE.—Just now there seems to be renewed attention given to the origin of this grape, and quite a variety of conjectures have been made on this point. Mr. Prince contends it is a Swiss variety, and classes it among the foreign varieties, and one writer states that it has been growing in Pennsylvania thirty years, having been originally received from Italy, and that he can “supply any person who wants cuttings with a cartload for merely the price of cutting.” Mr. Meehan states that these grapes are abundant in Delaware, and, though not exactly alike, are, in every “essential quality,” nothing but the Delaware, and “that the Delaware’s home is on the hills and head waters of the Delaware river, and that if the woods and wilds of these localities were searched, many similar varieties would be found, all referable to the same form, which might result in its being considered a distinct species.” We can only inquire, is this so?

ARBORICULTURAL NOTICES.

HARDY TREES AND SHRUBS WORTHY OF GENERAL CULTIVATION.—Although we have, in our several volumes, described or noticed every new hardy tree and shrub introduced into our gardens for twenty-five years, many of them are far from being generally known or commonly cultivated. In the multitude of new acquisitions, some are entirely overlooked, while others require some years of growth before they show their ornamental character, and hence are not properly appreciated. It is one object in this article to bring such of them as are of real merit before our amateur planters, that they may become more familiar with them, and more speedily introduce them into their collections.

TILIA AMERICANA, our common Linden or Lime. The European Linden is a very common tree, being extensively planted in streets and avenues, and ornamental grounds generally; yet is far from being so fine a tree as our native species. Unfortunately we have few large and fine specimens in the vicinity of our cities to show what a grand tree it is: yet we hope it will no longer be neglected, but take the place of the foreign species.

MAGNOLIAS, both native and exotic, are not often seen in our gardens; yet they are hardy and superb trees, easily cultivated, the exotic kinds blooming splendidly when only four or five years old. Of our native kinds, *M. acuminata*, *M. auriculata* and *M. tripétala* are hardy and form large trees; of the exotic kinds, *M. conspicua*, *Soulangeana*, *Vobertiàna* and *speciosa* are hardy, moderate-sized trees or large shrubs, flowering when only three or four feet high. These should be introduced into every small collection, for nothing can be more beautiful. *M. macrophylla* is a noble tree, with immense flowers, is slightly tender while young, but with size becomes hardy. *M. glauca* is one of the most beautiful of our native small growing trees, with sub-evergreen foliage and delightfully fragrant white flowers. Everybody should plant one or more of these in their gardens.

SAMBUCUS, *VAR. AUREA VARIEGATA* AND *ARGENTEA VARIEGATA*, two variegated-leaved varieties of the Elder, are, as well as *S. var. lasciniata*, with curiously cut leaves, each highly ornamental, hardy, easily grown, and deserving of introduction into every shrubbery or ornamental plantation of small trees.

GINKGO BILOBA, or Ginkgo tree, is extremely rare, though there are very old and fine trees in some parts of the country. Formerly it was very scarce, high priced in our nurseries, and therefore little planted. But from the more rapid increase of the stock by means of seed, since the introduction of the female plant into France, young trees may be had at moderate prices. It should be generally planted, for it is a highly ornamental tree.

SOPHORA JAPONICA. An elegant tree, and extremely rare, though entirely hardy. We know of but one large flowering specimen, (though there may be others,) which stands in the

Public Garden in Boston. It has been planted upwards of twenty-five years, and is now a large tree with a broad head, and flowers abundantly. Its clusters of white blossoms resemble the locust. Its foliage is as delicate as the acacia, and the bark is smooth and dark green. As a lawn tree of moderate size nothing can be finer.

CHIONANTHUS VIRGINICA—the Fringe tree—undoubtedly the most beautiful of all the larger growing shrubs or small trees, with a foliage as large as the magnolia, and long racemes of white flowers, which have the appearance of fringe from their delicate texture. Nothing can be hardier, and when planted in a generous soil which it likes, whether in its foliage or flowers or both, it has few equals and none to surpass it. It should be planted in every garden.

QUERCUS FASTIGIATA, or Poplar Oak, a curious variety, growing as pyramidal as the Lombardy poplar. Two trees in our collection, planted about twelve years ago, are now thirty feet high, and not more than four feet in the diameter of their branches. Its growth is compact, the foliage deep green, and the whole aspect very ornamental. As a spiral tree, to break up the sameness of round-headed groups, it is deserving of general introduction. As a single specimen on the lawn, it has a fine effect.

QUERCUS PURPUREA, the Purple-leaved Oak. Not so dark and rich in its foliage as its name would indicate, yet sufficiently distinct to form a desirable tree. In spring, when leafing out, the young foliage is of a very beautiful purplish hue, which continues till late in summer, when it gradually changes to a very dark green. Associated with other trees, it is well worthy of more attention than it has hitherto received.

ULMUS SUPERBA, the Superb-leaved Elm. Not long introduced to our gardens, but a very distinct and beautiful tree, with immense foliage, of a delicate light green. As a lawn tree, it is one of the finest of the elms.

ULMUS CRISPA, or Cut-leaved Elm. A very curious tree, with deep green foliage, deeply cut and crisped on the edges. Its habit is neat, and it does not grow very large. It is a very desirable tree.

ULMUS CAMPESTRIS VIMINALIS, so unlike most elms as to be mistaken for some variety of birch. The shoots are very slender and twiggy, (from whence its name,) and the leaves are not larger than those of the English hornbeam. It grows nearly upright, and attains only a moderate size; it is a distinct and ornamental variety.

PAVIAS, or Horsechestnuts. Mr. Loudon recommended, many years ago, that every gentleman who had two horsechestnuts should graft one over with *Pavia rubra* or *Æsculus rubicunda*. We would advise the same, or, if no large trees, that *Pavia rubra* and *Æsculus rubicunda*, *Æ. Whittleji* and *Æ. flava* should not be omitted where there is the smallest collection of ornamental trees.

MAHONIA AQUIFOLIUM, which Mr. Sargent considers, and very truly, taking it all in all, "the most valuable of all shrubs, deciduous or evergreen," is yet very sparingly introduced into our gardens. It should be planted by the quantity, where room will permit. As an under shrub, nothing can be finer; and as single specimens upon the lawn, we have few plants whose glossy green foliage in summer, and gorgeous brown, purple and scarlet coloring in winter, are more attractive and beautiful; and if we add to this its copious bunches of bright yellow flowers in spring, and clusters of rich purple berries in autumn, few shrubs combine so many fine qualities. It delights most in a half shady situation, and prefers a soil similar to the rhododendron, though it is not particular in this respect.

THE ROSEMARY-LEAVED WILLOW, (*Salix rosmarinifolia*,) is a highly beautiful small-growing tree, and, worked standard high, forms a most elegant object on the lawn. Its shoots are slender and reddish colored, and its leaves, which are long and narrow, are thickly clothed on the under side with a silvery down, which contrasts prettily with its upper green surface and ruddy tinged wood.

TAMARAX AFRICANA AND GALLICA are two fine foliaged and pretty shrubs, quite hardy, and profusely covered with spikes of light pink flowers. Both are highly ornamental.

HYPERICUM KALMIANUM is one of the very few yellow-flowering shrubs which our gardens contain. In habit it is neat,

with a narrow foliage and an abundance of deep yellow flowers, which appear in summer for a long period in succession. It is perfectly hardy, grows in any soil, and is one of the most showy and ornamental shrubs. It should be in every collection.

THE EUONYMOUS LATIFOLIUS, or Broad-leaved Spindle tree, has far the largest and showiest berries of the whole group. Its foliage is also large and broad, and the wood purplish-colored, stout and robust. Its berries are of the richest orange scarlet, and the capsules from which they are suspended very large and broad.

HIPPOPHAE RHAMNOIDES is a very pretty medium sized shrub, with narrow silvery foliage, and a neat pretty habit. It is quite hardy, and a most desirable acquisition to any collection.

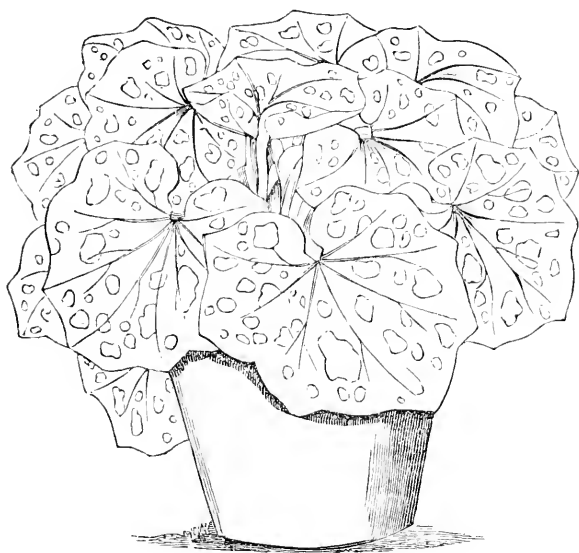
THE FARFUGIUM GRANDE.

BY THE EDITOR.

PROMINENT among the variegated foliaged plants, which have been recently introduced, and conspicuous above all others for its very large, magnificently spotted leaves, is the Farfugium grande. Now rare, and only found in choice collections, it is destined to become one of the most popular plants, and the ornament of every garden.

We have in a previous page alluded to this and other fine foliaged plants, and their importance as decorative objects. We need not repeat them here; still we may again advocate their general introduction to our gardens, more particularly the hardy or half-hardy kinds, which need no other protection than the frame or cellar; these are the plants for the million, for, however so varied in pictorial effect many of the tropical species and varieties are, they cannot be cultivated without the aid of the hot-house or conservatory, and cannot therefore become general favorites. Not so with the Farfugium. In Great Britain it is a hardy plant, and in the milder climate of our country, it may be grown in the open ground, and we know not but it may prove hardy everywhere; but

wherever it does not succeed in this way, it wants but the ordinary protection given to our half-hardy plants to winter it safely, when it may be planted out to display its magnificent foliage in the open border. Yet, as a conservatory plant, nothing can be finer, and no collection should be without it.



1. THE FARFUGIUM GRANDE.

The *Farfugium* (FIG. 1) was introduced by Mr. Fortune from the north of China. It was sent to Mr. Glendenning of the Chiswick nursery, under the name of a variegated *Tussillago*. It proved upon blooming to belong to this family, and the name given to it is one of the ancient denominations of the Coltsfoot class. Our engraving conveys but a poor idea of the charming effect of its large, deep green, spotted leaves; it is but an outline of its general appearance. Dr. Lindley has well described it, "as having very large, round, angular, heart-shaped, evergreen leaves, sometimes more than two feet in circumference, of a peculiarly bright emerald green, copiously blotched with patches of clear yel-

low, having no apparent relations to the veins. These leaves stand on woolly footstalks, twelve to fifteen inches long, and form a magnificent tuft of surpassing beauty. The flowers of *Farfugium* are insignificant; they stand on a woolly scape shorter than the leaves, and, like that of *Coltsfoot*, furnished with several spreading scales. The flower heads cluster at the end of the scape, have a yellow ray, and a dirty purple centre."

Our specimens of the *Farfugium* have been exceedingly fine; grown from small plants, they throw up ten to twenty leaves as large as those named above, and the appearance of the whole plant was that conveyed in the engraving; its large leaves overlapping each other, and forming a tufted mass of green and gold, which rendered it the most conspicuous among many showy plants.

Its cultivation is simple. It is increased by division of the roots, and appears to thrive admirably in a rich compost of loam and leaf mould. During its growing state it requires an abundance of water, and so far as the experience of one year goes, a slight amount of shade and a rather cool situation suit it best. It requires frequent shifting and a large pot, to grow it in perfection.

As it retains its striking foliage all the year, it forms an admirable plant for the conservatory, in winter, when there is a scarcity of flowers; for vases, for lawns, or for the verandah, nothing can be more effective. It is also well adapted for the parlor, standing confinement with impunity. And lastly, for decorative purposes, planted out as an edging to beds of scarlet geraniums, salvias, or other tall growing brilliant flowers, it forms an entire new feature in the flower garden, and produces a most ornamental effect.

So highly is the *Farfugium* appreciated by English cultivators, that at the sale of Mr. Fortune's plants last spring, fine specimens brought the high price of £5 sterling. It comes from the same country as the *Dielytra*, and should it prove as hardy—and it may—it will become as popular and certainly as decorative, as that now common and much admired plant.

FLORICULTURAL NOTICES.

TRITONIA AUREA.—This fine summer-blooming plant, now attracting great attention, is well worthy of all that has been said in its favor. It is one of that class so valuable to our collections, requiring no other care in winter than to keep it from frost like the dahlia or gladiolus. The *Cottage Garden* thus speaks of the best mode of treating it:—

“The old bulbs, with the branching suckers attached, should be taken up and potted, and kept a little moist all winter, and in February the suckers should be taken off and potted, like cuttings round a pot, and be kept growing on all the spring, and be planted out by the end of May. If the old roots have any fresh leaves in February, keep them watered also; if not, they may be left to rest for six weeks. We treat this plant as an evergreen, and have it in bloom in December.” Another writer states, in addition to this, that it forces well.

SCARLET-FRUITED EGG PLANT.—A highly ornamental variety of the Egg plant has been introduced to France from Portugal. It attains the height of three feet, with leaves about six inches long. In general appearance it resembles the common Egg plant, but the fruit, which is about the size of a hen's egg, is of a beautiful scarlet. For cooking, it does not possess much value, but, as an ornamental object, its showy fruit renders it conspicuous and highly attractive.—The *Revue Horticole* gives an engraving of the plant.

NEW HELIANTHUS.—A new variety of the Helianthus has been introduced by Messrs. Jones, of Chatham Four Corners, N. Y., which is said to be an annual of great beauty, having a deep golden border, with a green centre from the crown of the plant. Those who have seen it, pronounce it a very desirable acquisition, and the most beautiful of all the Helianthuses. Whether a new species, or merely a variety, is not stated. It grows about as high as the dahlia, and each plant produces ten to twenty flowers at one time, lasting ten to twelve days.

DR. KANE ROSE.—Mr. J. Pentland, of Baltimore, has raised a new seedling rose, which he calls Dr. Kane. It is

very large, of a sulphur yellow, and of the most exquisite fragrance and most constant bloom. It is also much hardier than *Solfaterre*.

SOLANUM CAPSICASTRUM.—This pretty plant, which we have had in our collection for two years, is attracting great attention among the English cultivators. At a late meeting of the Floral Committee of the London Horticultural Society, Mr. Mackintosh, nurseryman, Hammersworth, produced a little plant, the singular beauty of which excited unusual admiration. It formed a compact bush, eighteen inches high, whose dark, dull green leaves retained, in the most charming manner, about 200 berries as large as marbles, and of the most brilliant orange color. There is probably no plant in cultivation, says the Editor of the *Gardeners' Chronicle*, except in hothouses, that can be compared to it for Christmas decorations; and what is important, the berries are so permanent that the bushes must retain their vivid colors for many weeks. It is further spoken of as follows:—

“*Solanum capsicastrum*, for so the plant is called, is no novelty. Many years ago, it was grown in the Botanic Garden, Berlin, having been raised there from seeds sent by the Prussian traveller Sellow, from the Province of Mines, in Brazil; it also occurs in the Argentine Provinces much further to the south, as is shown by a specimen from Tweedie, preserved in our own herbaria. It is therefore a greenhouse plant of the hardier class. From Berlin it gradually found its way into the gardens of Europe, where it has been neglected till its beauty was displayed by the good management of Mr. Mackintosh, who, like a skilful lapidary, knew how to polish the gem which others had carelessly thrown aside. And now it is sought for eagerly, and will soon become one of the most coveted plants in our flower markets, for which it is in every way particularly well adapted.

“It is for the last reason, more especially, that we thus direct attention to it; for whatever will contribute to the cheap luxuries of the multitude deserves all the notice that can be given it. We have also another motive. The beautiful berries that adorn it are extremely tempting in appearance; they almost invite a taste, and it is scarcely possible to believe

that they will not occasionally be eaten by children. What will be the effect? As a general rule, all plants allied to *Solanum* are regarded as poisons; and such undoubtedly is the *Solanum tuberosum*, or common potato, if the leaves or berries are swallowed, although the so called "root" is harmless. The common Bittersweet of our hedges, *Solanum dulcamara*, has a bad reputation, and so have the berries of the weed called *Solanum nigrum*. But in the first place, the poisonous qualities of the two last seem to be either much exaggerated, or very uncertain in its action; for we have the evidence of a very experienced London physician that as much as five pounds weight of the berries of the first have been administered to a young woman in the course of ten days, without the production of any unpleasant symptom; and those of *S. nigrum* are regularly gathered in the Island of Ascension for the use of the garrison, who call them Black currants, and eat them in pies and puddings. Many other instances of harmless fruit in the genus *Solanum* are also recorded. We all know that *S. Lycopersicum*, or the tomato, is harmless; so is *S. melongena* and its varieties, so largely grown for the table under the name of Aubergene or Brinjal. In Peru, the fruit of *S. quitoense* comes to market under the name of Quito oranges; another species, *S. muricatum*, is also eaten: in Australia we have *S. esuriæ*, forming a part of the food of the natives of the River Lachlan, and *S. lasiniatum*, known in Tasmania as the Kangaroo apple; not to mention others.

"Whatever unpleasant qualities these fruits may possess disappear with ripeness. It is therefore improbable that any danger, or indeed inconvenience, would ensue if a child were to eat a berry or two of the *S. capsicastrum* now before us, unless the fruit was green, in which state it is not likely to attract attention. Thus the possessors of this charming plant need not alarm themselves because it is a *Solanum*, but may cherish its beauty with perfect tranquillity."

We have only to add that Mr. Mackintosh was not the first "to polish this gem." We received it two years ago from Mr. Miellez, of Lille, who particularly stated that "it was a beautiful evergreen shrub, covered during all the winter with

a quantity of beautiful scarlet berries, as large as a cherry." It will be an elegant plant for parlor decoration.

493. *BRYOPHYLLUM PROLIFERUM* *Bowie*. PROLIFEROUS BRYOPHYLLUM. (Crassulaceæ.) Madagascar.

A greenhouse plant; growing ten feet high; with green and crimson flowers; appearing in summer; increased by cuttings; grown in light rich soil. *Bot. Mag.*, 1859, pl. 5147.

A singular plant, nearly related to the *Crassula* or *Kalosanthes*, from the Cape of Good Hope, attaining the height of ten feet, and covered with numerous corymbs of flowers, which are tubular, pendent, yellowish green tipped with crimson. The calyx is large, inflated and acutely 4-lobed. It requires a warm, dry house for its successful cultivation, and when in full bloom is a singularly ornamental plant. (*Bot. Mag.*, Nov.)

494. *DISSOTIS IRVINGIANA* *Hook*. DR. IRVING'S DISSOTIS. (Melastomaceæ.) Western Africa.

A greenhouse plant; growing a foot high; with purplish flowers; appearing in spring; increased by seeds; grown in loam, peat and sand. *Bot. Mag.*, 1859, pl. 5149.

A pretty plant, with hairy stems, and lanceolate three to five nerved leaves, two to three inches long. The flowers are solitary, terminal, about half the size of *Pleroma*, and of a purple rose shade. It was gathered by the late Dr. Irving and Mr. Barter, botanists to the Niger expedition, both of whom have since fallen a sacrifice to the climate. Like the *Pleroma*, it will prove a pretty greenhouse plant. (*Bot. Mag.*, Nov.)

495. *SPIRÆA DOUGLASSII* *Hook*. DOUGLAS'S SPIRÆA. Columbia River.

A hardy shrub; growing three to four feet high; with crimson flowers; appearing in summer; increased by layers; grown in rich soil. *Bot. Mag.*, 1859, pl. 5151.

This is a well known species of our gardens, which appears to be rather rare in English collections, for Dr. Hooker states, "it flowered this year in the Royal Gardens at Kew;" and also that it has been recently found in California by Lobb. In general habit it approaches our *S. tomentosa*, but the flowers are of a deep rosy crimson, and the foliage is of a deeper green above. In very severe winters the strongest unripened shoots are somewhat injured; but it is sufficiently

hardy to bloom with us every year in great perfection. (*Bot. Mag.*, Nov.)

496. HO'YA CUMINGIA'NA *Decaisne*. MR. CUMING'S HOYA.
(Asclepiadææ.) Borneo.

A hothouse plant; growing three feet high; with yellow and crimson flowers; appearing in spring; increased by cuttings; grown in light rich soil. *Bot. Mag.* 1859, pl. 5148.

In general aspect this new and pretty Hoya resembles the *H. pieta*, but has rather larger foliage, and yellow instead of white flowers, tipped with carmine in the centre. It is a fine acquisition, its yellowish flowers being quite new in this handsome genus. (*Bot. Mag.*, Nov.)

497. CAME'LLIA SASA'NQUA, VAR. ANEMONEFLORA. *Seem.*
ANEMONE-FLOWERED SASANQUA CAMELLIA. (Ternstromia-
cææ.) China.

A greenhouse plant; growing six feet high; with yellowish flowers; appearing in winter; increased by grafting and inarching; grown in loam, peat and sand. *Bot. Mag.*, 1859, pl. 5152.

This is the Yellow Camellia of which so much has been said, introduced by Mr. Fortune from China. It appears now to be only a variety of the old sasanqua, similar in shape to the well known *C. anemoneflora*, but with smaller flowers, which are white, with a pale yellow warratah centre. This color, says Dr. Hooker, "is certainly a new feature in this genus, deserving the greatest attention of horticulturists." By this we presume he refers to its importance in hybridization, by which a yellowish tint may be infused into our seedling varieties. This certainly is its greatest merit, for as a flower it is less beautiful than the sasanqua. We doubt not it will prove as deserving of attention as Dr. Hooker suggests. A fine double-flowered camellia, with even the faintest tinge of yellow, would be a great acquisition, and with the skill in hybridization at present so active, we know not what may be the result of experiments judiciously conducted to effect this object. (*Bot. Mag.*, Dec.)

498. STA'TICE BOU'RGÆI *Webb*. BOURGÉAU'S STATICE. (Plumbagineææ.) Islands of Lancerotte.

A greenhouse plant; growing one foot high; with deep purple violet flowers; appearing in summer; increased by cuttings; grown in light rich soil. *Bot. Mag.*, 1859, pl. 5153.

A "rare and curious species, which the excellent Bourgeau,

prince of botanical collectors, has enriched the herbaria of scientific botanists." It is a greenhouse plant, with a winged stem terminated in a diffusely branched raceme of the richest purple and white flowers. (*Bot. Mag.*, Dec.)

499. CALCEOLARIA FLEXUOSA *Ruiz and Paron*. FLEXUOSE CALCEOLARIA. (Schrophularinæ.) Peru.

A greenhouse plant; growing two to three feet high; with yellow flowers; appearing in summer; increased by cuttings; grown in light rich soil. *Bot. Mag.*, 1859, pl. 5154.

It will be gratifying news to our amateurs and lovers of rich bedding plants to learn that we have at last a beautiful calceolaria which will stand our hot sun, and bloom throughout the summer months. Numberless have been the trials with the kinds we already possess to this end, but they have been abandoned as mostly useless. But the *C. flexuosa*, now under notice, is of an entirely different character, with herbaceous stems, large cordate-ovate leaves, and large compound panicles "bearing most copious flowers," of a full clear yellow; the calyces are large, of a primrose green. These calyces (before expansion) are short, four sided, and compressed at the angles, but when open they are very large, and composed of four nearly equal, almost cordate, broad, spreading sepals. (*Bot. Mag.*, Dec.)

500. GUTIERREZIA GYMnosPERMOIDES *Asa Gray*. (Compositæ.) Texas.

An annual plant; growing two feet high; with yellow flowers; appearing in summer; increased by seeds; grown in good garden soil. *Bot. Mag.*, 1859, pl. 5155.

This has already been introduced into our gardens. It is a tall branching annual, with numerous heads of orange-yellow flowers, very showy throughout the autumn. It was found by Mr. Wright, and seeds were sent to Kew by Dr. Gray, of the Cambridge Botanic Garden. (*Bot. Mag.*, Dec.)

501. DIPTERACANTHUS? HERBSTII *Hook*. MR. HERBST'S DIPTERACANTHUS. (Acanthaceæ.) Brazil.

A greenhouse plant; growing three feet high; with violet and white flowers; appearing in September; increased by cuttings; grown in loam and leaf-mould. *Bot. Mag.*, 1859, pl. 5156.

A very elegant plant from Brazil, which flowered at Kew early in September last, and continued in bloom the two succeeding months. Dr. Hooker refers it provisionally to *Dipter-*

racanthus. It forms an erect shrub, with large leaves, green on the upper side and reddish beneath: the flowers appear in terminal panicles, which are conspicuous for the very long slender tube of the corolla, the peduncle and flower being of a beautiful red purple, with the limb, which is composed of five short, equal, trilobed divisions, white. It flowers quite young, and appears to be a very fine acquisition. (*Bot. Mag.*, Dec.)

General Notices.

PEAS, THEIR SYNONYMS AND QUALITIES.—Nothing is more important than to know the correct names and qualities of our increasing variety of garden peas. New sorts are annually introduced, and it is well to know whether they are really new, or only old kinds under a new name. But it is difficult for any individual to attempt this. It is fortunate, therefore, that the London Horticultural Society, which has done this before with the old varieties, has again turned its attention to the subject, and instituted a series of experiments, the results of which are detailed below. Many of the varieties are already in cultivation in our gardens, and all who are in doubt as to a selection, for spring planting, may be enabled to decide better from this Report, taken from the London Horticultural Society's Proceedings. We commend it to the attention of our readers:—

The following are the results of a series of examinations undertaken by a sub-committee of the Fruit and Vegetable Committee of the Horticultural Society, for the purpose of ascertaining the correct names and the quality of the varieties of peas; a considerable collection of kinds, obtained from various seedsmen, having been grown, under the same circumstances for this purpose, in the Garden of the Society at Chiswick in the past summer.

Class I. SEEDS SMOOTH OR INDENTED ON THE SURFACE.

§ I. SEEDS WHITE.

Sangster's No. I. (Lee.) Syn.: Daniel O'Rourke (Lee), Dunnett's First Early (Carter & Co., Sutton & Sons, Minier & Co.), Carter's Earliest (Carter & Co), Veitch's First Early (Veitch & Son, Exeter), Early Pea B (Wrench), Early Pea C (Wrench). The above were all sown March 24; they came in flower June 1; and were fit for use June 16. Height, 3½ to 4 feet. Pods, averaging 6 to 8 on a stem, short, straight, round when full, containing 5 to 6 peas. The best very early pea.

Dillstone's First Early (Hurst & M'Mullen). Sown March 24; in flower, June 1; fit for use, June 16. Height, about 3 feet; habit slender. Pods, 6 to 7 on a stem, straight, cylindrical, scarcely so large as in Sang-

ster's No. 1, containing 5 to 6 small peas. It was considered to be the same as Prince Albert, or Early Kent.

Early Pea A (Wrench). Sown, March 24; in flower, June 1; fit for use, June 18. Height, 4 feet. The Committee decided that this was the same as the Early Emperor. The dried peas of this and the preceding sorts are very similar.

Tom Thumb (Paul & Son). Sown, March 24; in flower, June 4; fit for use, June 20. Height, 1 foot. Pods, 5 to 6 on a stem, short, a little flattened, containing 5 to 6 peas, which are rather larger than those of the Early Frame. From its dwarf habit, it is very eligible for forcing in frames. This is the *Pois Nain Hâtif extra* of the French.

Ringwood Marrow (Nutting & Son). Sown, March 24; in flower, June 6; fit for use, June 25. Height, 4 feet. Pods, about 7 on a stem, nearly straight, well filled, containing about 6 large peas.

Dickson's Favorite (Nutting & Son). Syn.: Dickson's Early Favorite, Torwoodlee (Lawson & Son). Sown, March 24; in flower, June 11; fit for use, June 28. Height, 5 feet. Plant of vigorous growth and very prolific. Pods, 10 to 12 on a stem, long, round when fully grown, curved, hooked at the extremity, but not so much as in the Auvergne, to which in many respects it bears much resemblance. The pods are remarkably well filled, containing from 8 to 10 peas of medium size, round, and very white. It is highly deserving of cultivation as a second early pea.

Excelsior Marrow (Carter & Co., Fraser, Richardson & Goad). Syn.: Knight's Excelsior (Sutton & Sons, Nutting & Son). Sown, March 24; in flower, June 11; fit for use, June 28. Height, 5 feet. A strong grower, with broad foliage. Pods, 10 to 12 on a stem, large, round, slightly curved, containing 8 to 9 middle-sized peas of good quality. An excellent variety.

Paradise Marrow (Nutting & Son). Syn.: Early Paradise Marrow (Minier & Co.). Sown, March 24; in flower, June 11; fit for use, June 30. A strong grower, 5 feet high. Pods 10 to 12 on a stem, large, round, slightly curved, containing 8 to 9 middle-sized peas. Very similar to the Excelsior Marrow, but is scarcely so early.

Early Dwarf Branching Marrow (Paul & Son). Sown, March 24; in flower, June 11; fit for use, June 30. Height, 2 feet. Pods, about 6 on a stem, nearly straight, flattish, containing 7 to 8 peas of good size and quality.

Harrison's Perfection (Carter & Co.). Sown, March 24; in flower, June 6; fit for use, June 30. Stems 3 feet, robust. Pods, 14 to 15 on a stem; small, straight, containing 5 peas of good size and quality. The only defect is, that the pods do not fill well. When growing this cannot be distinguished from Harrison's Glory; but in the mature state the seeds of the former are smooth and white, those of the latter indented, and of an olive color.

§ 2. SEEDS BLUE, GREEN, OR LIGHT OLIVE-COLORED.

New Green Marrow (Fraser, Richardson, and Goad). Sown, March 24; in flower, June 6; fit for use, June 27. Height, 5 feet. Pods, 10 to 12 on

a stem, long, narrow, slightly curved, containing 7 to 8 large peas, which are compressed from being much crowded. A very distinct sort, on account of its long pods, narrow in proportion to their length. In appearance and quality, however, it is not equal to Beck's Prizetaker.

Beck's Prizetaker (Carter & Co.). Syn.: Prizetaker (Hurst & McMullen, Nutting & Son); Prizetaker Green Marrow (Sutton & Sons); Rising Sun (Nutting & Son). Sown, March 24; in flower, June 11; fit for use, June 30. Height, 4½ to 5 feet. Pods 9 to 10 on a stem, roundish, curved or hooked near the end, well filled, containing 8 to 9 middle-sized peas, of a fine green color when young, and mixed olive and white when dry. One of the best varieties for main crops.

Leicester Defiance (Minier & Co.). Sown, March 24; in flower, June 11; fit for use, June 30. Height, 5 feet. Pods, 9 to 10 on a stem, round, slightly curved, containing 8 to 9 middle-sized peas, mixed olive and white when dry. Very similar to Beck's Prizetaker.

Burbidge's Eclipse (Nutting & Son). Sown, March 24; in flower June 14; fit for use, June 30. Height, 18 inches. Pods, about 10 on stem, short, flat, and containing 5 to 6 large peas, of good quality, bluish olive-green and slightly indented in the dried or ripened state.

Flack's Victory (Nutting & Son). Sown, March 24; in flower, June 14; fit for use, June 30. Height, 2 feet. Pods, 10 on a stem, short, straight, rather flat, containing about 6 medium-sized peas, mixed olive and white when dry, and also indented.

Harrison's Glory (Nutting & Son, Carter & Co.). Sown, March 24; in flower, June 6; fit for use, June 27. Height, 3 feet, of a bushy, robust habit of growth. Pods, about 16 on a stem, rather short, nearly straight, and flattish, containing 5 to 6 medium-sized peas of good quality; light olive mixed with white when dry, and also slightly indented. A good variety, but, like Harrison's Perfection above noticed, it has the defect of the pods being frequently not well filled.

Batt's Wonder (Batt, Rutley & Silverlock). Sown, March 24; in flower, June 18; fit for use, July 5. Height, 3 feet, and of robust growth; foliage dark green. Pods, 10 to 12 on a stem, narrow, nearly straight, but exceedingly well filled, containing 7 to 9 peas of medium size, which become small, smooth, and bluish-green when dry. This variety withstands drought well, and the pods will hang long before the peas get too old for use. It is an excellent pea for a second crop.

Garbutt's Amazon (Flanagan & Son). Sown, March 24; in flower, June 14; fit for use, July 5. Height, 6 feet. Pods, 8 to 9 on a stem, slightly curved, roundish, well filled with 7 to 8 large peas, which are mixed olive-colored and white when dry, and slightly indented.

Stradsett Marrow (Flanagan & Son). Sown, March 24; in flower, June 14; fit for use, July 5. Height, 6 feet. Pods, 8 to 9 on a stem, straight, broad and flattish, containing 7 to 8 large peas, of a fine green color, but tasteless when cooked; their skins, moreover, are too thick. Such being the case, the variety cannot be recommended for cultivation. The seeds when dry are mostly light olive, very few being white and they are slightly indented.

Sutton's Berkshire Hero (Sutton & Sons). Sown March 24; in flower, June 21; fit for use, July 11. Height, 8 feet, of strong growth. Pods, 12 on a stem, large, long, very slightly curved, well filled, with 7 to 8 large peas, which are greyish-olive, and some yellowish-white when dry. The dry seeds are large compared with most others in the same state, and compressed as well as slightly indented.

Denyer's Prolific Green Marrow (Sutton & Sons). Sown, March 24; in flower, June 20; fit for use, July 11. Height, 6 to 7 feet. Pods 10 on a stem, straight, containing 6 to 8 peas, of a fine green color, but not very sweet; they are mixed light-colored and white when dry, but mostly white, and they are also indented.

Class II. SEEDS COMPRESSED AND WRINKLED ON THE SURFACE.

§ 1. SEEDS WHITE.

Alliance (Carter & Co.). Syn.: Eugénie (Nutting & Co., Lee). Sown, March 24; in flower, June 3; fit for use, June 24. Height, about 3 feet, and of strong robust growth. Pods, 10 on a stem, nearly straight, flattish, not very well filled; peas 5 to 6, large and sugary.

Lynn's Prolific Wrinkled (Nutting & Son). Sown, March 24; in flower, June 23; fit for use, July 11. Height, 3½ feet. Pods, 10 to 12 on a stem, small, cylindrical, nearly straight, very closely packed with 6 to 8 peas, which are rather small and much crowded, their adjoining sides being quite flat, so that the peas in their green state have the form of short sections of a cylinder, and when dry, the ends become depressed. The hilum is marked with a small black speck; as in the worthless Egg Pea, sometimes called Black-eyed Susan.

Carter's Victoria (Carter & Co.). Syn.: Carter's Eclipse (Carter & Co.), Thorne's Boyal Britain (Hurst & McMullen), Buckley's Gen. Wyndham (Hurst & McMullen). Sown, March 24; in flower, June 20; fit for use, July 8. Height 6 to 7 feet. Pods 10 to 12 on a stem, very large, very slightly curved, containing 7 to 9 large peas, which are sweet and excellent. It continues to bear late; and the pods and peas are larger than those of Knight's tall white Marrow. This is one of the best late tall peas.

§ 2. SEEDS BLUE; GREEN, OR LIGHT OLIVE-COLORED.

Veitch's Perfection (Veitch & Son, Exeter, Veitch, Chelsea). Sown, March 24; in flower, June 14; fit for use, July 8. Height 3½ to 4 feet, of strong robust growth, somewhat branched. Pods, 10 to 12 on a stem, large, flat, straight, containing 6 to 8 large peas, which are very sugary and excellent. The dried seeds are large, of a light olive-green color, some being nearly white. It is one of the very best peas for main or late crops.

Climax (Carter & Co., Lee). Syn.: Napoléon (Nutting & Son, Lee). Sown, March 24; in flower, June 4; fit for use, June 25. Height, 3½ feet, somewhat robust in growth. Pods, 10 to 13 on a stem, straight, flat, not very well filled, containing only 5 to 6 peas, which are however large and sugary. Dry seeds light-olive, few being nearly white. Very similar to Alliance, the only difference being in the color of the seeds. Both are of excellent quality as early sugary Marrows, but they are not prolific.

Fairhead's Excelsior (Sutton & Sons). Sown, March 24; in flower, June 6; fit for use, June 27. Height, 3½ feet. Pods, 12 on a stem, small, straight, not very well filled, containing 5 to 6 medium-sized Peas, of an olive color when dry.

Lord Raglan (Carter & Co.). Sown March 24; in flower, June 6; fit for use, July 4. Height, 3½ feet. Pods, 10 to 12 on a stem, small, nearly straight, and not very well filled, containing 5 to 7 peas, of a fine green color, but not so sugary as those of Veitch's Perfection and Climax. The dry seeds are light olive.

Monarch (Nutting & Son). Sown, March 24; in flower, June 18; fit for use, July 5. Height, 6 feet. Pods, 8 to 10 on a stem, large, flat, straight, but containing only 6 large peas of a fine green color and sweet; dried seeds light olive.

Tall Green Mammoth (Nutting & Son). Sown, March 24; in flower, June 18; fit for use, July 5. Height, 8 feet. Pods, 12 to 14 on a stem, flattish, nearly straight, not well filled, containing only 4 to 6 peas, light olive and white when dry.

Ne Plus Ultra (Lee, Nutting & Son). Syn.: Jay's Conqueror (Nutting & Son), Payne's Conqueror (Hurst & McMullen). Sown, March 24; in flower, June 18; fit for use July 5. Height, 7 feet. Pods, 10 to 12 on a stem, large, slightly curved, well filled, containing 7 to 9 large peas, of a fine green color, sugary and excellent; the dried seeds dark olive, and some white. This is one of the best tall Marrows.

Competitor (Charlwood & Cummins). Sown, March 24; in flower, June 14; fit for use, July 4. Height, 5 feet. Pods, 8 to 10 on a stem, large, straight, cylindrical, containing only 5 to 6 peas, but these are very large; dry seeds of a nearly uniform olive color.

NOTES ON STRAWBERRIES GROWN FOR TRIAL AT CHISWICK.—The examination of the collection of Strawberries growing at the Garden, at Chiswick, was deputed to a sub-committee of the Fruit Committee, which met from time to time during the fruit season, and tested the qualities of such kinds as were in a condition for examination. The excessively hot dry weather was, however, unfavorable to some of the late varieties which had been planted, and prevented satisfactory notes being taken of them. The sub-committee, moreover, thought it desirable that much more complete collections should in future seasons be planted out for the especial purpose of obtaining more complete information on the subject. The following are the notes and observations made:—

Ajax (Nicholson). Fruit large, roundish, deep red; calyx small, reflexed; seeds slightly embedded; flesh pale red, juicy, and tolerably rich. Leaf-stalks hairy, very tall and strong; leaflets, of which there are sometimes five, very large, broad, widely serrated. Altogether the plant is of extraordinary vigor, but a shy bearer, growing too much to leaf in the open ground; yet it answers well in forcing, its excessive vigor being checked in consequence of the confinement of its roots in the pots.

Belle Bordelaise. This is said to have been obtained from the old Haut-

bois fertilised by the Alpine. It appeared, however, to be exactly the same as the Prolific or Conical Hautbois.

British Queen Seedling. Fruit middle-sized, obtusely conical, dark red. In point of flavor, this variety was found to be so much inferior to the British Queen, that it was pronounced to be not worth growing.

Captain Cook (Nicholson). Fruit generally roundish ovate, but irregular, red with frequently a green point; flavor scarcely second rate. Habit of the plant rather dwarf. Leafstalks hairy; leaflets small, oval, sharply serrated, glaucous beneath.

Comte de Paris (Pelvilain.) Fruit large, roundish heart-shaped; flesh pale red throughout, firm, and very acid. Leafstalks slightly hairy, the hairs depressed; leaflets roundish obovate. The fruit was considered too acid for dessert.

Duchesse de Trévise. See Vicomtesse Héricart de Thury.

Eliza (Myatt.) Fruit middle-sized, ovate, with a neck, light red; flesh pale red next the outside, whitish towards the centre, juicy, rich, sweet, and very excellent. Leafstalks hairy, the hairs spreading horizontally; leaflets roundish-oval, obtusely serrated. A good bearer, ripening about the middle season. It is hardier than the British Queen, and will therefore survive in cold situations where occasionally the last-named sort does not completely withstand very severe winters. It was highly approved when tried in comparison with other sorts. Omar Pacha, as received in the Garden of the Society, proved to be exactly the same as Myatt's Eliza.

Excellente (Lorio.) Fruit large, roundish-ovate, pale-red, with numerous small prominent seeds. Leafstalks hairy; leaflets broad and thin, widely and sharply serrated. A good bearer, but not well-flavored.

Exhibition (Nicholson.) Fruit middle-sized, oblong, ovate, or irregular, bright red; seeds prominent; flesh dull yellow, and of bad flavor. Leafstalks dwarf hairy; leaflets roundish, rather sharply serrated. A good bearer, notwithstanding which it cannot be recommended, owing to its inferior quality.

Filbert Pine (Myatt.) Fruit above middle-size, conical, pale-red on the shaded side, and dull purplish red on the exposed side; seeds prominent; flesh firm, solid, and rich, pale, with a pink core. Leafstalks slightly hairy, the hairs depressed; leaflets roundish oval. The quality of the fruit of this variety is variable, but often remarkably good.

Fill-basket (Nicholson.) Fruit rather large, roundish, sometimes flattened on the sides; flesh pale red, with a hollow core, and possessing but little flavor. Leafstalks very heavy; leaflets deeply and sharply serrated, glaucous beneath.

Highland Chief. Fruit large, roundish or roundish ovate, light red; flesh pale red, soft, rich, and very excellent, with an agreeable mild acidity. Leafstalks rough and very hairy; leaflets obovate, coarsely serrated. A first-rate sort.

La Reine (De Jonghe.) Fruit middle-sized, of a longish shape, light red; flavor good. The variety cannot, however, be recommended at present, as it appears to be a shy bearer. Further trial is therefore necessary.

Marquise de la Tour Maubourg. See Vicomtesse Héricart de Thury.

Ne plus Ultra. (De Jonghe.) Fruit large, of a singular oblong form, dark red; flesh solid, rich, and pleasant. Leafstalks hairy, the hairs depressed; leaflets roundish, obovate, rather widely serrated.

Omar Pacha. See Eliza.

Prince of Wales (Cuthill.) Fruit middle-sized, conical, bright red; flesh firm, but rather acid. Leafstalks very hairy, the hairs spreading horizontally; leaflets ovate or obovate, pale green, glaucous beneath. An extraordinary bearer, ripening late.

Princess Royal of England (Cuthill.) Fruit middle-sized, conical or roundish ovate, with a neck, red next the sun, pale red where shaded; seeds prominent; flesh pale red, whitish near the centre, tolerably rich, with an agreeable aroma. Leafstalks hairy, the hairs spreading or horizontal; leaflets rather small, obovate, sharply serrated. An abundant bearer, and worthy of general cultivation.

Sir Walter Scott. Fruit large, oblong, pointed, deep red, with prominent seeds; flesh pale, firm, but its quality was not approved. The plant is of dwarf, robust habit. Leafstalks very hairy; leaflets roundish or roundish obovate, widely but not deeply serrated.

Stirling Castle Pine. Fruit large, ovate, dark red; flesh pale red, firm, but of second-rate quality. Leafstocks rough and likewise hairy, becoming brownish-red when old, resembling in these respects the old Hudson Bay Strawberry, from which it seems to have been bred; leaflets obovate.

Triomphe. This so much resembles the Hudson Bay, as to lead to the conclusion that it is probably a seedling from it. Its aroma somewhat resembles that of the Vicomtesse Héricart de Thury, but the latter is in every respect superior to it.

Vicomtesse Héricart de Thury (Jamin.) Fruit middle-sized or large, conical, deep scarlet; seeds bright yellow, slightly imbedded; flesh pale red, with scarcely any core; flavor brisk, rich, and sweet. Ripens early, or about the same time as Keens' Seedling. Leafstalks moderately tall, hairy, the hairs disposed horizontally, but on the scapes and runners they are depressed; leaflets obovate, obtusely serrated, smooth above, somewhat hairy beneath. The plant is hardy, a free grower, and a very abundant bearer. The Marquise de la Tour Maubourg, and the Duchesse de Trévis, proved to be the same as this, in the Garden of the Society.—(*Horticultural Society's Proceedings.*)

DATURA ARBOREA.—Mr. Addison states that he has nine plants of this in full bloom in one of his employer's conservatories. I quite agree with him in opinion that too little attention is in general paid to the culture of this beautiful plant; but I wish to state that it does not require the protection of a conservatory, or indeed any protection whatever, during the summer, to produce in full perfection its noble and graceful flowers. During the last summer we had in different parts of this garden seven large plants of the Datura, all of them covered with bloom, as fully developed as I ever saw them to be under glass, and they were really the admiration of all beholders. One of them in particular, the largest of the

whole, and indeed almost to be called a tree, was planted near the house; and produced at one time I should think little short of one hundred flowers. I certainly did not count them; but they were a gorgeous sight by day, and in the evening "scattered wide their delicate perfume," which is peculiarly sweet and powerful. As soon as the danger from spring frosts was over, these plants having been previously prepared in the greenhouse, were planted out, and continued to produce a succession of flowers and flowering buds, until the sudden frost in October put an end to their glory. But they can be renewed another year, and they are so easily propagated by cuttings, and their beauty so amply rewards the little attention which they subsequently require, that I cannot but express my surprise, that in the present advanced state of horticulture so great an out-of-door ornament should be so much neglected.—(*Gard. Chron.*)

HISTORY AND CULTIVATION OF THE ROSE.—Mr. Shirley Hibbard recently delivered a most interesting lecture on the Rose. Mr. Hibbard briefly sketched the history of the rose from the earliest times to the peace of 1815, when, he said, the first of the great French rose gardens was laid out by M. Vibert, and the improvement of the rose as a florist's flower commenced in earnest. The great majority of these varieties had been raised in France during the past forty-five years by MM. Vibert, Laffay, Hardy, Desprez, Prevost, Lacharme, Margottin, Guillot, Granger, and a few other professional and amateur growers. The lecturer enumerated the best roses raised by each, and gave a few historical memoranda of such roses as Annie Vibert, Jules Margottin, Geant des Betailles, Great Western, and others, tracing them to their parentage, and indicating, also, the varieties which had proceeded from them. The seedlings of Geant des Betailles, he said, were sufficiently numerous to constitute a rich collection of extraordinary roses, and they included Lord Raglan, General Jacqueminot, Duchess of Norfolk, Eveque de Nimes, Louis Chaix, and others of the crimson section of Hybrid perpetuals. Passing from the varieties, the lecturer proceeded to the subject of culture, giving an epitome of the treatment of the rose on loam, sand, clay, chalk and peat, with hints on the selection of varieties and the management of stock, as well as the improvement of unsuitable soils. He then treated of propagation, and by the aid of a black-board, explained the various modes of budding on the Briar, Manetti, Celine, and other stocks. His description of the method of striking roses from eyes in the fashion of a grape vine, was particularly interesting. The buds were to be taken at the same season and in the same manner as for budding on the Briar, that is from half ripe wood, the buds of which had not started. The leaf was not to be secured: nor was the wood to be taken out of the shield, but every bud with its attached bark and leaves was to be planted in pure sand with a little peat under it for the first roots to work into, and then covered with a bell glass. In this way scarce roses would be multiplied readily. The Rector of Horsney proposed a vote of thanks, which was carried by acclamation.—(*Gard. Chron.*)

Gossip of the Month.

SALE OF THE ESTATE OF THE MASSACHUSETTS HORTICULTURAL SOCIETY.—At a meeting of the Society, December 24, it was voted to sell the Society's estate in School Street, adjoining the Parker House, to Mr. H. D. Parker, for the sum of \$70,000.

The sale, which is considered a good one for both parties, was effected in accordance with a Report of the Committee of the Society, consisting of the President, Joseph Breck, and Messrs. M. P. Wilder, Josiah Stickney, W. R. Austin, E. S. Rand, Jr., C. M. Hovey, and George W. Pratt. The subject has been under consideration for some time, and was known to be in contemplation by many of the members. At a special meeting, Dec. 24, the subject was fully discussed by Messrs. C. M. Hovey, French, Wilder and Stickney, and it was voted to sell the estate, agreeably to the Report of the Committee.

The estate measures 30 feet front by nearly 150 feet deep, and contains 5352 square feet. It was formerly the site of the old Latin Schoolhouse, which was purchased in 1843 for \$18,000. The building cost about \$18,000. In 1854 an additional purchase of an estate in the rear was made for \$12,000, making the entire cost about \$48,000, at which it has been valued in the Schedule of the Society's property. It is proposed to rent a suitable hall for the weekly exhibitions, until such time as the Society may deem it advisable to erect another building, better adapted to the increasing wants of this old and flourishing association.

THE HORTICULTURIST.—Mr. J. J. Smith has retired from the editorial chair of this contemporary Journal, and our old correspondent, Mr. P. B. Mead, assumes the duties of its management. We doubt not, under his good taste and practical skill, it will maintain the same excellence which it has heretofore acquired.

HON. JUDGE MASON, of Iowa, who made himself so popular with the inventors of the country while he held the office of Commissioner of Patents, has, we learn, associated himself with Munn & Co., at the Scientific American Office, New York.

THUJOPSIS BOREALIS, in the collection of R. S. Field, Esq., Princeton, New Jersey, has proved entirely hardy, and is extremely beautiful. Its size is not stated. *Biota pendula*, in the same collection, is eight feet high.

THE LONDON HORTICULTURAL SOCIETY has completed its arrangements for establishing a new garden at Kensington Gore. The £50,000 in debentures have all been taken, and a very large number of life memberships, which will establish it upon a good footing again. Mr. Nesfield, the eminent landscape gardener, is engaged in preparing a design, worthy of

the supporters of the new garden, and Mr. Eyles has been appointed superintendent, and enters upon his duties Jan. 2. Her majesty's commissioners have already begun forming the ground levels agreeably to a plan proposed by Mr. Nesfield, and approved by his royal highness the Prince Consort, who is president of the society. We look forward to great results from the formation of the new garden. It is gratifying to learn that a society, which has done so much for horticulture during the present century, has not been neglected in appealing to the public for support.

THE HUBBARD SQUASH IN NEW HAMPSHIRE.—Allow me to compare the result of Hubbard Squash culture in New Hampshire with that of Ohio, as given in your Magazine for December. On a circular bed in my garden, twenty-six feet in diameter, I planted five hills on the 13th of May. The ground had been deeply trenched the previous season, and to each hill was added a shovelful of rich compost. In October I gathered 20 squashes, weighing 421 pounds. The largest weighed 32 pounds, and the next in size 27 pounds.—G. W. H., *Portsmouth, N. H., Dec. 19, 1859.*

[We can only say, that Yankee Land—after all—is hard to beat. Ed.]

LECTURES ON AGRICULTURE, to be given during the Agricultural Convention, at New Haven, February, 1860:—

First Week.—*Science in its Relations to Agriculture.* Chemistry, Prof. S. W. Johnson. Meteorology, Prof. B. Silliman, Jr. Entomology, Dr. Asa Fitch. Vegetable Physiology, Daniel C. Eaton.

Second Week.—*Pomology, &c.* General Pomology, Hon. M. P. Wilder. Grapes, Dr. C. W. Grant. Berries, R. G. Pardee, Esq. Fruit Trees, P. Barry, Esq. Fruits as Farm Crops, L. F. Allen, Esq. Arboriculture, Geo. B. Emerson, Esq. Agricultural Chemistry, Prof. S. W. Johnson.

Third Week.—*Agriculture Proper.* Drainage, Hon. H. F. French, Esq. Grasses and Irrigation, J. Stanton Gold. Cereals, Joseph Harris, Esq. Hops, Tobacco, &c., Prof. Wm. H. Brewer. Cultivation of Light Soils, L. Bartlett, Esq. English Agriculture, L. H. Tucker, Esq. German Agriculture, Dr. Evan Pugh. Agricultural Education and Statistics, Prof. John A. Porter.

Fourth Week.—*Domestic Animals, &c.* Principle of Stock Breeding, Hon. Cassius M. Clay. Stock Breeding in the U. States, Lewis F. Allen, Esq. Breeding for the Dairy, Charles L. Flint, Esq. Horses, Sanford Howard, Esq. Breaking and Training Horses, Dr. D. F. Gulliver. Root Crops and Sheep Husbandry, T. S. Gold, Esq. Pisciculture, John C. Comstock, Esq. Rural Economy, Donald G. Mitchell, Esq. Agricultural Associations, Mason C. Weld, Esq.

An average of three lectures per day will be given from Feb. 1st to the 25th, inclusive, making sixty-six lectures in all. For the accommodation of persons desiring to spend Sunday at home, there will be no lecture on Saturday afternoon or Monday forenoon. Each lecture will be followed by questions and a discussion. Persons attending the lectures will have the liberty of introducing other topics beside those of the above list, and thus eliciting information adapted to their own case.

Massachusetts Horticultural Society.

Saturday, December 3, 1859.—An adjourned meeting of the Society was held to-day,—the President in the chair.

Mr. C. M. Hovey read an article from the *Homestead*, in reference to the Boston Pear, contributed by "A Member of the Massachusetts Horticultural Society."

On motion of Jo. Williams, Esq., it was voted, that the subject be referred to the Executive Committee, with instructions to obtain the name of the author, and report the same to the Society.

The following members were elected:—Wm. Butterfield, W. I. Bowditch, Charles J. Sprague, Joseph Leonard, S. H. Lynde, J. K. Wiggin, and G. J. F. Bryant.

Adjourned one week, to December 10.

Exhibited. FRUITS: From R. W. Ames, Beurré Gris d'Hiver and Easter Beurré pears, extra fine. From J. A. Kenrick, Cogswell, Hubbardston Nonsuch, Baldwin, and Rhode Island Greening apples. L. Hoar, Hubbardston Nonsuch. Hovey & Co., Lawrence pears.

PREMIUMS AWARDED FOR FRUIT.

AUTUMN APPLES.—For the best, to J. Eustis, for Boxford, \$6.

For the next, to T. Clapp, Gravenstein, \$4.

WINTER APPLES.—For the best, to J. W. Manning, Hubbardston Nonsuch, \$6.

For the next, to J. A. Kenrick, Cogswell, \$4.

AUTUMN PEARS.—For the best, to George Nichols, for Seckel, \$5.

For the next, to J. F. Allen, for Duchesse, \$3.

For the next, to H. Vandine, for Marie Louise, \$2.

WINTER PEARS.—For the best, to A. J. Dean, for Easter Beurré, \$6.

For the next, to R. W. Ames, for the same, \$5.

For the next, to J. Eaton, for the same, \$4.

For the next, to P. R. L. Stone, Winter Nelis, \$3.

FIGS.—For the best, to J. F. Allen, variety, \$3.

For the next, to Hovey & Co., Nerii, \$2.

QUINCES.—For the best, to T. Page, \$3.

For the next, to J. W. Foster, \$2.

EXHIBITION DURING THE YEAR.—For the best, to J. F. Allen, \$15.

For the next, to H. Vandine, \$10.

GRATUITIES.—To C. E. Grant, for fine Duchesse pears; W. Bacon, for Swan's Orange; Dr. L. Mitchell, Seckel, and D.W. Lincoln, Rostiezer, \$2 each.

To Wm. Butterfield and W. H. Pettengell, each, the Magazine of Horticulture, for fine pears. To J. F. C. Hyde, for Mountain Seedling gooseberries, \$2. To J. W. Foster, \$2, for new currants. To Mrs.

Corey, for Rhode Island Greening apples, \$2. To A. W. Stetson, for seedling grapes, \$3. To L. Hoar, for Hubbardston Nonsuch apples, \$2. To J. J. Mornburg, for fine grapes, the Magazine of Horticulture. To E. Brown, Lynn, for fine collection of apples and pears, the silver medal.

[These, in addition to those before reported, constitute all the premiums for fruits during the year.]

Dec. 10.—An adjourned meeting of the Society was held to-day,—the President in the chair.

M. P. Wilder, from the Executive Committee, reported that, as the article in the Homestead did not reflect upon the Society, the Committee be discharged from further action.

J. F. C. Hyde called the attention of the Society to one of its old members, Wm. Kenrick, and offered the following vote:—That a Committee of five be chosen to take into consideration the propriety of rendering aid to Mr. Kenrick for his services as a member of the Society.

The President, M. P. Wilder, C. M. Hovey, W. R. Austin, and J. F. C. Hyde were appointed the Committee.

The President, Treasurer, and M. P. Wilder, were appointed a Committee to settle with the Mount Auburn Cemetery.

Geo. L. Stearns and Ed. Page were elected members.

Adjourned one week, to December 17.

Dec. 17.—An adjourned meeting of the Society was held to-day,—the President in the chair.

The Committee, to whom was referred the subject of disposing of the Society's hall, made a report, requesting power to sell the same.

After some discussion, on motion of C. M. Hovey, it was voted to consider the subject at an adjourned meeting, December 24, and that the Recording Secretary give notice in three or more newspapers of the object of the meeting.

Mr. C. M. Hovey, from the Committee appointed for that purpose, submitted the following Report:—

The Committee, to whom was referred the subject of rendering aid to Mr. William Kenrick, for his services, beg leave to report:—

That they have looked through the early history of the Society, and find a debt of gratitude is due to its pioneers, among whom Mr. Kenrick was one of the most prominent. Enthusiastic in his devotion to Horticulture, his labors have ever been directed to the welfare of the Society. As author of the American Orchardist, which passed through several editions, he disseminated a great amount of valuable pomological information, visiting the European and Continental nurseries, and introducing or making known many new and choice fruits. As a member of the Fruit Committee, for several years, his services were of great importance to the Society; but more especially as aiding in, if not first suggesting a correspondence with the late Dr. Van Mons, through whose liberality so many of his new seedling pears were early introduced into our gardens, Mr. Kenrick has rendered a service which can scarcely be repaid.

Your Committee find that deserving testimonials have been properly and justly awarded to those who labored with Mr. Kenrick for so long a period in behalf of the interests of the Society, and Horticulture generally, and they think and believe, that though his valuable services should have been recognized before, it is not too late to interpose some fitting memorial which will not only serve to cheer his declining years, but show how highly the members of the Massachusetts Horticultural Society appreciate his devotion to its greatest interests. They would, therefore, submit the following Resolutions :—

Resolved, That, as a recognition of the labors of Mr. William Kenrick in opening a correspondence with Van Mons for the introduction of his new seedling pears,—as the author of a valuable and timely work on Fruits,—as the introducer of many new trees, shrubs and plants,—and for his services as a member of the Fruit Committee for a long period,—a piece of plate, or other suitable testimonial, of the value of two hundred and fifty dollars, be presented to him.

Resolved, That the Treasurer of the Society, with the advice of the Finance Committee, be directed to pay into the hands of the President of the Society and Mr. J. F. C. Hyde, the above sum, to be appropriated by them in such way as they may deem advisable, agreeably to this Report.

For the Committee,

C. M. HOVEY.

Adjourned one week, to December 24.

Dec. 24.—An adjourned meeting of the Society was held to-day,—the President in the chair.

The Committee, to whom was referred the sale of the Society's property, made a Report. After considerable discussion by Messrs. C. M. Hovey, B. V. French, Wilder, Stickney and others, on motion of Mr. Wilder, Mr. C. M. Hovey and George W. Pratt were added to the Committee. The Report was then adopted, and the following votes passed :—

Voted, That the Society sell their estate on School Street to H. D. Parker, with the building thereon, at the rate of thirteen dollars per square foot.

Voted, That the President and Treasurer be authorized to execute, with the corporate seal and in the name of the Society, a deed of the said estate, with warranty in the usual form, and acknowledge and deliver the same as the deed of said Society.

Voted, That the Committee on the sale of the estate be continued, with power to complete the negotiations with Mr. Parker, and the Treasurer be authorized to receive payment for the said estate by a mortgage or mortgages for \$60,000, satisfactory to the said Committee, and the balance in cash.

The Flower Committee presented their Annual Report, which was accepted.

The Executive Committee made a Report, appropriating \$3000 for premiums for the ensuing year. Accepted.

Adjourned one week, to December 31.

Dec. 31.—An adjourned meeting of the Society was held to-day,—the President in the chair.

The Finance Committee made their Annual Report, as follows:—

RECEIPTS FOR 1859.			
Balance brought forward from last year,	-	-	\$107 10
Dividends and interest,	-	-	1,048 00
Rents—Store, \$1200 ; new purchase, \$1050 ; hall, \$375,	-	-	2,625 00
Receipts from Mount Auburn,	-	-	5,758 67
Annual Exhibition,	-	-	489 75
Rose show,	-	-	130 10
Assessments collected this year,	-	-	700 00
Assessments, balance from last year,	-	-	337 00
Half taxes returned,	-	-	215 00
			\$11,410 62
PAYMENTS FOR 1859.			
Cash paid Mount Auburn (one half receipts,)	-	-	2,879 34
Taxes,	-	-	611 10
Premiums and gratuities,	-	-	1,869 50
Salaries,	-	-	500 00
Printing, binding and advertising, (part last year's,)	-	-	732 69
Expenses of Annual Exhibition,	-	-	1,094 88
Plate, Winter street design, and legal fees,	-	-	350 00
Insurance to April 1st,	-	-	56 20
Mechanics and miscellaneous bills,	-	-	803 02
Cash in the treasury,	-	-	2,514 14
			\$11,410 62
PROPERTY OF THE SOCIETY.			
Original and new purchase, (valued,)	-	-	\$48,000 00
Permanent fund,	-	-	4,000 00
Lyman fund,	-	-	10,000 00
(As follows: 53 shares Boston and Worcester Railroad, and \$4500 in bonds of the Passumpsic and Connecticut River Railroad; 6 shares Boston and Maine.)			
20 shares Portland and Saco Railroad, surplus invested,	-	-	2,000 00
10 shares Boston and Maine, (cost,)	-	-	720 00
Library, furniture and glass,	-	-	4,000 00
			\$68,720 14
Cash on hand,	-	-	2,514 14

The Society's indebtedness to Mount Auburn has been reduced by the payment, at the commencement of this year, of \$2879 34, leaving a balance of \$6129 15, which is to be immediately paid in full.

No change has been made this year in the valuation of the Society's property; the sale of which, although not yet completed, will show an increase of more than twenty thousand dollars.

The Committee cannot close this Report without bearing testimony to

the continued fidelity and valuable services of our Treasurer. It is now ten years last June since Mr. Austin took charge of the funds of the Society. How much he has saved for us during that time it would be hard to tell, but we can all bear witness to his vigilant eye to our expenses, and his steady, reliable devotion to the pecuniary interests of this Society.

Boston, December 30, 1859.

JOSIAH STICKNEY,
SAMUEL WALKER.

The Committee on Gardens asked for further time to complete their Report.

The Fruit Committee made their Report, which was recommitted.

The Library Committee made their Report, which was recommitted.

Mr. W. C. Strong moved that a vote of thanks be tendered to Mr. C. M. Hovey for his services as Chairman of the Committee for sixteen years, and that a testimonial of the value of one hundred dollars be presented to him, and that the Treasurer be requested to pay the same. Messrs. Strong, Wight and Austin were appointed a Committee to carry the vote into effect.

James Walsh, Cambridge, and W. S. Ward, Newton, were elected members.

Meeting dissolved.

Horticultural Operations

FOR JANUARY.

FRUIT DEPARTMENT.

SINCE the date of our last the weather has been decidedly cold and wintry, with the temperature 7° below zero just as we close this number, and at least six inches of snow covering the ground; this has fallen lightly, and forms a good protection to the smaller shrubs and plants.

GRAPE VINES will now become objects of greater attention. In the very early houses, the fruit will now be nearly ripe, and a good temperature should be maintained, though not too high. Besides this, and keeping as dry an atmosphere as possible, nothing more is required until the fruit is all cut. Vines in the greenhouse should be immediately pruned, if it has been neglected; wash and clean the wood, in order to destroy all insects, particularly the mealy bug, which is often very troublesome. If they break this month, be careful to syringe the wood to promote a kindly growth. Cuttings of vines may now be put in.

ROOT GRAFTING may be done now, where this mode of propagation is practised.

FRUIT TREES IN POTS may be brought into the grapery or greenhouse for an early crop.

HARDY GRAPES may now be propagated by eyes, placing the pots or boxes in a very slight bottom heat.

FLOWER DEPARTMENT.

With January commence the active labors of the year. The first object should be to have the houses neatly arranged, and gay with an abundance of flowers; renewing such from time to time as have done blooming; and supplying their place with others for a succession. The next should be to make preparation for securing a good stock of plants for spring and summer use; and to begin early will save valuable time later in the season. By the latter part of the month hotbeds may be put in operation, which will afford a proper temperature to grow many things not suited to the ordinary greenhouse. These it is unnecessary to name, as the ambitious gardener will only need the hint to prepare his work accordingly.

CAMELIAS will now be in full bloom, and will require a liberal supply of water, and occasional syringing, if strong fire-heat is applied. Now is a good time to prune in straggling plants, and to repot others not in good condition.

PELARGONIUMS will need more attention as the season advances. Keep the plants near the glass; have all the specimens shifted at once; top rapid growing shoots, and tie out the laterals so as to form handsome round heads. Air abundantly, and water sparingly. Be careful in keeping only a moderate temperature.

AZALEAS will soon begin to grow unless kept in a cool house. Water more liberally as the shoots break, and improve the opportunity to tie the plants out so as to form symmetrical specimens.

CINERARIAS should have attention. Keep the plants near the glass, and water carefully; thin out the foliage, and allow plenty of room; fumigate often to prevent the attack of the green fly.

FUCHSIAS, intended for large specimens, should be shifted as they require it, and grown in a warm part of the house, as near the glass as possible.

MONTHLY CARNATIONS, growing rapidly, should be shifted into larger pots.

ACHIMENES AND GLOXINIAS may now be potted, and placed in the warmest part of the house.

AMARYLLISES may be repotted.

JAPAN LILIES, now beginning to grow, should have an airy situation, near the light.

ROSES should be liberally watered, using liquid manure occasionally. Fumigate often to destroy the green fly.

CACTUSES may be grafted now.

PETUNIAS, intended for flowering in the house, should now be repotted.

HOLLYHOCKS, raised from seeds, and intended to flower this season, should be potted off singly in small pots, and placed on a shelf near the glass.

BEGONIAS should now be repotted, and kept in the warmest part of the house.

CALLAS should be very liberally watered.

PLANTS of all kinds should be put in good order, by cleaning off all dead leaves, and tying up, if they require it, to neat stakes.

GRAPE CULTURE IN NEW ENGLAND.

THE culture of the grape on an extended scale, for the manufacture of wine, has hitherto received but little attention in New England. Indeed, till within a year or two, it may be said to have been entirely neglected. Naturally enterprising and sagacious as many of our cultivators are, they do not seem to have had much faith in the growth of the grape; for while they have equalled if not exceeded other parts of the country in the raising of other fruits, they have entirely overlooked the grape, which is destined to become one of the most important products of our farms and gardens. Why this has been so, it is difficult to say; but we may premise, that it has mainly been from two causes; first, the general idea that New England was too far north, and the climate too cool to ripen the grape with certainty; and, second, that the Catawba was the only variety capable of making a good wine: thus virtually abandoning the ground, and leaving it to Ohio and the middle States to reap all the benefit which might result from this important branch of horticulture.

Notwithstanding the grape is indigenous all over New England, growing abundantly in all situations, in valleys and on mountain tops, climbing the highest trees, and running over shrubs and rocks, ripening its fruit in all seasons, few have thought them worthy of cultivation, or even capable of producing an ordinary wine. It was naturally supposed a grape for this purpose must be of a much higher quality, approaching the foreign varieties, or at least as good as the Catawba. But this has all proved incorrect; for though it may not be possible to make certain classes of wines from our native grapes, others may be manufactured which, if not quite equalling the Rhenish, the Sherry, the Madeira, and other well-known kinds, will make a wine far superior to the miserable imitations of those famous sorts, which are so extensively sold and drank, to the great injury of the health, and depreciation of the morals, of the people.

Three years ago, when, through the politeness of Messrs. Page & Co. of Boston, we had the pleasure of looking through their extensive wine vaults, we were deeply impressed with the importance of grape culture, and thought the subject one which should receive immediate attention ; but it slipped from our memory, and has only now been freshly brought to mind upon reading an account of a meeting of the grape growers of Connecticut, who have formed an association for the express purpose of directing attention to grape culture and wine making, the introduction of the best varieties for that purpose, and the dissemination of such information as will awaken the public to its importance. The remarks of D. Clark, Esq., the retiring president, are exceedingly interesting, as showing the progress already made in Connecticut, where over 200,000 gallons, according to the most reliable statistics, were manufactured in the year 1858. The quality of the wine had also generally improved since the formation of the society. Formerly sugar was used in the manufacture ; it was now made without it, and at the last State fair these received the first premium. Some of these wines have been pronounced equal to the best Rhenish, and superior to the French. The native grape is generally used for this purpose. Mr. Clark congratulated the society on the increase of grape culture in the State, and believed that the grape, as a fruit and as a beverage, was now second only to the apple, and will yet become its equal. Such is the condition of vine-growing in Connecticut.

In our own State we know of no similar association for this object. In this respect what has here been done has been accomplished by individual effort. Yet the subject is one which should interest our cultivators deeply, and induce them to form associations for encouraging a branch of industry which must eventually be one of vast importance to our people, for Massachusetts has a soil and climate quite as well adapted to grape culture as Connecticut. It only needs the encouragement of our agricultural and horticultural societies, or the organization of associations similar to the one above noticed, to awaken attention to the subject, and disseminate such information as will show the advantages which must

result from the introduction of grape-growing on the most extended scale.

Enough has already been accomplished in the manufacture of wine in Massachusetts to show the profitableness of this branch of industry. Four years ago, Messrs. Page & Co. commenced the manufacture of wine from the common wild grape of our woods and pastures; some thousands of gallons were made by way of experiment, which proved so favorable that they embarked largely in the business the next year. The only trouble had been in readily procuring an abundance of grapes. As there were no plantations of vines on which they could rely for a supply, it was evident they must be gathered from every quarter, and even then it was doubtful whether a sufficient quantity could be obtained to warrant such preparations as must be made if they were likely to be had. But an offer of sixty dollars the ton for our wild grapes was followed with so many applications to furnish them, that they purchased upwards of seventy-five tons, and manufactured more than twenty thousand gallons of wine.

This was sufficient to give an impetus to the manufacture of wine. The success of these gentlemen was generally known, and also their preparations to go yet more extensively into the business of wine-making. Their wine had been tried and found a very excellent article; *pure* juice of the grape, which was more than could be said of much of the wine sold in our market. It therefore found ready purchasers, and they laid their plans to largely increase their stock. But already there were other competitors in the field, and when the season of the grape crop came round, they found it difficult to get the same quantity of grapes they had the year before. The last year it fell off still more, the entire quantity of wine manufactured by them not exceeding eight thousand gallons.

Others have embarked in the manufacture of wine, which divided the supply, but how many, and what quantity has been made the last two years, we do not know. One gentleman, Mr. S. Allen of Shrewsbury, who sent us a very excellent sample of his wine, made, we think, about six thousand gallons the last year, and he has informed us that he intends

to increase his facilities for the manufacture of more every year. He has already perceived the importance of using superior varieties, and to this end has collected and distributed among his neighbors, and made plantations himself, of several wild grapes, remarkable for their early maturity and other desirable qualities, well satisfied that the indiscriminate use of ripe and unripe grapes, of the rough character of our native vine, greatly deteriorates the quality of the wine.

We should be glad to name others who have entered largely into the manufacture of wine in our State, for it is probable that the quantity would sum up to nearly the amount stated by Mr. Clark to have been made in Connecticut; but whether more or less, the instances we have given are enough to show that the subject has already received no small share of attention, and sufficient been accomplished to prove that here, as in Ohio, it will be a profitable investment of capital.

To those who are familiar with the progress of grape-growing and wine-making in the United States, and particularly in Ohio, where, through the energy and perseverance of Mr. Longworth, it has now attained such an importance, we need not say that the beginning in both Connecticut and Massachusetts compares favorably with that of the first-named State. It is but little more than twenty-five years since Mr. Longworth turned his attention to grape-growing and wine-making, and now, in the vicinity of Cincinnati, there are more than twelve hundred acres of grapes in vineyard culture, under the charge of about three hundred proprietors, producing in favorable seasons 240,000 gallons of wine. It was not until within a few years and after many trials and repeated failures, that the Cincinnati grape-growers succeeded in making a really valuable and excellent article, which could claim any pretensions to competition with foreign wines. At first, only the native grapes of that region were used; these gave way to the Catawba and Isabella, the Cape and Scuppernong; but the first of these has been the variety upon which the reputation of the Ohio wines has been made.

So it will be with us in Massachusetts and New England. Our wild grapes will make a very good wine. They are well enough to begin with, in the absence of better; but we shall

not care to stake our reputation as wine manufacturers on such an article, nor be able to compete with the Ohio or foreign wines until we introduce new varieties of grapes equally as well adapted to the purpose as the Catawba. On neither of these sorts, now held in such repute at the West, can we place any dependence in our northern climate. But we must look to new and improved varieties to obtain certain and satisfactory results.

This is the point to which we now desire to direct attention. Of the capacities of our soil and climate for grape-growing, there can be no doubt, or of our ability to manufacture a prime wine. Our neglected hillsides and unoccupied uplands are just the locations for the vine, and acres upon acres, now lying waste, may be made to yield a fertile crop. But what we must first have is the proper grapes. We need not occupy space to show the profits accruing from this species of culture; they have long ago been demonstrated to the satisfaction of the most sceptical. The most experienced cultivators in and around Cincinnati set down the average product at 200 gallons to the acre, (often much larger), worth from one to two dollars per gallon. What crop will yield a better return?

Within five or six years, immense changes have taken place in the varieties of our native grapes. Ten years ago, the Isabella was the only variety thought worthy of cultivation, uncertain as it is in our climate. But with the introduction of the Concord, a complete revolution seems to have taken place with our grapes. The Isabella is no longer sought after. Mr. Bull, the originator of the Concord, has shown that it yields a larger supply of juice, and a greater quantity of wine to the bushel, than the Catawba or Isabella. As regards the quality, no satisfactory trial has been made. His own experiments were incomplete, yet they were sufficient to show that it yields a prime wine with a rich boquet—good judges who tried it pronouncing it superior to that made from the Isabella. As a certain and sure crop in our climate, no grape can compare with it. Perfectly hardy, not liable to mildew, or any of the diseases incident to the Catawba and Isabella, ripening before any danger of frost, and growing vigorously, it possesses preëminent qualities as a wine grape.

But next to this, what is the grape? The Connecticut cultivators tell us the Hartford Prolific is valuable. It is early, which is one recommendation. But what its reputation is as a wine grape, we know very little. Its damaging fault of dropping from the bunch as soon as ripe, will be likely to be attended with a fatal loss of the crop. The Diana would undoubtedly take the place of the Catawba in most parts of New England, certainly in all but the more northern. Fully equal in quality to the Catawba, similar in flavor, it would undoubtedly make the same kind of wine which has acquired so high a reputation from Mr. Longworth. Its liability to injury from severe winter is its only fault. These three grapes appear as yet the principal vines for trial in our latitude.

We have seen a remarkably early grape grown in Lexington, and called by the raiser the Jennings grape, maturing fully the latter part of August, when it is perfectly black. The bunch is of medium size, and the vine extremely hardy, free from mildew, and productive. What are its merits as a wine grape we do not know; but with a slight pulp, and considerable of the foxy aroma about it, it is yet so early that we should like to see a trial of it made for wine.

The Perkins is similar in color and flavor to the Catawba, but the bunch is only of moderate size; still, its fine aroma, thin skin, and general resemblance to the Catawba in quality, bespeak for it more attention. So far as our experience goes, it appears to be one of the most reliable grapes,—hardy, productive, not liable to mildew, and embracing a combination of popular qualities which render it worthy of attention by all grape growers.

But the admission made, and we think there can be no doubt of this, that our climate can grow an abundance of grapes, we have but to set about it, and that desideratum of a fine wine grape will be soon produced. Already amateurs and cultivators are at work, and every year will develop some new acquisition. If *the* grape for the purpose has not been found it speedily will be. We are not the people when once interested in so important a matter to sit still and see this neglected. No; on the contrary, a hundred hands will be at work to secure what is wanting, and such is the perseverance of our people that what is needed will be produced.

In conclusion, we commend this subject to the attention of all our readers. Ohio, first in the field, is now reaping the benefits of her early appreciation of the enterprise. Let us have no fears that we cannot do equally as well. Timid cultivators will advise much caution; but we repeat again, that where nature planted the wild vine, there can be no doubt of its home. New England, then, is as much the native clime of the grape as any other section, and with that experience which our cultivators are known to possess, we have but ourselves to ask, whether we may lag behind or keep up with the enterprise which has been so laudably encouraged in other States.

DISEASES OF VEGETATION.

BY AGRICOLA.

A FEW years since the Massachusetts Legislature passed an act offering a prize of \$10,000 to any individual who should discover a sure and permanent remedy for the potato disease. Since the passage of this act, a standing committee "On Diseases of Vegetation," has been appointed, and to this committee has been entrusted the subject of this act. The committee, consisting of John C. Bartlett, Jabez Fisher and Nathan Durfee, have pursued their inquiries with laudable zeal and diligence, and their Reports are excellent specimens of philosophical writing, and prove their author to be a finished writer as well as a logical reasoner. Dr. Bartlett's Report, published in the "Sixth Annual Report" of the Secretary of the Board of Agriculture, is a model essay on the subject, and should be read by every scientific agriculturist.

From these sources we learn that very little interest has been manifested by the agricultural population on this subject. A general invitation was extended to the farmers to send to the State Department the results of their observations and experiments on the potato disease; and it was hoped that the papers communicated by the various claimants of the prize, which were numerous, "would furnish such a record

of facts as would enable (the committee) to form some well digested plan of action in their investigation." But they (the committee) discovered neither ideas nor facts of any importance in all these communications; and they remark: "We are constrained to say, that we do not believe a more degrading record of ignorance of the first principles of natural science can be found than these papers, as a whole, manifest; although we should cheerfully except from this condemnation a few, which seem to have been written with something of the modesty which always characterizes the cultivated writer."

Failing to obtain the desired information from these sources, they prepared and distributed in large numbers, circulars, asking the aid of farmers throughout the United States, in collecting facts upon the subject. But to a large number, distributed in all directions, they received answers from less than thirty; and these were mainly from applicants for the premium offered by the State. The committee consider this want of interest in so important a subject as somewhat discreditable to the agricultural classes of the community. But it seems to us that the committee had raised their expectations too high. It is not to be expected that our farmers should be scientific men; and without a good elementary knowledge of science, the experiments of any individual, though an excellent practitioner, are altogether worthless, unless they are performed under the direction of a man of science. More knowledge could be obtained, on this point, from horticulturists than from farmers.

But what we wish to show, at the present time, is that the method proposed by the Legislature is not the right one for obtaining information on the potato disease; the only true method is to use measures for instituting a course of experiments to be performed under the immediate superintendence of some competent individual. We are pleased, therefore, to see this same measure recommended in a prize essay, by Mr. Wilson Flagg, and published in the Transactions of the Essex County Agricultural Society, for 1859. The subject of this essay is a "A Plan of a Series of Experiments for Investigating the Potato Disease." We will pass over the

details of the course of experiments recommended by the author, and dwell upon one particular suggestion.

He recommends to the Legislature, as the best means of obtaining reliable information on this important subject, to pass an act, providing for the appointment of an individual, of good scientific attainments and sound judgment, whose duty it shall be to superintend a course of experiments, to be continued for a series of years. The selection and appointment of this superintendent should devolve upon the committee "On Diseases of Vegetation." They should select a spot of ground consisting of several acres of varied soil and situation, and the experiments should be performed under the general direction of the committee, to whom the superintendent should make quarterly or semi-annual reports. The Legislature should make a certain annual appropriation to defray the expenses of the undertaking, and the committee should determine, in consultation with the superintendent, the manner in which it shall be expended. They shall also determine the amount and character of his compensation. The author also recommends that the general diseases of vegetation should be likewise one of the subjects of experiment.

There is no more important subject that can occupy the attention of cultivators than the diseases of vegetation; and it is a study that deserves encouragement by legislative action. We hope, therefore, that the present Legislature will act upon Mr. Flagg's suggestion immediately. Let this experimental course date with the year 1860. The amount of information which would be developed and made known to the public, during a period of five years, would be of incalculable value. Under a competent individual as experimenter, (who ought to be a ready writer as well as a philosophic observer, that the public may reap the full benefit of his discoveries,) the knowledge that would be communicated to the public during this short period would exceed that which would be obtained in fifty years of experiments in the loose way in which it is always conducted by the great mass of those who are concerned only in practice.

NOTES OF A EUROPEAN TOUR.

BY THE HON. J. S. CABOT.

DEAR H.—When I last parted from you, you expressed a wish to hear from me during my absence; entertaining no doubt of its sincerity, I cheerfully attempt to gratify a wish that cannot but be flattering to me.

I had hoped that a visit to Europe would enable me to gratify a desire of being able, by a comparison of some varieties of fruit, especially pears, when grown in the place of their origin, with the same varieties grown in America, to form some opinion of the effect produced by their transportation to a climate and soil different from that of the place of their origin. For this purpose my visit has not been very well timed, for not only were all the horticultural exhibitions over for the season when I arrived, but I am informed that the season in France has been very unpropitious for pears. Still I have not been wholly disappointed in this particular, for in the markets and fruit shops I have seen specimens of the pears of the season, and have found a quite extensive collection of models of numerous varieties of this fruit, that were exact representations of the original, in size, form and color.

Judging from what I have thus far seen, I should say that the effect produced by the cause above referred to, was to deteriorate some varieties and to improve others, well aware, however, that the difference observed may have been the result of different causes than those effected by a difference of soil and climate. To particularize somewhat the result of my observation in this respect, I have seen here specimens of the Chaumontelle, altogether superior in every particular to any specimens of the same variety that I ever saw in the United States; the same remark applies to the St. Germain, that, as I have eaten them here, were large, smooth, and very fine, a variety that with us has been almost wholly discarded as worthless. The Henry IV. and Grand Soliel with us are small; here I have seen models of them that were more than of medium size—actually large. The Cal-

basse Tougard, according to its model, is here large, smooth and handsome, and this with us is small, and cracks so badly as to be worthless. But, *per contra*, I have seen no Duchesse d'Angoulemes or Mons. Le Cures that would in *size* at all compare with specimens of the same varieties frequently seen in the United States. This last named variety, however, the Mons. Le Cure, is in quality very different from any specimens of it that I had ever seen in America; for while with us, although some of the finest specimens, when ripened in a particular manner, may perhaps be thought a good second quality fruit, it is not generally thought anything but a pear for cooking; while here, as I have eaten it daily for a month past, it is not of first rate excellence, it is true, but a good dessert pear, even the small specimens. I have been told here, that it was only good when grown "en espalier."

The Mons. Le Cure is a very common pear in the market, called there the St. Germain; indeed this name is applied by the market women to different varieties in a way that I have sometimes thought that with them it was a generic name. The other more common varieties in the market for the month past, were the Duchesse, Beurré Diel—always called Beurré Magnifique—and Glout Moreceau, universally called d'Aremberg, not differing materially from the same varieties with us. Latterly I have seen a good many Easter Buerrés, very good, but not better specimens than are frequently seen in the United States.

The price of pears is very high; in the market the usual price is half a franc each for good specimens of almost any variety; while that of superior specimens of some varieties is much higher. For a good specimen of Easter Beurré the price is one franc. These are the prices in the market; in the fruit shops they are still higher.

I see one variety of pear, common in the shops and market, about which I cannot arrive at any conclusions satisfactory to myself. I refer to a pear called here the Belle Angevine. It is of enormous size, I think the largest pear that I have ever seen; one was on exhibition that weighed one and a half kilograms, or more than three pounds, and I have seen many nearly as large. It is a very handsome pear, of regu-

lar pyramidal form, somewhat drawn in towards the calyx, smooth skin; when ripe, yellow, with one side bright red, almost scarlet. It is a baking pear, but its flesh is very fine grained, not melting or juicy, but tender, with no astringency or much flavor of any kind; it is probably never a dessert fruit, but when ripe I have tasted it, when I thought it not so bad as some that were usually so classed. Now can this be our Uvedale's St. Germain? I have heretofore supposed so, but can the different conditions of soil and climate under which it is here grown account for such differences in quality and appearance as I have stated? It may be, but I can hardly think so.

I do not learn that there are any new pears in the neighborhood of Paris, at least, the present year, but have heard of two that are to come out the next. Judging from an opinion expressed to me by one of the largest and most intelligent growers here, I judged that the new varieties, of which Belgium is so prolific, are not held in a very different estimation in France, from what they are in the United States; that they require to be tested before entering upon their cultivation.

The past season was in France as unfavorable for apples as pears, yet there seems to be no want of them in the market; great quantities of this fruit is grown in some parts of the empire, and I have seen upon the railroad, cars filled with them, loaded in bulk. At the fruit shops and in the market you see some superior specimens of some varieties, but most of the apples that I have seen, seemed to me to be small and rather indifferent. The best apple that I have eaten here is the "Calville blanc;" this, here, is very fine, tender, juicy, and of very pleasant flavor; but my experience is of a very limited character. The price of the best apples is very high, for a fine Calville half a franc each.

The grapes, as I have seen them, most common in the market, were the Chasselas de Fontainebleau; they were small, but well ripened, and were sold at one and a half to two francs a pound; at this time they are higher. I have seen some Black Hamburgs, but they were not of very good quality, for which I was asked four francs a pound; the sea-

son, however, for grapes, on my arrival in Paris, if not passed, was fast passing away.

It has been very cold here; colder it is stated than it has before been since 1840, when the body of the Emperor arrived from St. Helena, the mercury having fallen to $6\frac{1}{2}^{\circ}$ of Fahrenheit; it has now again become mild, and I notice that notwithstanding the frost, the grass is as green and as fresh as in spring. I find that there are shrubs that with us require protection, that in both France and England are sufficiently hardy to endure the winter on the open ground; among others, the *Aucuba japonica*, that seems much used for purposes of ornament.

I was in England but for a few days, and I have seen but little of it. There appeared to be a tolerable supply of apples in the market, generally of not a very attractive appearance. I saw some good pears, but always found on inquiry, that such came from France or Jersey—in fact also by its position a part of France, though subject to British dominion; among those from Jersey, were Chaumontelles, very fine indeed. The only pears that I saw grown in England, were some of the Bishop's Thumb and Swan's Egg; they were very ordinary in both quality and appearance. I had not, from what I had heard, been led to expect to find good pears in England. The price in the market of the English pears was at from a halfpenny to a penny each; of the French, threepence to fourpence each, according to quality. In the English markets I saw some Hamburgh grapes; the price was one shilling ninepence per pound; they were, in comparison with the same variety grown in our grape-houses, of very indifferent quality.

There is one flower of which a very general use seems to be made in both France and England, as a border plant, that we are in a great measure deprived of, in consequence of its blossoming so late in the season, I mean the *Chrysanthemum*. I noticed that many of the gardens and yards in the neighborhood of London were made gay by this flower, even as late as November 10th, after all others had done blooming. It was generally cultivated with a single or but few branching stems, and covered with flowers of a great variety of colors; it was at this season a great ornament.

The ivy, too, here running up to the top of church towers, or covering old walls and the sides of houses, green in winter, is very beautiful; pity that it will not succeed with us. But then, perhaps as a compensation, the hardy evergreen trees, as pines and Norway spruces, do not seem to me to thrive here as well as in the United States; at least I have seen none that for size or beauty would at all compare with many specimens that I have seen at home.

I have other subjects upon which I might write, but I forbear, because that not only is my sheet full, but that I fear that I should become wearisome and tedious. "Enough is as good as a feast," but too much may be worse than none at all.

Paris, Dec. 29, 1859.

POMOLOGICAL GOSSIP.

ELIZABETH GRAPE—a new variety, which is stated to have originated on the farm of Mr. Joseph Hart, near Rochester, N. Y., about fifteen years ago. About that time Mr. Hart planted some raisin seed in a flower pot in the house. This plant sprang up and was grown in the house three or four years, as it was thought it might not be hardy. Afterwards it was planted out, grew rapidly, and is now a large vine, two to three inches in diameter. Neglected at first, it grew a mass of shoots from the ground, but, as soon as pruned, it began to bear, which was about seven years ago, and has fruited regularly ever since. It is described as follows:—Bunches large, compact, sometimes shouldered; berries large, oval; skin thin; color greenish white, with a purple tinge in the sun; very little pulp, juicy, a pleasant brisk acid.

The Genesee Farmer, from which we copy this account, states that the above is the history of the grape as received from Mrs. Hart; but the appearance of the foliage, and the flavor of the grape to one of delicate taste, give almost unmistakable evidence of its native origin. It is entirely free from pulp, quite hardy, a good bearer, and is much esteemed

in its neighborhood, where the Isabella and Catawba are cultivated.

It is curious to see how frequently the origin of many of our native grapes has been attributed to seeds from "raisins." We know of several instances where it has been positively asserted that the grapes sprung from foreign seed, taken from raisins and sown in a pot, which were nothing more than our common Fox grapes. There is undoubtedly the same error here as in the other cases; for no one can believe a seedling of the Malaga grape would prove hardy in our climate. It is probably a chance seedling of some of our native grapes, and from the above account appears worthy the attention of grape growers.

THE LABE GRAPE, introduced to notice by Mr. S. Miller, of Lebanon, Pa. It is a large berry, of a very deep black color; the bunch oblong, and in shape very distinct from many of the Isabella section, to which it belongs. The flavor is rather sharp, but combined with a peculiar pleasant sweetness. Mr. Miller gives the Gardeners' Monthly the following account of it:—Some ten years ago, a man by the name of Hamilton picked up a vine in passing along an alley in Lebanon, where it had been thrown out of a garden, the owner of which of course thought it a worthless fox or frost grape. Hamilton handed it over to Mr. Labe, his son-in-law, requesting him to plant it, as he had no place for it. Mr. Labe has the vine now; says he has never known any rot or mildew on it, but every year a fine crop. Such is the account obtained from the man who possesses the original vine.

INDIANA FAVORITE APPLE.—This is the name of a Western seedling, sent by Mr. E. Y. Teas, of Richmond, Indiana, with others, to Mr. J. J. Thomas, and thus described in the Country Gentleman:—

Medium in size, oblate, regular, handsome; whole surface splashed and striped with rich light red on rich yellow ground, and dotted with large yellow russet specks; stem short; cavity rather wide; calyx open, in a moderate even basin; flesh yellowish, a little crisp, with a mild, subacid, agreeable, "very good" flavor. The specimens were furnished by Thomas B. Morse, of Cambridge City, who states it is culti-

vated by P. Marts, who says it came from the seed of the Vandevere pippin—the original tree is about twenty-five years old—a prodigious bearer on alternate years—very hardy—with thick spreading head—fruit keeps remarkably, nearly as long as the American pippin.

CORNWELL PEAR.—Supposed to be a new variety, which was brought into the neighborhood of Berlin, Connecticut, twenty-five or more years ago, by the “Vermont grafters,” who travelled the country, setting grafts for those who availed themselves of their services. It proves the best pear for the soil in that region that has been tried. Its growth is vigorous, and it is very productive of fine fruit. Mr. Sheldon Morse, who describes it, says that he thought he at first detected the same fruit in the Muskingum pear, but doubts it now. He also learns that Col. Wilder has it in bearing, having procured scions, and that it was not known in Boston. It is described as follows:—Fruit medium, roundish, smaller ones slightly obovate, greenish yellow, with many dark and purple specks, and much russeted; stem longish and moderately stout, in a very shallow, narrow cavity; flesh yellowish white, tender, melting, juicy, with a spicy flavor, slightly astringent. Ripe September 1st. Origin unknown.—*Homestead.*

SHIAWASSEE BEAUTY APPLE.—A new Michigan seedling, recently brought to notice. As it has been highly spoken of by our friend Mr. Berekmans, who had an opportunity of tasting the fruit, we copy the account of it in the Michigan Farmer, by T. T. Lyon:—

“The fruit originated from the pomace of a lot of grafted fruit, grown in Avon, Oakland Co., the seeds from which were planted in a nursery in Gaines, Genesee Co. A portion of the trees grown from them were sold, ungrafted, to Mr. Beebe Truesdell, deceased, who planted them in Vernon, Shiawassee Co. Among these was the original tree of this variety, which has now borne full and regular crops for more than ten years, with the exception of two seasons, when the crop was thinned by frost.

“The only grafts yet in bearing, of this variety, are those of Mr. M. Wilcox; although it has been considerably dissem-

inated in the vicinity during the past two or three years. It is locally known as "Nonsuch," but as this name is already applied to several other fruits, at the suggestion of the writer Mr. Wilcox has appended the name at the head of this article—a name eminently appropriate for so beautiful a fruit.

"In texture, juiciness and flavor, as well as in the beautiful whiteness of its flesh, it is much like the well known Fameuse, or Snow apple, from which, when the skin is removed, it is hardly possible to distinguish it; and, as it seems to be free from the faults of that variety, it may prove a desirable substitute for it. The tree is a strong, rather upright grower, until the branches become borne down with the weight of the fruit. The fruit matures in November, and may be kept till February. The following description was furnished by Mr. C. Downing: Size above medium, much depressed, irregular; skin whitish, shaded, marbled, splashed and striped with rich crimson, and moderately sprinkled with light dots; stalk rather short and small, inserted in a large, uneven cavity; calyx closed, segments erect, sometimes a little recurved; basin large, open, slightly furrowed; flesh of a snowy whiteness, very tender, juicy, with a brisk, refreshing, subacid flavor; quality very good."

Can it be possible that this is different from the Fameuse? On comparing Mr. Downing's description of the Shiawasee with our description of the former apple, in our Magazine, (Vol. XVII. p. 16,) we cannot discover that it differs in the least. The same description would answer for either. Still, they may be unlike, though it seems scarcely possible.

GRANITE BEAUTY APPLE.—This is the name given to a large, handsome and excellent apple sent us by Mr. Z. Breed, Editor of the N. H. Journal of Agriculture, which originated on his farm in Weare, N. H. In general appearance, it somewhat resembles the Minister, but is larger. As we think it a valuable introduction, we shall take an early opportunity to give a full history of it, with a description and an engraving of the fruit.

ALLEN'S HYBRID GRAPE.

BY JOHN FISK ALLEN, SALEM, MASS.

IN the winter of 1843 and '44, an Isabella vine was grown for the purpose of impregnation with European varieties, in the hope of obtaining a fruit that would mature early, and be an improvement upon the hardy kinds of grape which we already had in cultivation. To be sure of its origin, this vine was the only one in the house, and it was forced by fire heat, so that it was in bloom in winter and could not be impregnated by bees, or otherwise by accidental cause.

The seed was saved with care and sowed in sand and soil brought from distant places, and every precaution used to guard against foreign or any grape seed being in this soil.

These seeds vegetated in pots, and were planted in a cold house. In the winters of 1846 to 1849, inclusive, they were slightly covered with hay, and, what would not withstand some freezing, were suffered to perish.

In 1848, in the third edition of *Grape Culture*, page 150, is given the method I used in impregnating this grape, and reference also to the vines produced. At that time the seedlings, between forty and fifty in number, were growing, and presented such a marked variation of foliage, as to give good hope of success. Had it been otherwise, other trials by crossing would have been made.

My method of proceeding was this: when the bunch of fruit approached the time of blossoming, a few of the strongest buds were selected, and the others cut away, leaving only one fourth of them, and these the strongest and best placed: all but a few of the best bunches were removed from the vine before inflorescence. These bunches were closely watched, and as the buds expanded, or the caps began to rise, in the process of blooming, the anthers were at once clipped off by sharp scissors before the pollen had bursted, or had an opportunity to work the pistil, care being had that this pistil received no injury. With a soft, fine pencil brush, the pollen, which had been collected from a variety of European grapes, (sent from France to the late Robert Manning, on account of their hardy character), was applied to the pistil. These varieties of

grapes were of the Chasselas de Fontainbleau family among the white, and Black Prince and Black Hamburgh of the colored.

When the impregnation was effectual, the embryo grape swelled at once; when otherwise, it remained as it was. Thus it was apparent, that any seed obtained would produce a hybrid vine.

When the fruit ripened it was gathered by myself; the seed was preserved and planted in soil, in which no other seed of the grape could be already there accidentally. The young vines grew under my care, were shifted and transplanted in pots, and finally planted out by me, and have been pruned and taken care of solely by myself since. Experiments on the vine called Allen's Hybrid, which has proved thus far the best fruit, have been made, and it has been found very good and very early for the forcing-house; the same in the cold grapery, where its hardy character adds to its value, as the European sorts are, in very severe, cold winters, often more or less injured. The Isabella has proved hardy under glass in cold winters; the Chasselas has been proved more so than the Black Hamburgh, and as these two, the most hardy grapes under glass in Massachusetts, are the origin of Allen's Hybrid, it seems apparent that this should be as much so as the Isabella. I have never been sanguine that the climate of Massachusetts would allow of our maturing the choicest sorts of the grape in open field culture, and therefore will not say that this grape is worthy of trial in this manner; but on the walls of our houses, where a front from south, a little east, round by the west, as far as west-north-west, where the Isabella and Diana are sure to ripen, so will be this grape.

In the Middle and Southern States (and in our cities on the walls) it will be invaluable, growing in the open air; in the former and everywhere prolonging the season of the grape by its early ripening, coming in ten to twenty days before the Diana and Isabella, when properly grown. To do this it must not be overcropped; a vine will mature thirty bunches of fruit in four months' time, weighing as many pounds as a vine with fifty bunches will mature in five months, and in the one case leaving the vine strong and able to do the same the following year, and in the other weak and enfeebled, with no power to

ripen more than a few grapes in straggling bunches here and there on the vines.

I have grown this grape in several places in the open air for five or six years; in the winter I protect it by placing it on the ground and covering with hay. This I do with all my vines, not on the wall of the house or warmed building; here it is not necessary, as the vines thus placed never fail of a crop.

The Allen's Hybrid has passed through these trials with as little, if not with less injury than the other hardy grapes, and we have had the mercury as low as 20° below zero. The Rebecca, with like treatment, and by its side, has been so injured that I doubt its surviving this winter.

The fruit of Allen's Hybrid in the open air was not so sweet and delicious as when grown under glass, but the cause undoubtedly was that it was from a vine growing in a cold wet soil, a situation that can never produce the richest grapes, as a dry soil and warm, at the ripening of the crop, is an essential in grape culture; under glass, both in cold graperies and in the forcing-house, I know of no sweetwater grape of the Chasselas family more rich or delicious. It ripens in forcing in the shortest time of any good fruit, four months, and improves by hanging, acquiring a flavor or aroma that does not belong to either of its parents.

Many others of this lot of seedlings have fruited, one only being white, and this is quite as late as the Isabella; several black ones resemble the Black Prince, with the Isabella flavor; some partake of the Black Hamburgh characteristics; these varieties will require a longer season than we have in Massachusetts to perfectly mature their fruit. I have not tried them on a wall, not having a suitable place.

One other, No. 13, not yet named, has ripened fruit for the past two or three years, which promises to be valuable; it is an oval black, and when first colored, which it does very early, in four months from breaking the bud, it has some considerable of the Isabella pulp and flavor, but by hanging a few weeks both of these injurious peculiarities disappear. The foliage of this is more like that of the Isabella than any of the hybrids.

The Allen's Hybrid vine is difficult to increase, as it does

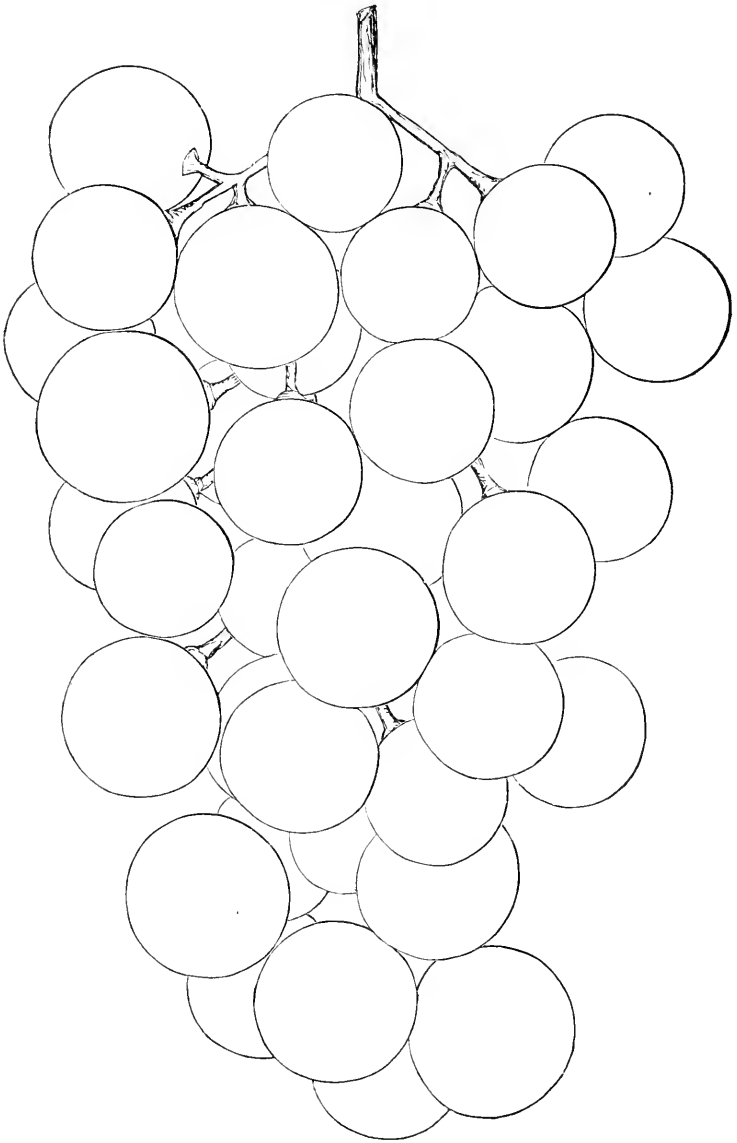
not strike roots readily from cuttings or eyes; as the vine has become older and from other favorable changes, it does strike better now, but the most certain way of increasing it, is by layers; it thus roots readily. On planting out, it makes small growth, usually, the first year (but I have had exceptions); the second year it grows rapidly, and must be called a strong wood-making vine. It is a great bearer; the original vine had upon it this last season two hundred bunches, and it was allowed to mature fifty, and on some shoots three bunches ripened without a shrivelled grape; this was done to test the vine, as I never allow more than one bunch of passable size to remain on a shoot or spur.

The position of the original Allen's Hybrid vine is bad, being in a house that fronts the east, and the sun does not shine upon it in the afternoon; the house has until recently been shaded by large cherry and other trees; these have been removed, consequently the wood is better ripened, and this is one cause, no doubt, that the cuttings send out roots more readily. It is questionable if Black Hamburgs or Chasselas grapes would have ripened under such circumstances.

We have horticulturists and botanists who have from the first doubted the practicability of impregnating the Isabella with the European varieties; they have said that the species were distinct and could not be crossed; the *Vitis vinifera*, which is the type of the European, and the *Vitis Labrusca*; of this species, are the Isabella, Diana and Catawba, native sorts. We have another variety whose foliage is more like the European; of this, the Clinton is a specimen. I have contended that it could be done, and we have hundreds of vines in this region, the result of impregnation of American kinds of the grape by the European.

A. W. Stetson, of Braintree, and Mr. Ed. Rogers, of Salem, have vines in bearing, the *Vitis vinifera* worked upon the common Fox grape of Massachusetts.

Mr. Allen's Hybrid has been already highly commended by the Massachusetts Horticultural Society, who have had the grape before them for three or four years, and the Fruit Committee have pronounced it quite equal to the famous Chasselas grape of Thomery. These specimens have been



2. ALLEN'S HYBRID GRAPE.

raised under glass ; but now that the vine has proved as hardy as the Isabella it obtains a value which few other grapes possess, a rank not surpassed by the Delaware or Rebecca. To the above detailed account of the origin and growth of this variety, for which we are much indebted to Mr. Allen, we have only to add a description, and supply an accurate engraving of the fruit, taken from a specimen furnished by Mr. Allen from the original vine (FIG. 2) :—

BUNCHES medium size, about six inches long, and four and a half broad, neither compact nor loose, slightly shouldered. BERRIES quite round, medium size, about three quarters of an inch in diameter, frequently depressed at the end. SKIN very thin, pale green, occasionally rose-colored in the sun, semi-transparent, with a thin pale bloom. FLESH very juicy, resembling the Chasselas. FLAVOR sweet, rich, vinous and brisk, with a delicate aroma. SEEDS one to three. VINE moderately vigorous, making strong wood when well established. LEAVES rather large, light-green, not very thick, slightly three lobed, nearly smooth beneath. Intermediate between the foreign and native grape, and showing plainly its hybrid parentage. The young shoots are covered with white down, very like the Isabella, which disappears as the leaves expand.

ORNAMENTAL FOLIAGED PLANTS FOR THE LAWN.

BY F. L. HARRIS, GARDENER TO H. H. HUNNEWELL, ESQ., WELLESLEY.

PLANTS of handsome foliage form a feature in the landscape of striking beauty and effect ; and if by the introduction of those of a semi-tropical appearance, during the summer season, we can in any way beautify our lawns, much will be attained.

I here mention a few plants especially adapted for this purpose, viz.: *Canna Warscewiczii*, *Calla Æthiopica*, *Farfugium grande*, *Tritoma uvaria*,—each of which I treat of separately.

CANNA WARSCEWICZI.—A plant of magnificent foliage, growing to the height of four and five feet, and in the autumn producing spikes of rich scarlet flowers in profusion.

In order successfully to grow this plant in the open ground, the making of the border is of the first importance; this is done by thoroughly preparing the soil to the depth of two and a half or three feet, and incorporating a liberal supply of well rotted stable manure through the whole; having done this, the plants will not suffer for want of water, no matter how dry the season may be. As soon as the season has sufficiently advanced, say from the 20th of May to the 1st of June, select good strong plants, about a foot high, and turn them out of pots. The way I manage them is as follows: in the winter season they require but very little water, and kept in a temperature of 35° to 50°, such plants are better adapted to withstand the sudden changes of temperature after planting out, than those grown in a warmer and moister atmosphere. When frost injures them in autumn cut them close down; divide and pot for another year.

CALLA ÆTHIOPICA.—This much neglected, because old, is another possessing rare merit for producing effect; its large foliage and flowers of the purest white, presents an attraction always pleasing. It is generally supposed this plant will not thrive in the open border; such is not the case, for when planted in soil similarly prepared as for the *Canna*, it thrives vigorously and flowers freely. Plants for turning out must be strong, for then they commence flowering almost immediately.

A fine effect is produced by planting the *Canna* in the centre of a large oval or circle, at a distance of two feet apart, then two rows of *Calla* all around the above, at fifteen inches apart; and, if you choose to put a girdle round the whole, do it with Brilliant or Flower of the Day geraniums.

FARFUGIUM GRANDE.—This as yet scarce but highly ornamental plant, with its round leaves nearly eight inches in diameter, beautifully blotched with golden yellow, is very desirable as a bedder, but only adapted for shady situations; easily propagated by division; delights in a light, rich, loamy soil.

TRITOMA UVARIA.—A very handsome plant, and well

adapted for planting, *en masse*. Its numerous orange-scarlet blossoms, produced on stems growing to the height of four or five feet, and the length of time it continues to throw up a succession of flowering stems, makes it a decided acquisition; rich, deep soil; by division and seeds.

Probably many of my brother gardeners can mention other plants of fine foliage adapted for outside decoration. Will they please inform through the columns of your Magazine.

The success of Mr. Harris in the growth of these showy plants has been so complete, that his remarks are deserving of the greatest attention. We have already alluded to the fine effect of a large circular bed of Callas and Cannas, planted as above advised, near the lawn front at Mr. Hunnewell's, (Vol. XXV. p. 462), and know not when we have seen anything so effective and beautiful. They impart a grandness to the grounds compared with which the ordinary bedding plants appear insignificant. We hope to furnish more hints from Mr. Harris on the treatment of other similar ornamental plants, which have been added to Mr. Hunnewell's extensive collection.

THE MALLOWS AND BANANA TRIBES.

BY WILSON FLAGG.

AMONG the sixteen forms of vegetation, enumerated by Humboldt as giving character to different regions and climates on the face of the earth, the Malvaceæ hold an important place. So insignificant a plant as the Mallows of our northern climate, would hardly be supposed to constitute one of the principal forms of tropical vegetation. But to this extensive family belong not only the true Mallows, the Hollyhock, and many beautiful annuals, but also the Lavatera, the Cotton plant, and the Cacao, or Chocolate nut, and above all the celebrated Baobab tree, the *Adansonia digitata*. This form of vegetation is not remarkable on the new continent. Here it is represented chiefly by the Mexican Hand-tree

(*Cheirostemon platanoides*), and the Cacao, (*Theobroma Cacao*). The latter, from its name, is by many supposed to be a species of the Cocoa palm, to which, however, it bears no botanical resemblance. This plant has large leaves and small flowers, that spring out from the bark of the trunk as well as from the roots. In the Mexican Hand-tree, the anthers of the flower are connected together in such a manner as to resemble a hand or claw rising out of the beautiful reddish purple flowers. It is found in Mexico and Guatimala, where there are three species.

The Mallows form within the tropics is characterized by "its thick stem, with launginous, large, cordate or indented leaves and magnificent flowers, frequently of a purple red." In Europe this form becomes quite common, after passing the Alps, where we find the *Lavatera arborea*, the *L. Olbia*, *L. maritima*, and several other species of the Tree Mallows. This genus is represented in our gardens and pleasure grounds by a species of the *Althæa*, the *A. frutea*, or Shrubby Holly-hock, which was brought originally from Syria.

The Baobab tree is well known from the description of travellers, as one of the wonders of vegetation. The most remarkable peculiarity of this tree is its immense size, compared with its moderate height. While its trunk is seldom more than fifteen feet in length, it often has a diameter of thirty-two feet, and a hemispherical mass of branches and foliage, measuring sometimes one hundred and fifty feet in diameter, and over four hundred feet in circumference. Hence it presents the appearance of a considerable clump or grove of trees, of moderate height. The Baobab is called the Monkey bread-tree, because it forms not unfrequently the residence of a family of monkeys.

The blossoms are proportionate to the size of the trees, hanging singly upon their stems, like graceful pendants. The fruit is oblong, approaching sometimes to a globular shape, covered with a green rind, beautifully marked with radiating lines. As it ripens, it turns to a dark fawn color, and is suspended from its branch by a stem nearly two feet in length. The pulp of the fruit is acidulous, grateful and cooling, and is eaten by the natives as a luxury.

The foliage of this tree is peculiar. The leaves are ovate when the tree is young; they soon become trilobate, and finally, as the tree increases in age, they become palmate, with from five to seven lobes, somewhat like the leaves of a horse chestnut. This tree, with its products, is of great service to the inhabitants. Under its immense canopy of branches and foliage, they find shelter from the heat of their burning clime, and its products are used in medicine, in the arts, and in cookery. Many of these trees are believed to be more than one thousand years old; indeed, their hollowness, after a certain age, proceeding from the gradual decay of the interior of the trunk, renders it impossible to calculate their age with certainty. But this very circumstance seems to endow them with immortality, as the trees are always renewing themselves in the circumference. In these cavities, which are very capacious, the negroes sometimes resort for conversation and amusement, and sometimes occupy them as dwellings. But one of the most singular facts connected with the history of the Baobab, is the use made of its hollow trunk as a sepulchre, in which their poets and musicians are buried, and then enclosed. This class of men are held in superstitious reverence, and here they suffer a sort of embalment, and their skeletons or mummies are frequently discovered by travellers.

The Silk Cotton trees (*Bombacæ*) in their valvate calyx and columnar stamens, are, with respect to their inflorescence, clearly allied to the Mallows. These trees are remarkable for the swelling of their trunks, from the excessive development of their pith, causing them to resemble immense casks, often thirty or forty feet in height. All these singular trees, belonging to the Mallows form, give character to tropical vegetation in many parts of the globe.

The true Mallow, which is an herbaceous plant, is one of the Five Emollient Herbs of the old Pharmacopias, which were written when it was customary to arrange natural as well as artificial objects in assemblages of Five. From observing that we are endowed with five senses, five fingers on each hand, and five toes on each foot, this number became quite important and significant in the old scientific classifications. Hence the Five Orders of Architecture.

It might be further remarked in this place, that the name of a plant often suggests an idea of the value in which it was originally held. Thus *Theobroma*, the generic name of the Chocolate tree, signifies literally, the food of the gods, or the bread of heaven, and shows the high estimate placed upon the fruit of this tree, when it first became known to the civilized world.

THE BANANA TRIBE.

The plant which, in the tropics, supplies those wants of the human race which are supplied by the cereals at the north, is the Banana,—another of the characteristic forms of tropical vegetation. The banana has always from the earliest ages attended the progress of man at the south, and affords an important part of his subsistence. It has always been cultivated by all nations in the torrid zone, to supply them with the farinaceous part of their diet, like wheat, maize and other corn-producing plants at the north. It was cultivated in America prior to the discovery of this country by Columbus, though it is believed not to be indigenous to the new continent. Wild bananas, however, are sometimes found in the forests of South America, produced probably from the ripe seeds which were scattered by the birds that feed upon their pulpy fruit. The value in which these plants were held by the natives of Africa, is proved by the fact, that the original African slaves brought them with them to the West Indies, for cultivation. They are also found in the vicinity of the old missionary stations in South America.

Capt. Mayne Reid thus describes the appearance of one of these plantations, in the course of the narrative of one of his romances:—"The very thought of our necessity caused me once more to glance over the forest, and I continued to scan it on all sides. My eye was again arrested and fixed upon a point where I saw there existed a different vegetation from any that could be seen elsewhere. There was a small valley about five hundred feet below us. It was a sort of table valley, and the stream along which we had been travelling, ran through it, afterwards dashing over a fall to join the river below. In this valley I saw huge, broad leaves of a

bright yellowish green. I knew them at once to be the leaves of the great *Musaceæ*, either Plantains or Bananas. These are the certain signs of some settlement, or where one has existed. It might be some deserted Indian 'Chaera,' or it might be the grounds of an old mission."

In another place the same plants are more particularly described:—"Before them towered the great *Musaceæ*—plantains and bananas—their broad, yellow-green and wax-like leaves sheathing their succulent stems, and bending gracefully over a length of twenty feet. But beautiful as were the leaves of these giant plants, more attractive still to the eyes of our travellers were the large clusters of fruit-pods that hung from beneath them. Each of these would have weighed nearly a hundred weight! There was food for hundreds. These plants grew by the water's edge, in a damp soil, their natural habitat, and their leaves drooped over the stream."

Along the river's banks and by the side of their cottages, the inhabitants plant bananas, which require a great deal of moisture; but in return for the artificial irrigation which is bestowed upon them, they afford a delightful shade and produce their fruit every month of the year. The leaf of the banana is said to resemble a long broad girdle, and this undoubtedly procured it the name of "Adam's Fig Tree." This plant has a wide spreading and herbaceous stem, rising to only a moderate height, in proportion to its size, and surmounted with striped, large and oblong shining leaves, of a thin and delicate texture. A spike of flowers springs up from the centre of these leaves, the flowers arranged in whorls. Many species produce flowers of exceeding beauty. In the suburbs of Canton the hedges are made of banana plants, combined promiscuously with oranges and myrtles.

Humboldt is warm in praise of the beauty of this tribe of plants. He remarks: "While the cereals spread by culture over the northern regions, in monotonous and far extending tracts, add but little to the beauty of landscape,—the inhabitant of the tropics, on the other hand, is enabled by the propagation of the banana, to multiply one of the noblest and most lovely of nature's productions." He regards ban-

ana groves as forming one of the characteristic features of humid regions in the torrid zone.

There is but little difference between plantains and bananas; both being distinguished by their large girdle-like leaves. The fruit of the plaintain is less agreeable than that of the banana; and the former is usually cooked, while the latter is eaten in a raw state, being less farinaceous, and more like a pear or a peach. This fruit is supposed to have been the original food of the human race; and the idea seems probable when we consider that it requires not the art of the cultivator to bring it to perfection, like the most of our northern fruits. It comes from the hand of nature in a perfect condition, and unlike our fruits, its properties are of such a character as to sustain human life without the addition of other food. From this supposition probably originated the name of one of the principal species, *Musa paradisiaca*—that is, the Plant of Paradise. From the name of another species, *M. sapientum*—which signifies “of wisdom”—it may have been considered identical with the “Tree of Knowledge,” whose fruit was so fatal to the happiness of the first inhabitants of Eden—to say nothing of its theological influences in after times. Names of a similar character have been given to other genera of this family of plants. Thus the seeds of the larger Cardamom—the *Amomum verum*—are called “Grains of Paradise,” being probably associated with the same sacred legend. *Musa Cavendishii*, the latest addition to this tribe, and the most valuable to our cultivators on account of its dwarfish habit, was named in compliment to the late Duke of Devonshire, in whose collection it first fruited.

The Scitamineæ are a family of lower growing plants—a sort of dwarfish bananas. To this family belong the ginger and the tumeric. They are about one foot in height; the flowers are included in a spathe; they have a tubular corolla, and bracts of a bright orange tint, making a very elegant and showy appearance. Those plants of this family which are cultivated in greenhouses are described as having “reed-like stems, long broad leaves and showy flowers, which are usually fragrant.”

General Notices.

RAISING RHUBARB FROM SEED.—Specimens of two sorts of seedling Rhubarb were exhibited to the Horticultural Society in July last, by the Rev. Charles Mackie, Quorley Rectory, Andover, Hampshire, accompanied by the following communication:—"As Rhubarb is a plant which produces seed very freely, almost the whole of which will germinate, it is impossible, with the largest space of ground, to have the whole of them planted out so as to put the qualities of the seedlings to the test. As the readiest way of ascertaining which of them are most likely to repay the trouble of cultivating, I have found it a most excellent plan to sow the seed in pots as soon as it is gathered. These being kept under cover during the winter months, not so much as a protection to the plants as for the sake of preventing the pots from being injured by the frost, the young plants will be found to vegetate very early in the spring; showing from the first a difference of character, not only as to precocity, but in other respects also, as to growth and habit. Even at this time, therefore, some may be selected as the subject of experiment, and planted out; but the preferable plan, I think, is to allow the whole to remain in the seed-pots till the end of the season, when the difference of character is more decidedly marked. Those of the earliest and strongest habit will then have gained greatly on the others in point of size, and will otherwise show the qualities which should determine the selection as to which are most likely to reward the cultivator by turning out a new and valuable variety. The qualities in question I hold to be, chiefly, a stalk that is thick, succulent, and of a red color; and a leaf that is round in shape, smooth on the surface, and of a fleshy texture. In this way, the plants which make the best promise may be selected; but my remarks as to subsequent treatment apply equally, if not more, to the best of the varieties already in cultivation. The mode which I pursue is this:—Having chosen ground with a warm aspect, I have the soil dug out down to the subsoil, which, in the instance now referred to, is chalk at no great depth, say from eighteen inches to two feet. The space so dug out is about two feet in diameter. Of the earth dug out, I reject the lower and poorer portion, mixing the rest with leaf mould, and with fresh soil of as good a quality as I can procure. The soil thus improved I further enrich with guano, superphosphate of lime, soot, and bone-dust: all, or as many of them as I can at the time command, not forgetting some well-made stable manure. The whole of these being thoroughly incorporated with the soil, I place at the bottom of the hole, above the subsoil, a layer of bones of a considerable size, over which is put some of the mixture to a depth of six inches, then a few more bones with more earth alternately, till the hole is not only filled up, but there is a hillock, say of one and a half foot above the level of the ground. In the centre of this I make an opening and fill up with leaf-mould, or any other good unmixed earth, for the reception of the plants, in order that the roots may not touch the

richer soil until they are in a growing state, before which they might be injured by the strength of the manure. As a proof how well this has answered with myself, I may state that soon after the Prince Albert Rhubarb was introduced, now, I should imagine, at least twelve or fourteen years ago, I had three small plants of it, which I treated in the manner here recommended. Though put in at a distance of six feet from each other, they now appear like one large plant, the heads being joined together, and the crowns of the roots approaching very near. As a further proof that they have not otherwise degenerated in that length of time, I may mention that last year I sent a leaf taken from one of them to a very intelligent practical gardener in the neighborhood, with a request that he would measure it, and let me know the size. His answer when he had done so was, that it was fourteen feet six inches in circumference, the largest Rhubarb leaf he had ever seen, though he had certainly seen them with a thicker stalk. I may perhaps also be permitted to state that of the two sent, the one marked No. 2, was raised from seed grown in 1856. It was sown with others in a small pot, in which it remained till the month of October, 1857, when, thinking it promised well, it was planted out, being at the time not much larger than my hand. In the spring of last year it took a very early, and made a very rapid growth, so that in the course of the summer, the leaves covered a space of ground nine feet in circumference. This year it was also very early, and has increased proportionably in size. All this, it is to be remembered, is in a situation where the soil is naturally shallow as well as poor, and on that account by no means favorable to the growth of the plant. The above observations are, of course, not expected to be of use to the professional cultivator, but may perhaps be of some service to the amateur, who may be desirous of ascertaining how new varieties may be obtained, or the established varieties may best be grown, without either going to any great expense or having much ground to spare. By treating them in the way described, and allowing them ample room, say six feet at least from plant to plant, (but it were better to give them more), and by giving every season a top-dressing of a mixture of the same as that recommended in planting, to be carried down by the winter rains, he will ensure himself a supply of this most excellent and wholesome esculent, from the setting in of spring till nearly the end of autumn."—(*Gard. Chron.*)

RINGING THE BRANCHES OF GRAPE VINES.—This operation, from which favorable results were expected, will doubtless have received attention from many grape growers during the past summer, and I think the present may be considered a suitable time for those who have been tempted to put it to the test, to communicate their experience respecting its merits, especially as some doubts are now arising as to its utility under glass. Having tried it here on a small scale last year, and from its not having been attended with satisfactory results, I resolved upon giving it another trial, from seeing in the spring an article relating to its advantages when properly carried out. I therefore selected some small bunches on different

parts of the vines, and operated upon them in the way recommended, by cutting through the bark with a sharp knife at half an inch apart, and clearing out the piece all round; this was done shortly before the expanding of the flower—the bark at this stage came off freely and clean. These experiments were all made on Black Hamburgs, three of which were in one house and two in another. The same uniform want of success, however, attended all the cases, viz., want of color; they nevertheless showed earlier signs of ripening, and of increased size, but the want of color, in my own case at least, is considered fatal to the experiment. If any one has been more successful with vines under glass, I hope they will oblige by giving a clear definition of their mode of operation.—(*Gard. Chron.*)

Gossip of the Month.

MASSACHUSETTS HORTICULTURAL SOCIETY.—The next annual exhibition will be held in September 1860, commencing on the 18th and continuing open to the 21st. The schedule of prizes for this as well as the weekly exhibitions will be published early in February.

NEW YORK CENTRAL PARK.—A report has been made to the commissioners of the Central Park, by a committee appointed last summer. The resources of the board amount to the sum of \$2,092,135.39, up to July 1. There had been expended \$1,052,989.20 of this sum, leaving still for further use, \$1,039,146.19. This sum is not considered sufficient to complete the Park, as the commissioners estimate the cost at \$2,618,940. This, added to the amount already expended, will make the probable total cost of the Park \$3,382,874.95. It may be even larger than this.

No provision has yet been made for the current expenses of the Park. These are estimated at not less than \$165,000 for some years to come, and the committee recommend an application to the Legislature for the passage of a law requiring the board of supervisors to raise a sum not exceeding \$160,000 until the year 1861, and \$120,000 thereafter.

In view of the immense cost of completing the Park as originally intended, it is now proposed by the committee to build the bridges and viaducts “of such materials as will best combine solidity of materials and sufficient ornamental effect at diminished cost, and with special view to an economical expenditure;” also, “that the construction of transverse roads Nos. 3 and 4, be suspended until further order of the board;” and that all plans for viaducts, &c., “be submitted to the board for reëxamination before their construction is commenced.”

The completion of a grand Park, commensurate with the wealth and wants of our sister city, was so desirable an object that we have hitherto wished to offer no remark in reference to the original plans and their completion. A capable writer in the *Gardeners' Chronicle* reviewed these a

year or more ago, and concluded by considering the attempt of the designers to carry out what they proposed as a "quixotic experiment." We have ever been of the same opinion. A grand Park upon the plan of the London Parks, with splendid drives and open lawns, would have cost but a moderate amount, both in the completion and future maintenance of the same. But to undertake to keep up all the departments of gardens and grounds, flower borders, conservatories, &c., as they should be to possess any beauty, must involve an expense of half a million dollars annually. The committee estimate this at \$165,000, and that when not half of the ground is cleared or planted. It appears that the cost of keeping the various small parks of the city, in all only 55 acres, amounts to \$23,000. These have no flower borders, or gardens of shrubs, and can, of course, be kept at moderate cost; yet at the rate of keeping these, the expense of maintaining the 703 acres of the Central Park would be \$1,006,000, or at half the cost, the sum we have above named, \$500,000. Is even New York ready to pay this annual sum to keep the Park in the proper condition it should be, to be a credit to the country? We think the designers and the commissioners will see the fatal error they have made in attempting too much.

THE GRAND GOLD MEDAL, of the U. S. Agricultural Society, was awarded to the Hon. M. P. Wilder, at the late annual meeting in Washington, for his past services in aiding to establish the Society in its present flourishing condition.

TESTIMONIAL TO MR. JOHN JOHNSON.—A number of gentlemen interested in the agriculture of New York State, have presented a testimonial of their approbation of the services of Mr. Johnson, of Seneca Co., N. Y., in agricultural improvement. The testimonial consists of a massive silver pitcher and pair of goblets, embellished with appropriate agricultural emblems. These were forwarded to Mr. Johnson by H. S. Orcutt, of the N. Y. Tribune.

Societies.

POMOLOGICAL AND HORTICULTURAL SOCIETY OF SOUTHERN ILLINOIS.

At the meeting held at Tamaroa, Dec. 21, 1859, the following officers were elected:—

President, J. M. Hunter, Ashley, Washington County.

Vice Presidents, S. B. Chandler, Centralia; Dr. S. S. Condon, Jonesboro'; B. L. Yates, Tamaroa, and Dr. Kellogg, Ashley.

Corresponding Secretary, Charles Kinnicott, Sandoval.

Recording Secretary, H. C. Freeman, South Pass.

Treasurer, B. G. Roots, Tamaroa.

FRUIT GROWERS' SOCIETY OF WESTERN NEW YORK.

The annual meeting of this Society was held at Rochester, N. Y., on the 4th and 5th of January. The following officers were elected:—

President, Col. B. Hodge, Buffalo.

Vice Presidents, J. J. Thomas, Union Springs; W. H. Smith, Syracuse; W. R. Coppock, Buffalo.

Secretary, C. P. Bissell, Rochester.

Treasurer, W. P. Townsend, Lockport.

The Society voted to hold its next or summer meeting at Buffalo.

MISSOURI FRUIT GROWERS' ASSOCIATION.

This Association held its second Annual Meeting at Jefferson city, on the 29th and 30th of December last. The interest in fruit culture here, particularly the grape, is rapidly increasing. The Association is felt to be an institution that the fruit-grower cannot afford to do without. The officers for the current year are as follows:—

President, Norman J. Colman.

Vice Presidents, Dr. A. W. McPherson, Prof. G. C. Swallow, Gen. M. Horner, Dr. McGuire, E. Burden, W. C. Price, John Dedrick.

Corresponding Secretary, Dr. L. D. Morse, Allenton, Mo.

Recording Secretary, William Muir.

Treasurer, Dr. C. W. Spalding.

Massachusetts Horticultural Society.

Saturday, January 7th, 1860.—The quarterly meeting of the Society was held to-day. President Breck opened the meeting with an address appropriate to the occasion. We regret we have not space to give it entire to our readers; but the concluding portion, which refers to one of the most important acts of the Society, will interest so many friends of horticulture throughout the country, that we make no apology for its insertion:—

“The prominent event of the year is the sale of the Society’s buildings, which was consummated the present week. The disposition of this property was a subject of long and careful deliberation by the Committee, before it was laid before the Society. It is conceded by all who have any experience in the valuation and sale of real estate, that the price obtained was a very liberal one. We shall leave this spot with feelings of deep regret, for here we have enjoyed many pleasant meetings; this is the place where we have first seen many new fruits and flowers, where we have acquired much horticultural knowledge, and where, for many years, the associations have continued satisfactory and pleasant.

Although we shall be deprived of a permanent home for a season, yet we hope that not many months will elapse before we shall again find ourselves more comfortably established in more extensive and well-lighted apartments, with ample room for our valuable library, social and business meet-

ings, with all the conveniences and comforts which the rank, standing, and wealth of our Society demand.

The general impression is, that the Society have made a good sale, and that the purchase money is safely and well invested.

There will be no necessity for any haste in the purchase of another site on which to establish ourselves. I hope no hasty action will be taken on the subject, but recommend that the Society take time, and wait patiently for a favorable opportunity, which, no doubt, will present itself in the course of a few months, or in a year or two.

The committee who have in charge the subject of obtaining rooms for our library, business meetings and exhibitions, for temporary accommodation, will, no doubt, be able to find a suitable place before the first of April.

In a few days the debt to Mount Auburn will be cancelled, when we shall be free from debt, with a capital of over \$90,000 well invested, and an additional and perpetual income of from \$4000 to \$5000 from Mount Auburn. The amount to be received this year will exceed the last named sum. It is obvious then that the pecuniary position of the Society is most satisfactory.

During the year 1859, there have been added to the Society eight life and thirty-eight subscription members, making a total of forty-six; while, in the same time, two life members and five subscription members have died, and thirteen have ceased to be members on account of the non-payment of their assessments, leaving a net gain of twenty-six. The present number of life members is 225, and of subscription members 315—making a total of 541.

Now, gentlemen, with our wealth and number of efficient members, much will and should be expected from our Society. It must be our study to know what will best promote its usefulness. Need I say that the first thing to be done among us should be to study the things that make for peace. There must be united and harmonious action among us, or we shall make a retrograde movement, and the accumulation of wealth and the increase of members will all be in vain.

Let us begin the new year with a firm resolve that henceforth a spirit of union and concord shall be fostered by each one, forgetting ourselves and self-interest, for the sake of the prosperity and general good of the Society.

Gentlemen: Before I sit down, I cannot refrain from alluding to the sudden decease of our venerable friend, Josiah Bradlee, Esq., whose loss we this day mourn, from whom we have received repeated favors, in common with many other associations, scientific and charitable—who has been one of the pillars of this Society, and whose memory we shall delight to cherish. Before the adjournment of this meeting, I hope some of the members will be prepared with resolutions appropriate for this solemn event."

On motion of C. M. Hovey, a committee, consisting of the President, Vice Presidents, and Col. Wilder, were appointed to prepare resolutions upon the death of the late Josiah Bradlee, an honorary member.

C. M. Hovey presented the report of the Library Committee, which was accepted, and \$400 appropriated for the year.

The Garden Committee submitted their annual report, which was accepted.

On motion of J. F. C. Hyde, the sum of two hundred and fifty dollars was voted to Wm. Kenrick, agreeably to the report submitted in December.

Hon. M. P. Wilder, from the Committee to act in connection with the Natural History Society, in reference to procuring a grant from the Commonwealth of a portion of the Back Bay lands for the erection of a structure for the accommodation of these and kindred societies, reported progress. He read an able memorial to the Legislature on the subject, in behalf of this Society, which was unanimously adopted and ordered to be published in the Transactions.

Messrs. E. S. Rand, Jr., and B. V. French were added to the Committee for that object.

Prof. Jenks of Middleborough read a very interesting translation of the observations made by Mons. Provost, of the Imperial Zoölogical Society of Paris, with reference to the food and migratory habits of birds.

The thanks of the Society were voted to Prof. Jenks, and his communication ordered to be printed. Messrs. Rand, Wilder and Wight were also appointed a Committee to ascertain in what manner the Society may aid Prof. J. in his important labors.

On motion of C. M. Hovey, a Committee of Arrangements for the next annual Exhibition was chosen, as follows:—

J. S. Cabot, E. S. Rand, Jr., D. T. Curtis, W. R. Austin, F. L. Winship, P. B. Hovey, R. M. Copeland, C. H. B. Breck, A. C. Bowditch, G. W. Pratt, E. A. Story, and W. H. Spooner, Jr.

On motion of W. C. Strong, the sum of seventy-five dollars was voted to the Chairman of the Flower Committee for his services for 1859.

A. C. Washburn and H. B. Taylor were elected members.

Adjourned for one week to Jan. 14th.

Jan. 14th —An adjourned meeting of the Society—the President in the chair.

Capt. Austin, from the Committee to settle with Mount Auburn, reported that they had attended to that duty, and submitted the following statement:

Sales of lots for 1859,	-	-	-	-	-	\$26,059 79
Less expenses of Superintendent,	-	-	-	-	-	1,400 00
						<hr/> 24,659 79

Society's proportion, one quarter, - - - 6,164 95

This amount, together with \$367.75 interest, had been paid to the Mount Auburn Cemetery for the note due them for the Society's proportion of the new purchase, agreeably to the arrangement made in 1858.

E. S. Rand, from the Committee appointed to prepare resolutions upon the death of the late Josiah Bradlee, reported the following, which were accepted and entered upon the Society's records:—

Whereas, in the wise providence of God, there has been removed from among us, after a long and active life, and in a good old age, Josiah Bradlee, Esq., one of the oldest members of this Society; therefore,

Resolved. That though well aware that this sad event could not long be deferred, we still cannot but mourn the loss of one who has been so warm a friend and benefactor of this Society—the remembrance of whose pleas-

ant smile and cheering voice, as well as helping hand and wise counsel, will long live among us and be treasured in our hearts.

Resolved, That the Secretary, in communicating these resolutions to the family of the deceased, be instructed to tender the expression of our deep and heartfelt sympathy.

On motion of C. M. Hovey, the Committee of Arrangements were requested to fix upon the time of the next annual exhibition, and report to the Society on the first Saturday in February.

On motion of P. B. Hovey, it was voted, that seventy-five dollars each be paid to the Chairmen of the Fruit Committee and Vegetable Committee for the year 1860.

Amos Binney was elected a member.

Adjourned three weeks to Feb. 4th.

The Reports of the several Committees are of such length that we have no space for them entire. With the exception of Mr. Cabot's report on Fruits, they contain but little that has not appeared in our monthly reports. Mr. Cabot's is principally devoted to the prominent question of raising pears for profit, which he discusses at some length, and in a manner so interesting that we extract this portion of it for the benefit of our readers and cultivators of the pear:—

As so many cultivators, in the vicinity of Boston, make of the pear an object of engrossing attention, or of paramount importance, remarks of a somewhat more extended character in relation to this fruit seems called for on the present occasion, by this circumstance, than is felt to be necessary with respect to other species, that, equally valuable, are not so much objects of general interest.

The pear is a delicious fruit, and in some respects justifies the preference it appears to enjoy; indeed, there is no fruit superior to a luscious, juicy, melting pear, and none that is more generally esteemed; and yet, for New England cultivation, in actual value and real importance, it must, it is believed, yield precedence to the apple, especially as this last must be regarded as a product not only of horticulture, but of agriculture.

Although it is a fact generally understood, yet, as it seems necessary for the present purpose, a repetition of it will perhaps be excused. At the close of the past and commencement of the present century, an impression existing that most of the varieties of the pear then generally cultivated were so infected with the vices and diseases incident to a very prolonged existence as to be fast becoming, if not already unfit for farther propagation, that an attempt was resolved on for the resuscitation of the species.

The pioneer in this attempt, if not the originator of the idea, was Dr. Van Mons of Belgium, who, acting upon a theory established in his own mind as the just deduction from acknowledged principles, or the result of his own conclusions, believed that by raising seedlings for several successive generations, from the hardy wild pear, he should in the end produce new varieties, that, free from disease, would produce fruit of superior quality.

To an attempt at a realization of his idea Dr. Van Mons devoted his time and energies, prosecuting it with a patience and perseverance almost without a parallel, until in from the sixth to the eighth generation in regular successive descent of his seedlings he attained to a confirmation of his theory and the fruition of his hopes and expectations, in the production of numerous varieties of new pears, that for quality are, down to the present time, considered as standards of excellence.

The success that attended the efforts of Dr. Van Mons naturally caused much excitement with horticulturists, and induced similar attempts on the part of others, who thus became his associates and co-laborers, most of these however contenting themselves with the sowing promiscuously the seeds of varieties already improved, in some instances, perhaps, of those recently originated by Dr. Van Mons, and thus unawares carrying out his theory.

This object, so successfully prosecuted in Belgium and France, was not wholly neglected in the British Islands, where Mr. Knight, the then President of the London Horticultural Society, distinguished himself by producing several new varieties of fruit of different species. The method of raising seedlings adopted by Mr. Knight may be considered directly the reverse of that pursued by Dr. Van Mons, for Mr. Knight depended for success upon the artificial cross impregnation of one variety with another, selected for the purpose. Although Mr. Knight succeeded in producing some varieties of pears that he deemed worthy of propagation, yet none of them are now held in much estimation; indeed, so far as is now remembered, with the exception of the Williams's Bon Chretien, or Bartlett, the Gansel's Bergamot, and perhaps the Dunmore, there are no pears of English origin that are held in much account in the United States.

The interest created by the production of these new fruits naturally led to their early introduction into this country, and, so zealously and uninterruptedly has efforts for this purpose been prosecuted, that there may now be found in the different collections round Boston almost every variety of the pear that has been thought worthy of propagation.

In addition to those of foreign, the collections of this country contain, too, many of domestic origin, such in most cases having been the result of chance or accident, though the raising of new varieties from seed has not been here wholly neglected or unrewarded, as is evinced by the marked success of Mr. Francis Dana of Roxbury, in originating new kinds.

From this it may be inferred, as is the fact, that the cultivation of the pear in this vicinity has not been confined to those whose qualities have been thoroughly tested and approved, but embraces a wide range of varieties, without much regard to the character of the tree for vigor and hardiness.

Heretofore an opinion has prevailed that on the seaboard, at least of Massachusetts, and perhaps New Hampshire, the soil and climate were eminently suited to the pear; that, although in reality an exotic, it having never been found as indigenous in any part of the United States, yet it had become so completely acclimated that it might be treated as a native, and that here, while the tree obtained a healthy, vigorous growth, the warmth

and brightness of the summer, and especially the alternation from the extreme heat of the day to the coolness of the night in the latter part of that season, was calculated to the production of the fruit in its most perfect development and highest flavor.

That these flattering expectations with respect to the fruit were not unreasonable there is abundant evidence, for certainly no pears of higher flavor and more beautiful appearance can be produced than those yearly shown at the exhibitions of the Massachusetts Horticultural Society. But, with respect to the former, the adaptation of our climate to the tree, some misgivings, or rather, perhaps, some disappointment in many cases begins to be manifested, at the failure of what was felt to be but reasonable anticipations with respect to this cultivation. Whether this disappointment is the effect of accidental causes, temporary in their character, and such as may be remedied or removed, or whether it arises from such as are inherent to the climate and situation, and thus impossible to be eradicated or controlled, is a question that is not yet capable of a definite solution, and cannot be, until the cultivation has been tested under all the conditions that, it may be, are necessary and essential to success.

If this is a matter that may be deemed in suspense, a difference of opinion will probably continue to exist as long as any uncertainty endures, such opinions taking their hue and coloring from the character and disposition of the different individuals. And while the sanguine and confident find a cause for a partial or total failure in some accidental circumstance, or some peculiarity of the year, the less confident and desponding will be apt to consider such peculiarity but the customary concomitant of the season, and find therein a fatal and insurmountable obstacle to success. If any delusion upon this subject has existed the sooner it is dissipated the better, for a continuance in error is always to be deprecated.

The introduction of the pear into this country dates from its earliest settlement by Europeans. There is now a pear tree in the town of Danvers that, according to reliable tradition, was planted by one of the earliest governors of the Colony more than two hundred years ago, and, although but the remains of what it once was, it has this year produced fruit.

Old pear trees, to ascertain whose age accurately, in most cases, no exact data exists, yet, whose planting must, from their size and appearance, certainly date back to a period more than a century ago, may be found scattered about, especially in the gardens of the older towns, as Salem, Medford, Cambridge, and Roxbury; those in Boston, where, otherwise, such would be no doubt most numerous, having been destroyed as the land was wanted for building or other uses. These trees are of course of the older, and, as is believed, of the more hardy varieties, as the *Bon Chretien d'Été*, whose not very distant removal from the wild pear is indicated by its numerous stony concretions, the *Orange*, the *Autumn Bergamot*, and others of similar character.

Such facts seem to lend confirmation to the opinion of the peculiar adaptation of the soil and climate of this vicinity to the pear, and tends to fortify the position of those who maintain it. These may ask, if there are abun-

dant instances, as are afforded by these old trees, of the pear continuing to flourish and to produce fruit for more than a century, in what are unreasonable the most glowing anticipations respecting its culture that have ever been indulged? Has the soil deteriorated? Has the climate become more rigorous and inclement? Certainly not; the soil is as fertile as formerly, and if in some places it has become exhausted of the essential elements, there is abundance of it even yet virgin to the pear, and the climate, instead of having become more rigorous, has, if anything, been somewhat ameliorated, though it has probably undergone but little change of any kind, unless it may be that the average quantity of snow has diminished.

But, while it is not denied that the soil and climate is as propitious as formerly, it is believed that the character of the tree, in the modern varieties, has been essentially modified and changed by cultivation; that most of the fine varieties of recent origin are less hardy, have much less powers of endurance than the old varieties, of which those ancient trees consist. Although in but few, if in any cases, it has yet approached it, Dr. Van Mons seems to think there is a point beyond which cultivation cannot be carried, when the individual would be incapable of propagating its kind, its seeds would be abortive, and when the next stage must be death.

The pear, in its wild, and what may be considered as its normal state, is a shrubby, thorny, slow-growing tree, with rather small foliage, of close, compact, hard wood, coming late into bearing, that, in its cultivated or abnormal state, seems to undergo a complete transformation, and to become converted into a rapid-growing tree, generally free from thorns, with large foliage, not very compact or close-grained wood, coming early into bearing.

The fruit of the wild pear is small, hard, astringent with many stony concretions, and can hardly be considered as edible; while that of the cultivated tree is the delicious fruit so generally held in high estimation, becoming, in the last stages of high cultivation, a mere mass of pulp, filled with rich juice, entirely free from all stony concretions, even at the bottom of the stem.

It is only as the tree recedes from its type that the change occurs in the fruit—and the farther this remove is effected the greater is the change that takes place, in both tree and fruit. Dr. Van Mons thought that the time would come when pears, reproducing themselves by seed, or being all good when raised from seed, would be propagated in no other way, and that grafting and budding would be entirely dispensed with. And he considered that he had ascertained, in his own experience, that the farther his system of raising successive generations of seedlings was carried, the sooner the trees thus produced came into bearing.

How this great change in the tree has been brought about it is not easy positively to say. Dr. Van Mons believed that it was effected by no other agent than cultivation. That, although a wild pear would, when left in its natural state, continue always to produce its like from seed, yet if it was removed and subjected to the influences of cultivation, that the fruit would be thereby affected; that by sowing the seed of fruit in this disposition to change, a new and improved variety would be produced, and that by

prosecuting this system, that is, planting seed of this seedling, and so on, for several successive generations, that the highly improved varieties, such as are now in cultivation, would be obtained. And in his own practice, and by the success that attended it, Dr. Van Mons seems to have established the truth of his theory. Yet, it is possible, that he did not take sufficient account of a possible action of one agent in bringing about this change, that of hybridization produced by the winds or insects, that in a country like Belgium it would seem to be impossible to wholly avoid. If this supposition is correct, may it not be that the disease, as the canker or cracking of the bark and fruit, to which some of the new pears are subject, has been inherited from the old diseased varieties, in consequence of this hybridization?

But if cultivation has produced such favorable effects upon the fruit, and brought about this great improvement in its quality, its influence upon the tree has been of a much more questionable character, tending rather, as is believed, to the injury of its constitution, and bringing about a precociousness in bearing that has been obtained at the expense of its hardiness and its longevity.

The system of Dr. Van Mons, as practised by him, seems to have for its object the enfeebling of the tree, as, by planting the seed of immature fruit, and in promoting a rapid growth, by enlarging the sap vessels, and forming their whole vegetable tissue of imperfect matter, or, if this enfeebling was not the object, such seems to have been the effect. All cultivation of a tree puts it into an artificial condition, and a change so complete in its habits seems naturally an incident to disease, even when this cultivation is conducted with a view to the duration of the tree. But when, as is usually the case, this cultivation is directed solely to the production of the finest fruit, in the greatest quantity, without much regard to the tree, the supposed tendency to disease must be greatly increased.

If the views here suggested are correct, then the fact that pear trees of the *older* varieties, whose cultivation had not been carried to so high a point, have here lived, flourished, and borne fruit for a century, affords no conclusive evidence of the adaptation of our soil and climate to the *modern improved* varieties, and that such would thrive under similar treatment and in like conditions for anything like the same period; but, on the contrary, goes to show that instead of the treatment suited to a hardy indigenous tree, the latter will require that adapted to a somewhat tender exotic, in order to insure its existence and the production of its fruit in a perfect state.

The seaboard of Massachusetts, and perhaps New Hampshire, is probably the northern and eastern limit, beyond which the finest varieties of pears of modern origin cannot be cultivated, unless under peculiarly favorable circumstances, with much hopes of success, and indeed here this culture will demand the exercise of skill and judgment to overcome the obstacles with which it is attended. These obstacles grow, in a great measure, out of the character of the climate, its great extremes in opposite directions, of heat and cold, and those sudden and violent alternations from

one to the other to which it is liable. In Belgium and France, that seems to be the paradise of the pear, the temperature is more equable, without such great extremes of heat or cold, and is, on that account, it is believed, more congenial to this tree.

In addition to the injurious tendency of the great difference in temperature, to which the tree is here subject, another difficulty with which it has to contend, arises from the seasons of great and long-continued drought, as well as of excessive rain, that occasionally occur.

What is the moral to be drawn from these conclusions, assuming them to be correct? That we must abandon the cultivation of the pear? By no means. On the contrary let every man that owns a plat of ground suited to the purpose plant pear trees, according to his ability, to such an extent as to secure, as far as he can, an abundant supply for his family and less fortunately-situated friends—and let the owners of more extensive grounds appropriate a portion of the same, if by soil and exposure adapted to the purpose, to the raising of pears for the market, but let them in each case remember, that, to obtain success, something more is necessary than merely to plant the tree, and then abandon it to nature, subject, unaided, to all the influences of the seasons, but that this calls for the exercise of skill, unremitting attention, and the employment of every possible means to counteract and guard against the evil influences, growing out of the rigor and vicissitudes of our climate.

But, after all, the question in relation to this subject, of the most interest to cultivators, is, does, and if it does not, can the cultivation of pears be made to pay? For, although with amateurs, or those who pursue it for a recreation, or as an object of interest, the matter of profit or loss is a concern of no great moment, yet, with most who devote themselves to it, it is of great consequence, and no species of cultivation can or should be extensively, or for a long time pursued, that does not afford a fair remuneration.

In the Report of the Committee of the last year, this question was somewhat considered, and an opinion, guarded, to be sure, and somewhat qualified, was expressed, that thus far, if some few cultivators had, under peculiarly favorable circumstances, been successful, that, taken in the aggregate, the growing of pears had, in this vicinity, been attended with positive loss—but that, under proper and essential conditions, particularly with a suitable regard to varieties, it might be made moderately remunerative. Nothing has since occurred to induce a change of this opinion, but, on the contrary, it has the rather become strengthened and confirmed, though no more positive proof of its correctness can be adduced than was then offered.

In the absence of all reliable statistics, or accurate data, from which it would be an induction—opinions, let them be as they may, on a subject like this, naturally represent, or at least take their hue and coloring, from the personal experience of the individual, or are the result of information derived from, or of the experience of those with whom a familiar intercourse exists, never, perhaps, in any case, entirely reliable data, upon which to found it.

The same rules and principles that require to be attended to in other species of culture are applicable to that of the pear, as the selection of a suitable exposure, the proper soil, the rendering it sufficiently fertile, together with the necessary amount of manipulation, and, especially if the view here presented of the character of the tree of modern varieties is correct, the influences of the great variations of temperature in this climate, with a range of 110° or more in the thermometer, so far as they can be guarded against or controlled. Should these and such other conditions as will in each case suggest themselves to the judicious cultivator be complied with, and especially with a careful selection of varieties, there is reason to expect as fair remuneration for labor and capital in the cultivation of the pear as in the culture of any other fruit.

As in agriculture, so in horticulture, an exclusive devotion to any one particular species of cultivation cannot be considered prudent or judicious, and the cultivator should adopt the raising of pears as one of the branches of his business, and not let it occupy his whole attention.

Opposite views to those here presented, with respect to the character of the pear tree, the profits attending its culture, and its adaptation to this part of the country, have no doubt many and able advocates, who sustain their opinions by facts and arguments that cannot be wholly denied or confuted; personal interests dictate the wish that such should be found in the end to be sustained by experience; but, as at present, such are believed to be erroneous, and that the expectations expressed are too sanguine to be ever realized, the expression of an honest opinion of a different character has been felt here to be a duty.

One proof, by which some who maintain that great profit is to be easily derived from the cultivation of pears, sustain their opinion, is the great price occasionally received for a few dozen of the fruit,—the sum obtained from the product of a single tree, and the price that they bear in the market when offered in considerable quantities.

Now such facts are, it is believed, as arguments in favor of a *general and extensive cultivation* of the pear, entirely fallacious, and, as facts bearing upon this question, of no importance whatever, indeed, that when analyzed they will have an opposite tendency to that intended. Price is the result of supply and demand, and is high or low according as one or the other is in excess. The high prices occasionally obtained, then, proves the inadequacy of the supply, and when the vast number of pear trees planted in this vicinity during the past fifteen or twenty years is considered, that the supply is inadequate proves perhaps as much the precariousness of the crop and the want of success that has attended the cultivation, as it does anything else. Besides, let the supply be what it may, the quantity to be sold at extravagantly high prices is very limited, and to commence an extended cultivation under the expectation of obtaining such prices, would not be much more judicious than for a farmer to devote himself to a crop that, unless at famine prices, would not afford a remuneration.

It will of course be understood, that what is here said with regard to the

profit attending the growing of pears, is intended to have reference only to cases where that is made a business demanding the employment of capital and labor, and not to instances of a few trees of some hardy variety or varieties demanding but little care; and, where the expense is merely the first cost of the tree, and perhaps the annual value of the land they occupy, leaving nearly all their produce to be considered as profit. And so, too, it will also be understood that it is intended that these remarks shall only be considered as applicable to the vicinity of Boston. Of the adaptation or unadaptation of the pear, to other and perhaps distant parts of the country, and of the profit or loss attending its cultivation in such, no personal knowledge is possessed, neither has any opportunity for forming an opinion upon either of these subjects been afforded, and none is therefore expressed. In a country, so extensive as the United States, with such a diversity of soil and climate, it can hardly fail to happen that different sections will require different objects of cultivation; that what succeeds in one may fail in others, and that this applies to pear as well as to other cultures.

It is apparent that in the preceding remarks great stress is laid upon a selection of varieties for cultivation. There is, it is believed, nearly or quite as much difference in the constitution, hardihood, and vigor of pear trees as of animals. While some are of hardy, vigorous, strong growth, others are weakly, and of feeble, slender habit, and this difference manifests itself in the first stages, and continues through all the periods of existence. In a climate like this, subject not only to such extremes, but also to such sudden alternations of temperature, as well as to such excess or deficiency of rain, it is important to select varieties, that, from their habit, will be most probably able to resist its vicissitudes. The character of the fruit too is also to be considered in making this selection; some pears of superior quality are so disposed to blight and crack as to be worthless; while others that are perhaps inferior to the best in quality, yet being always smooth and handsome are desirable.

As has been before said, this is not an occasion to attempt a treatise on cultivation. Yet, to name a few varieties, that, judging from past experience, will be, it is thought, most likely to give satisfaction, may not be out of place.

And first upon the list is placed that universal favorite, the Bartlett, that, although injured the past winter, has usually seemed to thrive in almost all places, and under almost all circumstances; and then the Golden Beurré of Bilboa, that seems hardy, is a good bearer, and in appearance exceedingly attractive, from its golden-yellow color; the Doyenné Boussock, a variety extensively cultivated in Belgium, desirable for its size and beauty, strong and vigorous on its own roots, but not suited to the quince. The Duc de Brabant or Waterloo, a strong-growing tree, and large fruit; the Louise Bonne de Jersey, and the Swan's Orange, an American variety, an exceedingly beautiful tree, with large fruit, of good, if not the best quality; the Merriam, the Adams, the Abbot and the Sheldon, all of native origin, and the Beurré Bosc, a fine tree, and very fine fruit—that may, as Autumn pears, all be safely recommended for cultiva-

tion. To these should be added, perhaps, the Beurré d'Anjou, the Beurré Hardy, and Duc d'Orleans, not yet thoroughly tested, but giving promise of being adapted to the purposes of American cultivators.

Of the Winter varieties, among the best may be placed the Winter Nelis, not a handsome tree, but a good bearer, a universal favorite, and generally succeeding. The Beurré Langelier, and Glout Morceau, both very fine pears, and fine trees, and Vicar of Winkfield. This last, however, to be recommended for the exceeding beauty and vigor of the tree and its bearing property, rather than for the quality of the fruit, that although large, and when carefully ripened sometimes good, is more generally very indifferent. The Easter Beurré, the best of the very late-keeping varieties, in favorable situations, and the Columbia, a strong, vigorous, American variety, but whose large fruit is exceedingly apt to be blown off by the winds, in sheltered places, may also be worthy of attention.

In cases where not much attention can be bestowed on their cultivation, in the open country, in exposed places, the coarser varieties, those suitable for cooking only, are probably those that, as a matter of profit, will give the most satisfactory results, are perhaps the only ones that will at all do so, such varieties as the Truckhill Bergamotte, Uvedalé's St. Germain, Spanish Bon Chretien, Vicar of Winkfield, and others of similar character.

Reports to the Society from its several Standing Committees, except the Award of Premiums, are customarily, if not necessarily, prepared by their respective Chairmen, without much consultation with the other members. This has been the case on the present occasion; and although a desire and intention has existed to give, when such had been expressed, upon all matters of doubt, where a difference of opinion had occurred—the opinion of his colleagues rather than his own—yet, as such expression has rarely been made, no one of the Committee should be considered responsible for the sentiments herein advanced, when such do not commend themselves to the judgment, but the Chairman.

JOSEPH S. CABOT, CHAIRMAN.

Horticultural Operations

FOR FEBRUARY.

FRUIT DEPARTMENT.

THE last of December and early part of January were unusually cold, with the temperature from zero to 8° below, on four or five days, and a fortnight of such uniform cool weather rarely occurs; but a change set in about the 10th, and since then it has been very mild, with but little severe frost. The snow has nearly disappeared, and the weather more like the last of March than midwinter.

GRAPE VINES in the early and forced houses will now be fully mature,

and if a moderate temperature is maintained, with a dry atmosphere, they will hang for a long time. Vines in the grapehouse and grapery will begin to break with the warm sun of February. As soon as this is perceived they will require attention. Syringe freely every morning and evening in good weather, and maintain a genial atmosphere at all times. Begin with a moderate temperature, particularly during the night. Air freely, but cautiously, as the vines advance into leaf, and close early in the afternoon. Vines in pots, now swelling their fruit, will be benefited by a liberal supply of liquid manure. Vines may now be propagated by eyes or cuttings.

SCIONS of fruit trees may be cut this month.

PRUNING may now be begun, where there is much to do; it will save valuable time later in the season.

ROOT GRAFTING may now be completed.

GRAFTING may be commenced the last of the month, if the weather is not too cold. Cherries succeed best when the work is done early.

STRAWBERRY, RASPBERRY, CURRANT, and other fruit seeds may now be planted in pots or boxes in the greenhouse or hotbed.

FLOWER DEPARTMENT.

The conservatory and greenhouse should now be in their greatest beauty, neat, clean, well arranged, and gay with azaleas, camellias, carnations, cinerarias, primroses, &c., &c. As the days become longer, and the sun more powerful, opportunity should be taken, especially in mild weather, to air liberally that a healthy and stocky growth may be maintained. Now is the period, before out-door operations require attention, to complete everything in the house. Camellias done blooming, as well as many other plants, require a good heading in, if fine specimens are wanted. Azaleas should be tied into neat pyramidal or conical shape. Roses, and others climbers, pruned of superfluous wood, and everything likely to need potting before spring, should be now shifted. Orchids which have been kept cool and dry, to give them a period of rest, should now be brought into heat and a moist atmosphere. Hotbeds should be made in order to forward many things, particularly bedding plants, and young cuttings just rooted.

PELARGONIUMS will now become prominent objects of attention, wherever there are fine-blooming specimens. As the young shoots break and extend their growth, the new branches should be neatly tied out in order that the light and air may mature the growth. Water rather more liberally, keep cool, and air freely. Fancy varieties may have a higher temperature than the large-flowered sorts. Young stock should all be repotted immediately.

AZALEAS will begin to bloom; gradually increase the supply of water, and syringe occasionally in good weather. Young stock, intended for specimens next year, should be repotted and forwarded in a close, rather moist temperature; nip off all shoots, to form a compact head.

CAMELLIAS will begin to grow the latter part of the month. Prune all such plants as require it immediately, and give water and syringe freely to insure a vigorous growth of young wood. Repot young stock. Cuttings may be put in.

GLOXINIAS AND **ACHIMENES** should be repotted and placed in bottom heat, if possible.

AMARYLLISES should be shifted and placed in the stove or in a slight bottom heat; a good fibrous loam, leaf mould and sand is the proper soil.

BOUVARDIAS may be propagated from cuttings, placing them in a brisk bottom heat.

RHODODENDRON AND **HARDY AZALEA** seeds should be sown in boxes or pads, filled with sandy peat.

CYCLAMENS, which have filled their pots with roots, may be shifted.

MONTHLY CARNATIONS, growing freely, may be repotted; put in cuttings, or layer the strong shoots around the pot, if new stock is wanted.

VERBENEAS, **PETUNIAS**, and other bedding plants, should be propagated from cuttings.

LILIUM GIGANTEUM should be repotted as soon as the bulbs begin to start into growth.

JAPAN LILIES, now beginning to grow, should have a cool situation near the glass.

FUCHSIAS should be repotted in good, rich, light soil, and be well headed in so as make handsome pyramids.

HEATHS should not be allowed to get pot-bound; shift all that require it immediately.

SEEDS of various annuals may be planted, such as *Petunias*, *Datura*, *Stocks*, *Cobæa*, &c., &c.

LANTANAS should be started into growth, and cuttings put in. Place in a brisk bottom heat.

IXIAS AND **SPARAXIS**, in small pots, may have a shift into a larger size.

CALCEOLARIAS, intended for large specimens, should receive their final potting the last of the month. Give an airy situation near the glass.

DEUTZIA GRACILIS, for blooming in pots, may now be brought into the house.

PANSIES, **CARNATIONS**, and other plants, in frames, should be aired in good weather.

FAUFGIUM GRANDE should now receive a shift into larger pots.

BEGONIAS should be kept in a warm and close part of the house. Water liberally if a good temperature is maintained; otherwise keep them rather dry till late in the season.

TRITOMA UVARIA may now be increased by division of the roots. Keep in a cool temperature, and rather dry, till well established.

GLADIOLUS seeds, sown now, will make larger bulbs than if planted later in the season.

ROSES may be repotted, if growing vigorously. Fumigate, to keep down the green fly.

CACTUSES should be sparingly watered. Now is the best time to graft the showy kinds on the *Cereus triangularis*, to make large specimens, or standard plants.

INSECTS should be looked after. Fumigate often, to destroy the green fly; and use sulphur to destroy the red spider.

FRUIT CULTURE IN THE WEST.

THE Western States are making rapid strides in pomological progress. Where, but a few years since, the broad, verdant, and almost interminable prairie spread out, now may be found flourishing orchards and fruitful gardens. Not only have hundreds of individuals largely embarked in the cultivation of fruit, and proved the capacity of the soil and climate for their profitable growth, but horticultural societies have been organized in all the principal cities, and State associations formed, whose object it is, through coöperation, to foster and encourage the cultivation of fruits, and disseminate information which shall tend to the most successful results. Ohio was the first to engage in the great work, but other States have imitated her example, and now each are zealously interested in the subject. The agricultural papers have been filled with the reports of the proceedings of the State societies, and the information which has been developed shows with what energy the members have engaged in their labors.

Fruit culture in Ohio dates back to a very early period: as long ago as 1796, Israel Putnam, who emigrated to Ohio, returned to New England partly to procure apple scions, and he succeeded in introducing about fifty of the finest of our Eastern apples. Up to 1816, Mr. Putnam and A. W. Putnam his brother were the only nurserymen in Ohio. Others then engaged in the business, among whom was Mr. Dana of Belpre. In 1824, Mr. Silas Wharton established three or four nurseries at various places, and offered for sale upwards of EIGHTY sorts of apples, and more than FIFTY of pears, nearly as many as our largest New England collections contained at the same period. Ohio was therefore early supplied with excellent fruits, the results of which are now apparent in the fine collections which still may be found in various parts of the State, and in the early establishment of the Cincinnati Horticultural Society and the Ohio Pomological Society, both of which have done so much towards introducing to notice

the many native fruits, the product of seed carried out by the early settlers of that region.

The Transactions of the Ohio Pomological Society, at its ninth session, held at Columbus, on the 7th, 8th and 9th of December, now before us, contain not only a very interesting account of the doings of the society, but are accompanied with memoirs of the pioneer fruit growers of the Ohio valley, from which we glean the above information. As an exposition of the state of pomology in the West, we briefly review the proceedings, and note the more prominent fruits of general interest which received attention:—

GRAPES.

MUSTANG. Mr. Affleck, of Texas, said this variety was the natural grape there, and the best way to grow other varieties was to graft them on the roots of this. Some German colonists in that State had experimented largely with foreign varieties, with a view to wine-making, but with very indifferent results. He had advised them to turn their attention to the native species, and he believed that some of our varieties from the Southern States will be found highly valuable to them as wine grapes. The Scuppernong he believed to be the best of all wine grapes for the South. He was favorably impressed with the Diana and the Delaware. The latter is a good grower in Mississippi. He considered Texas an unexplored field, and believed that excellent varieties of wild grapes may yet be discovered there.

DELAWARE. Mr. Bateham wished to know how much weight was attached to the objection that it was a slender growing variety.

Mr. Campbell, of Delaware, said the objection was a valid one in reference to soils and locations. It was more difficult to propagate and impatient of transplanting; but little growth can be expected the first year. This latter circumstance had caused disappointment for a time to many persons, who have purchased roots and set them out with care, hoping to see them speedily give promise of affording them luscious fruit in return for the liberal price paid for them. But all he could say was, wait till the second or third year; then, if the

soil is good, the growth will be satisfactory. In low, clayey lands the vines sometimes mildew. He had a vine against the west side of his house, which made shoots twenty feet long the last year, and bore a good crop of fruit. As to the hardiness of the vines, he had left them of all ages exposed to the hardest winters without injury, when plants of the same age, of Catawba, Clinton and Isabella, were killed to the ground. The fruit had never been affected with rot or mildew.

Mr. Hazeltine corroborated the remarks of Mr. Campbell. Dr. Warder considered the Delaware a feeble or slender grower; had commonly found it so; but at Chicago he recently saw a vine in well-prepared sandy soil that had grown six feet the first season after planting. Mr. Bateham thought it would prove the grape for the million, but it must have *good feeding*. All the speakers agreed that it rooted readily from layers.

DIANA. Mr. Campbell had fruited this variety and thinks highly of it. Would rank it next the Delaware as a table grape; not equal to that variety in delicacy and flavor of fruit, nor so early in ripening, but a stronger grower, hardy, productive, large, handsome and good. Its time of ripening was two weeks before the Catawba. Mr. Heaver took exceptions to Dr. Grant's remark about the flavor of the Diana "exceeding the Catawba in its best state at Cincinnati," and thought the Doctor had never tasted the Catawba in its best state at Cincinnati.

CONCORD. Dr. Warder regards this as the *best hardy* grape for common purposes and for every body. Its vigorous growth and hardiness, thriving in all soils and situations, adapt it to the wants especially of careless and lazy cultivators, while the fine size, handsome appearance, earliness, and fine quality of the fruit render it quite valuable for every day use, and profitable for market. He was at first somewhat prejudiced against this variety, but on further acquaintance he had come to think highly of it. Regarded it as *far superior to the Isabella* for this climate. [We knew the Dr. was too intelligent a grape grower to arrive at any other conclusion when he expressed *his own* good judgment, which accords, word for word, with

that expressed by ourselves, when we first recommended the Concord to our friends. We deem it a no small honor to be backed up by our good friend the Dr.—Ed.]

HARTFORD PROLIFIC. Dr. Warder said this grape was gaining in popularity at the East, especially for its hardiness, vigor, earliness and fine quality, adapting it particularly to the New England climate. He considered it worthy of trial. He did not know of any experiments with it in Ohio.

LOGAN. Mr. Campbell thought highly of it, as the earliest dark-colored American grape of good quality. In size, quality and appearance of fruit it resembled the Isabella, but its time of ripening was full two weeks earlier than it, and about the same as the Delaware. This grape was brought to notice by Dr. Thompson, who found it near Urbana, from whence it has been brought from Logan Co.

MARION. Dr. Warder said this variety was introduced to notice by Mr. Longworth; he did not know its origin. It was a dark-colored grape, of fine quality, resembling the Isabella, but larger, and ripening about the same season. It had not become much known.

MARION PORT. Mr. Bateham said it was distinct from the last. It is an American variety, brought into notice by Rev. Mr. Shepherd of Marion, first as the "Black German," but its name was changed to Marion Port, as it is said to make a superior article of wine resembling port. The berries and bunches are smaller than the Isabella, but it is said to be earlier, and hardy and productive.

UNION VILLAGE. Mr. Heaver spoke of this variety as doing well around Cincinnati, and much approved for its vigorous growth, and great size, beauty, and excellence of the fruit. It resembles, in size, color and bunch, the Black Hamburgh.

APPLES.

Quite a number of varieties were presented for exhibition and trial. Dr. Warder and Mr. Wood were appointed a committee to bring forward the specimens. Few new facts were elicited, but we copy the following in regard to some of the varieties, which show a decided change of opinion as regards their value:—

JONATHAN. Dr. Warder and others from Cincinnati said it was fast coming into favor there. Mr. Batcham said it continued to do well at Columbus.

TOLMAN SWEET. Approved by all who like baked apples, [and who does not?]

DANVERS WINTER SWEET. Pronounced very good.

GOLDEN RUSSET. Several persons said this variety had proved more reliable in certain localities in central and southern Ohio than the Roxbury. It was a great and sure bearer.

FALLAWATER, or Tulpehocken. Very large and handsome specimens; commended as a good market variety. Dr. Warder said it was a very free-growing and early-bearing variety, but complaint had been made that the trees were rather short lived.

TWENTY-OUNCE, or Cayuga Red Streak. Very large, handsome, fair quality.

PECK'S PLEASANT. Said to be growing in favor at the North as one of the best and most profitable winter fruits. Dr. Warder had seen it very good in southern Illinois, but presumed it would be only a late fall variety, like the R. Island Greening there.

ROME BEAUTY. Former reports confirmed. Preëminently *the* market apple of some parts of the State. Tree a fine grower and early bearer. The specimens exhibited were from six barrels of fruit gathered last year from an orchard planted only three years ago last spring, and the trees only one year old (*root grafted*) when planted. Dr. Warder confirmed the report that the fruit deteriorated in color and quality, in most locations, when the trees became large, unless pains were taken to prune the trees so as to give plenty of sun and air.

ROXBURY RUSSET. Very large specimens by Mr. Kelly, who said this continued to hold its place as second in value as a market fruit in the southern counties. Mr. W. R. Putnam, grandson of Gen. Putnam, of Belpre, narrated some interesting facts respecting this and other fruits in Washington County. The Putnam or Roxbury Russet, at the head of the list of twenty-three varieties first brought out by his father, was by far the most profitable apple for market purposes that had yet been discovered for that region. Mr. Geo.

Dana said the Russet had been without a rival in that county for more than forty years; and only one variety, the Rome Beauty, could at all compare with it in value for shipment to the southern markets. He was often asked what three or four varieties of apples he would recommend for extensive planting in his region, and he was always at a loss for the third after Roxbury Russet and Rome Beauty. The latter variety originated in Washington Co., and it is worthy of remark that it is the only seedling variety of much excellence that has ever been produced there, notwithstanding the proverbial excellence of Washington County apples. As far as his experience went, he was inclined to give the Romanite (or Gilpin) the third place as a market fruit.

Mr. Bateham inquired whether, within a few years, complaints had not been made of the Russet's falling prematurely and becoming specked on the trees? Mr. Dana, in reply, said such was the case for two or three years before the past and present seasons, and this gave the Rome Beauty the extraordinary *run* of popularity for the time; but now the tide seems turning again in favor of the Russet, and the other variety is failing somewhat in certain localities.

RAWLE'S JANET. Mr. Kelly would rank this next or third for his region. Its comparative lack of size was its only drawback. Quality superior to others.

SMITH'S CIDER. Former reports confirmed, and more emphatic testimony in its favor as a certain and profuse bearer, and most profitable market variety.

LIBERTY, considered the best winter variety by Mr. McMasters, who was anxious to procure young trees to plant an orchard for market. Mr. Bateham considered it one of the best long-keeping apples known for this section, though not quite first rate in quality.

KEISER was pronounced only second rate. **HOLMAN** only third rate. **BELMONT** one of the best for northern Ohio.

PEARS.

WINTER NELIS. Dr. Warder said it was very good, but the tree a miserable grower. Some had found it to grow poorly on the quince.

EASTER BEURRE. Liable to the same objections, but one of the best pears.

BARTLETT proved first in value as a market fruit, was a good grower, early, and a sure bearer, especially as a standard. Mr. Heaver said as a dwarf it had done well with him, only it needed a year or two of rest after bearing a full crop, as it was disposed to overbear. The first crop of fruit on a young dwarf should be picked off. [This is good advice.]

LOUISE BONNE OF JERSEY. Pronounced the second best market variety, especially as a dwarf; growth fine and very productive.

KIRTLAND. Mr. Heaver said this was not so generally known as it deserves to be. He thinks highly of it; it ripens two weeks earlier than the Seckel; thrives both as a standard and dwarf.

DUCHESS OF ANGOULEME. There was some difference of opinion in regard to this. Mr. Hazeltine had found it reliable and good. Dr. Warder had not found it reliable, but would have it for its large size and good quality.

GOLDEN BEURRE OF BILBOA. Dr. Warder considered this a glorious good pear, deserving more popularity than it had had. Thought it the best substitute for the White Doyenné. Does admirably around Cincinnati.

LE CURE, or Vicar, was approved by some, but others had not succeeded in ripening it satisfactorily.

The report closes with some very interesting memoirs of the pioneer Fruit Growers and Nurserymen of the Ohio Valley, gathered together by the President, Mr. Ernst, and R. Buchanan, Esq., during the continued ill health of the former gentleman, who, we regret to learn, has been confined to his house for many months. The whole is very interesting, as giving a complete history of fruit culture in this region, and contains much incidental information relative to the names and early history of several fruits. These memoirs have brief notices of the Putnam brothers, Zebulon Gillett & Son, Silas Wharton, J. Hampton and John Osborn of Indiana, Wallace Brothers of the same State, Sigerson Brothers of St. Louis, Reuben Ragan of Indiana, Joshua Lindley of Kentucky, Myers & Sons, John Chapman alias Johnny Appleseed,

(see his history in our Magazine, Vol. XII. p. 133, furnished by Mr. Humrickhouse,) Prof. Kirtland, A. H. Ernst, N. Longworth, Lewis Sanders of Kentucky, and many others not so well known to pomologists, but who actively engaged in fruit culture, and aided in disseminating a taste which has led to the present advanced condition of fruit culture in the West.

MOTIONS AND SENSIBILITY OF PLANTS.

BY WILSON FLAGG.

BUFFON believed that there was no precise boundary between the animal and vegetable kingdoms; that their extremes met and melted into each other, like light and darkness at that point which we call twilight. If their distinguishing marks, however, cannot be precisely defined, they are generally well understood, and the animal and the vegetable have, after all, but little resemblance to each other. The power of locomotion, or motion from place to place, is considered peculiar to animals; but this is not a uniform distinction. There are certain animals that do not possess this power, as many of the Crustacea; while, on the other hand, there are some plants that seem to be endowed with it. There is a species of Spleenwort, called the Walking Leaf, (*Asplenium rhizophyllum*,) that advances from place to place: but it will be observed, that there is no actual locomotion in this case. The plant strikes root at the extremity of its fronds, and gives rise to new plants, each of which is a few inches in advance of the one from which it was produced. Hence, in the course of a few seasons, this plant might seem to have walked over a whole field.

There is this remarkable difference between the motions of plants and those of animals;—while those of the latter are voluntary, the former are evidently unattended either with volition or consciousness. Dr. Darwin, however, contends for the theory of vegetable spontaneity. He remarks, “that as the sleep of animals consists in a suspension of voluntary motion, and as vegetables are likewise subject to sleep, there

is reason to conclude that the various actions of opening and closing their petals and foliage may be justly ascribed to a voluntary power; for, without the faculty of volition, sleep would not have been necessary to them." It is true that the motions of plants towards the light bear resemblance to those of animals; but it is probable that they are the result of a sort of vital affinity, and attended with no more volition than the movements of a needle towards a loadstone.

The *Hedysarum gyrous*, called the Moving plant, affords one of the most remarkable instances of vegetable motion. When exposed to the light of the sun, the leaves of this plant are never still. Some are rising while others are falling, or moving in a sort of rotary course. These motions are most apparent when the air is still and warm, and bear some resemblance to animal respiration. They are evidently produced by the action of the sun's rays, for they continue without ceasing, until the solar influence is withdrawn. During the night, and in cool, cloudy weather, they are motionless.

In the *Marchantia polymorpha*, or Brook Liverwort, some yellow down proceeds from the pollen-bearing anthers, and moves spontaneously in the anther, while it drops its dust-like atoms. This seems to be a motion provided by nature for the purpose of strewing its seed, like the snapping of the pods of the Balsam, when its seeds are matured.

Dr. Darwin enumerates several curious instances of spontaneous motion in the organs of the flowers of different plants. In a species of *Collinsonia*, having two stamens and one pointal; the two former stand widely apart, and the pointal may be seen to bend itself into contact first with one and then with the other. The pointals in *Nigella* (Jack in the Bush) are very tall compared with the stamens, and, bending over in a circle to them, give the flower a resemblance to a regal crown. The pointal of the *Epilobium angustifolium* (Rosebay willow herb) bends down amongst the stamens for several days, and after a while becomes upright again. In the *Kalmia* the ten stamens lie round the pistil, like the radii of a wheel; and each anther is concealed in a niche of the corol, to protect it from cold and moisture. These anthers rise separately from their niches, and approach the pistil for a

time, and then recede to their former situations. Many other remarkable cases of a similar character are enumerated in the "Botanic Garden."

Such motions are too slow and gradual to be perceived, except by the closest observation; but those of the *Dionæa muscipula*, so often described, may be easily seen. The leaves of this plant are jointed, and furnished with two rows of prickles. Their surfaces are covered with minute glands, that secrete honey and allure the approach of flies. When the insect alights on these parts, the two lobes of the leaf close together and confine the insect in their embraces. The same motion may be produced by touching the parts with a straw or a pin.

A similar contractility is observed in the flower of the common barberry. In the fully-expanded flower, if the inside of the filaments be touched with any pointed object, they will suddenly contract and draw themselves up towards the stigma. Here is evidently something analogous to sensibility. But the most remarkable cases of vegetable sensibility and motion are found among the *Mimosas*, many species of which are sensitive. It is this quality of the plant which has caused it to be designated as the emblem of purity. This property has given origin to several interesting fables and notions. It was formerly believed that it would bear the touch of chaste persons without shrinking. Frequent handling is very injurious and finally destructive to it.

There seems to be some resemblance between the irritability of the sensitive plant, and that of the muscles of an animal which has been suddenly deprived of life. When a slight irritation is applied to the muscles of its dead body, they will shrink and contract as if still endowed with sensation.

"Naturalists have not explained the immediate cause of the collapsing of the sensitive plant. The leaves meet and close in the night, during the sleep of the plant, or when exposed to much cold in the day-time, in the same manner as when they are affected by external violence, folding their upper surfaces together, and in part over each other, like scales or tiles, so as to expose as little of the upper surface as may be to the air; but do not indeed collapse quite so far, since it

has been found that when touched in the night, during sleep, they fall still further, especially when touched on the footstalks between the stems and the leaflets, which seems to be their most sensitive or irritable part. Now as their situation, after being exposed to external violence, resembles their sleep, but with a greater degree of collapse, may it not be owing to a numbness or paralysis consequent on too violent irritation, like the fainting of animals from pain or fatigue? The writer kept a sensitive plant in a dark room till some hours after day-break. Its leaves and leafstalks were collapsed, as in its most profound sleep, and, on exposing it to the light, above twenty minutes passed before the plant was thoroughly awake and had quite expanded itself. During the night, the upper or smoother surfaces of the leaves are appressed together. This would seem to show that the office of this surface of the leaf was to expose the fluids of the plant to the light as well as to the air. Many flowers close up their petals during the night."

The sunflower is often mentioned for its property of turning to the sun; but it has no such property, except as applied to its florets. The sunflower follows the course of the sun by *nutation*—that is, by a general turning of its florets in the direction of the sun, and not by twisting its stem. The name of sunflower was undoubtedly given to this plant from the resemblance of its flower to the disk of the sun, as anciently represented in simple engravings. There are many other plants which exhibit more of this property than the sunflower, and nearly all species, when confined in a room, turn the shining surface of their leaves and bend their recently-formed branches to the light.

In no other flower is this *turnsole* quality so apparent as in the tricolored violet, or pansy. When a bed of pansies is covered with blossoms, on a clear, sunny day, all the flowers may be observed turning in one direction towards the sun. Thus they will all face the east in the morning, and the west in the afternoon. After sunset the petals are partially folded together. It is the brilliancy of these flowers that makes the uniformity of their direction so apparent to the observation.

Among the gems of poetry that lie buried in the dust or

old book-shelves, I discovered the following verses, which describe the habits of the pansy so fancifully and yet so truly, that I may be pardoned for quoting them in this place. They are too good to be generally appreciated; but I do not fear to place them before the readers of Hovey's Magazine:—

THE PANSY.

BY C. S. EDGEWORTH, (1800.)

When the young Spring her feathered train recalls,
 And when the bee rebuilds its honeyed walls:
 When gentle April sheds her genial showers,
 And vernal zephyrs breathe on budding flowers;—
 Tufted in grassy rings, where fairies play,
 Pansies, half seen, their rainbow robes display:
 Like pigmy peacocks spread their purple plumes,
 Shedding at once a season of perfumes.
 A jetty star protects their ivory breast,
 And velvet saffron forms their decent vest.
 But when gray Autumn calls his brother winds,
 Gathers their forces and their wrath unbinds;
 Bids dark November's threat'ning tempest roar,
 And warns the ant to hoard her winter store;—
 Void of all shape, all color, all perfume—
 Pale is the jetty star and purple plume!
 Resigned, the florets feel the blast of death,—
 But ere they perish by the winter's breath,
 They hide, instinctive, in funereal snows,
 The treasured capsules which their young enclose.
 Round their cold tombs the infant fondlings lie,
 To bud and blossom where their parents die.

REPORT ON GRAPES AT CHISWICK.

BY THE LONDON HORTICULTURAL SOCIETY.

THE following notice of several varieties of grapes, both new and old, will be read with interest by many cultivators of this delicious fruit. It is well known that unusual interest has been manifested in the culture of grapes and the production of new varieties among the English grape-growers the last few years. Many excellent new sorts have been produced, and many old varieties brought out under new names; and

some very gross errors have been committed in the latter class. It will therefore be interesting to know what is thought of some of these reputed new kinds, by amateurs and cultivators who are able to decide upon their merits. This report furnishes this information. For although we cannot admit that vines two years planted will show the true character of the fruit, still a near approximation may be made to the truth, and, as such, we place much confidence in this report. The knowledge obtained will save the necessity of obtaining such grapes as one already possesses, while it will give a fair estimate of the value which other really new and distinct kinds possess.—Ed.

The vines which now occupy the large conservatory are growing partly in an outside, and partly in an inside border. The largest of them, which are chiefly those in the outside border, were planted in August, 1857, so that they have had but two seasons' growth. Many of those which were planted in the inside at the same time were replaced by more suitable varieties during the autumn of 1858 and spring of 1859.

The outside border was prepared in the end of July, 1857. It is four feet wide and about two feet deep, including drainage, the latter consisting of several inches deep of brickbats and rubbish, so that the depth of prepared soil is about eighteen or twenty inches; it consists of Wimbledon loam, and chopped turf, obtained from the surface of the van-ground, a little charred earth, and a small quantity of manure. These outside borders have had no water, except the rain which fell on them. The inside ones, being very shallow, required the earthen pipes placed at intervals along them to be filled two or three times a week during the hot weather; and throughout that period, and until the grapes began to color, the whole of the inside area was watered two or three times a day, the evaporation from which contributed to cool and moisten the air of the house.

It may be proper to mention that the conservatory at Chiswick is elevated on a terrace about two feet above the general level, and the outside borders are of course on this elevated surface. This arrangement, which entirely prevents the

pressure and accumulation of superfluous moisture in the soil, is one to be highly recommended in the formation of vine borders. The curvilinear span-roof and exposed position of the house, both favorable to the free admission of light, have also no doubt had an influence on the ripening of the crop. The treatment throughout has been that of an ordinary vinery. During the months of July, August, and September, the range of temperature was as follows:—

July:	morning,	60° to 73°	in lower part,	60° to 74°	in upper part.
“	noon,	83 to 105	do.	88 to 109	do.
Aug.:	morning,	52 to 67	do.	50 to 68	do.
“	noon,	70 to 99	do.	70 to 104	do.
Sept.:	morning,	52 to 63	do.	50 to 60	do.
“	noon,	70 to 85	do.	70 to 92	do.

During the season of 1858 the vines had an attack of mildew. In autumn they were carefully done over with flowers of sulphur and loam. Notwithstanding this, the mildew again made its appearance in the present season, although two pounds of sulphur were early distributed in the air of the house. On the 17th of March, 8 lbs. were applied to the shoots and leaves with a sulphurator; 4 lbs. more on the 21st of May; 14 lbs. June 9th; and 7 lbs. June 12th—making in all 33 lbs. between the 17th March and 12th of June. The result was that the damage done was slight. The vines were examined by the Fruit committee on September 20th; and subsequently by a sub-committee for the purpose of completing the report:—

BLACK HAMBURGH.—Bunches moderate-sized, shouldered; berries roundish-oval, sometimes roundish, black with a fine bloom; skin very thin; flesh tender, melting, and very richly flavored, both sugary and piquantly vinous. Leaves sharply serrated, the ribs of the under surface covered with cobwebbed tomentum, and having bristly pubescence in their axils. This is the true old Black Hamburgh, and though smaller both in the bunch and berry than other varieties, it is decidedly the best in quality. Warner's Hamburgh, the Hampton Court, and the Richmond Villa Hamburgh are synonymous kinds.

DUTCH HAMBURGH, from Messrs. Lee of Hammersmith; the same as Wilmot's Black Hamburgh, from Mr. Wilmot of

Isleworth. Bunches medium-sized, compact, not much shouldered; berries large, roundish-oblate, indented as if hammered on the surface, and often so much so as to appear misshapen, black, covered with a thin bloom; skin thick, adhering closely to the flesh, which is coarse, firm, and hollow around the seeds. Leaves roundish in outline, the serratures of the lobes coarse and bluntish; the veins of the under surface clothed with cobwebbed tomentum, and having tufts of bristly pubescence in their axils. This differs from the Black Hamburgh in having larger berries, more decidedly round, and marked like a hammered bullet; the flesh is much firmer, but not so juicy nor so rich and sugary; the leaves are also less pubescent.

FRANKENTHAL.—To this must be referred the Pope and Victoria Hamburghs, and the Black Tripoli of Welbeck. Bunches large, strongly shouldered; berries roundish, frequently oblate, and rarely roundish-oval, somewhat indented or hammered-like, but less so than the Dutch Hamburgh, black, covered with a thin bloom; skin thick, adhering to the flesh, which is firm and often hollow around the seeds, of which there are generally two, sometimes three. Leaves with bluntish serratures; the main ribs have only a slight covering of cobwebbed tomentum, but are covered through their whole length with bristly pubescence. It is a fine-looking grape of vigorous growth, but less rich and highly flavored than the true Black Hamburgh, though superior in these respects to the Dutch Hamburgh.

MILL HILL HAMBURGH, from Messrs. Lee. The same as the Dutch Hamburgh.

POPE HAMBURGH, from Messrs. Lee. The same as the Frankenthal.

VICTORIA HAMBURGH, from Messrs. Lee. The same as the Frankenthal.

GOLDEN HAMBURGH, from Mr. Veitch of Chelsea. Bunches large and well-shouldered; berries large, oval, or sometimes roundish-oval, pale yellow, or, when highly ripened, pale amber; skin thin; flesh tender and melting, very juicy, rich, sugary and vinous. Leaves not deeply lobed, their serratures sharp; the upper surface smooth, the lower nearly so. This

proves to be a fine-looking, free-bearing, richly-flavored grape, in every respect of first rate quality.

BURCHARDT'S AMBER CLUSTER, received as Burchardt's No. 10, from M. Burchardt of Landsberg, on the Warta. This grape, which was sent to the Society without name, resembles the Muscadines in quality, but has oval berries like the Clusters. Berries middle sized, decidedly oval, amber-colored, or yellowish white; skin moderately thin, flesh very sugary and rich. Leaves roundish, dying off green and pale yellow, like those of Reeves's Muscadine; in the latter, however, they are very pubescent or woolly; while in Burchardt's they are but slightly downy, with tufts of bristly pubescence in the axils of the veins. It is earlier than the Royal Muscadine, and this property, combined with its good quality, will render it a first-rate early white grape. It appears to be well deserving of trial for early forcing purposes.

ŒILLADE PRECOCE, from M. Leroy of Angers. Bunch small, longish, loose; berries about the size of those of Royal Muscadine, roundish, or but slightly oval, rose-colored.

SAVIGNON BLANC, from M. Dunal, Montpellier. Bunches and berries about the size of those of the White Frontignan; berries oval, yellowish-white; skin thick; flesh sweet, but not so rich as that of the White Muscadine. Leaves roundish, open at the base, not deeply lobed, pubescent or bristly above and beneath. A wine grape.

WARD'S EARLY MUSCADINE, from the late G. H. Ward, Esq., Northwood Park, Cowes, Isle of Wight. Bunch long, rather loose; berries round, about the size of those of the Royal Muscadine, and of the same color and flavor. It differs from that sort in the bunches being longer; and the leaves also are very different, being deeply lobed, very downy on the under, and slightly so on the upper surface.

BIDWILL'S SEEDLING, from Mr. Pince of Exeter. Bunches and berries nearly as large as those of the Black Prince; berries small, round, bluish-black, with a fine bloom; skin rather thin; flesh tender, melting, and very juicy, but somewhat acid, and having a disagreeable earthy flavor. Leaves resembling in form those of the Black Hamburgh, but with a lengthened terminal lobe, and differing from that variety and

from the Black Prince in being quite smooth above and below.

BURCHARDT'S PRINCE, received as Burchardt's No. 7, from M. Burchardt, Landsberg, on the Warta. Bunches long, tapering, about one foot in length, larger than those of the Black Prince, which in their long, tapering, slightly shouldered form they resemble; pedicels remarkably thick and strong; berries round, scarcely so large as those of the Black Hamburgh, compared with which it is later, roundish-oval, black with a thick bloom; flesh firm, juicy, melting, rich and vinous. Leaves open at the base, not deeply-lobed, nearly smooth above and below. A good hanging variety, but requires more heat.

FLEMING'S PRINCE, from Mr. Fleming of Trentham. Bunch large, loose, long, slightly shouldered; berries oval, larger than those of the Black Prince, to which they bear considerable resemblance; skin very thin, bluish-black, with a copious bloom; flesh tender, juicy, remarkably rich, and very sugary. An excellent grape, but requires a little more vinous piquancy and firmness.

MOROCCO PRINCE, a seedling between the Black Prince and Black Morocco, received from Mr. Buck of Elford, near Lichfield. Bunches about the size and form of those of the Black Prince; berries also similar in size, oval, but with a thinner skin, which is tough and membranous, reddish-black, with a thin bloom; flesh firm, juicy and melting, rich, sugary and vinous. Leaves very deeply lobed, open at the base, rather sharply and deeply serrated, pubescent beneath, slightly so above. A useful late grape, and hangs well, but in this instance has apparently not had sufficient heat.

PANSE JAUNE, from M. Van Houtte of Ghent. A fine large oval or somewhat ovate berry, of a rich pale yellow color, like a well-ripened Muscat of Alexandria; flesh rather firm, sweet but not rich. Leaves deeply lobed and sharply serrated.

GROS ROUGE DE PROVENCE, from Dr. Neill. Bunch long, tapering, loose; berries small, slightly oval, black; skin thin; flesh juicy, vinous, with a Frontignan flavor. Leaves convex, deeply lobed, slightly pubescent. This variety possesses little merit, having the bad property of setting badly.

MUSCAT NOIR DE JURA, from Messrs. Baumann of Bolwiller. Bunch long and tapering, slightly shouldered, larger than that of the Black Frontignan grown under the same circumstances; berries about the size of those of the Black Prince, slightly oval, black; flavor resembling that of the Violet Frontignan, being only slightly musky; leaves convex, deeply cut and serrated, nearly smooth. Later than the common Muscat Noir or Black Frontignan.

ALICANTE PRETA, from Mr. Veitch, British Consul at Madeira. Very like the Large Black Ferral, and not suitable for conservatory temperature.

BLACK BARBAROSSA, from John Rigden Neame, Esq., Rushett, Faversham, Kent; sent under the name of Gros Guillaume. Bunch very large, strongly shouldered, compact; berries large roundish oval; skin black, thin and membranous, covered with a thick bloom; flesh greenish white, melting, juicy and sugary. Leaves large, open at the base, more deeply lobed than those of the Black Hamburgh, smooth above and below, without bristles on the ribs; the serratures sharp. A valuable late grape, hanging well after ripening.

SIDERITIS, from J. R. Neame, Esq. Bunches very large; berries of the largest size, roundish-oval or oval, frequently with a sutural depression, reddish black, unequally colored; flesh firm, but hollow around the seeds, and with a deficiency of juice and flavor. Leaves large, sharply serrated, smooth above and below; shoots red. A very strong grower.

BLACK MONUKKA, from the late Mr. Johnson, gardener at Hampton Court. Bunch nearly the size of that of the Black Prince; berries rather small, of a peculiar oblong-ovate shape, stoneless; skin black, thick; flesh firm, breaking, sweet, but not rich. Leaves deeply lobed. This grape does not appear worthy of cultivation.

BLUSSARD NOIR TARDIF, from Messrs. Baumann. Bunch small and rather loose; berries middle sized, slightly oval; skin black, tolerably thin; flesh juicy and sweet. Leaves deeper lobed and more sharply serrated than those of the Hamburgh, the lobes open at the base and overlapping above; veins on both sides somewhat bristly; young shoots very brittle. A very strong grower, and rather earlier than the Black

Hamburgh, but a bad bearer, and not so valuable a grape. It is very similar to, if not identical with, the B. Hamburgh.

PRUNE DE HERAULT, from J. R. Neame, Esq. Bunch about the size of that of the Violet Frontignan; berries about the same size, somewhat oval, bluish-black with a fine bloom; skin adhering closely to the flesh, which is firm and richly flavored. Leaves deeply lobed, unequally serrated, their ribs covered with bristly pubescence, and the whole under surface clothed with thick tomentum.

ROUGE DE ROLLE, from the same. A small, black, sweet wine grape, too small to be admitted into vinery culture.

MAXATAWNY GRAPE.

BY DR. W. D. BRINCKIE'.

IN 1843 several bunches of grapes, growing at Maxatawny, Berks Co., Pa., about twenty miles above Zeiglersville, Montgomery Co., Pa., were sent to a friend residing at Eaglesville, Montgomery Co., Pa., six miles above Morristown, Pa. The seed of all these grapes were planted at once, only one however vegetated during the following spring. This plant, after remaining three years where it had come up, was removed to near the summit on the north slope of Camp Hill, Montgomery Co., Pa., where it still stands, and is in a flourishing condition. The only protection it has is a dwelling-house on the west side of it, about five feet from the vine. It has been permitted to run wildly over a plum-tree growing near it. Specimens of this fine grape were received by me in September, 1858, from Peter Craus, Esq., of Springfield township, Montgomery Co., Pa., (post-office address, Mount Airy, Philadelphia,) who deserves the credit of bringing this valuable grape into notice. He has a number of vines growing from wood taken from the original vine, and, *during the next winter*, will have a large supply of the wood, which he will take pleasure in distributing, without cost, amongst those wishing to grow it.

Bunch, five inches long, loosely formed, usually not shoul-

dered, and occasionally quite compact; berry, greenish white, sometimes with an amber tint, when fully ripe, roundish oval, 11-16 of an inch long, by 10-16 wide; flesh, tender, not pulpy; flavor, saccharine and delicious; quality, "best;" maturity, eaten 23d September.

The original vine bore one and a half bushels of grapes in 1858. During the past season specimens, even finer than those I received in 1858, were sent to me.

My friend, L. E. Berekmans, Esq., has seen the fruit, and fully agrees with me in regard to its excellence.

POMOLOGICAL GOSSIP.

AMERICAN FRUITS IN ENGLAND.—Oh! fie, Mr. Rivers, that you should drop your well-known signature of "T. R." and send *such* a communication to the Gardener's Chronicle under the anonymous "*Pyrus*." All our pomologists know you cannot plead ignorance of the subject, and must, therefore, attribute your remarks to prejudice, and a kind of glorification of the "Britishers" over us benighted "Yankees," which we, in our kindly feelings, thought you, of all English nurserymen, quite free from. Our readers must hear as briefly as possible, for we have no room for the whole of the hyfalutin paper. Enough, however, is as good as a feast.

"There is, perhaps, no quarter of the world where the apple is cultivated that produces such fine and perfect fruit as a portion of the United States. It is strange that such an inhabitant of the Old World should have been so perfectly acclimated in the New, and to have such a tendency to 'make itself good,' for, from our European sorts, many, doubtless of inferior quality, when introduced about two hundred years ago, have sprung numbers of the finest sorts of apples in the known world. The great peculiarity in American apples is their tender, juicy, delicate, half-melting flesh, rich, sugary and agreeable, without, however, any decided aroma, at least as far as I have tasted, like our Ribston pippin, when grown in Kent or Sussex, and some other English varieties. These

have perhaps more piquancy, but the flesh is hard and breaking, requiring, like the Cornish Gilliflower, iron teeth and a stomach of leather. American apples are, on the contrary, 'old men's fruit,' and a large Newtown Pippin can be eaten with as much comfort as a melting pear. I can imagine no apple more agreeable than the Mother, the Northern Spy, the Melon, and the Reinette du Canada. The American kitchen apples are remarkable for their crisp juicy flesh, neither too sweet nor too acid, but of the exact quality for pies and puddings. The Rhode Island Greening and the Baldwin are two excellent examples of this class of apples."

This is pretty well for a beginning, only we can fancy a smile steal over the countenances of our readers when Mr. Rivers talks about the want of aroma of our apples as compared with the Ribston pippin! and classing the Baldwin as an "excellent example" of our *kitchen* apples!! Mr. Wilder's project to erect a monument where the original tree stood will fail if it only commemorates such a fruit.

"There is also a class of apples quite peculiar to the States, viz., sweet apples, or *pig feeding* apples. These have scarcely any trace of acid, even when grown in England, but are of a luscious, rather dull, sugary flavor. Pigs thrive upon them, and they are grown largely by the farmers for autumn feeding. The Jersey Sweet, Tolman Sweet, Ramsdell's Sweet, and hundreds of seedling sweetening apples are planted to 'please the pigs.' But few of the American apples can be grown to advantage in England. Cobbett, when he imported his American Locust and apple trees, used to obtain some specimens to sell his trees by from trees trained to a southwest wall at Kensington, and most magnificent apples they were, quite enough to make his admirers American apple tree mad, as they then were. This, however, is sufficient to remind us that American apples should be cultivated in a warm English climate, like the neighborhood of London, and be grown either trained to walls or in some very warm situation. The peculiarity of the American climate in bringing apples to such high perfection is very remarkable. The neighborhood of Rochester, in the western part of the State of New York, is a great fruit-growing district. It is also a great tree-manufactur-

ing place, for it is said that there are 10,000 acres under nursery cultivation just around Rochester. Well, Rochester is just about in the latitude of Toulouse in France, the most favorable fruit-growing district in Europe, but how inferior are the apples of France to those of America! And yet the summer heat of most seasons at Toulouse would not exceed that of Rochester. But we can go further north in Europe and take Belgium and Holland—the latter, one would think, approaches to the American shore of Lake Ontario in a moist and warm summer temperature. Hard, dry and poor are nearly all their apples. America must, therefore, take rank as a first-rate apple country, which, by the way, is the only fruit that grows to perfection, except the peach, when properly cultivated.”

Is Mr. Rivers serious? If he had said nothing about our “*pig feeding* apples” this would have read very well; though we are certainly in an unfortunate country, as extensive as ours, that “the apple should be the only fruit that grows to perfection.”

“Pears,” Mr. Rivers says, “are cultivated very largely in the United States, but the cultivator is always in a deadly warfare with a host of enemies, ‘frost blight,’ ‘insect blight,’ ‘frozen sap blight,’ ‘fire blight,’ (*vide* Downing) would so alarm English gardeners that they would cease to cultivate the trees. Some good pears are undoubtedly grown in America, but they do not generally approach in size and quality to the same kinds grown in Europe. We have received one very high-flavored pear from the States, the Seckel; but its flavor, however, in the opinion of many, is too musky, and it is too small. There are between 100 and 200 ‘American’ pears, *i. e.* sorts that have been raised from seed in America, now offered for sale by the American nurserymen. Some of them may be better adapted to the climate than European sorts, and so be gradually improved. A few new kinds offered last autumn at Boston are highly eulogized; these have been raised from seed by a Mr. Dana,—one is called ‘America,’ and another ‘Hovey.’ Their price would lead one to think they are dear if not good, as they are \$5, or 21s. each.”

Not quite so good as the apple talk. We have not room to comment fully upon this, but we might say to Mr. Rivers that there are two opinions in regard to the question, whether pears in this country do not 'approach in size and quality the same kinds grown in Europe.' Mr. Rivers thinks new pear trees at \$5 each are dear, if not good. Undoubtedly; for we have vivid recollections of paying 21s. each for Beurré Langelier pear, Stanwick nectarine, Josling's St. Albans, Bowood Muscat and other grapes, and even 5s. for a pear raised by an English nurseryman, called Rivers' Winter Beurré, nearly the same price of the American pear, (\$2) and not quite equal to it either. But hear what Mr. Rivers says about *our* fine pears, which we really think very good, *almost as good as Knight's Monarch.*

"It is remarkable to find how ill-suited an English climate is to American pears, (except the Seckel.) I have eaten of the following kinds, all of which have a good character in their own country, and have found all inferior, and, in some instances, what little boys call 'nasty,'—Buffum, Oswego Beurré, Oswego Incomparable, Kingsessing, Howell, Sheldon, Bloodgood, Brandywine, Dearborn's Seedling, Swan's Orange, Osband's Summer, Lawrence and Andrews. It is remarkable that, although the English climate is not nearly so bright as that of America and France, it should produce the *finest and richest pears known.* In the latter country some specimens are occasionally grown larger than the same kinds in England, yet they are never so rich in flavor. There are three kinds of pears, peculiar to Great Britain, which I fully believe are unmatched in Europe or in America, viz., Gansel's Bergamot, grown on a wall in the north of England; the Chaumontelle, grown in Jersey, and Knight's Monarch, cultivated as a wall pear."

Shall we say any more? Is this not truly rich? Hide your heads, oh ye Beurré Diels, Winter Nelises and Easter Beurrés, Knight's Monarch towers above you all. What is the matter with Mr. Rivers's soil. We hope it has not grown as sour as we fear its proprietor has? There can be nothing but chalk left. Mr. Thompson, years ago, classed the Dearborn's Seedling, as raised in the London Horticultural So-

ciety's Garden at Chiswick, as "first quality," and "allied to the White Doyenné." Has it really become a nasty fruit? And yet this is about as poor as any of the lot Mr. Rivers names. Really, Mr. Rivers does know better. If the Seckel is the best pear in Great Britain, as it has been proved to be, having taken *all the prizes* at the great London Fruit Exhibition, two years ago, as the very best pear, others will be just as true to their character, when properly cultivated and *properly* ripened. Here is the mistake, they are allowed to hang too long upon the tree. Let us have fair experiments, and, if they fail, then we will cheerfully acknowledge it. And what will the native-locality theorists say to Mr. Rivers's remark, that not even France and Belgium can grow their own pears "so fine and rich" as the glorious climate of Great Britain? If true, it quite upsets this very generally received notion by some of our pomologists. What does Mr. Berckmans say to this? Will not the Georgia pears, if Yankee pears do not, equal those raised in England? As to all the blights which Mr. Rivers scares up as so many bugbears in the way of American cultivators, which are, after all, but two, "insect and fire blight," we know nothing of the latter in New England. It is terrible in New York, but aside from this the pear has less enemies than any other fruit. To read English gardening works we should say, what they call the American blight does more damage to the apples there, than the fire blight does to the pears here.

Mr. Rivers then goes on to speak of the peaches and plums, the former being subject to the yellows and the borer, and the latter to the black knot and cureulio, so that this country is not a "paradise for the peach tree as some imagine," and the "plum cannot be cultivated with any great success." "Our American grapes are generally distasteful to Europeans from their peculiar foxy smell and hard pulp in the centre of the berry." Did Mr. Rivers ever hear of a Delaware, a Rebecca, a Concord, or a Diana grape? We think they are pretty nearly as good as an Esperione, a Black Cluster, or Miller's Burgundy, the famous out-door grapes in the grand climate of Great Britain.

"Strawberries are grown to an enormous extent in the

‘States,’ and some of the American sorts (their name is legion) are highly prized. The best and most popular is, perhaps, Hovey’s Seedling. In England, however, it is not to be compared with the British Queen; it is without that fine aroma peculiar to that queen of strawberries, which I have reason to think is never eaten in perfection out of England.
* * * Peabody’s proved both here and there to be a variety of the old Scarlet strawberry, not large, with a very long neck, and a most unfruitful habit,—in short, worthless.”

“The Americans are very fond of blackberries, and have two or three kinds that are very popular. The Lawton or New Rochelle seems to be the favorite. This succeeds pretty well in England, and produces fruit of the *same size*, but rather more conical than our hedge blackberry. It ripens a month earlier, but has no peculiarity in flavor, which is sweet and dull, quite calculated to please children, who, in this country, are our principal blackberry eaters.”

Mr. Rivers says we plant apples “to please the pigs,” while in England they plant blackberries to “please the children.” Brother Jonathan has children of a larger growth, who love blackberries quite as well as the English children do, at least so we judge from the sale of the berries.

Now this is all bosh. Mr. Rivers knows that the hedge blackberry of Great Britain bears no comparison in size to the Lawton or the Dorchester, and this is a gratuitous fling at these varieties, because a rival house in London are introducing both these valuable fruits to the notice of English cultivators. Fie, fie, Mr. Rivers.

Mr. Rivers grows eloquent over the glorious English climate and English fruit:—

“It will, I think, be seen, from this slight sketch of American fruit growing, that although we grumble about our spring frosts and cloudy summers, we are able to grow the finest fruit in the world, with fewer drawbacks on our fruit culture than our cousins over the water meet with, who are apt to boast of their country, their climate, and their productions. What would our gardeners say if they were prevented from cultivating with success such charming fruits as the nectarine, the apricot, and the plum? Still, with all the hindrances to

plum culture which the American fruit growers experience, they have sent us some really good varieties, among which the Jefferson takes the front rank."

It must strike our fruit growers as very remarkable that Mr. Rivers should labor so hard to introduce orchard house culture in a country "able to grow the finest fruit in the world." But Mr. Rivers does admit one thing, that we can send the "Britishers" good fruits if we cannot grow them. The Seckel pear, the Jefferson plum, and the Melon apple, are each delicious. Where will he find English fruits of the same class equal to them?

It is no small thing "to boast" of that we have raised a single fruit which our transatlantic friends think worthy of even noticing, much more cultivating—but it is really curious that a country that can do this should be able to go no further. Mr. Rivers appears to have gone back to the opinions of seventy-five years ago, when it was thought that nothing good could thrive only on British soil. We do hope for better things. We are at least satisfied with our progress in fruit culture.

SUSQUEHANNA PEACH.—This fine peach, which was named, described and distributed by Dr. Brincklé five or six years ago, proves to have been a variety well known and cultivated around Harrisburg, Pa., under the name of Griffith, Griffith's Mammoth, and Griffith's Mammoth Melacatoon, under which latter name it was enumerated in Mr. D. Miller's Catalogue in 1849. When Dr. Brincklé named it he supposed it was a new variety, and called it the Susquehanna. Certainly no complete description had been published in any pomological work or magazine, and therefore he had the right to name it. Mr. Miller subsequently had some correspondence with Dr. Brincklé in regard to the alteration of the name, thinking at first it was not right, but he afterwards changed his opinion and introduced it into his Catalogue as the Susquehanna, with G. M. M. as a synonym, and he now asks if he was not justified in doing so? He thinks he was, and so do we. We only note this instance of describing and naming a fruit, to say that the Harrisburg cultivators have a proper appreciation of the principles recognized by all intelligent pomologists

in the nomenclature of fruits. Not one of them, we venture to say, will assail Dr. Brincklé with scurrilous epithets for doing as he did.

The Gardeners' Monthly, in noticing this matter, truly says, "had Dr. Brincklé understood previously to his naming it, that it had been distributed under another name, we are well assured he would not have sent it out as *Susquehanna*." Precisely so, but pomologists have not the time to hunt up every local name of a new fruit; they go to the true source—pomological works—and if the fruit is not described and named there it has no real existence, and he who first describes it has the right to place it upon record under such name as appears to him the most appropriate and correct.

THE LONG GRAPE.—This is a southern grape, which has lately attracted some attention. It belongs to the varieties of *V. æstivalis*. Mr. N. White, of Athens, Ga., says it is never used as a table grape, and as a wine grape he doubts if it will do. It ripens late, and will not probably mature in the open air north of Philadelphia.

THE DELAWARE GRAPE.—Dr. Grant, in his recent lecture on the grape at Yale College, is reported to have stated that the "Delaware was as much better than the Diana as the latter was better than the Catawba." We can hardly believe the reporter understood the Doctor correctly, and are inclined to think he meant better for general cultivation. If he meant anything else, he certainly is in error. No pomologist, that we are aware of, ever considered the Diana superior to the Catawba, when the latter is fully matured. In Cincinnati, and further south, the Diana, good as it is, must yield the palm to the Catawba. We hardly think it advisable to praise the quality of the Diana at the expense of such a well-known grape as the Catawba.

EASTERN APPLES.—Our old Eastern apples, after all, are not such unprofitable fruits as some of our Western friends would have us believe. L. F. Allen, Esq., and other pomologists present at the lectures at Yale College, acknowledged the "*old fashioned* varieties of the apple," the Baldwin, Rhode Island Greening and Roxbury Russet, to be the safest, the most productive, and the most profitable for the orchard.

STOEVER RASPBERRY.—Dr. Brincklé describes, in the *Horticulturist*, a new native raspberry, under this name. It was found growing wild, in August, 1858, near Lake Dunmore, in Vermont, by Mr. Jefferson F. Stoever, and removed to his garden at Taconey, near Philadelphia, in the fall of the same year, where it fruited in 1859. Being a native of the northern part of the United States, Dr. Brincklé thinks “it will probably be better adapted to the exigencies of our climate than most of the large varieties.”

The berry is very large, full three-quarters of an inch long by one and one-eighth inches wide; roundish-conical in form; of a rich crimson color, and of good flavor. It appears to be a perpetual variety, as the specimens sent to Dr. Brincklé in September last, by Mr. H. A. Dreer of Philadelphia, contained green and ripe fruit in all the various stages of development.

NOTES ON PEARS. No. II.

BY HON. JOHN MILTON EARLE, WORCESTER, MASS.

In the number of this Magazine for March, 1858, an article was published embodying selections from notes, of new varieties of pears, which I had fruited during a few of the preceding seasons. My object was, to contribute my share towards that mass of information, the result of observation and experience, which is necessary as a reliable basis for judgment in making selections of varieties worthy of cultivation. Further observation has enabled me to correct some of the opinions entertained respecting varieties then noticed, and to add some facts in relation to other kinds.

In the mass of new kinds of pears produced in Europe within the last thirty years, which are classed as of the best quality, now numbering something like a thousand varieties, a large proportion of them will never be of much value to us, in our present state of culture, except to amateurs, who do not regard the expenses, so that they obtain a superior fruit. For general cultivation, several requisites are desirable, such as vigorous growth, hardihood, productiveness, and adaptation

to a variety of soils, in the tree, and size, beauty, fine flavor, and good keeping in the fruit; and, just in proportion as these qualities prevail or are deficient in any variety, is its value for cultivation increased or diminished. Some of the very best fruits are unworthy, in consequence of such defects. The White Doyenné cracks and blasts; the Gray Doyenné is feeble in growth, not hardy, and requires peculiar soil and culture; the wood of the Wredow, Gansel's Seckel, and Van Mons Leon le Clere, all first class fruits, canker so badly as to make them outcasts; and the Beurré d'Arenberg, the best of all winter pears, gives indications of having to be, at no distant day, placed in the same category. The Colmar d'Arenberg, which, with good culture, on a deep warm loam, in a sheltered situation, with the branches well shortened in, is one of the most magnificent and delicious of fruits, is, under ordinary circumstances, almost worthless, and quite so as a dessert fruit. The Beurré Benoist, Deliecs d'Hardenpont of Angers, and some others, are delicious fruits, but the trees are so delicate and feeble as to require the best of soil and extra care in the culture. Others, again, do well in particular soils and expositions, or in favorable seasons, but fail under different circumstances.

The Bartlett is one of the varieties that combines the greatest number of desirable qualities. Its prominent defects are, that it perishes almost immediately after ripening, and the tree is rather tender when young. It is found, that vigor of growth, productiveness, long keeping, size, and beauty, combined with tolerably good quality, are more desirable for profit than superior flavor with deficiency in one or more of these requisites. Thus, the Buffum, though only of second quality, is, in consequence of the vigorous growth and size of the tree, its great and constant productiveness, its reasonably good looks, and keeping qualities, one of the most profitable of fruits. The Vicar of Winkfield, the Catillac, and even the old Iron pear, the first only a second rate dessert fruit, and the others only cooking pears, are, nevertheless, profitable for cultivation, on account of the hardihood, vigor, and productiveness of the trees, the size and beauty of the fruit, with the long period during which they may be kept in the mar-

ket. We may reasonably hope among the kinds with which we are now but partially acquainted, to find some that combine all these desirable qualities, in a greater degree than they are found in most of those now cultivated. In the hope of aiding in this inquiry, the present article is prepared.

BARBANCINET. This variety appears to be tender, and the wood inclined to disease. It cannot be recommended without further trial.

BEURRE ANTOINE. Tree a very good grower on pear or quince, and an early and free bearer. Fruit large, long, pyramidal, dull green, sometimes with a warm cheek, and a slight bloom upon the skin. Flesh very tender, melting, and pretty good. It soon decays. September. Needs further trial.

BEURRE AUNENIERE. Under this name, I received a tree from France, which has come into bearing quite young, before it had made any very appreciable growth. I am therefore unable to say what its character for vigor of growth may be. The fruit is full medium size, pyramidal, slightly pyriform, yellow, with a fine red cheek, and very handsome; flesh tender, melting, juicy, and sweet, with a fine aromatic flavor. It is a first rate fruit, ripening in the last half of August, and has no superior in its season. There is some doubt as to the identity of this fruit, as the European authorities say that the Beurré Auneniere ripens in October. This answers well to the description of the "Colorée d'Aout," of Van Mons, both in its general character and time of ripening.

BEURRE D'ANJOU. This pear is becoming so well known that a notice of it seems hardly necessary. I may say, however, that the good growth and fair productiveness of the tree, and the size, beauty, and excellence of the fruit, recommend it as one of the best for general cultivation. November.

BEURRE DEROUINEAU. Further trial proves this pear to be unworthy of cultivation.

BEURRE NANTAIS. Tree very vigorous, on either pear or quince, forming a fine pyramidal head, and coming promptly into bearing. Fruit very large, long, somewhat pyriform; skin a fine yellow, flesh melting, juicy, sweet, with a very agreeable, but not high perfume. The many good qualities

of this fruit recommend it for general cultivation. September and October.

BEURRE NOISETTE. This is a very vigorous grower, both on pear and quince. Fruit medium to large, obovate; skin a fine yellow, dotted with brown, calyx open, with but little depression, flesh tender, melting, sweet, sprightly, and very good.

BEURRE PAIMPOL. Tree vigorous and handsome, and an early and very free bearer. Fruit full medium size, turbinate pyriform; skin green; flesh remarkably tender, and juicy, sweet, and good, second rate, always ripening well on the tree or in the house. This gives promise of being a profitable market pear, ripening through the whole month of September.

BEURRE PREBLE. Tree a fair grower; fruit rather large, vinous, aromatic, and very excellent. It has the merit of keeping well when ripe.

BONNE D'EZEE. [Bonne des Zees.] This pear, which has been highly recommended, is somewhat liable to crack, and the wood to canker on a stiff soil. Perhaps on a warm, light and rich soil it might do better, but it cannot be recommended.

CALEBASSE MONSTRE. [Carafon. Calebasse Carafon.] I have been most agreeably disappointed in this fruit. Tree a good grower on pear root only; fruit very large, melting, juicy, and very good. It promises to be a productive and profitable variety.

CLARK PEAR. This is apparently identical with the Church pear, recently described as a new variety in various publications. It continues to sustain the good character given of it in my former article.

COMTE DE FLANDRES. Further trial confirms my favorable impressions of this fruit. The tree is a pretty good grower on the pear root, but ought to be cultivated in the pyramidal form, and in a warm soil and a sheltered position, when it bears young and very freely. The fruit is large and handsome, highly perfumed, and excellent.

COMTE DE PARIS. In my former article I expressed the opinion that this very productive and excellent pear would not be worthy of cultivation, on account of its tendency to

quick decay. That opinion has been much modified, by finding, that, if seasonably gathered, it keeps pretty well, and is one of the finest pears of its season, which, here, is early in October.

DE BAVAY. This variety requires a warm mellow loam and good culture, when the tree is vigorous and productive. Fruit good sized, pyramidal; stem long and rather stout; flesh coarse and somewhat gritty about the core, melting, juicy, and good. October.

DELICES DE JODOIGNE. Tree moderately vigorous, and productive when it comes into bearing, which is not so early as many other kinds. Fruit turbinate, with a red-brown cheek; flesh crisp or half melting, sweet, juicy, very beautiful, and good.

DELICES DE LOUVENJOUL. Under this name I have received trees which appear to be identical with the Jules Bivort of my former article. The tree is a very good grower on pear root, but does not do well on the quince. It bears early, and is very productive; the fruit of good size, very handsome, yellow, with a red cheek; flesh melting, juicy, very sweet, aromatic, and excellent—first rate. It is one of the best varieties for general cultivation. October and November.

DOYENNE BOUSSOCK. This is one of our most valuable pears for general culture, on the pear root. On the quince it soon exhausts itself, and becomes decrepit. For size, beauty, and general excellence, it is a fit successor to the Bartlett, and is not excelled by any pear of its season.

DOYENNE DE SAUMUR. This is a productive, beautiful, and excellent fruit, rather small, obovate, inclined to pyriform; skin bright straw yellow, sprinkled with dark glandular dots; calyx open in a small depression; flesh sweet, melting, juicy, musky, and excellent.

DOYENNE DU COMICE. This splendid fruit was raised in the garden of the Committee (*Comice*, Fr.) of the Horticultural Society of Angers in France—hence its name—and was first put into the market in 1851. The tree is of more than average vigor, and succeeds on both pear and quince. It makes long upright shoots, which require annual cutting in while young, to improve the form of the tree, which is very sym-

metrical, when so managed. It comes sufficiently soon into bearing, and gives promise of being quite productive. Fruit large, pyramidal; skin fine golden yellow with a red cheek; flesh tender, buttery, juicy, sweet, and rich, with a delicious and unexceptionable flavor. This pear lasts through the whole of October and November, and will keep without decaying for six or eight weeks after it is in good eating condition. It is unquestionably one of the most valuable of pears, and deserving of general culture.

DOUILLARD. [Alexandrine Douillard.] Tree vigorous and productive, coming early into bearing. Fruit rather large, turbinate; flesh melting, juicy, and finely perfumed—very good, or best. Three years' fruiting of this variety has left upon my mind a very favorable impression of its merits.

DUCHESSE D'ARENBERG. Tree a very vigorous grower and early and free bearer; fruit large, pyriform; skin dull green, flesh coarse, tender, juicy and good—second rate. September. This, from its hardy and vigorous character, might probably do well in situations where the finer and more delicate varieties do not succeed.

DURANDEAU. [De Tongres.] This is another noble and beautiful pear. It was raised by M. Durandean, at Tongres in France, and was first put into the market in 1851, the same year with the Doyenné du Comice. It is called sometimes by the name of its cultivator, and sometimes by that of the town where it was raised. In England it is called Durandean, and I have given that name the preference, as being most euphonious. The tree is moderately vigorous on the pear root, but is rather tender and weak on the quince. It forms a handsome pyramid, and bears young and abundantly. Fruit very large, pyriform, much swollen out; skin delicate, covered with a fine golden russet, tinged with red when fairly exposed to the sun; flesh fine, buttery, very juicy, vinous, sprightly, and deliciously perfumed. It is a pear of the highest quality, which, with its size and beauty, must make it a general favorite. It ripens in October, and keeps some time.

ESPERINE. [Beurré Sprin?] Tree of medium vigor and apparently very productive. Fruit of good size, pyriform,

flesh fine, melting, juicy, sweet, and very good, ripening in October. The quality is sometimes variable on young trees.

FIGUE D'ALENCON. [Figue, Bonnissime, Figue d'Hiver.] Tree vigorous and very productive. In warm, deep, mellow soil, it is one of the best of pears, large, irregularly pyramidal, skin green, generally more or less spotted with patches of russet, which sometimes covers the whole surface; flesh very melting, juice abundant, vinous, sprightly, and excellent. Ripe from the last of October to December. If kept in a warm room, it does not last long after it is ripe.

GANSEL'S SECKEL. Since my former article, the wood of this exquisite pear has cankered so badly as to prove it unworthy of general culture. Whether it is worth retaining as an amateur's fruit, must depend on further trial.

KINGSESSING. This is a valuable native fruit, raised in the vicinity of Philadelphia. Tree vigorous and healthy, but tardy in coming into bearing. Fruit rather large, pyriform; flesh fine, tender, melting, juicy, sweet, brisk, vinous, fine flavored, and excellent. A first-rate fruit, giving promise of being worthy of general cultivation. September and October.

LAURA DE GLYMES. Tree of moderate vigor, on pear root only; productive; fruit medium size, obovate-turbinate, skin of a bright russet color, flesh half-melting, juicy, and well-flavored. Handsome and very good. October.

SAINT GHISLAIN. This pear, though it has been known for some fifteen or twenty years, has never received the attention to which its merits entitle it. The tree is a very thrifty and erect grower, always forming a beautiful head, but is improved in shape by shortening in, when young. It accommodates itself to a variety of soils, and bears neglect better than almost any other kind. It does not fruit early, but when it commences it is a constant and very abundant bearer. Fruit medium size, turbinate, bright lemon yellow, sometimes with a blush; flesh tender, half-melting, or melting if ripened in the house; juice abundant, sweet, brisk, and sprightly, and of excellent flavor. It is a first-rate fruit, ripening well either on the tree, or in the house, through nearly the whole of September, and keeping better when ripe than most pears of its season.

SHELDON. A capital American variety. Tree of vigorous, healthy, and upright growth, slow in coming into bearing, but productive afterwards; fruit large medium, varying from oblate or bergamot shape to conic; skin green, covered with a dull russet, and often bronzed toward the sun; flesh melting, juicy, sprightly, vinous, and very high flavored. The only objection to it, is the excess of aroma, which is offensive to some. But for this it would rank as the compeer of the Doyenné du Comice and the Durandean.

WINTER BEURRE, (Rivers's.) This is a seedling from the Easter Beurré, raised by Thomas Rivers of Sawbridgeworth, England. Tree, vigorous and very productive on either quince or pear, and coming quickly into bearing. Fruit, large, pyriform; skin, green, sometimes bronzed toward the sun, becoming yellowish as it ripens; flesh, melting; juice abundant, vinous, and piquant. For the first two or three years of fruiting, it was so austere that I was apprehensive it never would be a good dessert fruit, although it always ripened well. But, the present season, although grown as a standard on a stiff compact soil, it has been very rich and good, almost equalling the Beurré d'Aremberg. This improvement I attribute to the better development of the tree by age. When the tree is grown as a pyramid, on a deep, mellow, warm loam, it will probably prove not only a profitable fruit, but a very good one for the dessert.

THE PICTURESQUE BEGONIAS.

BY THE EDITOR.

No tribe of plants has risen more rapidly in popular esteem than the Begonias. The older species are well known greenhouse plants of no remarkable beauty, but from their easy culture and their winter-blooming, free-flowering habit have found a place in most every collection of plants. Later years have witnessed the addition of more conspicuous and brilliant sorts, like the *B. fuchsoides*, but, with all the attractions

of such showy flowers, they have failed to become especially desirable above many other plants.

But the introduction of the ornamental-leaved, or picturesque species, awakened universal interest in their cultivation. The crimson red leaves of the *B. sanguinea* and the coppery green and grayish foliage of the *zanthina* formed agreeable contrasts in mixed collections of plants, and a



FIG. 3. BEGONIA REX.

taste for such conspicuous forms and colors brought them more into notice. The ornamental effect of large specimens of these comparatively showy species was soon generally appreciated, and hybridization brought to the aid of the cultivator to increase their novel forms. Collectors in tropical regions where other species of *Begonias* had been found were upon the lookout for others of equal beauty, and, as in most in-

stances where attention is directed to a particular object, that object has been accomplished. The result of their labors was the addition of several remarkable species, among them the noble *B. Rex*, which at once elevated the class into regal order, and placed them tacitly, if not by acclamation, at the head of ornamental-leaved plants.

We have already alluded to the great beauty of handsome-foliaged plants, and we need not repeat it here. They have become indispensable additions to every collection, and a plant must be very attractive in its flowers, which shall claim the admiration accorded to some of these species. *Cissus discolor* for a time reigned queen of this class; but, though still extremely beautiful, it stands far in the rear of the *Begonia Rex*.

As decorative conservatory plants, during both summer and winter, the *Begonias* will hold a prominent place; affording a charming novelty with their crimson-tinted, silvery-zoned, crimson-edged, emerald-hued, and snowy-spotted leaves, and ornamental with their yellow and pink flowers.

Begonia Rex, (FIG. 3,) which, as we have remarked, created the *furor* for this tribe, was introduced from Assam, where it was found by M. Simon, who sent it to Europe. It was purchased in London, at auction, by Mr. Linden, and sent to his establishment on the Continent, where it flourished and attracted universal admiration. It was from thence sent back to London, and in 1858 fine specimens were the cynosure of all eyes at the popular exhibitions of plants. It far surpassed in beauty anything then known in the genus *Begonia*. Its immense leaves, eight or nine inches long, of a dark-purplish green, reflect a metallic lustre, and this is rendered still more effective by a broad silvery zone, extending quite to the point. In addition to these striking colors the surface of each leaf has a bullated or embossed appearance, from an apparent fulness between the intervening veins. The under surface is of a subdued-purplish shade and light green opposite the paler parts, with conspicuous purple veins. Our engraving gives a very excellent representation of the plant.

As the *Begonia* is easily reproduced from seeds, enthusiastic continental as well as English cultivators have already produced many singularly ornamental specimens by hybridization

between the *B. Rex*, and other picturesque kinds. In fact the number is increasing so rapidly that the variety will be as numerous as some of the popular classes of flowers. Some of them have already been noticed under our floricultural head, and others, of prominent beauty, we shall endeavor to describe. For the present we name a few which have been conspicuous at the exhibitions, and which are considered among the finest in cultivation.

B. splendida. Highly ornamental, of vigorous habit, twelve to eighteen inches high, with large foliage, diversely oblong ovate. The most remarkable feature of this species consists in the exquisitely rich crimson tint displayed in the early growth of the leaves; this arises from the brilliantly-colored hairs with which they are clothed. The veins of the leaves beneath are also, when young, covered with similar hairs.

B. splendida argentea. A very ornamental plant, with large elegantly-marked leaves, obliquely heart-shaped; their entire surface, except that traversed by the veins, is of an unbroken silvery green, richly-tinted or bronzed with an under coppery crimson hue, deepening towards the margin, and sprinkled over with short crimson velvety hairs. The under side is of a uniform rich crimson, with strong veins set with crimson hairs.

B. picta. Of a neat dwarfish habit, compact, six to twelve inches high. The leaves are obliquely heart-shaped, having a velvety surface of a dark olive-green, finely relieved by a band of light-green encircling the broad central dark-green space, and having a very conspicuous rich crimson marginal belt. The under side has a broad central blotch of crimson, corresponding with the position of the dark green of the upper surface.

These are kinds we have grown in our collection the last year. Of very showy and beautiful varieties, just introduced, we name the following, some of which have already been described in our Floricultural Notices:—*B. Grandis*, *Victoria*, *Amabilis*, *Mad. Wagner*, *Marshalli*, *Rollisoni*, *Picturata*, *Miranda*, *Isis*, and others. These are all very showy varieties, with singularly marked foliage, and of the general habit of *B. Rex*.

Begonias are of easy cultivation ; requiring only a proper degree of heat and moisture at the right time, and a temperature which shall keep them in active vegetation during their season of growth. The species and varieties are divided by some writers into three groups, viz.:—1. The picturesque-leaved ; 2. The summer and autumn blooming ; and 3. The winter and spring blooming. As we have only now to deal with the former, our hints refer to that class, though, as far as soil, &c. are concerned, they may apply to all.

The soil which Begonias appear to delight in is a well-decomposed friable loam, leaf mould, well decayed, and peat or heath soil, in the proportion of about one half loam, one quarter leaf mould, and one quarter heath soil, and pure white sand. The loam should be rather coarse, not sifted on any account, and when too compact or tenacious should have a small quantity of broken charcoal intermixed, so as to give a free open character to the whole, that the water may pass off readily. In potting, care should be taken not to press the soil too firm. Water very sparingly after repotting, until the plants recover somewhat, when it may be given more freely.

As the growth is rapid when the plants are in a proper temperature they will require frequent shifting. Young specimens, now in four or six-inch pots, will require shifting in a month or more, and again after about the same interval, though this must, of course, be governed by the growth and other circumstances. In June or July they may have the last shift for the season, which should be into ten or twelve-inch pots. In very sunny weather a slight shade should be given to the plants, otherwise their delicate foliage will be likely to be injured in their rich tints. Until May they will require the aid of a warm house to make good specimens, after which they may be removed to the conservatory, where they can have an abundance of room, in order to develop their fine foliage, that being the object in view, rather than flowers.

On the approach of winter water should be gradually withheld, until the plants go into a state of rest, when they should be kept in the warmest part of the greenhouse, if not the

convenience of a hothouse, until February, when their growth will commence again.

Begonias are readily propagated by the leaves and by division of the roots; the latter being the safest and easiest, except when the object is to get numerous plants. Just after the specimens have begun to grow they should be turned out of the pots, divided carefully, and repotted, withholding water for a few days, until the wounds are healed, when they may be submitted to the ordinary treatment of other plants.

Where there are the conveniences of a hothouse, by proper treatment they may be grown throughout the winter, and form conspicuous objects at that season.

Gossip of the Month.

A DEPARTMENT OF AGRICULTURE.—A writer in the Philadelphia North American, presumed to be Mr. D. Landreth, urges the formation of “a department of agriculture” as an established and regularly organized branch of governmental administration, either under the Department of the Interior, or as an independent organization, one of equal influence with the other departments. The arguments he brings to support this are incontestable, and indeed unanswerable. There is no doubt of the importance of the measure, provided it could be carried out according to the views of the writer, and wishes of every friend of agriculture.

“The individual who should preside over the office of agriculture should be no ordinary person. We may pick up a thousand men in each State in the Union who might creditably conduct the affairs of the General Post Office, or of the army and navy in time of peace; but the head of an agricultural bureau should be one of more than ordinary capacity and acquirement. He should be a botanist, well read in the vegetable products of every clime. He should be skilled in the arts, to know the applications of vegetable products as applied in medicine, manufactures and mechanics. He should be a chemist and geologist, that he might the more truly understand and correctly commend processes for the amelioration and fertilization of soils. He should be a man of broad and comprehensive views, lest he make the blunder of largely expending the public funds in the importation of articles unsuited to the condition of our people; e. g. the sending of a special agent to China for plants and seeds of *tea*, which when procured cannot be turned to profit, simply because men will not pick tea leaves at sixpence a day, when a shilling may be made at cotton, or corn. Water may be forced up hill, but labor invariably follows its own proper channel,

and though we import celestials, as the *official savans* have, it is said, recommended, they would find here more profitable occupation than picking tea leaves. Even the admitted skill and inventive genius of our people will fail to devise a plan to dispense with the human hand in that particular—unless indeed each plantation be made to revolve on its own axis, or ‘endless chain,’ and successively present the plants to automaton leaf-pickers.”

This is all very true. We would urge with all our power the establishment of a Department of Agriculture, if we thought any real good would come from it. But this will not be. The office will be given to politicians, and not to “the individual” who should preside over it. He will be appointed for the service he has rendered to his party, and not to the cause of agriculture. Such, at least, we fear will be the fate of the Agricultural Department at Washington, and the great body of farmers, who compose so large a portion of our population, will go through the same farce, as usual, of throwing up their hats, to the man who shall deliver the most grandiloquent agricultural address, tracing the progress of agriculture to remote ages, ending in a general glorification of the great intelligence of our agriculturists, and take it for granted, that the display of so much knowledge fully entitles him to the important position at the head of government. Was there the least hope that the appointment would be made of a fully competent individual, we would most cheerfully recommend Mr. Landreth’s plea. As it is, we think the less offices of the kind the better for the prosperity of the country.

AMERICAN POMOLOGICAL SOCIETY.—The next and Eighth Session of this Society will be held in Philadelphia, on the 10th of September next, continuing three or four days.

MASSACHUSETTS HORTICULTURAL SOCIETY.—The Society, having sold its Hall in School Street, have taken new rooms on Washington Street, at the corner of West, known as Amory Hall. The Society will occupy their new premises on the first of April. The Hall is larger than the old one, and the library and meeting room, large, airy, convenient and pleasant. The situation is a central one, and the Society may congratulate themselves upon having secured such desirable premises. The new Hall will be repainted, and put in complete order by April.

THE DELAWARE GRAPE.—The Gardeners’ Monthly thinks we did not quote accurately in our remarks on this grape in our January number. Now we are generally very careful to do this, never wishing to make any one say what he did not. Mr. Meehan states that he is made to say that the Delaware grape “is abundant in Delaware;” when he only said, “varieties of the Isabella abound in Delaware.” Our readers must judge whether we were correct or not. Here is the original document:—

“While making some botanical trips on the upper portion of the Dela-

ware, some years back, we recollect a casual notice of a grape which we have often thought had a strong resemblance to what later years had taught us to call the Delaware. * * We have tried to put others on the track to get them; but though we have got the grape from near a score of localities, on close investigation we cannot assure ourself with confidence that they are entirely wild. One thing, however, is remarkable—none of the grapes are *exactly* the same. Some have bunches loose, some compact, some shouldered, some with short bunches and some above the average in length; but yet in every essential quality they are Delaware and nothing but Delaware.” Is anything said here about the Isabella?

SEEDS AND CUTTINGS FROM THE PATENT OFFICE.—A circular has been issued giving the following reason why the distribution of seeds will be dispensed with during the present year:—

“Owing to the reduced appropriation made by Congress for agricultural purposes for the fiscal year ending June 30, 1860, the office has been compelled to reduce its expenses and confine its action to a more limited sphere than heretofore. In doing this, it was found necessary, either to decline purchasing for distribution the usual varieties of garden and field seeds, or to abandon the experiment of propagating the tea and various other foreign plants and grape cuttings, for which orders had been given. The expenses which had already been incurred in their procurement would hardly justify the office in throwing them aside. It was accordingly deemed advisable to apply the remainder of the funds solely to the procuring of information and preparing the materials for the Agricultural Report, and to the propagation and distribution of such varieties of foreign seeds and cuttings as had been already engaged. These were of such a nature, that if they had been distributed throughout the country immediately upon their receipt, the probability is that very few of them would have reached their destination in a fit state for propagation. The tea seeds, more particularly, arrived in such a condition that it was of the utmost importance to plant them at once. For this purpose, large propagating houses were erected upon the Government grounds, north of the canal, between 4½ and 6th streets. These structures now answer well the purpose for which they were intended, as is exhibited by the fact that we have ready for distribution over 30,000 well-rooted tea plants; 12,000 foreign and domestic grape-vines; 900 rooted seedless pomegranate cuttings, and various foreign medicinal and ornamental plants. These will be ready for distribution during the present winter and the ensuing spring.”

We hardly know which were the wiser policy for the Government. The distribution of the tea plants will, we are fearful, be the last that will be heard of them. As to the distribution of *foreign* grapes, especially the Zante varieties collected by Mr. Parsons, they will be equally as fruitless; and as regards the seedless pomegranates, we very much doubt any great results. The distribution of seeds, upon the plan heretofore pursued, gave but little satisfaction, and the distribution of the cuttings will afford even

less. It seems to be the fate of the Agricultural Department to take hold of impracticable objects.

DEATH OF MR. A. H. ERNST.—We regret to record the death of our old correspondent and friend, A. H. Ernst, which took place at Cincinnati, on Monday, February 13, in the 64th year of his age. The lateness of the month compels us to defer a notice of Mr. Ernst till next month.

Societies.

ESSEX NORTH HORTI-AGRICULTURAL.

At an adjourned meeting of the Essex North Horti-Agricultural Society, Newburyport, Mass., the following officers and standing committees were elected for the ensuing year:—

President, E. G. Kelley, M. D.

Vice Presidents, A. W. Miltimore, William Ashby.

Corresponding and Recording Secretary, A. Horton.

Treasurer, W. W. Caldwell, Jr.

Committee on Fruits, C. M. Bayley, A. B. Muzzey, Nicholas Johnson, Moody Ordway, Joel Lake.

Committee on Flowers, Mrs. A. W. Miltimore, Mrs. E. G. Kelley, Mrs. S. J. Spalding, Mrs. George W. Hill, Miss Mary Bartlet.

Committee on Vegetables, Daniel Adams, William Bricher, William Huff, D. Thurston Colman, George Thurlow.

Dr. Kelley, Dr. Howe and George W. Hill were appointed a committee to revise the constitution and by-laws of the society for publication, with a list of the members.

The Treasurer reports that 129 new members have been added; that \$226.79 have been paid for incidental expenses and premiums, and that \$354.36 have been added to the cash funds of the society during the year.

ILLINOIS STATE HORTICULTURAL.

The annual meeting of this Society was held at Bloomington, Ill., on Tuesday, Jan. 10, and continued in session five days. Discussions upon the cultivation of Evergreens, Orchard-culture of Fruit Trees, treatment of Strawberries, Currants, &c., together with addresses from the President, C. R. Overman, on the objects of the society; on insects injurious to vegetation, by Mr. B. D. Walsh, and on the growth of plants, by Dr. Warder, occupied the whole time. The meeting was well attended, and great interest manifested in its proceedings. The following officers were elected:—

President, Samuel Edwards of Lamoile.

Vice Presidents, L. Montagu, 1st Congressional District; J. W. Wakeman, 2d do.; R. W. Waterman, 3d do.; N. Overman, 4th do.; M. Scar-

boro', 5th do.; J. A. Hilliard, 6th do.; M. Hosletter of Decatur, 7th do.;
C. A. Montrose, 8th do.; G. H. Baker, 9th do.

Corresponding Secretary, J. T. Little of Dixon.

Recording Secretaries, T. Stau, Alton, and H. C. Freeman, La Salle.

Treasurer, S. G. Minkler, Kendall Co.

KENTUCKY HORTICULTURAL.

The following officers of this Society, for 1860, were elected at the annual meeting:—

President, Thomas S. Kennedy.

Vice Presidents, Lawrence Young, Arthur Peter, Dr. J. A. Moore.

Treasurer, James Buchanan.

Recording Secretary, Ormsby Hite.

Corresponding Secretaries, W. D. Gallagher, Charles A. Page.

Executive Committee, A. G. Munn, C. C. Cary, Jos. Serib, Dr. W. Allen, J. W. Walker, H. S. Duncan, Ed. Wilson.

The Society meet every Saturday at Louisville, and propose holding a grand flower and strawberry exhibition next spring.—*Valley Farmer*.

MERAMEC HORTICULTURAL.

The first annual meeting of this Society was held in the house of Judge Uppel, State Road, Mo., Dec. 1, when the following officers were elected:

President, Dr. A. W. McPherson, Allenton.

Vice President, Charles Paffrath, Sunhill, Melrose.

Recording Secretary, Wm. Muir, Laborville, Melrose.

Corresponding Secretary, E. Vaughn, Allenton.

Treasurer, Wm. Harris, Allenton.

Executive Committee, Dr. L. D. Moore, T. R. Allen, Herman Steines.

BROOKLYN (N. Y.) HORTICULTURAL.

The following officers were elected for the year:—

President, John W. Degrauw.

Vice Presidents, John Maxwell, James Hazlehurst, W. C. Langley, J. S. T. Stranahan, S. J. Eastman.

Treasurer, J. W. Degrauw.

Corresponding Secretary, Jas. Hazlehurst.

Recording Secretary, Edwin Scott.

At a late meeting the Society reported a schedule of prizes, and voted to hold a spring exhibition on the 11th, 12th and 13th of April, and one in the fall, in September, on the 19th, 20th and 21st. The time for the June exhibition was not decided upon.

NEW YORK HORTICULTURAL.

The following officers were elected for 1860:—

President, John Groshen.

Vice Presidents, Peter Cooper, Henry A. Heiser, Henry A. Hurlburt, James E. Cooley, H. M. Schieffelin.

Treasurer, James Knight, M. D.

Recording Secretary, George H. Hansell.

Corresponding Secretary, Thomas Hogg.

The Society intend to make application to the Legislature for the appropriation of \$300 now given to the American Institute, believing that they can disburse the amount to more advantage.

CONNECTICUT GRAPE GROWERS' ASSOCIATION.

The annual meeting was held Tuesday, Jan. 10th, when the following officers were elected:—

President, Col. D. S. Dewey, Hartford.

Secretary, Mason C. Weld, Hartford.

Treasurer, R. S. Phelps, Windsor.

An able paper was read by D. Clark, Esq., the retiring President. After a trial of several native wines, the meeting adjourned.

PROGRESSIVE GARDENERS' SOCIETY.

A Society under this name has been recently organized in Philadelphia, the purpose of which is mutual improvement in the branches connected with the profession of horticulture; the elucidation of doubtful points in relation to the culture and treatment of trees, plants, and garden crops generally, and the dissemination, by means of essays and other similar channels, of reliable information, on the various operations of gardening. The majority of the members being professional gardeners, actively engaged in the pursuit of their calling, it is assumed that the facts and deductions which may be brought out will be legitimate and useful.

At the meeting on the 30th of January, the rules for the guidance of the society having been fully discussed and adopted, and a number of members enrolled, the society proceeded to an election of officers, when the following result was announced, (the President to be appointed at each meeting from the roll of members, each member in rotation being eligible):—

Treasurer, John Gerney, 236 Chestnut, below Third.

Secretary, R. Robinson Scott, 627 Market, below Seventh.

CINCINNATI HORTICULTURAL.

The Annual Meeting of the Society was held Saturday, February 7,—President Hazletine in the chair.

The Treasurer, Wm. Stevens, submitted his Report, showing a balance of \$52.96 in favor of the Society. The meeting then proceeded to the election of officers, resulting as follows:—

President, William Orange.

Vice Presidents, Wm. Stevens, J. P. Foote, and F. G. Cary.

Recording Secretary, E. J. Hooper.

Corresponding Secretary, E. P. Cranch.

Treasurer, Robert Clarke.

At the meeting, Jan. 14, President Hazletine delivered his valedictory address, from which we learn that two hundred and fifty new members have been added the last year, making the total number about six hun-

dred. The old floating debt of 1857 and 1858 has been paid off, and there are *no* outstanding liabilities. Wm. Orange, Esq., the President elect, then delivered his inaugural address.—*Cincinnati*.

Massachusetts Horticultural Society.

Saturday, Feb. 4, 1860.—An adjourned meeting of the Society was held to-day,—the President in the chair.

The Committee, appointed for that purpose, submitted a report, authorizing the Treasurer to pay Prof. Jenks a sum not exceeding \$25, as he may require, for contingent expenses, to prosecute his labors on the food of birds—also, the further sum of \$75 for the current year.

The Committee of Arrangements reported upon the time of holding the next Annual Exhibition, and it was voted that it be held on the 18, 19, 20, and 21st of September next.

A letter was read from Wm. Kenrick, acknowledging the Society's donation of \$250.

The Librarian was authorized to send Reports of the Proceedings of the Society to such Life Members as do not call for them.

Adjourned two weeks, to February 18.

Feb. 18, 1860.—An adjourned meeting of the Society was held to-day,—the President in the chair.

Capt. Austin, from the Committee for that purpose, made a Report that Amory Hall could be leased for a moderate rent, and asking power to conclude arrangements for the same. The Report was accepted, and Capt. Austin, C. M. Hovey and Jos. Stickney were appointed a Committee to make all necessary arrangements, agreeably to the above Report, for the occupancy of the Hall on the first of April.

Adjourned two weeks, to March 3.

Horticultural Operations

FOR MARCH.

FRUIT DEPARTMENT.

FEBRUARY was a cooler month than January, and with more snow; still it could hardly be called a cold month. The thermometer fell below zero but once, which was early in the month, (the 2d.) Since then it has been variable, reaching the high point of 60° as we write, with a heavy southerly rain.

GRAPE VINES, in the grapery and greenhouse, will now be growing

rapidly, and with the advancing warmth of the season will require more attention. Syringe in good weather till the buds show signs of blooming, when it should be discontinued altogether. Tie in the laterals as they advance in growth, and stop the strongest if extending too rapidly. Keep the house well damped after the fruit is set, and air more freely.

COLD HOUSES should be well ventilated, to prevent any root action or starting of the vines, which will be rather injurious before April. Vines in the open air may be pruned. Cuttings or eyes of foreign grapes may now be put in, placing them in a gentle hotbed to accelerate their rooting.

SCIONS of all kinds of fruit trees should be cut this month, preserving them in moss or soil in a cool cellar or shed.

PRUNING may be pushed on now as rapidly as possible.

GRAFTING may be commenced this month, as advised in our last.

CURRENTS AND GOOSEBERRIES should be carefully pruned.

FRUIT TREES in pots may be brought into the house for early fruiting. Those already well advanced should be freely watered.

INSECTS should be looked after. If mild weather the last of March the canker worm grub will begin to run. Bark lice and scales on pear and apple trees should be destroyed by washing with oil soap or potash water.

FLOWER DEPARTMENT.

As the season advances all plants partake of the invigorating influence of the warmth. Everything shows signs of active growth; such as appeared entirely dormant now begin to swell their buds. To assist in this is the object of the gardener. It is the season, therefore, for repotting many things preparatory to their growth for the year. Indeed, in a well-ordered collection, every plant should be looked over, and put in order. If done early it will not only save valuable time, but will aid materially in forming larger and better specimens.

PELARGONIUMS will now begin to show a vigorous and healthy growth. Continue to tie out into neat shape, and encourage large plants intended for specimens; also, look after young stock, watering more freely, and fumigating to keep down the green fly. Keep the house rather dry, watering in the morning rather than evening. Pinch off the tips of plants intended for late blooming. Give abundance of air in all good weather, and plenty of room to the plants.

AZALEAS will now be in their full beauty. Water more freely, and if a slight shade can be given in the middle of the day it will prolong the beauty of the flowers. Young stock should be repotted and grown in a rather close warm house.

CAMELIAS, now commencing to grow, should have a slight shade from the hot sun. Syringe often, and water freely. Inarching may yet be done.

CALCEOLARIAS will need another shift into larger pots.

BEGONIAS, growing freely, may be repotted soon.

GLOXINIAS AND ACHIMENES, started into growth, should be potted off in a rich light soil. Bulbs for a succession may be potted.

FUCHSIAS should be encouraged in their growth. Keep in a rather close

warm house. Syringe often, and water rather freely. Young plants should be repotted.

ROSES, intended for fine plants for turning into the ground in May, should be repotted.

TUBEROSES may be started into growth by potting and placing in a good hotbed.

HEATHS, done blooming, should be removed to a cool frame, where they can be protected from frost.

OXALIS, done blooming, should be placed away on a dry shelf under the stage.

CINERARIAS, for late blooming, should be repotted. Fumigate to keep down the green fly.

PANSY SEEDS, sown now, will make fine flowering plants in June.

ANNUAL SEEDS, of many kinds, may be planted and brought forward in the greenhouse or hotbed.

STOCKS, GLOBE AMARANTHS, and many other things, should be sown immediately.

MONTHLY CARNATIONS may be propagated from cuttings, for a stock for early winter blooming.

HOLLYHOCKS may be propagated from cuttings. Well-established young plants should be removed to a cold frame.

VERBENIAS, PETUNIAS, and other bedding plants, may be removed to a frame the last of the month.

RHODODENDRONS may be grafted now.

CHINESE PRIMROSE SEEDS may be planted now.

AURICULA, POLYANTHUS, and many other seeds, vegetate more readily if planted now, than later in the season.

GLORIOSA PLANTS should be repotted and forwarded in a brisk bottom heat.

PETUNIAS, VERBENAS, and other showy plants, intended for large specimens, should be repotted and tied out into handsome shape.

VALLOTA PURPUREA should be repotted.

JAPAN LILIES, growing well, will require to be repotted towards the last of the month.

ERYTHRINAS should be started into growth for early blooming.

VEGETABLE DEPARTMENT.

If the directions last month to prepare hotbeds have been attended to they will now be in readiness for planting.

TOMATOES should be sown immediately.

EGG PLANTS should be planted.

CUCUMBERS AND MELONS should be sown.

LETTUCE, RADISHES, and similar vegetables, should be got in.

BROCCOLI, CABBAGES, CAULIFLOWER AND CELERY may be planted.

PEAS may be sown as soon as the frost is out of the ground.

TRENCH and prepare ground for planting as soon as the weather will admit.

THE SMALL FRUITS.

THE cultivation of the small fruits is just beginning to attract general attention. In the eagerness to possess the larger kinds,—something that has size and of showy appearance, more particularly the pear, which has now become one of the most popular as it is one of the most delicious fruits,—the currant, the gooseberry, the raspberry, the strawberry, and even the grape, have been much neglected. Perhaps we should except the strawberry, as it has for twenty-five years been pretty prominently before the public, and in that time has been raised to an importance which it could by no means claim, before the introduction of Hovey's Seedling, the first of the American Seedlings to attract the least attention. Still, its cultivation has been more confined to amateurs, who have kept up this interest by the growth of new varieties, and a desire to test the many novelties which have, during that period, been brought before the public. Its growth is far from being as general as it should be, for no one who possesses the smallest spot of ground should be without it. There are thousands of our people who never knew the luxury of a feast of good strawberries.

The small fruits are far more important than has generally been supposed; and the best evidence, both of their value and their neglect is, that they are yearly becoming scarcer in our markets, and command a higher price. Even our most common wild fruit, the whortleberry, commands from ten to twenty cents per quart, when twenty-five years ago they could be had in abundance from four to eight. The wild blackberries and raspberries, which formerly reached our markets in quantities, are now bought up in advance for the manufacture of jams and jellies. And the currant, heretofore plentiful enough, is coming rapidly into demand, for the manufacture of wine, and even the blackberry, for the same purpose; so that, ere long, unless the cultivation of each of these fruits is greatly increased there will be a very scanty supply in comparison with the demand.

For many years our cultivators remained apparently contented with the Isabella grape, reaping often only half a crop of indifferent fruit. Even the Diana failed to receive the attention which the addition of such a delicious variety should naturally awaken; and it was not till the introduction of the Concord that grape culture assumed an importance and became a branch of trade which no one could scarcely have conceived half a dozen years ago. It settled the question that we could have good grapes as surely as we could have good pears or apples; and henceforth it was not consigned to some out-of-the-way part of the garden, where it might extend its straggling shoots, but became an object of solicitude and interest. The zeal too of our intelligent cultivators was aroused, and it will not be allowed to flag till grapes are produced as certain of a crop, and as delicious, too, as those of Esheol, or the famous golden clusters of Thomery.

The gooseberry, too, the cottager's fruit of Great Britain, as well as an important addition to palatial gardens, has been to us comparatively a worthless berry; for under our drier climate it has been subject to attacks of mildew, which has nearly banished it from our gardens. By the accidental production, alone, of one single variety, the Houghton's Seedling, has it found any great claim to our attention. This, indeed, was a fortunate circumstance, for it showed that the same intelligence brought to bear upon this would accomplish the same results it has in other fruits. But after so many ineffectual attempts to produce gooseberries, cultivators were cautious of its introduction into their gardens, till time, which accomplishes so much, proved that this was a reliable variety; and now, after a period of twenty years, it is not only becoming a popular and esteemed fruit, but other varieties have been raised from it, of equal or greater merit, showing that efforts, directed to the culture of this neglected berry, will produce varieties quite as marked as those which have made it so prominent a fruit in England. The raspberry, after a hundred years of culture, begins to show signs of improvement, not only in size of berry, but in everbearing qualities; and the blackberry, so slow of amelioration that only two or three varieties have shown qualities worthy of extended

cultivation, will undoubtedly be no exception to the general law of improvement.

When it is considered how easily most of these fruits are raised ; how quick are the returns after planting ; how great the certainty of the crop ; how well their adaptation to the smallest garden, and above all the great hardiness of most of them, it is a matter of some surprise that they have not received more attention. Unlike the large fruits, they do not require much garden room to grow, nor a long time to arrive at a bearing age. But eminently fitted for the smallest spot of ground, even where many other kinds would not succeed, they yield their rich and refreshing fruits immediately, in succession, and during the season of the year when there are few others, and when they form so healthful an appendage to the dessert.

The trying nature of our northern climate, occasionally so severe as to injure hundreds of our fruit trees, and often destroy the crop, has directed attention to the more extended culture of the small, perfectly hardy, or certain fruits. If the peach and cherry crop fail, we can still have an abundance of strawberries and raspberries. If the apples and pears do not, from any cause, afford their annual product, we can still have a good supply of currants and blackberries. So that in a well-arranged and complete garden, combining all the small with the large kinds, there need be no time when it will not yield a good supply of the best fruits. Such winters as that of 1856 and 1857, though they might make large gaps in our standard or dwarf pears, leave the currant and strawberry unharmed ; and though, most fortunately, these occur only at remote intervals, yet, that they have come, and may come again, should caution us not to neglect the "little things" which are not only delicious fruits, but may afford us a great deal of gratification, while the larger kinds are recovering from causes beyond our control.

If what we have urged is correct, and we think we have not overdrawn the account, the small fruits are hereafter to hold a more prominent place in our gardens, and to receive much more attention in their cultivation. Like the larger fruits they need but well-directed care and proper attention

to render them as much superior to the average product, as generally seen in most gardens, as the pear or the apple is superior from the increased care and skill devoted to their growth.

It was not our intention to speak of the culture of the small fruits at this time. In our previous volumes will be found many excellent articles upon their treatment, and others we intend shall appear. But we may again refer to the great importance of their improvement by the production of seedlings. The grape has already, in a short space of time, had many and noticeable accessions, both among the exotic and native kinds; the currant has made a rapid advance in that very large and excellent sort the *Versaillaise*, showing that nothing but an energetic and zealous determination to accomplish an object is wanting to still further improve this fruit. The gooseberry is in the very infancy of amelioration. The *Roaring Lions* and *Crown Bobs*, whose remarkable weights have been so often chronicled in the gardening Journals of Great Britain, were produced, after long-continued efforts, from a berry no larger than *Houghton's Seedling*; and the same labor, judiciously bestowed upon this variety, will give us fruits rivalling the almost fabulous size of the above kinds.

As regards culture there is a good deal to be learned. To enter most gardens, and see the ill-shaped, stunted and decrepit currant and gooseberry bushes, one would think they were as useless as so much dry brush, the lean stems too weak to support even the moderate crop of impoverished berries. How can one feel an interest in such fruits? The raspberry and blackberry are allowed to throw up their numerous suckers, choking each other, and yielding only a small crop of indifferent berries; and the strawberry, in five cases out of ten, is nothing more than indiscriminate beds of weeds and plants, each struggling for existence.

The remedy for all this is, the same care given to these as to the more showy fruits, viz., good trenched ground, a liberal supply of manure, a courageous application of the pruning knife, and little skill in training. This done, in proper season they no longer fail to yield an abundant crop of the finest fruit. And it should be remembered that though these

will grow and bear in the most neglected and out-of-the-way place in the garden, where they are too often placed, they flourish just in proportion as they are treated as well as their more pompous looking neighbors.

Finally, in making plantations of these fruits, begin with the impression, at least, that they are really worthy of good culture, and will well repay it. Select only the largest, best flavored and hardy sorts of each, unless, as an amateur, you desire to make a collection. Procure only moderate-sized, healthy bushes, and not old plants, because they can be had cheap. Prepare the land well. Set them out carefully. Prune them skilfully, and let their after-treatment be of the best kind, not slighted because they are small, and the result will be that they will give a yearly supply of excellent fruit, which the cultivator of the smallest spot of ground may be proud to gather, and the possessor of the largest garden be unwilling to lose.

THE GRANITE BEAUTY APPLE.

BY THE EDITOR.

IN a recent number we noticed this new apple. We are now enabled to give a more complete account of it, with an engraving of the fruit.

Fine specimens of the fruit were sent to us in January, by Mr. Z. Breed, editor of the N. H. Journal of Agriculture, with the following account of it, and a request that we should give it a trial and judge of its merits:—

I send you to-day a seedling apple that originated on my farm. I call it the Granite Beauty. It has half a dozen local names. The fruit is now in its prime—does not keep so well as the Baldwin, but, with care, will keep till March. The tree is hardy, will grow in any soil, inclines to spread its branches and form a handsome top, and, what is best of all, it bears every year. No orchard is considered complete here unless it contains a good share of these trees. A good fruit grower here says he would sooner do without the Baldwin

than the Granite Beauty. For the retail trade, I have sold them at one dollar per bushel, when Baldwins were selling for one dollar per barrel. I could send you any amount of testimony in its favor. If you think well of it, I will give you its history. I believe the fruit worthy of general cultivation—indeed I know it is, and will take the responsibility, as the conductor of a public journal, to recommend it. I should be pleased to submit them to a convention of fruit raisers, if there should be one this winter.—Yours truly, Z. BREED.

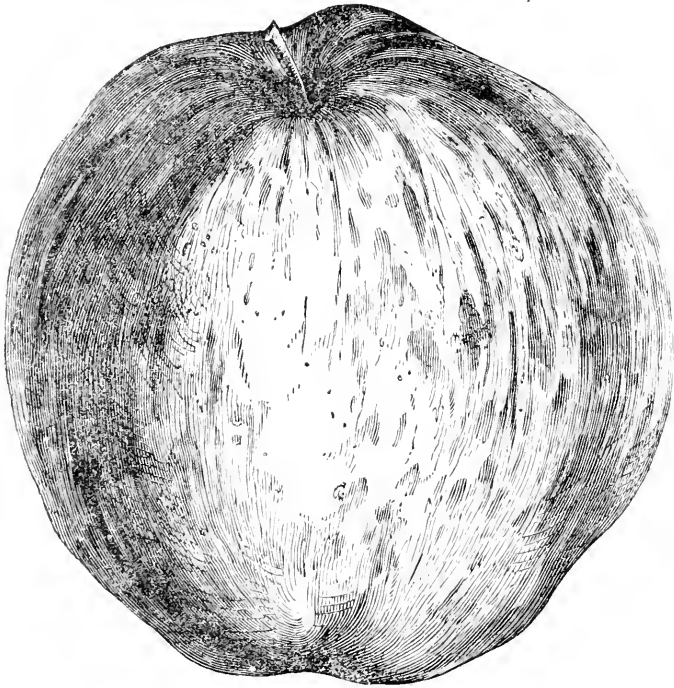
Mr. Breed subsequently published a history of the apple in his journal, from which we extract the following:—

“Years ago, soon after the first settlers located upon the farm we now occupy, they paid a visit to their friends in Kittery (now Elliott), Maine, on horseback, that being the only means of conveyance then in vogue. When about to return home, Dorcas (for this was her maiden name—she was now Dorcas Dow, formerly Neull) needing a riding whip, she was supplied by pulling from the earth, by the side of the road, a little apple tree. With this she hurried her patient and sure-footed horse towards her wild-woods home in Weare, then Halestown. An orchard being in “order” about that time, the little tree was carefully set and tended, and when it produced its first fruit it was found to be excellent, and Dorcas claimed it as her tree. When nephews and nieces grew up around her, the apple was called the Aunt Dorcas apple, from the claim she had upon it. As she grew older and the grand-children grew up, it took the name of the Grandmother apple. In another part of the town it was called the Clothes-yard apple. Believing it to be mostly of a distinct name, we call it the Granite Beauty. The old tree has long been gone, but young trees are plenty in the vicinity.”

The Granite Beauty (FIG. 4) is a large and very beautiful apple, with a yellow skin, distinctly and boldly splashed, and striped with bright red. Its flesh is very tender, and it abounds in a rich, refreshing, and well flavored juice. It approaches the Minister somewhat in general quality, but the flesh is firmer, though not so much so as the Baldwin. Taking

all its merits into consideration, we think it will prove a popular fruit. Our description is as follows:—

Size, large, about four inches in diameter and four deep: Form, roundish, broadest about the middle, ribbed, and slightly oblique at each end: Skin, fair, smooth, with an oily touch, having a clear, pale yellow ground, distinctly and thickly splashed and streaked with vermilion on the sunny



4. GRANITE BEAUTY APPLE.

side: Stem, short, about half an inch long, slender, oblique, and inserted in a small, moderately deep and prominently ribbed cavity: Eye, rather large, closed, and moderately sunk in a medium-sized and furrowed basin; segments of the calyx short, greenish, and little wooly: Flesh, yellowish white, fine, crisp and tender: Juice, abundant, with a pleasant admixture of sweet and acid, and well flavored: Core, large, somewhat open: Seeds, medium size, plump and very light brown. Ripe from December to March.

POMOLOGICAL GOSSIP.

STRAWBERRIES "BUT LITTLE VALUED."—Our friend Thomas, of the Country Gentleman, in noticing the Hon. Mr. Cabot's report on fruits to the Massachusetts Horticultural Society, says that "the general favorites around Boston appear to be Brighton Pine, Boston Pine, and Hovey's Seedling. In many other places, *most* of these are but *little valued*." What the *most* of the three is, Mr. Thomas does not state. The information might be useful to amateurs making new plantations.

HOVEY'S SEEDLING STRAWBERRY IN MINNESOTA.—A correspondent of Neoca, Minnesota, in a note to us, says: "I write you from this most northern State to add my praise, with the many others, of your seedling strawberry. It has produced a greater quantity and better quality of fruit than any one. I have twenty varieties and it is better than any of them. Burr's New Pine comes next.—Yours respectfully, ROCKWELL THOMPSON, Neoca, Minnesota."

LARGE CROP OF HOVEY'S SEEDLING.—Mr. Samuel Rolfe, of Portland, Me., gives us the following account of his crop:—"In a bed *eleven* by *fourteen* feet, he raised *forty-two* quarts; and on one plant, three hundred and forty berries. The vines were planted two years previously, and were fertilized with the Boston Pine." This is at the rate of nearly *four hundred bushels to the acre*.

A NEW PEACH, the Petit Pavie d'Ounous, is described as follows in the French journals: It forms a little shrub, the principal merit being its lateness. The fruit (apparently about the size of the Rosanna) is nearly spherical, and marked on one side, or sometimes on both, with a broad, shallow furrow; at its end is a small rather inconspicuous nipple. The fruit stalk is short and slightly sunk. The skin, which is yellowish white, is very freely dotted with rose purple, so closely indeed round the hollow for the stalk, and sometimes on the sunny side, as to produce the color of BISHOP'S purple. The flesh is firm, and occasionally a little stringy, clings firmly to the stone, white, streaked and marked with rose near the stone. The juice is copious, sapid and subacid. In the val-

ley of the Ariège it is in perfection in the month of October, and is there much esteemed. Although it is likely that a late peach, from the hot valleys of the eastern Pyrenees, will ripen out doors in this country, it may be worth trying this little variety in the orchard houses of the curious. The *Gardeners' Chronicle* translates this from the *Revue Horticole*. It would probably prove a desirable variety in our warmer climate.

BEURRE' DE FEVRIER PEAR.—This is a February pear, originated in Rouen, and highly spoken of by Mons. Dupuis. The fruit is about the size of a large Swan's Egg, green, changing to yellowish when ripe. The flesh is described as greenish white, very delicate, melting and buttery; the juice abundant, sugary, subacid, slightly perfumed, and very agreeable. It is as good as a Beurré d'Arenberg, ripens in February, but requires gentle handling in consequence of the tenderness of the flesh. The tree is a great bearer, and particularly well suited to pyramidal training.

BEZI DE MAI PEAR.—We noticed this pear in a recent number. M. de Jonghe, the raiser of it, sends a descriptive notice of it to the *Gardeners' Chronicle*, from which we copy the following, which will be interesting to our pomologists:—

The tree has now borne for four years. The seedling, when it first fruited, was eleven years old. The fruit gathered from the 23d of September to the 20th of October, all ripened exactly in May following, and even those which were blown off were so fine that they suffered no injury, but ripened with the rest. The flesh is as buttery as the Easter Beurré, and as close as that of the Glout Moreceau, and free from grit.

The fruits, like those of all hardy varieties, set well. In the end of May, 1857, 1858 and 1859, I obtained clusters of three, four and five fruits, and in the end of July, or in August, of a strong wind like that of the 25th July, 1857, the large fruits, which were not supported by leaning against the branches, did not hold on. This is a drawback to the culture of this variety as a high standard. It would therefore be necessary to cultivate it as a dwarf, either on an espalier or against a wall, where it would attain a large size. Very fortunately, however, the variety forms very fine dwarf pyramids even the first year, on either pear or quince stock. I know

few varieties which work better with the quince, and form on it, as well as on the pear stock, such handsome pyramids.”

We presume it has not yet been introduced to the trade, though it will no doubt soon find its way into our collections.

HOW TO RAISE SEEDS.

We translate, says the *Gardeners' Chronicle*, in which the following highly instructive paper appears, from the *Journal de la Société Impériale d'Horticulture*, the following notice of a memoir on this subject, published in German by M. Charles Appellius, an extensive and very experienced seedsman at Erfurt.

We commend its most careful perusal to all cultivators; it at once shows how important is experimental knowledge in every department of horticulture. For want of such information complaints are constantly made of the vitality of seeds sold by our seedsmen, and though we are well aware that poor seeds are too often disseminated, it shows how the good may be ascertained and the bad rejected. But more than this; it shows that even the best of seeds, when improperly planted and badly managed, fail to give satisfaction. Nothing that we could give to our readers possesses more interest than this article:—

The German author tells us that the first and most essential condition required to ensure the success of all seedlings is to use seeds capable of germinating. Now the goodness of a sample can only be proved by the number of seeds which, out of a given quantity, grow and become plants. Yet too often its value is determined by the specific weight or the density of the seeds. This method is no doubt good, but not infallible; besides, the weight of the same kind of seed may vary from year to year, according to the manner in which it is grown; it may even vary upon the same plant; it does so particularly in an ear of maize, the grains situated in the centre of the ear of that plant having a greater specific grav-

ity than those above or below. Now the latest experiments of Dr. Hellriegel go to prove first, that, in accordance with the general opinion of cultivators, the best formed seeds have the greatest specific gravity; and, in the second place, that the heaviest seeds produce the strongest plants.

Every one knows that in order to ascertain the specific gravity of seeds quickly and easily, it is the custom to throw them into water, and to collect as the best those which, from their greater weight, fall to the bottom, whilst those which float are rejected as bad. However, too much confidence must not be placed in this method of proving seed by water. It may frequently mislead, particularly in the case of seeds, in which the specific gravity differs little from that of the fluid. For example, those of Cucurbitaceous plants, which are produced during cold seasons, float upon water, and nevertheless germinate very well. It is known too, says M. Appellius, that the seeds of these plants which have been kept a few years produce plants bearing more female flowers than younger plants; that is to say, the plants are more prolific than those raised from seeds gathered in a cold season and planted shortly after they have ripened. Good seeds of the melon and gourd lose weight as they grow old; at first they will sink in water, and by the sixth year half of them will float, without having become bad. We conclude therefore, in this case as in many others, that trial by water is not a sure test.

In general, the heaviest seeds are those which contain the most starch, such as those of Cereals and Leguminous plants, &c. The specific gravity of oily seed is often nearly the same as that of water, although in some cases they are heavier; as, for example, those of cabbages. The lightest seeds are those of Umbelliferous plants, such as carrots, parsnips, chervil, anise-seed, &c., and of Composites, such as lettuces, scorzoneras, &c. In the first of these families the lightness of the seeds arises from the presence of an oil in the case which encloses the seed, and of air in the last. With a few exceptions all shining seeds are heavier than water.

Many cultivators, before buying seeds, test them by making them germinate upon damp blotting paper, at a temperature

of 59° to 72° . This process is convenient and tolerably sure for the kinds which are quickly raised, such as clover, peas, and cereals, but does not answer for those which require a long time to germinate. For these the best practical plan is to grow a sample in a pot. But even this test will not always give a strictly correct indication of the germinating power of seeds, since the result depends, all other circumstances being equal, upon the care taken in sowing, the temperature of the air, the depth at which seed is sown, and the time of year, &c. Thus the pips of apples and pears almost always germinate badly and in very small quantities when trials are made of them in pots soon after they are ripe, whilst they answer perfectly if they are sown at the end of October or in March in beds in the open air. For this reason it often happens that a sample is pronounced bad, when in reality it is excellent.

This is the case with the generality of woody plants, the seeds of which come up the first year, conifers excepted.

The soil which is used to cover the trial seedlings also considerably affects the result. If, for example, Rye-grass seed (*Lolium perenne*) is sown in soil which retains moisture with average tenacity, and is buried one inch below the surface, seven-eighths of it grow in 12 days; if two inches, seven-eighths also grow, but in 18 days; if three inches, six-eighths in 20 days; if four inches, four-eighths germinate in 21 days; at five inches, three-eighths in 22 days; and at six inches, the proportion of the seeds which germinate is reduced to one-eighth in 23 days. On the other hand, when rye-grass is sown and simply harrowed in, it germinates, almost without exception, in 5 days.

M. Appellius's pamphlet contains, in the form of a table, the length of time necessary to germinate the seeds of many plants at a temperature of 52° to 54° in the sun, and of 54° to 64° in the open air.

We copy this useful information, though not in a tabular form:—

Germinates in 2 days: Garden cress.

Germinate in 3 days: Spinach, orache.

Germinate in 4 days: Cabbages, field turnip, rape-seed, lettuce, buckwheat.

- Germinate in 5 days: Cameline, peas, endive, millet, flax, poppy, melons and gourds, turnip, rape, rye-grass, mustard.
- Germinate in 6 days: Lupine, lentil, spurrey, horseradish, radish, onions (often also in 15 days,) leeks.
- Germinate in 7 days: Rye, barley, oats, maize, sorgho, cat's-tail grass, *Phalaris arundinacea*, broccoli, *Anethum graveolens*, carthamus, beans, beet, milfoil, rocket.
- Germinate in 8 days: Wheat, *Festuca pratensis*, *Festuca rubra*, cummin, marjoram, thyme, Princess Kidney beans, Cattle cabbage, chicory.
- Germinate in 9 days: Marrow-fat peas.
- Germinate in 10 days: *Cynosurus cristatus*, agrostis, serradilla, vetch, sabre and some other kidney beans, sugar beet, giant hemp, tobacco, chervil.
- Germinate in 12 days: Tall oat grass (*Avena elatior*.) meadow brome grass, carrots (frequently in 20 days,) tomatoes, seakale, scorzonera, common celery and turnip-rooted celery (the latter frequently in 20 days,) savory, (*Satureia hortensis*.) basil, stocks.
- Germinate in 13 days: Anise, fennel, meadow-grass (*Poa*.)
- Germinate in 14 days: Burnet, sun-flower (*Helianthus annuus*.) artichoke.
- Germinate in 15 days: Clover (red and white,) balm (*Melissa officinalis*).
- Germinate in 16 days: Foxtail grass, *Holcus lanatus*, lavender, purslane, sorrel.
- Germinates in 17 days: *Aira cespitosa* (?)
- Germinate in 18 days: *Festuca duriuscula*, teazel.
- Germinates in 19 days: *Aira flexuosa*.
- Germinate in 20 days: *Avena flavescens*, *Molinia cœrulea*, *Bromus mollis*, Madeira onions, mulberry, common sage, capsicum.
- Germinate in 21 days: Sweet vernal grass, parsnip, cow-parsnip, parsley, woad, asparagus.
- Germinate in 27 days: Potatoes.

This table shows plainly, says the German author, that those seeds which are lighter than water require a longer time to germinate than those which are heavier.

A tolerably large number of seeds come up slowly and

even with difficulty; they are generally those which have a thick, tough skin. In this case it is a good plan to soak the sample in hot water from 167° to 185° for four-and-twenty hours, and not to sow it until after it has been prepared in this manner. Their germination may be assisted by notching or removing the skin round the hilum, but that is a more delicate operation than the first, because care must be taken not to injure the embryo. Unless one or the other of these methods is adopted, it will generally be one or two years before such seeds come up. The seeds of palm trees usually grow very well, placed on damp sawdust, the germinating end downwards, and kept in a damp warm atmosphere.

The spores of ferns and the seeds of orchids, which are very minute, come up readily, if they are scattered on pieces of peat placed in a pan with water.

For hardy plants M. Appelius recommends as by far the best plan to sow them in lines. In his opinion, the reason of the frequent failure of seeds in gardens is, that they are sown in earth too dry, and buried too deep. Besides, if care is not taken to press the earth lightly together before sowing the seed, heavy rain falling directly after will force some of the seed deeper in, and so occasion greater inequality in germination.

For perfectly hardy annuals, the best plan is to sow them late in the autumn, or at least very early in the spring; if the seeds are not in the ground before April you run the risk of seeing them flower very late and very badly.

Seedlings which are obliged to be raised in hotbeds or under frames cause much disappointment, and consequently complaint of the quality of the samples. M. Appelius does not hesitate to say, in that case, the want of success arises more often from bad management than from the badness of the seeds. In his opinion it is a mistake to sow many kinds of flowers in high bottom heat, such as stocks, asters, phlox, heartseases, petunias, &c., which do far better in a very gentle hotbed, and produce stronger plants less likely to die off. On the other hand it must not be forgotten that the dung with which a hotbed is made, after it has given off its first heat, absorbs the moisture from the earth with which it is covered;

that the surface of this earth under the frame generally slopes towards the south, and the greater part of the shower from the watering runs down this incline, the end of which is that the earth, in which the seeds are embedded, is often too dry or at least it is so with that next the back of the hotbed. In this case, says M. Appellius, if you sow those seeds which germinate slowly and require constant damp, such as phlox and heartsease, at the bottom, or in the front of the bed, and those which grow more readily at the top or back, the result will be good; but it will be quite the contrary if the reverse is done. Finally, the success of seedlings raised under frames depends principally upon the regulation of the moisture. And this precaution, and one of the utmost importance in this case, is not to sow too thick; a plant raised among a lot of crowded seedlings is very apt to die before it has made its fourth leaf. This seldom happens if, on the contrary, seeds are sown thin, and a little powdered charcoal mixed with the earth.

ANNUAL FLOWERS.

BY THE EDITOR.

ANNUAL flowers are every year becoming more and more popular; the ease with which they may be raised, the slight expense of the seeds, and the profusion of flowers which a well-selected assortment produces from May till late frost, render them the plant for *the million*.

It is gratifying to notice a change in the popular taste. For a time verbenas, geraniums, petunias, and other showy bedding plants have usurped the space which annuals formerly occupied. Without in the least detracting from the beauty of these truly brilliant objects, it is unnecessary to say that for variety, as well as abundance of bloom, the annuals must still hold an equal, if not greater value. For where, indeed, is to be found, among bedding plants, anything more showy in summer than the portulaca, more magnificent in autumn than the asters, or more fragrant at all seasons than ten-week stocks?

A writer in the *Florist*, in advocating the cultivation of annuals, thus alludes to their importance, and their proper mode of cultivation :—

“ A second reason why annuals are becoming more generally grown, is the ease with which they are raised, and the very small amount of trouble their cultivation entails, compared with the other section. The yearly propagation required with geraniums, verbenas, &c.; the potting and planting, the shifting and wintering, under expense, care and appliances not within every one’s reach. It will, therefore, create no surprise, now that the love for flowers is become unusual, to find that those who have not the means to grow plants requiring a winter’s care, and glass erections, fall back on annuals to make their gardens attractive and gay through the summer, which they can do with little trouble and small cost. An ordinary garden soil, well dug and loosened, and a few shillings’s worth of seeds, are a trifling matter, compared to the cultivation of ordinary bedding plants. Nor should we omit to notice another reason bearing on our subject, which carries with it a strong motive for the increasing interest now felt for this class. Annuals, like other popular flowers, have been greatly improved by careful cultivation and judicious hybridizing. The horticulturist soon perceives when a class of plants is susceptible of improvement through this agency, and advantage is quickly taken of the fact; to this result the many splendid varieties of annuals which year by year are brought into notice are owing. Both in this country and on the Continent great attention has of late years been paid to the object of obtaining improved varieties from seed, as may be seen by comparing the advance in asters, phloxes, zinnias, stocks, tropæolums, lobelias, and many other genera of annuals; and looking at the magnificent dianthus now figured, having been obtained by the efforts of Japanese gardeners from the well-known Chinese pink, we may refer our readers to both the plates of annuals given in our present number as conclusive evidence of the improvement which has taken place in the families they represent.

But to grow annuals as they should be grown, and to

develop their habit and beauty, the ground for them should be both deep and rich (as is necessary for all rapid growing plants,) and the plants should be treated as individuals requiring generous treatment. We remember the time when a ring formed with the finger round a 32-sized flower pot in the loose soil of the border was the common way of committing the seed of annuals to the ground. Here they remained to grow, and after an ineffectual struggle for more room, spindled upwards into bloom, when the first fortnight's dry weather closed their career. What figure, let us ask, would Mons. Truffaut's grand asters cut with such treatment as this? Or what the splendid zinnias, tropæolums, and larkspurs which form such striking objects when grown singly in good soil, if they had been left to starve, at the rate of 50 plants per square foot of ground? No; annuals, to do justice to them, must be treated individually as we treat a specimen plant, and then you get a freedom of growth combined with a profusion of bloom; and what is more, the deeper and richer the soil, the longer they will continue in perfection."

The following list of annuals includes only a few out of the very great number of kinds cultivated in our collection; they are mostly of recent introduction, and, with the exception of the ornamental grasses, are distinguished for their profusion of showy blossoms, commencing in June, and continuing uninterruptedly till cold weather. Many others might be added to the list, and at another opportunity may be described; the object, now, is to enumerate only those which can claim the greater merit of novelty, as well as ornamental effect, in the flower garden:—

1. *Callirrhoe pedata*. This is one of the finest annuals, or biennials, yet introduced from Texas. If planted early, in a frame, it flowers well as an annual, but as a biennial it makes a much finer display, often growing from six to eight feet high, and flowering from June till frost. The flowers, which are produced on the terminals of the branches, in long open spikes, are of a bright crimson, with a white eye. The young plants should be well protected through the winter.

2. *Cerintho gymnádra*. A curious annual, growing from one to two feet high. The flowers, which nearly resemble in

shape the common Borrage, except much larger, are of a dark brown and yellow, appearing in one-sided, raceme-like clusters, from June till October.

3. *Cerínthe major fl. lútea*. This is another pretty species, with yellow flowers, and much dwarfer habit. Both are hardy annuals, and should be cultivated in every garden.

4. *Chrysánthemum Burrigianum*. A beautiful new seedling variety of the old and well-known species *C. tricolor*. The flowers are snow white, with a bright crimson circle towards the base of the petals, which is belted with golden yellow. This annual flowers best in cool weather, when the rich crimson contrasts well with the white petals and brown centre. Height, one foot.

5. *Chlòris radiàta*. A very curious grass, from the West Indies. The flower stems are from nine to twelve inches high, with flower spikes, radiating from the extremities, like the spokes of a wheel. It is easily cultivated, and forms a neat and compact plant.

6. *Cosmidium Burrigii*. This is a fine coreopsis-like flower, with orange border, and dark crimson centre. Height, from twelve to eighteen inches.

7. *Datura Carthaginénsis*. A new white flowered species of much beauty, growing from three to four feet high. The foliage is much like *D. metel*, but the flowers are larger and more abundant. The time of flowering is from July to September.

8. *Fénzlia dianthiflòra*. A beautiful Californian annual, of very dwarf and compact habit. Flowers, bright rose, with five dark red spots surrounding a bright orange eye. This fine annual is well adapted for bedding, and also flowers well when cultivated in pots. The seed is very small, and produced sparingly.

9. *Gymnòpsis uniseriàlis* is an annual, growing from two to three feet high, with yellow ray flowers appearing on the terminals of the branches. It should be planted on the back of the border, as it makes a large plant.

10. *Helichrysum branchyrynehium*. This is a neat little everlasting flower, with a very dwarf and branching habit. The flowers are bright yellow, and continue in blossom all summer.

11. *Ipomæa hederæca supérba*. A fine new hybrid variety, originating between *Ipomæa hederæca* and *I. limbàta*, having the bright blue ground of the former, and the white border of the latter. It is a very free-flowering variety, and without doubt is the finest hardy annual *Ipomæa* yet introduced.

12. *Lindheimèra Texàna*. An annual, from Texas, growing one foot high, with bright yellow, star-shaped, ray flowers. It is a hardy annual, and flowers from June till frost, and well deserving of cultivation.

13. *Lupinus Hartwégi cœlestinus*. A new and beautiful variety of *L. Hartwégi*, of branching habit, and long spikes of large delicate blue flowers, shaded with rose. Height, from one to two feet.

14. *Ænothèra bistórta Veitchiana*. A very ornamental and free-blooming species, from Southern California, of easy cultivation, and trailing branching habit, small foliage, and flowers of a bright yellow, with a dark red spot at the base of each petal. It is a hardy annual, and should be sown in the open ground the first of May.

15. *Ænothèra Drummondì nàna*. This is a dwarf-growing variety of *Æ. Drummondì*, with fine large golden yellow flowers, from three to four inches in width. It is a fine plant to grow in masses.

16. *Pennisètum longistylum*. A splendid ornamental grass, from Brazil, growing from three to four feet high. The flowers are produced in panicles resembling in shape the *Lagurus ovàtus*, (or Hare's Foot grass,) but much larger and finer. It should be sown early in a hotbed, and in June transplanted into the open ground.

17. *Státice Bonduèlli*. This is an elegant species, with richly-tinted, sulphur-yellow flowers, which remain on the plant for several months. It grows from one to two feet high, and forms a compact, erect, and free-flowering plant, and like *Callirrhoe pedata*, can also be cultivated as an annual or biennial. If cultivated as an annual it should be sown early in pots, placed in a hotbed, and in June turned into the ground. It is very distinct, and highly picturesque, and effective.

THE MIMOSA FORM.

BY WILSON FLAGG.

THE Mimosa type of vegetation, distinguished by its beautiful pinnate and compound-pinnate foliage, is common in America, where we find the Mimosa, the Acacia, the Schrankia, the Gleditschia, and the Tamarindus; in Africa, where we find chiefly the two first mentioned, and in Australia, where the type is represented by the leafless Mimosas, so called because their foliage is simply an expansion of the petiole. These genera, particularly the Mimosa, are remarkable for the singular beauty and delicate organization of their leaves. They include all the so-called Sensitive plants, and vary in size from a delicate shrub, like the *Mimosa pudica*, to lofty forest trees. They are generally umbellate in the expansion of their foliage—the horizontal direction suiting best with the habit of their compound-pinnate leaves.

The true Mimosas are confined to the tropics, of which several species are sensitive. But it is the African Sensitive plant (*M. pudica*) which was known to the ancients, and is the most remarkable. In Africa, two or three Mimosas are common as forest trees, covering tracts of hundreds of miles in extent: indeed, they are so abundant as to prove a characteristic feature of a South African forest. Cumming, the celebrated elephant-hunter, describes *Mimosa* thickets as affording, by means of their thorns and their dense growth, an important shelter and protection to the wild animals when pursued by the sportsman.

Several Acacias are found in North America, extending along the banks of the Mississippi as far as Illinois. Loudon says: "Most persons understand by the word Acacia, tall trees, with papilionaceous flowers, which are natives of North America, and quite hardy in the open air in England. These, however, are the locust trees, or false acacias, and belong to the genus *Robinia*. The true acacias are what are called Wattle trees in Australia, with flowers like balls or spikes of down, and as they require protection from the frost in England, they are generally treated as greenhouse shrubs." I

believe this mistake is seldom made in this country, where the *Robinia* is universally known as the locust, and is never called an acacia.

A species of *Schrankia* extends from Florida to Virginia, and is known as the sensitive brier; and the *Gleditschia*, or honey locust, extends both east and west of the Alleghanies beyond the latitude of 40°. It is often found in Massachusetts, and is known by its bipinnate foliage, its triple thorns, and long seed pods. It is a beautiful tree, and worthy of cultivation. The *Gymnocladus canadensis*, or Kentucky coffee tree, and the *Cercis canadensis*, or the Indus tree, extend likewise beyond the latitude of Boston. The last is often called the Redbud, from its abundance of rose-colored flowers that appear before the leaves. Both this and the foreign species are considered very ornamental in a shrubbery, but they will bear no comparison with the *Gleditschia*, when regarded as trees.

In South America, this form of vegetation is very characteristic, and extends still further into the cold latitudes. But it is within the tropics that we see the best developments of this type. A species of acacia, the *A. cavenia*, at Valparaiso, is much used for hedges, and is chosen by the *Bignonia*, when in the forest, as a support for its heavy vines and foliage and its golden red blossoms. In the Brazilian forest, trees of this form are of a magnificent description, and predominate over all other types.

In the Sandwich Islands are immense acacias, the *A. heterophylla*, that tower above all other trees of the forest; but it is in Australia and the neighboring islands we see the physiognomy of vegetation singularly marked by this form. Says Humboldt: "Acacias, in which the place of leaves is supplied by *phyllodia*, *Myrtaceæ* and *Casuarinæ* constitute the sole characteristics of the vegetable world of Australia and Tasmania. *Casuarinæ*, with their leafless, thin, thread-like, articulated branches, and their joints furnished with membranous toothed spathes, have been compared by travellers, according to difference of species, either with arborescent horsetails, or with Scotch firs. The mournful form of the *Casuarina* is not unknown in the East Indies, and even on the eastern coast of Africa."

The Wattle trees of Tasmania, (Van Dieman's Land,) regarded by Loudon as the true acacias, are from twenty to forty feet high, clothed with beautiful pinnate foliage, which is considerably sensitive, flowing in dense masses from the summit, and sweeping the ground by the drooping of their horizontal branches. The flowers are abundant, of a bright sulphur color for the most part, perfuming all the surrounding air with their fragrance, like that of the Marvel of Peru.

The species of acacia in Australia are exceedingly numerous. They are mostly evergreen, and many of them are very sensitive to the effects of cold. One of the most elegant of the greenhouse acacias is the *A. Julobrissima*, or the Silk-tree, a native of Persia, where but few species are known. It is hardly more than a shrub, the flowers resembling long silken tassels, varying from a pale rose color to a lilac. The roots of the Australian species have the odor of garlic.

THE MYRTLE FORM.

This type includes a great number of genera; of which, beside the *Myrtus* or true myrtle, are *Metrosideros*, *Eucalyptus*, *Escallonia*, *Eugenia*, and *Melaleuca*. The true myrtle is one of the most beautiful and celebrated of plants, distinguished equally by its neat, delicate and evergreen foliage and its pleasant odor. By the ancients, who in all these matters had reference to the character and uses of plants, the oak was consecrated to Jupiter, the olive to Minerva, and the myrtle to Venus. Hence the temple of this goddess was surrounded with myrtles, as that of Jupiter was overshadowed by oaks.

Myrtles characterize the vegetation of the south of Europe, especially those parts adjoining the Mediterranean which have a calcareous soil; and while they are hardly known in any part of Asia and Africa, they mark the vegetable growth of Australia and of South America. In each of these regions the myrtle form is determined by different genera: in Europe, by the *Myrtus*, or true myrtle; in South America, chiefly by *Escallonia* and *Eugenia*, and in Australia by *Melaleuca*, *Metrosideros*, and *Eucalyptus*. The *Escallonia*, in South America, is an evergreen shrub, resembling a currant

bush with a cranberry foliage. Plants of this genus constitute the principal growth of a mountain region in the Peruvian Andes, averaging 1000 feet above the sea level. The forest growth of the same region is oak.

Humboldt remarks, that "the *Escallonia floribunda* affords, by its geographical distribution, one of the most striking examples of the relation existing between distance from the equator and vertical elevation above the sea." This plant, which flourishes a thousand feet above the level of the sea in the equatorial zone, is of common occurrence on the banks of the Rio de la Plata, in about 30° S. lat. Nearly all the tropical region of South America abounds in plants of the myrtle form, generally found on elevated tracts, many of them possessing a true Alpine character and habit. In Chili, the different species of *Myrtus* and *Eugenia* constitute, in combination with a few other plants, the principal features of the forest. The Brazil nut-tree, (*Bertholletia excelsa*,) one of the myrtle-like plants, forms a remarkable feature of the magnificent vegetation of the Amazon.

In Honduras, we find the *Myrtus pimenta*, or allspice-tree; the *Eugenia caryophyllus*, a sort of inferior clove; also the Guava-tree, the *Psidium pyrifera*. Other myrtle-form *Eugenia*s are found in the "island woods" of Brazil,—a sort of oases in the midst of a swampy region of barrenness and desolation.

In Australia, plants of the myrtle form are no less conspicuous than the acacias. The *Eucalyptus*, or gum-tree, of which there are many species, gives a peculiar character to the Australian forest. The Weeping Gum-tree, the most beautiful of the family, is described as "large and lofty, with dense glossy foliage, and finely grown, having something of the character of a Portugal laurel." One of the gum-trees, the *E. resinifera*, yields the Botany Bay kino.

THE CASUARINA FORM.

This "comprises a group of trees having branches resembling the equisetum, and is peculiar to the islands of the Pacific and the East Indies. Traces of this type, which is certainly more singular than beautiful, may however be found

in other regions of the earth. Plumier's *Equisetum altissimum*, Forskall's *Ephedra aphylla*, of North Africa, the Peruvian *Colletia*, and the Siberian *Calligonum pallusia*, are nearly allied to the form of *Casuarinas*." In none of these cases, however, are the plants mentioned sufficiently abundant to characterize the features of their respective regions.

The *Casuarina* is described as resembling an *Equisetum* magnified into a tree with drooping branches. The continent of New Holland seems to be the centre from which all plants of this type have extended into other countries; and the resemblance existing in the general features of vegetation in Australia, Tasmania, New Zealand, and the southern part of South America, has led to the conjecture that these different countries were anciently connected with one vast Southern continent. This resemblance may be explained, however, by another hypothesis, namely, that vegetation has an original tendency to assume certain types in the Southern hemisphere, and very different types in the Northern hemisphere. Thus, while there are no *Casuarinas* in northern countries, there are no oaks in countries south of the equator.

It is the presence of great numbers of *Casuarinas* in Australia which causes that scantiness of shade in the forests of that country, as frequently remarked by travellers. This appearance is also increased by the peculiar character of the foliage of the Australian acacias, which, in the place of leaves, are supplied with *phyllodia*, or expanded petioles,—sometimes called petiole leaves. This phenomenon, it is said by botanists, occurs only in families which have compound pinnate foliage. The rigid character of the leaves of trees and shrubs in general in Australia, heightens still more the open unshaded character of its forests.

Associated with the *Casuarinas* are those singular plants of the genus *Protea*, named after the mythological Proteus, because they assume, in their different species, all varieties of forms, both of leaf and flower. No description of one species would enable us to identify another. The blossoms are of different hues, shapes and sizes; and the foliage is of an endless variety of forms. Some are broad and handsome, others are narrow and almost acicular, like the leaves of the pine;

others, with some width are very much elongated, and deeply serrated. Some have a hard coriaceous leaf, like that of the Daphne, and they are uniformly harsh and rigid. These Proteas are very prevalent in large districts of Australia and the islands of the Southern Ocean.

THE YUCCAS.

BY THE EDITOR.

THE Yuccas are among the most striking and effective plants of our gardens; and admirably adapted, in the stately aspect of their tall flower stems, and symmetrical outline of their rigid foliage, for the decoration of the lawn, where, in near proximity to the house, they harmonize with its architectural features and general expression of grandeur. In grounds laid out in imitation of the Italian style they are peculiarly adapted; and when planted in large vases may be substituted for the agave or century plant.

It is certainly somewhat surprising that a plant so highly ornamental should not have received more attention and be oftener seen in our gardens. But, beyond here and there a solitary specimen, they are rarely introduced. Though mostly natives of the Middle and Southern States, where they grow abundantly, many of them are entirely hardy, bearing a degree of temperature which even more northern plants can hardly endure without injury.

The impression that they are, from their subtropical or oriental aspect, exotics, and not hardy enough to endure our winters, has, we presume, caused their neglect. For certainly the striking and grand appearance of their tall flower stems, six or seven feet high, loaded with hundreds of pure white, bell-shaped, pendulous blossoms, could not otherwise than render them one of the most attractive plants. A French writer, in noticing these plants, remarks, that "the beautiful and majestic, and often varied aspect of the Yuccas,—their flowers, always so remarkable, both in their quantity and disposition,—their form and their magnificence,

and their evergreen foliage, all concur to render them ornamental objects of the first order. During the last few years their cultivation has become more extended, and a taste for them general in Europe. There are few plants which we possess that landscape gardeners can introduce with more effect."

The *Yuccas* belong to the *Liliacæ*, or lily tribe. They have deep-green, rigid leaves, and throw up a tall flower stem, which forms a pyramid of bloom, expanding in mid-summer, and continuing in beauty for nearly a month. But the blossoms are but part of its attractiveness; its foliage is of the richest green in autumn and winter, when all other flowering plants have died away, and left no trace of their summer charms. Planted out on the lawn, where it may be seen the year round, it forms an interesting object at all seasons.

A plant so truly ornamental should be introduced into every garden. Requiring no particular care, hardy as the hardiest shrub, we wish to see it become one of the favorite plants, as we are sure it will always be viewed with the highest delight.

Though there are several species, natives of our Middle, Southern and Western States, only a few have been tried in our gardens, though others would undoubtedly be equally hardy. A few kinds have been introduced from the East, but of their hardiness we have no experience. Such as have been tested are the *angustifolia*, *filamentosa*, *flaccida*, and *glaucescens*. We briefly describe them.

1. *YUCCA FILAMENTOSA*, or Hardy Adam's Needle. The most common variety. The leaves are obtuse, without spines at the end, are regularly serrated, and edged with slender threads, which hang down two or three inches long. The flower stem grows five or six feet high, and is covered with blossoms for the greater part of its length; these are of a cream color, and pendulous. It is a rather slower grower than the *Y. glaucescens*. A native of Virginia, and flowers in September.

2. *YUCCA GLAUDESCENS*. The glaucescent *Yucca*. Plants stemless. Leaves, linear, lanceolate, entire, glaucescent,

straight, terminating in a sharp horny spine, margin, with threads of moderate length. Flowers greenish white. Stems five to six feet high. A native of the South. It has the



5. *Y. ENSIFOLIA.*

habit of *filamentosa*, but has larger and more numerous blossoms, and a more elegant sharp pointed foliage. Flowers in September.

3. *YUCCA FLACCIDA*. The flaccid-leaved *Yucca*. A less robust-growing species, with the leaves all very flaccid, weak, bent below the middle and recurved, very long and lanceolate, flat, linear, and mucronulate at the end: marginal filaments strong yellowish. It is one of the most common and easily cultivated, and blossoms very readily. The leaves have a more soft and flaccid aspect than the other species. Its stems are two to three feet high, pyramidal, bearing a profusion of fine, milk-white blossoms all the month of July. A very beautiful species.

4. *YUCCA ANGUSTIFOLIA*. The narrow-leaved *Yucca*. This is a fine species, found by Nuttall on the banks of the Missouri. The leaves are long and narrow, stiff, and edged with slender threads. The plant is of humble growth, the flower stem not branched, and the flowers are more oblong than round, and of a greenish white. It most nearly resembles *Y. filamentosa*, blooming at midsummer. It is a distinct and ornamental species, worthy of extended culture.

The French have given much attention to the culture of the *Yucca* as an ornamental plant, and have introduced many species from Texas and California. They now have quite a number of kinds. How many are strictly hardy we have no knowledge, but as those which came from the Carolinas have proved so it is hoped others may be added to our collections.

In the *Revue Horticole* a new species is described and figured, called the *Y. ensifolia*, (FIG. 5,) remarkable for its upright leaves, and its gigantic panicles of flowers, which are white, and slightly blush-colored on the outside. We copy the figure of this fine species, as it conveys a better idea of the general beauty of the *Yucca* than any other we have seen. *Y. glaucescens* has a spike quite as tall, and only differs in general aspect by the more open habit of its flower stems.

At another time we shall refer to the *Yuccas* again, and describe and figure several other species which we have added to our collections.

FLORICULTURAL NOTICES.

NEW OR RECENTLY INTRODUCED NATIVE PLANTS.—Professor Gray, of Harvard University, has furnished the Massachusetts Horticultural Society with a brief notice of several plants introduced to our gardens through the Botanic Garden at Cambridge. We copy an account of such as are of any floricultural interest. Some are already very well known; others, from their doubtful hardiness, have not yet been much disseminated:—

CALLIRRHÖE PEDATA, Gray. This beautiful biennial or annual (according to circumstances) was first raised at this establishment, from Texan seeds furnished by Mr. Lindheimer. Communicated to M. Vilmorin and to other correspondents, it has now established its place in European gardens. It is easily raised as a biennial; the young plants require the protection of a frame through the winter, and, planted in the spring, they produce all summer long a succession of their rich, mauve-crimson blossoms. In a conservatory they are still more showy, and the plants often attain the height of seven or eight feet. It is the handsomest of malvaceous plants.—[Now quite common in our gardens, and a very showy plant.—ED.]

CALLIRRHÖE INVOLUCRATA, Nuttall, which on our western plains extends north as far as to the Platte River, is a prostrate species, with a conspicuous external calyx, the petals as large as those of the preceding species, but not so brightly colored. It has the advantage of being perfectly hardy in this latitude. Its root acquires the size and the shape of a turnip, and is filled with a pure starch, mingled with a sweet mucilage. It is both pleasant-tasted and nutritious, and is one of the esculent roots used by the Indians, and called *navet de prairie* by the hunters and trappers.

CALLIRRHÖE DIGITATA, Nutt.—the *Nuttallia digitata* of Barton—had once been raised at Philadelphia from seeds collected in Arkansas by Nuttall himself, but it was soon lost. It was cultivated here several years ago, from Texan seeds, and young plants were distributed, some of which may yet survive. It is a perennial, with a tuberous root. The flow-

ers resemble those of the preceding species, although larger, and the truncate summit of the broadly wedge-shaped petals are somewhat fringed or toothed. But the flowers, although individually showy, are so few that this species will never compete with *C. pedata*.—[We possess one of the original plants raised in the Cambridge Botanic Garden. It is a pretty, though sparse-flowering plant.—Ed.]

PAVONIA WIGHTII, Gray, of Texas, raised from Wight's and Lindheimer's seeds, which produces a long succession of bright and light rose-colored, widely expanded flowers, each lasting but a single day.—[A very delicate and showy malvaceous annual, well worthy of cultivation.—Ed.]

NEVINSIA ALABAMENSIS, Gray. This elegant flowering shrub, recently discovered in Alabama by the Rev. R. D. Nevins, was published only last summer, in the Memoirs of the American Academy of Arts and Sciences. Strong plants received last autumn from its native station, near Tuscaloosa, may be expected to blossom next spring. The shrub grows with long and recurved branches, like those of *Philadelphus grandiflorus*; its foliage resembles that of the well-known *Kerria Japonica*, but the blossoms are white. Judging from dried specimens and from the account of the discoverer, the flowers are very copious and elegant. They are of a novel character for the *Spiræa* tribe, to which the shrub belongs, their beauty lying wholly in the tufts of slender white stamens, borne on an open and foliaceous calyx, and without any petals. There is reason to hope that this new shrub may endure the winter even of New England, in which case it will be an important acquisition.

CEREUS GIGANTEUS, Engelm. Through Dr. Engelman's attention to the Cactus family, the Botanic Garden has been able to accumulate a good number of the species which form so prominent a feature of the vegetation of our drier Western and Southwestern regions. They are nearly all small-flowered species, and none of them are likely to interest the florist. But mention should be made of the Giant *Cereus* of the lower part of the Gila River, and in Sonora, so familiar from the accounts of it published by Col. Emory, Mr. Bartlett, and others,—so remarkable for its size and aspect, attaining, as it

does, in an otherwise nearly treeless region, the height of from twenty to sixty feet! The pulp of its large and red fruit, in which the seeds are imbedded as in a fig, is collected by the Pinos Indians, preserved by drying, and used for food. A quantity of this material, collected by Mr. Thurber, when attached to the Mexican Boundary Survey, and presented to our garden and to other establishments, furnished an abundance of seeds, which have freely vegetated; but the seedlings and young plants, both here and in the European gardens, are very apt to perish, probably from overwatering. We still have plants, however, five or six years old; also, a single individual, now almost a foot high, which was brought alive by an officer of the army (whose name, unfortunately, is not recorded) to the late Professor Bailey of West Point, who presented it to the Cambridge Botanic Garden.

EUPATORIUM BERLANDIERI (also *ageratifolium*,) D. C., of Southern Texas. A greenhouse species, one of the prettier of those white-flowered Corymbose species which adorn our conservatories in winter.—[This is a most valuable winter-flowering greenhouse Eupatorium, almost perpetual in its habit. The young plants, after blooming in December, if headed in, will flower again from February to April.—ED.]

APHANOSTEPHUS RAMOSISSIMUS, D. C., of Texas. A handsome, daisy-like annual, more elegant than *A. Arkansanus* of the same region, which was first raised in Europe, but soon lost; afterwards reintroduced from this establishment.

GAILLARDIA AMBLYODON, Gray, also from Texas, perhaps the most elegant of the Gaillardias, has been lost from this garden, but has probably been preserved in some of the European Botanic Gardens. A good figure of this Gaillardia is published in the third volume of the Memoirs of the American Academy of Arts and Sciences.

AGASSIZIA SUAVIS, Gray & Engelm. The head of flowers is much like that of a Gaillardia, but is raised on a naked stalk a foot or two in height, the leaves being all near the ground, and the yellow and purple rays are small. The principal attraction of the plant is its fragrance, which is exactly that of the Heliotrope. The plant is a perennial, requiring to be housed for the winter; but producing a succession of flowers in the open ground throughout the summer.

AMBLYOLEPIS SETIGERA, D. C., is a Texan annual, also allied to *Gaillardia*, with pale-green leaves, beset with scattered long hairs, and showy, light-yellow flowers. It is well worthy of general cultivation as a garden annual.

PENTSTEMON TORREYI, Benth. A native of New Mexico and the northwestern part of Texas, nearly related to the old *Penstemon barbatus* of the gardens, and probably only a geographical variety of it. It is a taller and more branching plant, from four to six feet high, with long wand-like panicles crowded with deeper-colored blossoms, which in some plants are of the brightest scarlet red. This fine plant is now well established in the gardens, and is hardy, but precarious in this climate.

PENTSTEMON WIGHTII and *P. BACCHARIFOLIUS* of Hooker are two New Mexican species, of less beauty than the preceding, being rather few-flowered, which were raised from seed gathered by Mr. Wight; but both flowered in Kew Gardens before they did in Cambridge, and were figured in the *Botanical Magazine*.

PENTSTEMON GRANDIFLORUS, Nutt., a native of the Northern and Western part of Missouri, where Mr. Nuttall long ago discovered it, also of Iowa, &c. This and the equally showy *P. glaber*, (which was raised in England thirty years ago, but soon lost) we owe to Mr. Sprague, the artist, who accompanied Audubon in his excursion up the Missouri in the year 183-, and collected the seed from which the present stock has been derived. *P. grandiflorus* has very smooth and glaucous foliage, and large, lilac-purple flowers, little inferior in size to those of *P. Cobæa*, but far superior in color. It is perhaps one of the most elegant species of this showy genus, and has the advantage of being perfectly hardy in New England.

TACSONIA LEVIS, Benth. This handsome species was described by Bentham several years ago, from a collection made by Mr. Hartweg. Only dried specimens were taken to England. It was found in woods near Guayaquil. Seeds which prove to be of this species occurred in a valuable parcel of seeds which were collected in the Quitensian Andes, and at their western base, by Captain Joseph P. Couthouy, who kindly communicated them to this establishment. Plants

came into flower in our conservatory early last summer, and continued to blossom freely until late in autumn. Although described as a *Tacsonia*, this species is so exactly intermediate between that tubular-flowered genus and the true *Passion-flowers*, that it might almost equally well be referred to either. It has the tube of a *Tacsonia*, but the tube is not longer than the spreading part of the blossom. The latter consists of ten narrow lobes, between one and two inches in length, and of that peculiar, lively, purplish-pink hue, now so fashionable under the name of mauve color. The crown is remarkably short and inconspicuous; the column very slender. The smooth and light green foliage is very neat; and the plant grows freely and climbs extensively at our ordinary summer temperature. But its great merits are that it blossoms far more copiously than most other *Passion-flowers*, keeps its flowers open longer, usually for two full days, and continues to bloom the whole summer long. If not a strikingly showy, it is a particularly elegant species.

[This *Tacsonia*, though included in the list of Dr. Gray, is, as will be seen, not a native. It is, however, one of the most beautiful of all the *Tacsonias*, both from the distinct color of its flowers, and its free blooming character; as a pot plant, trained to a pretty trellis, it must hold a high rank, for most of the *passion-flowers* require so much room that they can be grown only in lofty greenhouses. It blooms all the summer and autumn.—ED.]

DIANTHUS LASCINIATUS. We have already noticed the new and fine acquisitions *D. Heddwigii* and *gigantea*. *D. lasciniatus* is the finest importation of 1860, as the former were of 1859, and it was introduced from Japan at the same time. It forms a taller plant, nearly two feet in height, with magnificent large terminal blossoms, from three to four inches in width, elegantly divided on the margin into laciniate lobes, nearly one inch in depth, and double, producing colossal-sized, single rose-petaled flowers as in *D. Heddwigii*, and in others as dark as a florist carnation, alike evenly fringed and evenly expanded, spreading their richly-colored petal-tints to the light and sun in all weathers, varying from pure

white pink and rose, to brilliant carmine, and carmine red up to the richest shades of violet crimson and maroon, and their ground colors are, in many of the seminal varieties, greatly enhanced in beauty by the light ones being picturesquely stained with rose and violet crimson, whilst the dark ones are finely effective with mottled veins and streaks of white. It is well adapted for pot culture, or for conservatory decorations during the early summer months, and forms a fine effect in flower gardens for groups or beds throughout summer and autumn, thriving in ordinary good garden soil, maintaining a free and vigorous growth throughout the season.

502. *BEGONIA XANTHINA*, VAR. *LUZULI* Linden. YELLOW-FLOWERED LAPIS LAZULI BEGONIA. (Begoniaceæ.) Assam.

A hothouse plant; growing two feet high; with yellow flowers; appearing in winter; increased by cuttings; grown in rich leafy mould and sand. *Bot. Mag.*, 1859, pl. 5107.

A showy-flowered and highly ornamental foliaged variety, introduced to Brussels by M. Linden, to whom belongs the merit of introducing most of the fine Begonias which have attracted so much notice. The foliage is remarkable for its great size and metallic lustre, and exhibiting a great variety, both in the nature and disposition of the spots. The flowers are also large, and of a brilliant yellow. It belongs to the same group as *Begonia Rex*, and, like that fine plant, should be in every choice collection. (*Bot. Mag.*, April.)

503. *VRIESIA PSITTACINA*, VAR. *RU'BRO-BRACTEA'TA* Hook. PARROT FLOWERED, RED-BRACTED VRIESIA. (Bromeliaceæ.) Brazil.

A stove plant; growing three feet high; with yellow flowers; appearing in summer; increased by cuttings; grown in rich soil. *Bot. Mag.*, 1859, pl. 5108.

A highly ornamental stove plant, with leaves a foot or more long, acuminate entire, and coriaceous; allied to the *Tillandrias*, to which genus it was formerly referred. It throws up tall scapes, terminated with spikes of tubular yellow flowers, ornamented with brilliant scarlet bracts, which sheath the blossoms, and present a striking appearance. Easily grown in high temperature. (*Bot. Mag.*, April.)

504. *HOWARDIA CARACASENSIS* *Weddell*. CARACAS HOWARDIA. (Rubiaceæ.) Venezuela.

A stove plant; growing two feet high; with pink flowers; appearing in spring; increased by cuttings; grown in light rich soil. *Bot. Mag.*, 1859, pl. 5110.

A "lovely stove plant, with gracefully drooping panicles of flowers, whose beauty is very much increased by the remarkable enlargement of one of the minute teeth of the calyx into a heart-shaped, petiolated, deep rose-colored foliaceous lobe," similar to the well-known *Mussaenda* of our collections. The foliage is medium-sized, deep green, and the flowers appear in dense terminal panicles. (*Bot. Mag.*, April.)

505. *STEPHANOPHYSUM BAIKIEI* *Hook*. DR. BAIKIE'S STEPHANOPHYSUM. (Acanthaceæ.) Africa.

A hothouse plant; growing two feet high; with scarlet flowers; appearing in winter; increased from cuttings; grown in light rich soil. *Bot. Mag.*, 1859, pl. 5110.

Another of the interesting plants sent home from the Niger Expedition, collected by Mr. Barter. It has a similar habit to the *Thyssacanthus*, with long, rather narrow, deep-green leaves, and large, dense, terminal panicles of tubular, deep-carmine flowers, highly showy and beautiful. It will be a superb addition to our winter-flowering plants. (*Bot. Mag.*, April.)

506. *LINUM PUBESCENS*, VAR. *SIBTHORPIANUM* *Planch*. SIBTHORP'S PUBESCENT FLAX. (Lineæ.) Cilicia.

A hardy annual; growing a foot high; with pale purple flowers; increased by seeds; grown in light soil. *Bot. Mag.*, 1859, pl. 5112.

A rather pretty annual, similar in habit and growth to the now well-known and brilliant *L. grandiflorum*. It was introduced from the plains of Mersina, Cilicia. (*Bot. Mag.*, April.)

507. *GAZANIA SPLENDENS* *Hort*. SPLENDID GAZANIA. (Compositæ.) Garden hybrid.

A greenhouse plant; growing six inches high; with orange and maroon flowers; appearing in summer; increased by cuttings; grown in light rich soil. *Henderson's Ill. Bouquet*, Part VII, pl. 29.

G. rigens is an old and well-known plant, not often seen in collections, yet, notwithstanding, a showy species. The present variety is probably a hybrid between the former or *G. pavonia* and *G. uniflora*. It has a dwarf habit, with branching stems, and narrow foliage, green above, and silvery

beneath. The flowers, which are solitary at the axils of the leaves, are three to four inches in diameter, "resembling rich golden-orange chrysanthemums, with gracefully laciniated margins, and picturesquely marked at the base of each petal, with a broad spot of rich brown chocolate tint upon a black base, and close beside this a distinct white spot on the same dark ground." It is a plant of the easiest culture, in any ordinary garden soil, and blooms continually, from the middle of June till the end of autumn, neither affected by "summer storm nor autumn change," but blooming on till the latest period, closing its magnificent flowers at night, and again unfolding them by day. As a bedding plant it has few rivals for the parterre or flower garden, its orange-colored blossoms being conspicuous at all times. It should be taken up before severe frosts, and wintered in the greenhouse. (*Illustrated Bouquet*, November.)

NOTES ON CHINESE PLANTS.

BY R. FORTUNE.

A LARGE sale of Chinese plants took place at Mr. Stevens's rooms in the months of November and December of last year, and was noticed in the *Gardeners' Chronicle* at the time. The plants were introduced to England during my travels in China from 1854 to 1856, and had been carefully cultivated and propagated by Mr. Glendinning, of Chiswick Nursery, Turnham Green. As they are now distributed over the country, and as many of them are in the hands of amateurs as well as nurserymen and gardeners, a few notes on the habits of some of the most important, together with hints as to their management in Europe and America, may be useful. With this object in view I shall take them in the following order:—

1. CAMELIAS, "Princess Frederick William" and "Cup of Beauty."—These beautiful varieties were found cultivated in the gardens of Ningpo and Shanghae, where they are highly esteemed by all lovers of flowers. They are striped kinds;

their flowers are very double, most perfect in form, and when the plants are a few years old both striped and self-colored blossoms are produced upon the same specimen, giving it a striking and handsome appearance. This freak of nature is not unusual in the genus, but I am not aware that it exists in any known variety having flowers so perfect in form as either "Princess Frederick William" or "Cup of Beauty." Amongst many hundred kinds, both wild and cultivated, which came under my observation during my travels in China, these two, with the fine double variety of *C. reticulata*, now in Mr. Standish's nursery at Bagshot, were the only ones which I considered worthy of introducing to English gardens. The "Yellow Camellia" introduced by me some years ago is not attractive enough in its present state for our English taste, what it may become in the hands of our cultivators remains to be seen. The subjects of this notice require the same treatment as other varieties of the genus. The first-named is a very free bloomer, and on this account will be particularly valuable.

2. DOUBLE-FLOWERING PEACHES, the "Camellia-flowered" and "Carnation-flowered."—These are very remarkable trees, and as they have proved perfectly hardy in England, they will one day produce a striking effect in our parks and pleasure grounds. They are common in the gardens of Northern China, where they attain to the size of our English almond. Nothing can be more beautiful than these when in full bloom. In the spring they are literally loaded with flowers as large as our Scotch roses. The "Carnation-flowered" has striped blooms resembling the Carnation, hence its name, and like the Camellias already noticed, sports in a remarkable way, producing striped and self-colored flowers upon the same tree. Fancy a tree as large as the almond, covered with flowers like the Carnation on some branches, while on others the flowers are self-colored (pink,) and an idea may be formed of its striking beauty. These double peaches seem to be particularly well adapted for forcing, as they form their flower-buds fully in autumn, and are ready to burst into bloom with the first warm days of spring. As spring flowers they are highly prized by the Chinese. Itinerant gardeners carry

them about the streets for sale in the northern Chinese towns. The flower-buds are then just beginning to expand; the buyer puts his purchase in a pot, gives it a little water, and then places it in his window or sitting room. In a day or two the buds burst and the little tree is one mass of bloom. They are propagated by budding and grafting, and will grow well in any common garden soil. I ought to add that small plants produce blossoms freely as well as large full-grown trees.

3. *PRUNUS TRILOBA*.—This is a very fine bush or dwarf tree, said to come from the province of Shantung, in the northeast of China. It produces a profusion of semi-double rose-colored flowers early in spring, and is quite a gem in its class. No doubt it is perfectly hardy in our climate. It will grow in any common garden soil, and is readily increased by budding or grafting. Like the double peaches it can be easily forced into bloom for decorative purposes in spring.

4. *FARFUGIUM GRANDE*.—In these days, when plants with variegated foliage are so much in request, this is peculiarly valuable. It was found by me in the city of Ningpo, and said to have been brought from Peking. As it has been exhibited at most of our horticultural shows during the last three years, it is now well known in this country. I may remark, however, that the Chinese understand its treatment much better than we do, and consequently they have its leaves and variegation in greater perfection. They do not gorge it with rich food or grow it so rapidly. With them the footstalks of the leaves are shorter, the leaves smaller, but more firm and glossy, and the yellow spots more distinct and beautiful. It is hardy in England, but for decorative purposes is best when treated as a greenhouse or pit plant in winter and spring. During my travels in China last year I met with the plain-leaved variety (the original species) growing in damp woods under the shade of trees, and this accounts for the Chinese practice of growing *Farfugium grande* in shady situations during the hot months of the year. In China moderately rich loamy soil is considered the most suitable for its cultivation.

5. *CHUSAN PLUM*.—This plant is common in the central and northern provinces of the Chinese Empire, where it is cultivated on account of the large quantity of strong and useful fibre formed on its stem at the base of the leafstalks. Its tropical looking appearance has a curious effect in a landscape, not unlike our own, in so far as the vegetation is concerned. It has been in England since 1849, and is perfectly hardy in our climate, but grows slowly about London and to the northwards, which is partly owing to the want of that amount of summer heat experienced in its native country. Those who wish an effect to be produced in their gardens by its tropical-looking form ought to grow it for a few years in a greenhouse, and when of sufficient size it may then be planted out in the open air. Some of the first importations are in the gardens at Kew, and there is a fine plant, perhaps the finest in Europe, in the Royal Gardens at Osborne, which was sent from China by me in 1849 to his Royal Highness the Prince Consort. Mr. Toward informs me that “it is about ten feet high, the stem two feet eleven inches in circumference, perfect and uniform in its general outline, and allowed by all who have seen it to be the finest specimen in Europe.”

6. *SYRINGA OBLATA*.—This is the lilac of northern China. It grows to about the same height as our common English species, but is more tree-like in its form. As in England, so in China, there is a white variety of this species. Both are handsome ornamental trees—as handsome as our English lilac and equally hardy.

7. *QUERCUS BAMBUSÆFOLIA*.—The fine evergreen oak sold under this name was found wild on the mountains of the Chekiang province. Full-sized trees are from thirty to fifty feet in height, and are very ornamental. It may interest entomologists to know that the beautiful and rare *Dicranocephalus Wallichii* was generally found on this species. This oak is supposed to be hardy in England, and if so it will be a valuable introduction. It is probably distinct from the Hong Kong species, which has been published under this name.

8. *CHESTNUTS*.—Two species of chestnut were included in the sale at Stevens's, both forming trees of considerable size.

One produces small fruit about the size and form of the hazel nut; the fruit of the other is larger, and by Europeans in the East considered of a finer quality than the Spanish chestnut. Both kinds are cultivated extensively on the hillsides in the central and eastern provinces of China, and are quite suitable for the climate of this country.

9. RHODODENDRON FORTUNI.—Very little is known about this plant, further than it was found amongst the mountains of the Chekiang province. It is probable, however, that it is a fine species and quite distinct from any known in our gardens.

10. TAXUS CUSPIDATA.—This species was brought from Japan to Shanghai and presented to me by the late Mr. Beale. I believe it is distinct from anything formerly introduced, and is, no doubt, perfectly hardy in our climate.

11. ABIES KÆMPFERI.—This fine tree, discovered amongst the mountains of Chekiang, has proved hardy in England, and is a very important introduction. A full description of it has already been given in the *Gardeners' Chronicle*. Its long, green, silky leaves, when first unfolded in spring, are singularly beautiful, and so are they again in the autumn, when they change with the ripening cones into a golden yellow color; hence the name of "Golden Pine" which it is known by amongst the Chinese. It will be very rare in Europe for many years to come, owing to the difficulty of getting seeds to germinate after the long voyage. Knowing the importance of a tree of this kind, and that it was almost impossible to propagate it in this country, I used every means in my power to introduce its seeds in large quantities and in good condition. They were sent by the overland mail—some in letters through the post office, and others in small packages—for several years in succession, and were often sown in England in less than two months from the time they were gathered from the trees in China. Out of all sent home only one despatch vegetated freely, all the others were complete failures. All the plants of any size now in England were dug up in the woods of China and sent home in Ward's cases. In cultivation this species, like many of its race, prefers a loamy soil, and a hilly or undulating situation. I would advise the possessors of very small plants to keep them in shady

places during the hot summer months. In nature the young plants are all reared under the shade of trees. Nothing can be worse for small plants of this kind, in small pots, to be alternately baked in the sun and deluged with water.

12. *TORREYA GRANDIS*.—This fine evergreen tree was discovered accidentally when on an expedition for seeds and plants of *Abies Kämpferi*. Full-grown specimens met with were from sixty to eighty feet in height. It is perfectly hardy in England, and will grow in any common garden soil. In a young state it is not unlike the two species of *Cephalotaxus* formerly introduced from the same country, and now greatly admired in English gardens, but it is much more handsome than they are and attains a greater size. Its timber is valuable, and is used in the construction of gun-carriages; its seeds are used in medicine. It strikes readily from cuttings, but seedlings make the finest trees. *Torreya grandis* and *Abies Kämpferi* are perhaps the most important of these introductions.—(*Gard. Chron.*)

General Notices.

PLANTS FOR WINTER DECORATION.—Another plant, most useful for decorating our greenhouses in autumn and winter, is *Veronica Andersoni*, and in the culture of this Mr. Mackintosh is also most successful. He has some fine specimens of it now coming into bloom, as well as of the rosy pink kind, called *meldensis*. His plan of managing such plants is to grow them one season, and bloom them the next; but when larger specimens are required they are only permitted to make wood for not less than two seasons, the flowering being prevented by a regular system of stopping, by which a handsome pyramid shape is acquired. The two kinds just named are the handsomest of all veronicas; but when greater variety of color is wished for, the white-flowered *Lindleyana* should be added to the list. *Cestrum aurantiacum*, though by no means new, is also a good plant for late autumn and early winter flowering; and the same may be said of *Jasminum nudiflorum*, whose light-yellow primrose-like blossoms look unusually cheerful at the present season. The white *Eupatorium adenophorum* keeps in flower all winter, and is tolerably ornamental; and among *Begonias*, *Semperflorens coccinea* is useful for the same purpose. As a plant for room-decoration nothing is more sought after than *Acacia lophantha*, nice bushy plants of which may be had in small pots, and it is

well worth growing on account of its foliage alone, which is very handsome. *Acacia arinata* is also, as is well known, an invaluable plant for forcing into bloom for early greenhouse decoration.—(*Gard. Chron.*)

NEW POTATO.—M. Vilmorin speaks highly of the Blanchard potato, a yellow round sort, with the eyes lightly tinted with rose, in comparison with the Marjolin, the favorite early potato of Paris. Although planted late it proved far better, and more productive, as the following statement shows. Both being planted April 13, six of each were lifted the 14th June.

The produce of 6 Blanchards weighed 3.730 kilos.

“ “ “ 6 Margolins “ 1.210 “

In order to judge of their comparative ripeness and quality, three potatoes of each kind were sliced thin, and dried in a stove. When taken out

The dry matter of the Blanchard weighed 18.47 gr.

“ “ “ “ “ Marjolin “ 17.11 “

And consequently the whole 6 bunches of Blanchard produced 688.46 gr. against 207.10 gr. of the Marjolin, thus demonstrating the great superiority of the Blanchard. M. Vilmorin says that the Marjolin was in the state in which it is usually sold in the Paris market; but the Blanchard would have been quite as ripe as if lifted a fortnight earlier. This seems to be well worth the attention of gardeners.—(*Bon. Jard.*, 1860.)

NEW MODE OF GRAFTING.—Although the grafting season is not precisely at hand, it is near enough to prevent any new experiments on the subject being forgotten. We therefore proceed to mention a method described in the *Revue Horticole*, by M. Lachaume, of which we know nothing in this country.

The bottle method of grafting by approach consists, as we all know, in suspending a vessel of water from the tree to be operated on, introducing into the water a long scion, then bringing the sides of the scion and stock into contact, the bark of each having been previously pared away so as to form two plane surfaces, and, finally, binding them together with bast covered with clay or grafting wax. M. Lachaume says that if the end of a long scion is laid into the earth at the foot of a stock the operation succeeds just as well as when the scion is kept in water. He says more; he says that while the side of the scion is uniting to the stock, the end of the scion is also rooting into the soil; that when the union between the two is complete enough to allow them to be finally adjusted by cutting off the scion *below* its union with the stock we have acquired two plants instead of one; the first a grafted plant, and the second a plant on its own roots.

But we must let him tell his own story, curtailed of unimportant particulars. Having succeeded in thus working a six-year old double peach with the Grosse Mignonne by the aid of water bottles, it occurred to him to try the effect of merely laying the end of his scion in earth. Accordingly, in the month of February or March, he procured some pear cuttings from twenty to twenty-four inches long, and pushed their lower ends from six to eight inches deep into common garden soil at the foot of the tree to be

operated on. As soon as the latter had grown so far as to show leaves and flowers, the scions and stock were brought together and secured in the usual way, four or five eyes only being left above the insertion, and the whole screened from the sun by a sheet of paper.

M. Lachaume had observed that when the end of the scion was in water it formed a callous, from which a few rudimentary roots had sprouted; but they died for want of proper food. The same thing having happened with the pear cuttings just described, it occurred to M. Lachaume that if his soil had been of good quality, instead of being the reverse, the cuttings would have rooted. A friend, who lived in a much better situation, profiting by the suggestion, worked, in the manner already explained, pears on quinces, and peaches on almonds; and found the experiment so perfectly successful, that, at an exhibition in the autumn of 1858, he was able to show both pear trees and peach trees worked the same year, the scions of which had grown at one end fifty-four inches long, and as thick as a finger, while at the other a fine tuft of roots was formed. Now, mere cuttings of the pear and peach cannot be struck at all, although certain kinds of apples root readily enough. It is further observed that the soil in which the scions rooted is an extremely rich alluvial earth.

We have no doubt that many of our readers, who are interested in propagation, will soon discover in what way to apply M. Lachaume's process to other plants besides pear and peach trees.

This method, be it observed, is not very different from what Dupuy calls *feute-bouture*, a way of working vine roots upon old stocks; but it is much more skilful, inasmuch as if the operation fails the vine stock receives no injury. Since this *feute-bouture*, which might be translated cleft inarching, is quite unknown among us, we translate the Abbé's account of it. Take a vine rod, with at least from four to seven eyes; pare the bark away on the two opposite sides, somewhere about its middle. Then split the head of the vine stock as if you were about to cleft-graft it, and insert the scion in the cleft in such a way that only two eyes are left above the place where the cutting is introduced. Below this place take care to leave from two to four eyes, besides which the lower end must be carefully laid into the ground. The junction of the stock and scion must be well covered with the "unguent of St. Fiacre," a mixture of two thirds loam, and one third cow dung, with the addition of a few wood ashes; and the whole must be well earthed up, so that the vine rod, which is covered by soil, may easily take root. This sort of grafting must be practised in March, April, or May, according to the climate—we presume at the end of April in this country.—(*Gard. Chron.*)

MUSHROOM GROWING.—The artificial cultivation of mushrooms is now so well understood and practised 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 better than any other 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 three 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 ammoniacal atmosphere for the buds breaking. About the beginning of April, when the bed is no longer wanted for this, 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 six inches below the boards. The young mushrooms usually appear in the beginning 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 three to four inches in diameter, and as full of juice as field mushrooms. At one of the horticultural shows at Chiswick, I remember having seen a fine large dish of forced mushrooms, 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 exhibitions. 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 peach houses for a bed for using fermenting materials, no better plan can be devised for making vines and peaches break strongly, and the beds can afterwards 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 prevent dampness. In August or September I usually clear the bed here clean out, and the Black Damascus grapes keep without damping or shrivelling till the end of November.—(*Gard. Chron.*)

SAPONARIA CALABRICA.—A very pretty herbaceous plant, is becoming a great favorite with the Parisians. It forms a spreading patch, a foot or more in diameter, covered from May to September with charming rose-colored flowers. Among its peculiar merits is that of not showing its seed-vessels, but hiding them incessantly beneath new flowers and even sprouting stems, in consequence of which the plant is never shrubby. Moreover, it bears any amount of dryness, the densely-packed trailing stems preventing evaporation. It forms good durable edging, which is easily kept in order, but it looks best in masses, or round the stems of standard vines, or other plants which give little shade. Nothing can be easier than its cultivation. If sown in April or May, where it is to stand, it begins to blossom in July; but Dr. Bailey finds it better to sow it in September, if there is any means of protecting the seedlings, which should be pricked out under handglasses, or in frames during winter, transplanted into a warm aspect in

April. The advantage of this, he says, is, that it blossoms a month earlier, and forms larger patches, with finer and more brilliant flowers.—(*Revue Horticole*.) This *Saponaria* is a very pretty annual, but we doubt not its beauty would be enhanced by sowing in autumn and keeping over winter, as suggested above. It forms a dense mass of delicate foliage and pretty rose-colored blossoms, and likes a dry soil.

DUTCH METHOD OF RAISING CAULIFLOWERS.—We extract from a German newspaper, the *Landwirthschaftliches Centralblatt*, says the *Revue Horticole*, the following description of the method used by the Dutch to obtain their cauliflowers, so famous for their size and delicacy. In the autumn they dig deep some ground that has not been manured; at the beginning of May they sow the large English cauliflower upon a bed of manure, and cover it with straw mats at night. When the young plants are three or four inches high, they harrow the ground that had been prepared the autumn before, and with a wooden dibble, eighteen inches long, they make holes about ten inches deep, at proper distances apart, and enlarge them by working the dibble round till the hole at the top is about three inches in diameter. They immediately fill these holes with water, and repeat this three times the same day. In the evening they fill them with sheeps' dung, leaving only room enough for the young plant, which they very carefully remove from the bed of manure and place in the hole with a little earth. Directly afterwards they give them a good watering, and, as soon as the sun begins to dry them, water them again. Furthermore, as the plants grow, they dig round them and earth them up in rows. When the head is forming they pinch off some of the lower leaves of the plant, and use them to cover the young head.—(*Gard. Chron.*)

CULTIVATION OF THE CHINESE YAM.—The following plan, adopted by Mr. Ingram, in the Royal Gardens at Frogmore, in 1859, has proved very satisfactory. In making and preparing the bed a piece of light ground was marked out, about one hundred feet long and seven wide, and trenched three and a half feet deep, well mixing a little good rotten manure as the work proceeded. When all was trenched the soil on each side, to the width of eighteen inches, and a foot deep, was thrown on the top to raise the bed and allow a sufficient depth for the roots to grow down. After leveling and raking a board was used for the workman to stand on and cut out a trench with a spade six inches deep. The sets were then planted about a foot apart, from centre to centre, which admitted six sets across the beds, the board turned over, and a similar trench made, one foot from the other, and so on until the bed was finished. The sets were cut from five to six inches long, and no difference was found in the produce from sets cut from the top, the middle, or the bottom of the roots. A considerable quantity were propagated from cuttings the previous year, the small tubers of which were preserved in sand during the winter and planted on a portion of the bed; the produce of these were much smaller than the others, not weigh-

ing, on an average, more than twelve ounces each, the others two pounds, some three and a half pounds. This form of the bed admits of the most ready way of taking up the tubers; a trench four feet wide and four deep is dug at one end, and a careful man can take them all out without the least damage. The bed was made early in April.—(*Gard. Chron.*)

Horticultural Operations

FOR APRIL.

FRUIT DEPARTMENT.

MARCH has been a pleasant month, with very little severe frost, and no storms of snow or rain, and a highly favorable month for all kinds of trees and plants.

GRAPE VINES in the greenhouse and grapery will now be growing with unusual vigor, and will be in bloom before the end of the month. Continue to syringe, and damp the house freely until the flowers open, when it should be discontinued till the fruit has set. Rub off all useless shoots, and top strong growing laterals two eyes beyond the fruit. Tie in the spurs as they advance. Vines in cold houses should now be uncovered, and tied up to the rafters. Keep a moderate temperature, and syringe freely in good weather. Be careful not to push the vines too rapidly. Vines in the open ground should be trained to the trellises, and new plantations made. The borders should be manured lightly, and forked over to admit the air and warmth. Vines raised from eyes, or cuttings, should now be potted off, removing them, if hardy kinds, to the open air, that they may be planted out in May.

FRUIT TREES of all kinds may be transplanted.

GRAFTING should be pushed on as rapidly as possible.

PRUNING should be completed this month.

FRUIT TREES IN POTS should now be liberally watered, and have an abundance of air.

YOUNG TREES may now be potted for a succession.

STRAWBERRY BEDS should be uncovered, cleaned, and put in good order. Prepare ground for new beds.

RASPBERRIES should be uncovered, pruned, and tied up to stakes.

BLACKBERRIES should be pruned and trained to a trellis or strong stakes; dig and manure liberally.

INSECTS, particularly the canker worm grub, should be looked after. Continue to wash trees infected with scale or black louse with whale oil soap.

MANURE freely and dig lightly around all kinds of fruit trees, currants, gooseberries, &c.

FLOWER DEPARTMENT.

The mild weather of last month has been highly favorable for all kinds of plants, and they should present a stocky, vigorous, and very healthy appearance, more so than is usually the case, in consequence of the long succession of sunny days and moderately cool nights, rendering but little fire-heat necessary. The greenhouse should now be gay with flowers. If advantage has been taken of the early season the principal portion of the potting will have been done, and attention should now be directed to outdoor operations, in order to make the garden brilliant during the summer; frames should be in readiness to harden off all stock intended for bedding out.

AZALEAS AND CAMELLIAS, which have completed their bloom, may now be repotted, if wanting more room. Use a mixture of loam, leaf mould, and sand. If the roots are in poor condition, shake off the old earth, and wash the roots, after which pot in the above soil. Keep in a rather close house, and syringe freely.

PELARGONIUMS will now be showing their flower buds, and some of the earlier kinds opening their blossoms. Continue to give them every attention; tie out the shoots again if too crowded, and give them more room as they extend their branches. Never allow them to get dry, as it injures the bloom. Syringe occasionally to keep the foliage clean, and fumigate for the green fly. Young stock should be repotted. When the plants get into full flower a slight shade for an hour or two, in the middle of the day, will prolong the bloom. Use liquid manure occasionally.

BEGONIAS, now well established, should have a shift into a larger pot, and a slight shade from the hot sun. Water more liberally.

CINERARIAS, for late flowering, may have a shift into larger pots, if the roots are too crowded. Keep in an airy place, as near the glass as possible, till well into flower, when they may be removed to a cool, half-shady part of the house. Fumigate for the green fly. Sow seeds for early autumn bloom.

FUCHSIAS, growing rapidly, will need repotting. Keep them in a rather warm situation.

EPACRIS AND HEATHS, done blooming, should be well pruned in, and kept in a warm part of the house till they break again.

CHRYSANTHEMUMS should be propagated from cuttings or suckers. Early plants bloom the strongest.

CLIMBING PLANTS should be looked after; all the rapid-growing kinds, such as *Kennediyas*, *Tacsonias*, *Mandevillas*, &c., should be shifted into good sized pots, in rough, open, turfy peat and sand.

MONTHLY CARNATIONS, wanting more room, should be shifted into larger pots. Keep the shoots neatly tied up.

ANNUALS, sown last month, should now be transplanted into small pots, several in each, ready for removal to the open ground in May.

GLOBE AMARANTHS, COXCUMBS, BALSAMS, &c., should be sown in a brisk bottom heat.

TRITOMAS should be repotted, preparatory to removal to the border.

TRITONIA AUREA may be potted and started into growth.

CHINESE PRIMROSE SEED, for early winter blooming, should be sown now.

BEDDING PLANTS, of all kinds, should be removed to frames, where they can be protected from frost, until the season of planting.

FARFUGIUM GRANDE should be repotted.

TUBEROSES, AMARYLLIS, and other summer flowering bulbs, may be forwarded by planting in pots.

PREPARE GROUND for planting, as soon as the proper season arrives.

FLOWER GARDEN AND SHRUBBERY.

With April there is work enough in this department. The first thing of importance is the lawn and walks; these should be well-rolled immediately, before the ground is too dry. Top-dress with guano, if the turf requires it. Prune out dead wood from the shrubbery, and clean and rake the surface. Take up, divide, and reset herbaceous plants. Plant roses and other shrubs, if required to fill vacancies.

TULIP AND HYACINTH BEDS should be uncovered immediately. Clean and stir the surface.

LILY BEDS of all kinds should be uncovered, stirring the surface as soon as they appear above ground.

PÆONIES should be transplanted; divide and reset old roots.

HARDY FLOWER SEEDS may be sown, such as Dwarf Larkspurs, Clarkias, *Cenotheras*, &c. &c.

ROSES should be pruned, giving them a good heading in. Manure plentifully.

HOLLYHOCKS may be planted.

DAHLIAS may be forwarded in the hotbed or greenhouse, for early bloom.

HERBACEOUS PLANTS, particularly Phloxes, Delphiniums, and similar strong-growing kinds, should be taken up, divided, and reset, in well-prepared beds or borders.

CARNATIONS, PICOTEES AND PINKS may be planted.

GLADIOLUS, for early blooming, may be planted the middle of the month.

PANSIES, wintered in frames, should be planted out in a well-prepared bed. Seedlings, raised last month, may also be planted.

RHODODENDRONS AND AZALEAS. If these beautiful shrubs are to be planted the ground should now be well prepared with a mixture of leaf mould, or peat and sand, ready for the plants in May.

CLIMBING PLANTS should be neatly trained and put in good order, cutting away all old and useless wood.

GERMAN ASTERS, of all kinds, should be sown in boxes or pots, in the greenhouse or frame, in order to get good strong, vigorous plants for blooming early.

DWARF APPLES.

MANY years ago, in reading Loudon's Magazine, we were deeply interested in an article on the culture of dwarf apples in open quarters, so as to form "miniature orchards," the trees occupying little more room than gooseberry bushes. This article we learned subsequently was written by the well-known and eminent English nurseryman, Mr. Rivers. We then thought we should like to possess just such a plantation, and made great exertions to have one; but not being able to find a good collection of dwarf trees, the ordinary stock was planted, and the matter was wholly forgotten until within a few years, when visiting the extensive nurseries of Messrs. Ellwanger & Barry, of Rochester, where just such a "miniature" orchard was growing, we determined to carry out our early desire to possess such a beautiful and valuable addition to our grounds. We immediately made a selection of all the best varieties we could procure, principally from the collection of the above nurserymen, who grew them more extensively than others, and with such as we raised ourselves, were enabled to plant out between two and three hundred trees of as many varieties, nearly all now in full bearing.

But, differing from Mr. Rivers's plan of growing them in open quarters, we have for various reasons planted them on the borders of the avenues, between dwarf pears, planting the latter further apart to admit of a dwarf apple between each. Here, forming small bushes or pyramids not more than two feet high, they are loaded with their splendid crimson-hued fruits, forming a pleasing contrast with the golden pears, and gratifying the eye with the continuity of rich foliage.

Why dwarf apples have not received more attention it is difficult to say; unless it is that attention has not been drawn to their growth, or from the fact that fine fruit is purchased so cheaply that it is no object to raise it; or perhaps because, to use the cant phrase, "it will not pay." For we hear it on

all sides that the apple is too cumbrous a tree for small gardens, however desirable the fruit, and it must therefore be rejected. This is so; and all who have but little space prefer to give it to the pear, a fruit not so readily purchased, and only at a very dear rate. If it was only generally known that dwarf apples were as easily cultivated as dwarf pears, were as readily produced, were quite as ornamental objects, and almost as valuable where the early kinds are selected, no garden, large or small, would be without them. Early apples of fine quality are never very plentiful in the market; they come even before many of the good pears, and are quite as desirable as any other fruit.

The French cultivate the apple almost exclusively as dwarfs in gardens of greater or less extent. Trained in fanciful shapes, as pyramids, goblets, or espaliers, they border the main walks, or form quarters by themselves, where they not only produce an abundance of fruit, but form highly ornamental objects. What more beautiful sight than the apple tree when in full bloom, what more tempting to the eye, and what more grateful to the appetite, than its beautiful fruit?

Dwarf apples then, let us say, are of the easiest culture. The Paradise stock, on which they are worked, will thrive in any ordinary garden soil, properly enriched, for, from the prolific character of the trees, they need the latter. The preparation for planting should be the same as for the pear, viz, trenching two to three feet deep. In setting out the trees care should be taken that the stock is not covered too deep,—otherwise they might root from the graft, and have such a vigor infused into them that they would soon become large trees. Mr. Wm. Reid, of Elizabethtown, N. J., who grows a pretty collection of the best varieties in this way, informed us that he erred in doing this to such an extent that the whole of his trees had to be taken up and reset. Plant just even with the surface of the ground. The pruning is very simple, except where the object is very symmetrical or fancy shaped trees. Grown as bushes, all that is necessary is to keep the head open; pinch off the summer shoots, and head in the slender ones at the winter pruning; and if only the moderate growing sorts are chosen, they will not occupy

more space than a good sized currant bush, and produce two or three dozen of apples each.

Mr. Rivers says, that the trees "must be chosen with stems not exceeding one and a half feet." In September, he generally looks over the trees, takes off superfluous wood, and shortens the long shoots: this strengthens the blossom buds, which are formed abundantly upon the young wood; of course, in doing this, an eye must be had to the formation of the tree, which ought to be gradually brought into a handsome round bush. For the first five years a row of strawberries may be grown between each row of apples, or any other dwarf, light crop; but strawberries are the most in keeping, a word which in every gardening operation ought never to be lost sight of. The trees are set six feet apart each way, adopting the quincunx order. Such is the advice of Mr. Rivers, who has had good experience, and upon whose judgment all may rely.

The French, with their gardening skill, have reduced the pruning of dwarf trees to a science, and under such learned practitioners as MM. Hardy, Dubreuil, and others, they are made to assume the most symmetrical forms; by the aid of wires, hoops, and other contrivances they are brought into the most exact shape, with not one branch too few or too many. Once established in this way, they continue, under good care, to maintain the same forms, adding much to the beauty of the garden and the gratification of friends. As espaliers, trained to wires, not more than a foot high, they are very attractive, as we intend to show at another opportunity.

Our object is not at this time to detail all the particulars of dwarf apple culture, but simply to direct attention to what we think has been sadly neglected. We shall again refer to the subject, and give not only further directions for their management, but supply some engravings, which will show what truly ornamental features they are in every garden. In the mean time we would say, that those who feel any interest in their growth may examine these "miniature orchards," in the grounds of the nurserymen we have already named, which, when in fruit, will well repay a visit.

FUNERAL CHARACTERS OF TREES.

BY WILSON FLAGG.

MOUNT AUBURN was originally selected for a cemetery, on account of the beauty and variety of its primitive forest growth, no less than for its pleasing diversity of surface. The greater part of the indigenous species of Massachusetts may be found here. The native shrubs were also numerous in the original grounds; but these have been nearly extirpated, to make room for foreign shrubs. The proprietors of lots have generally preferred the latter, according to the principle that governs them in trade, namely, that the most valuable article is the one that bears the highest price in the market. Hence the dwarf kalmia, one of the most beautiful of nature's productions, and the different cornels and viburnums, must resign their places to altheas, smoke plants, and Judas trees.

In selecting locations for other rural cemeteries, a similar regard has been paid to trees which are considered indispensable at the outset; but how well soever the place may be diversified with trees, many will necessarily be removed for convenience, and others will need to be planted to fill vacancies, and to supply the want of certain valuable species. A cemetery without trees would be very blank and unattractive, however well supplied with flowers. But all kinds are not equally well adapted to this situation; some being remarkable for certain funeral characters and associations, while others are fitted for a cemetery from their advantageous manner of growth. Deciduous trees are to be preferred for the greater part of the grounds, but an occasional admixture of evergreens adds to their impressiveness as well as to their variety. On account of the sombre appearance of this class of trees, a grove made up entirely of them would be very gloomy in the interior; but a good proportion of evergreens is promotive of that seclusion which the deciduous kinds could not afford in the winter, or after the fall of the leaf.

There is no object more solemn and impressive than a venerable wood full of majestic trees. Poets have always delighted to celebrate their stillness, their seclusion, their grandeur,

and their deep and benevolent shade ; and we may ultimately secure all these effects by judicious planting and selection. Among the trees which are associated with funereal images, by our familiarity with English literature, the yew is the most important. It is considered by all nations as emblematical of sorrow for the dead ; it has been planted from the earliest times by the English in their burial grounds, and many of great age are still to be seen in those places. The general employment of this tree for funereal purposes must have originated in the sombre shades of its foliage, and in its adaptedness to the topiary art ; and it will probably never cease to be admired as an ornament of the graveyard in those countries of which it is a native.

The weeping willow is another tree which is associated with funereal scenes ; and trees of this species are common in American burial grounds. The custom of planting them in cemeteries probably originated from the suggestion of sorrowful images conveyed by the drooping character of their branches. But notwithstanding the drooping habit of this tree, there is no expression of melancholy in its general aspect, which, on the contrary, is rendered peculiarly lively by the light hues of its foliage, and its floating, graceful spray. The weeping willow possesses a highly poetical character, on account of the frequent mention made of it in sacred history and prophecy. It is a native of Palestine, and of the banks of the rivers of Babylon, where the Israelites sat down and wept over their exile, and hung their harps upon its branches.

There is reason to believe that the drooping trees acquired the epithet "weeping," which is applied to them, from the resemblance of their attitude to that of a person in tears, who bends down with affliction as with a material burden. This is the general attitude of sorrow in allegorical representations. This habit of growth is far from giving the drooping trees a melancholy appearance, which is more commonly produced by dark green foliage ; but it is in agreeable consonance with funereal scenes. There is a flowing grace about the drooping trees that is preferable in a cemetery to the stiff and formal shape of many of the evergreens.

Among trees of the evergreen sorts the different species of

arbor vitæ are well fitted for burial grounds, on account of their slender, pyramidal growth, which agrees with the general forms of the monuments. The shape of the arbor vitæ is not unlike that of an obelisk; and its name, "tree of life," is suggestive of that immortality to which the grave is the humble, though triumphant entrance. There is a great deal of beauty in its foliage, which is always green and never sombre, and renders it ornamental in winter as well as other seasons. The trees of this species have nothing disagreeable in their habits, and they charm every beholder while gracefully pointing to heaven with their slender, evergreen spire.

Allied to the arbor vitæ is the cypress, called by Shakspeare, "the emblem of mourning." This tree was by the early Christians esteemed significant of dying forever, because, if once cut down, it would never revive and flourish again; but it was esteemed by the Romans and many other nations in their funereal observances. The European cypress is a long-lived evergreen, and is a favorite tree for burial grounds among the Turks, who plant it sometimes upon graves as well as around them. Under its branches the Mussulmen assemble for prayer and religious meditation, and to honor the memory of their buried friends. This tree, having never been naturalized in this country, is not seen in our American grounds.

The American cypresses are not adapted to cemeteries, as they thrive well only in swamps. The northern cypress—the white cedar—is a well-known tree, resembling the arbor vitæ in its foliage, which is more delicate and beautiful; but it cannot often be successfully transplanted from its native aquatic haunts. The southern cypress is a grand and beautiful tree, but its foliage is deciduous. It sustains the climate of the north without injury, and would be a valuable ornament of the low grounds in our rural cemeteries.

In this family of trees we note the ever varied, the weird, the romantic and unpretending juniper. This tree deserves cultivation in our burial grounds, from which it has been carefully excluded, because it harmonizes with the rude forms of nature rather than the tasteful representations of art. I would cherish it in these places, were it but for this quality,

which enhances the pleasing effect of plain and humble grave-stones, and because, in its emblematic suggestions, it affords lessons of humility. Not so sombre as the yew, it is sufficiently sober to increase the desired expression of the grounds, and it is consonant with funereal images. When nature is dressed in the dreary uniformity of winter, it assumes a browner hue, as if it sympathized with the general sleep of nature. In summer it wears a brighter verdure, but in its ever-enduring sobriety it still blends charmingly with the universal brilliant hues that pervade the summer foliage of the woods.

In Europe the pine is associated, in its funereal characters, with the yew and the cypress, and it is probably the most common ornament of the cemeteries in New England. Perhaps no tree which has been mentioned exceeds the white pine as a standard in a cemetery, though it is too large to be conveniently planted in the burial lots. This tree possesses qualities which adapt it to almost every situation, where we would seek for seclusion or shade,—and the solemnity and grandeur of its appearance render it one of the most appropriate and magnificent accompaniments of the gardens of the dead.

The management of shrubbery is hardly less important than that of trees. The error most frequently committed is the selection of exotics, to the exclusion of many beautiful and appropriate shrubs of indigenous growth. The advantage of the latter is that they require no spading of the earth for their culture, and they also pleasingly remind us of the woods and fields. After they have been planted, they flourish without care and present a thrifty and spontaneous appearance, which is more agreeable than the trim formality of the exotic shrubs and the spaded earth about their roots. It is a great enhancement of the beauty of the grounds if all the shrubs and flowers appear to be nature's own free offering, with little about them to remind us of expensive labor or careful cultivation.

There is a large variety of native shrubs which should always find place in our rural cemeteries. Such are the shrubs that grace the stone walls by the sides of old rustic lanes and roads, which are more charming to the sight than

the most elegant of artificial hedgerows. The small birds love to nestle in this shrubbery, which is their natural shelter, and supplies them with an abundance of food. And if we would hear their tuneful voices over the graves of our buried friends, we must provide them with their native harborage in a supply of indigenous shrubbery, which will crown the place with deep verdure in summer, with splendor in the autumn, and at all seasons afford a shelter and a retreat to the songsters of our woods and fields.

But with all these pleasant gifts of nature, half their charms would be lost and half their beauty blotted out from the landscape, were it not enhanced by the rose. Mankind have universally agreed in placing this flower above all others of the field; but of the endless varieties which have been obtained by the arts of the florist, none is so beautiful as the simple wild rose of the pastures. Vain are all our attempts to improve the simplicity of nature. Her gifts, as they come unaltered from her hands, possess a grace and delicacy and loveliness that cannot be surpassed; and the wild rose by the side of a stream and the sweet briar of the pasture still reign in the hearts of all the true votaries of nature.

THE PLANTING OF RURAL CEMETERIES.

BY REV. A. D. GRIDLEY, CLINTON, N. Y.

It is assumed in the very title of our subject, that cemeteries are to be planted. They are not to be left bleak and bare, like most of the old-fashioned burial-yards, so forlorn and hideous that the school-boy hurries past them in affright, and both old and young dread to think of being finally deposited there. They are to have the guardianship and companionship of trees, and the grace which shrubs and flowering plants lend to a spot which might otherwise be uninteresting or repulsive. One may perhaps question the suitability of certain architectural and sculptural embellishments sometimes seen in cemeteries, but no one will doubt the appropriateness of simple, rural decorations.

Yet, when we speak here of rural decorations, it is obvious that the words are used in a restricted sense. The principles of landscape gardening can be applied in cemeteries only in a limited degree. For example: in laying out roads and walks, we must arrange them not so much for artistic effect, as for convenience of access to every section and burial-lot of the ground. So, in planting trees and shrubs, we have not the whole surface of the ground at our disposal, to set groups here and screens there, and single specimens elsewhere, as we please. Nearly every square rod of the premises must, sooner or later, be surveyed and laid off into burial-lots, and these lots must not be encumbered with trees, certainly not with large ones. Then, too, the general character and uses of the place must determine somewhat the style and spirit of its embellishments. It should not have the frigid stateliness of a public park, nor the high finish of a suburban country-seat. Should it not be a secluded, cultivated scene, awakening no thoughts of pretension and display, but rather of simplicity, quiet security, affectionate remembrance, cheerful hope.

As we have already said, few large trees are wanted in a cemetery, certainly not in the private lots. A short chapter from the history of many cemeteries will illustrate this point: In the selection of a site, by an inexperienced committee, a well-wooded spot is often chosen, as being specially appropriate. But, in the subsequent laying out of roads and walks through it, the roots of many of these trees are cut off, and, as a consequence, the trees soon begin to decay, and in violent storms are blown to the ground. So, in the improvement of lots from year to year: the proprietors find the trees with their immense roots in their way, and they importune the trustees to allow their removal. If they are not removed, the roots are badly mangled whenever interments are made, and, ere long, down tumble the old monarchs, tearing up the very graves and demolishing costly monuments. The same result follows if trees are left for a time in the spaces between the lots. The conclusion of the whole matter is, that, sooner or later, very many of the native trees in cemeteries have to be removed, and those which remain are seldom good specimens.

But must we, then, give up all rural embellishment, and leave these cherished spots to desolation and all manner of unsightliness? By no means. Various plans have been devised in different places, which go far to meet the difficulties of the case, and to render a cemetery interesting and attractive. Allow me to mention a method which has been adopted by the trustees of a cemetery under the writer's notice.

A large portion of the surface is destitute of trees, and this it is proposed to plant in such a way that the trees will not encumber the burial-lots, nor be themselves materially injured by any future improvements or interments. Portions of ground twelve feet square and forty feet apart, along the margins of the principal drives, are assigned to the planting of single trees: these spaces never to be sold for burial-lots, nor to be used for any purposes by the owners of contiguous lots; the trees to be selected and planted by the trustees, and to be under their perpetual care. - Every kind of native and foreign tree is to be planted here, that is hardy and suitable for such situations. All those are to be arranged along the avenues according to their respective families. For example: on the margins of one road, we shall set the eight or ten known varieties of the maple; on another, the dozen or more sorts of elm; on another, the numerous varieties of the beech, birch, ash, oak, linden, willow, the tulip tree, the hardy magnolias, the Kentucky coffee tree, the yellow-wood, Japan Sophora, deciduous cypress, &c. &c. As evergreens, with their spreading bases, generally occupy more ground than deciduous trees, it does not seem admissible in premises so limited as the *public* grounds of cemeteries usually are, to devote much space to them. We propose, therefore, to plant only a few specimens of each known variety. Larger spaces have been assigned to them,—fifteen feet square,—and they are arranged at intervals between the different classes of deciduous trees. The pines and spruces will perhaps need an occasional clipping to keep them within their assigned limits.

The owners of private lots are allowed, of course, all suitable liberty in the embellishment of their own grounds. They are, however, advised by the trustees to plant only small trees, with shrubs, vines, and flowering plants, and to keep each

and all in good order. A fine, well-shorn sod is recommended as of the first importance.

Now, we may ask, if a cemetery is adorned with trees according to some general plan like this, will it not give the grounds a character which they will not be likely to attain, if the work of embellishing them is left to individual caprice and taste? We shall not only have shady trees along our carriage-ways, but they will possess a peculiar interest to the botanist, and the lover of arboricultural beauty. Our cemetery will be seen to have some design and meaning in its arrangements. We shall have a fine collection of young trees coming forward to supply the places of the old and decaying forest trees. They will also be somewhat equally distributed over the entire surface, instead of being set here and there in clumps and patches, according to the zeal and fancy of lot-owners.

Perhaps some may object to planting in our cemeteries any beside *native* trees. But some foreign trees are fully as beautiful and as hardy as our own. Planted together, they will give our collections a greater variety and richness than they would otherwise possess. Instead of a few common shade-trees, we shall come at length to have an arboretum. Nor let it be forgotten, that, from generation to generation, our citizens will have more or less of foreign blood in their veins: how appropriate, then, that an occasional foreign tree—like the elm of England, or Scotland or Germany—should cast its shade upon the sod where they are interred!

We mention this as only one among other plans which might be adopted for planting cemeteries. Will not the Editor of this Magazine, or some of his correspondents skilful and experienced in these matters, present us a better method?

NOTES OF A EUROPEAN TOUR.

BY THE HON. J. S. CABOT.

DEAR H.—Although I left Paris, where my last letter was dated, on the 2d of January, yet travelling wholly by land and stopping occasionally on the way, I did not reach Rome

until the last of that month. Travelling in this way, I passed through almost the length of France, from north to south, through Sardinia and Central Italy, by the shores of the Mediterranean, and along the southern slopes or over the summits of the lower Alps and Apennines. Although the season was not such as would be considered wholly desirable for the purpose of viewing the country and becoming somewhat acquainted with its products, neither was it as unfavorable as you, in the midst of the rigors of a New England winter may suppose, for there was no snow, and only on one or two mornings did I see any indications of frost.

My route led me through the vine-growing and olive-producing regions of France and Italy,—at least where these occupy principally the attention of cultivators,—through that part of the empire first named called the Borbonnais, where the Burgundy wines are made. At Fontainebleau, about thirty miles from Paris, there are extensive vineyards, principally for the purpose of raising grapes for the supply of the Paris market, to which, in the season, great quantities are sent daily, the kind raised being mainly the Chasselas de Fontainebleau; and from here onward, for two or three hundred miles, it is almost an uninterrupted succession of vineyards. The whole country is covered with grape vines—not only the plains and valleys, but the sides of the mountains even to their summits, where circumstances allow of their cultivation, giving to the landscape at this season a brown or reddish appearance as it lays in the sunshine. With others of celebrity, I passed by the vineyard that produces the celebrated Hermitage wine; this is of small extent, not more than two or three hundred acres, so situated on a slope of the mountain that the sun lays on it all day, the soil being of a peculiar character, and immediately adjoining it, though apparently similarly situated, being either too rich or too poor to produce grapes of the quality or peculiar flavor necessary in the manufacture of this particular wine.

Through all this region of country the mode of cultivating the grape seems to be the same; they are planted in rows about four feet apart, the vines being about the same distance apart in the rows, and trained to stakes of about four or five

feet high, generally one or at most two shoots. What particular tillage the land receives or what is the produce of a vine, I have no means of knowing. The land about the vines is kept clean and loose by the plough, and I presume is, when necessary, enriched by manure.

France is renowned for its pears, and yet in all that part of it through which I passed, between Paris and Marseilles, I saw but few if any fruit trees. It may be that the cultivation of grapes is here more profitable.

In the neighborhood of Avignon the olive is first met with, and from there through France and Italy it is largely cultivated, dividing with the grape the attention of cultivators, receiving, through a large extent of the country, the larger share, both being planted not only on the level lands but on the sides of the mountains, frequently so steep as only to allow manure to be applied by transporting it in panniers on the backs of mules, and rendering it necessary to throw them into terraces, as is frequently done, even to their summits, the terraces being faced with stone walls. The olive is planted in groves on the bottom land, sometimes sufficiently far apart to permit grain to be grown beneath them, but generally near together, so that at a short distance the sides of the mountains appear to be covered with a thick wood. The olive is not a handsome tree; its foliage is persistent, and bears a strong resemblance to the leaf of the common sage; it grows, under suitable conditions, to a large size, the trunk near the ground branching or dividing into several upright limbs. An old olive tree, at a distance, has a strong similitude to an old willow tree with us. The largest and best olives are picked when green for pickling; the others are suffered to hang till ripe, when they are gathered for oil. This was being done when I passed along, although with a majority of the trees this process had already been performed, while on some the fruit was not then in a proper state for the purpose.

In Modena and Tuscany a different method from that pursued in France prevails with respect to the cultivation of the grape. Here, instead of planting them in rows near together and training them low, the fields are planted with mulberry trees or trees for fuel, and grape vines planted at the foot of

the trees; these are trained up the trees, and the branches led from tree to tree, as in festoons. I have no means of judging of the relative advantages of the different methods, but suppose that each has its advantages that commend it to the cultivators of the different countries.

In Italy much of the tilling of the soil in the olive groves and vineyards is performed by hand, though I have sometimes seen a plough, a very uncouth and rude instrument used for the purpose, but generally a sort of hoe with a short handle, the blade very heavy and shaped somewhat like a pointed shovel, while in the neighborhood of this city a small, sharp-pointed spade with a long handle is more usually employed.

The Italians have had the character of being an indolent people, but it seems to me that they have been unjustly subjected to the imputation; certainly in the mountainous regions an immense amount of labor has been performed in the construction of terraces, and every spot susceptible of it receives a careful cultivation. The roads are excellent, and being built sometimes along the sides or over the summits of steep mountains, winding up and down them by ascents and descents so gentle as sometimes to be almost imperceptible; at others, carried along the shore or over hanging ledges. They are not only remarkable proofs of engineering skill, but striking instances of what well-directed labor can accomplish.

Besides the olive and grape in Italy, figs are somewhat largely cultivated, though not to the extent of the two former. In portions of the route, of which I have previously spoken, I met with instances of an almost tropical vegetation. This first occurred at Cannes, near the southern boundary of France; here I saw gardens or orchards of orange trees, some of them of large size, loaded with ripe or ripening fruit; roses in blossom; cactuses, palms and aloes flourishing all in the open air, and this too in the month of January, and these I continued to meet with in sheltered places on the sea coast from there to this city.

The fruit that I see on sale in the shops and markets in this city, are oranges, apples and a few pears, the former being the most abundant. The oranges are good, as sweet and I think better than we usually have them in the United States.

Apples are not very good ; they are of tolerable flavor, but are not tender ; they are very solid, and seemed as if they would keep sound for months yet. I have seen half a dozen different varieties. I have seen but one variety of pear since I have been in Italy, and this I have seen in all the larger towns in which I have been ; I do not feel certain what variety it is ; in form and some other of its features it bears a resemblance to the Glout Moreceau, but if it is that it is not as good as that variety is with us, and I am rather disposed to believe it some one of the kinds that, more recently introduced among us, I am not sufficiently familiar with to identify. Grapes and figs were out of season when I arrived in Italy, and I have seen neither, except the latter in a dried state ; these are good, nearly or quite as good as the Turkey figs.

From what I had heard and read in relation to the subject, I had supposed that there existed a method of laying out gardens and grounds in Italy that was called the Italian style, of which examples might be constantly met with ; but although I have visited a few villas that are considered among the finest in that part of the country where I have been, and have obtained views of many as I passed along, I have failed to see any that exhibited what I suppose to be the peculiar and distinctive features of this style in any very marked degree. It may be that the impression I had received with respect to these distinctive features was incorrect, and I am ready to acknowledge that I had formed no very clear and distinct idea concerning them, or it may be that they have in a great measure disappeared by the gradual introduction of what is commonly called the natural method in landscape or villa gardening. True it is that in most of the villas that I have seen, I have met with statues and fountains, stair cases, balustrades and terraces, and these I suppose to be some of the component parts of that style, but they have been free from that stiffness and formality of arrangement and that adherence to straight lines that I have presumed constituted its essence. The use of statues and fountains in laying out and improving grounds surely is not inconsistent with the natural method, but, on the contrary, may, as it seems to me, be

employed with great effect as adjuncts, and tend materially to an increase of their beauty.

I visited, in the vicinity of Genoa, a villa that combined within a comparatively limited extent of territory more and a greater variety of beauties than any that I have ever seen. These beauties consisted of the arrangement of the grounds, extensive prospects over land and sea, fountains and pools of water, and a great variety of rare and beautiful trees and shrubs. So far as its beauty was dependent on this last particular, it was indebted to the mildness of the climate where it was situated, that permitted the use of trees and shrubs that could not endure a rigorous climate. You will readily appreciate the effect of a thicket of beautiful camellias, growing vigorously in the open air, as I saw them, and what would be the result when they were in full bloom. This villa is situated on a natural plateau formed on the side of a steep hill, that rises immediately behind it to the height of some hundred of feet in a conical form, while from the house there is an abrupt descent to the level ground in front, the high ground sweeping round so as to permit an easy approach for carriages to the plateau on which the house stands. A portion of the level ground in front of the house was appropriated to a flower garden, and the residue to a vineyard. The flower garden was laid out with broad gravelled walks in lines adapted to the shape of the ground, and these were bordered with flowering shrubs and plants, among others with a row of camellias just bursting into full flower. Here too were the greenhouses for tropical or other plants requiring some protection, being merely structures with the sides exposed to the sun, of glass, no fire heat being ever required. In the beds between the walks were orange and lemon trees, the largest and finest I had ever seen, being now about thirty years old, their trunks six to eight inches in diameter, and fully fifteen feet high. You will perhaps imagine that I experienced a feeling somewhat akin to astonishment when the gardener cut, to present to his visitors, a bunch of camellia flowers, from bushes growing in the open ground, with apparently as little reluctance as you would of roses from your bushes under similar circumstances in the month of June.

By a noble staircase of white marble, consisting of about one hundred broad steps, ready and easy access was obtained to this garden from the plateau on which the house stands. Behind the house the land, consisting as I have stated principally of a conical-shaped high hill, round one side of which there was a continuation of the level plateau of which I have spoken, was appropriated to pleasure grounds. Upon this level part of the ground there was a fine wide avenue, bordered on each side with large shade trees, into which there was an entrance from the house by means of a noble wide terrace, paved with marble, on a level with the floor of the principal apartments. All the rest of the hill was planted with trees and shrubs in great variety and almost endless profusion, almost all of which were evergreens, or those of which the foliage continued fresh and green through the winter, so that when looked at from a little distance the hill seemed a mass of verdure; yet, when one walked about it, open spaces were found that had been left to receive other ornaments; and as most of the shrubs and many of the trees were flowering, such as azaleas, rhododendrons and laurels, it must in the season be an object of great beauty. In addition to the shrubs as named, there were thickets or hedges of *laurustinus*, *arbutus* and heaths; a bank covered with large, very vigorous camellias; magnolias of different varieties, more than twenty feet high; passion flowers of different kinds and other vines were running over some of the structures; there were large cork trees, camphor trees, *Paulownia imperialis*, an *arbutus* that sheds its bark yearly and that was now quite bare, and many others, among which were different kinds of evergreens. Paths winding round the hill in different directions, along which seats and resting places frequently occurred, led by easy ascents to the top of the hill, diverging occasionally in order to afford some particular view, or to reach some particular object or part of the grounds. The top of the hill affording a comparatively level space of a few acres, was planted with a grove of noble stone pines, beneath which was an imitation of part of an ancient castle, in which were rooms for such purposes as might be desired. From the top of this castle was a magnificent view extending to a

great distance over the land on one side, and of the Bay of Genoa on the other, with that of the city in the distance. There were structures of various kinds in different parts of the grounds, as ornamental bridges, Chinese temples, Turkish kiosks, and others of perhaps a more useful but less pretending character. There were several fountains even in the higher part of the grounds, being supplied by water brought in an aqueduct from a distance of seven miles for this especial purpose, and that in a sufficiently copious supply to permit of pools or lakes of considerable extent, and of an artificial cascade. A grotto composed of large rocks, from which stalactites were dependent, had been so skilfully constructed as to appear like a natural formation, through a portion of which there was a winding passage. On one side of it was a large pool of water that flowed into a part of it, so as to render it necessary, in order to pass through the grotto, to embark in a boat and be rowed into the open lake beyond. This lake or pool was surrounded by a belt of the greenest and softest grass imaginable, and in its centre, beneath a canopy supported by pillars, thus forming a sort of circular temple, was a statue of Diana with a dog, all of pure white marble.

It is in vain for me to attempt, by any description of which I am capable, to do justice to the beauties of this place, and I have merely given you this general outline, to enable you to form some idea of what constitutes a modern Italian villa in its most approved form. A large expenditure of money and a long series of years, extending through the life of more than one generation of owners, have been required to bring it to its present improved state, for before any attempt at the improvement of its site was commenced, it consisted of a bare hill, without any natural beauty beyond that of the wide and extensive view obtained from its summit.

But it is time that I brought this to a conclusion, though such may seem abrupt. This is surely sufficiently lengthy to gratify even your desire for long letters, so I shall now, for the present at least, bid you adieu, with the assurance that I am yours truly.

Rome, March 2d, 1860.

AMERICAN AND ENGLISH FRUITS.

BY L. E. BERCKMANS AND P. J. BERCKMANS, AUGUSTA, GA.

IN your last No. of the Magazine I read with much interest the remarks of "Pyrus," and your capital retort. How a man of capacity and of high pomological position could write such remarks, and indulge in feelings of jealousy, left only to vulgar minds, is to me a matter of great surprise. To be sure, we do not want the approbation of "all the world" and somebody besides; we can, *Chinese-like*, well afford to exclude foreign apples and pears, and be well satisfied with our indigenous share of the bounties of Providence; but, as others, we have our national pride, and we do not like injustice or misrepresentation in any form; therefore Pyrus must permit us, and indeed must *expect*, some reply to his rash assertions. The American eagle is not more patient than the British leopard.

If he judges our "big patch" of the Union from the same point of view that he does his London gardens, he must certainly labor under a strange *hallucination*, and must find everything wrong and uncouth, because we are out of the reach of his microscope. Jesting apart, did Pyrus be in his usual good sober mood when he indulged in these remarks? It might be supposed that some American fly had stung him, or that some momentary excitement had led his otherwise sound and good judgment astray.

We shall not reply to all his assertions, else we could say that here, as well as in France and Belgium, of all the vaunted English pears, only a very few have outlived their former *catalogal* reputation. We should ask who cultivates the Eyewood, the Moccas, the Suffolk Thorn, the Broom Park, *said* (after twenty years' experience), still *said* "to partake of the pine-apple," &c. (see some English catalogues)? Why not state it at once as a positive fact, or drop the epithets? We could call the attention of our western and eastern apple growers, used to barrel their Cayugas, Baldwins, Kings, Hubbardstons, &c., to the diminutive size and weakly habits of the English apples, of which not a single variety has been

deemed worthy of general cultivation *here*, and of which only two or three are known in France and Belgium as orchard fruits.

For myself, I have grown English pears in this and in the old country, and, with the exception of the Bartlett and a single tree of the Croft Castle, have given them up. Gansell's Bergamot, a fine fruit indeed, is too sickly and too uncertain. The vaunted Chaumontel of Jersey and Guernsey is a French pear. Those "most excellent pears" are all the products of the orchard houses. We want pears and apples that will grow and bear in the open field, strong, vigorous growers, as the Buffum and the Swan's Orange. Certainly the blight is a very annoying disease; but, as you well say, more apple trees are lost all over Europe by the black, and, let me add, the *Aphis lanigera*, than pear trees are lost by the blight in this country.

After years of close observation and experience, I have almost come to the conclusion that the blight is most always the result of damp soils, retentive subsoils, want of drainage, in a word, of too much moisture. I suppose that Downing did write "so much" about the blight, because in his days a great deal more of the old decaying varieties were cultivated in the United States. It is quite different now. The Bartlett is the most liable to it, undoubtedly. It is one of the strongest and best of the English varieties; but still, as all those *Britishers*, not as hardy as the French and some of the Belgian sorts. This climate spares no sickly variety, and brings out the hidden, constitutional disease directly. I never saw the Van Mons Leon le Clerc, the Bonne d'Ezee, the Deux Sœurs crack and blister as they do in this country. In France and Belgium they are weak but not diseased.

You want me to reply to the assertion of Pyrus. My experience is still limited here in the South. But, what I have tested of the American varieties have been vastly superior to all I tested before. The Buffum, a stately tree, and a variety I shall always hold in high estimation, was with me and in Athens, Ga., fully as good as a White Doyenné. The Van Assehe was twice its ordinary size, and all sugar and flavor. The Pratt was delicious. I had a Triumph of Jodoigne,

weighing twenty-two ounces, colored, glossy, perfect in appearance, and "as good as it was big." Sheldon, Beurré Sterekman, Zepherin Gregoire, Jules Bivort, and many others were of the highest quality, and the Clairgeau was truly splendid, as well in appearance as in quality.

Pyrus will never be able to level an accurate judgment upon *our* pomological products if he has not feasted for months upon our ripe Catawbas, Isabellas, Concords, (the strongest and one of the best of all natives;) upon our peaches, pears, apples, figs, and *American* strawberries. He who has not tasted fully ripe peaches in the South, hardly ever shall know what a peach is intended to be, when grown nearly under the same conditions as in its native *Persia*.

My son, P. J. B., just submits to me some remarks suggested by the reading of your article. I take the liberty to send you his remarks with mine. You can make use of *our* assertions as you may think it convenient. With all due regard to the character and learning of *Pyrus*, we cannot refrain from an effort to vindicate the truth. As the attack has been made without any knowledge of the *local* character and merits of our fruits, he must allow us to show things in their true light, and I will say as the old Roman :

"Amicus Cato, magis amica veritas."

(I like Cato, but like *truth* better.)—Yours respectfully,
L. E. BERCKMANS.

C. M. HOVEY, Esq. Dear Sir: Under the head of "Pomological Gossip," in the March No. of your Magazine, you have answered *Pyrus's* remarks with extraordinary fitness, and deserve due credit in vindicating American fruits. The idea of bringing English raised fruits in comparison with ours, is simply ridiculous; that of putting such pears as Knight's Monarch, Gansell's Bergamot, &c., against any in the world, is preposterous. Is it in the small compass of a seven-by-nine English city garden that *Pyrus* and others can produce their matchless pears, or their unrivalled outdoor grapes? Can their cold, misty and dull climate be compared, in fruit-raising, with our own bright, pure and genial one, not speaking of its diversity? We may with good

reason say no. To do our English friends justice, their gooseberries and rhubarb are of surpassing quality; but even in those products, perhaps, we are not far from them. Has England ever seen in her city markets such peaches, apples, melons, etc. etc., of her own raising, as we daily see in all our cities? Have peaches ever been sold there by boat-loads, at the trifling price of twelve and a half cents per basket, and of such quality as they never dreamed of? What would Pyrus say in comparing fruits, was he to spend a season in our Southern States, where fruits are still superior to northern, in variety and quality, as the warm climate gives them a wonderful perfection? True, of late the yellows have done much harm to the peach crop in several States, but as our country is not confined to New York or Massachusetts, as perhaps many may suppose, and where the products of the South can be brought to markets thousands of miles distant, at a price attainable by all classes, does this single fact not give us advantages never to be thought of in England? Why, if their fruits possess such marked superiority over all others, do they mainly supply the London and other markets with Belgian and French fruits, not speaking of the *American apples*, and why do they bring a higher price than their own?

As for strawberries, we justly claim superiority over them. Not a single English variety can compare with our leading kinds in flavor or productiveness. [This is admitted: in a prominent English *Catalogue of Fruits* it is stated that "all the very large strawberries," with the exception of the Admiral Dundas and Queen, "*are mostly poor and wanting in flavor.*"—ED.] Many of their varieties may be larger than any of ours, but in all instances are devoid of flavor, and do not produce enough to give them room. Here, strawberries begin to ripen generally by the end of March, and sooner in the lower part of this State, and will last until the middle of July; by irrigation, and the same expensive mode of cultivation as practised in England, they can be brought to bear good crops until November, as it has been proved. To quote the style of Pyrus, what would English gardeners say if they could grow peaches of fourteen inches in circumference, such glorious pears and apples as we do, such grapes as we

can well boast of, with the endless other varieties of fruits, as figs, pomegranates, oranges, etc., without the aid of orchard houses and at a trifling cost? They can only raise a second quality article, and at such a heavy cost as only to be attainable to the wealthiest, the poorer classes not knowing such fruits even by name.—P. J. B.

POMOLOGICAL GOSSIP.

POMOLOGICAL CONGRESS OF LYONS, FRANCE.—It is already well known to most of our pomologists, that the French cultivators have organized an association similar to the American Pomological Society, having in view the same objects, viz., the examination of the principal fruits, the detection of synonyms, and the recommendation of the best varieties for general cultivation, as well as those which promise well, and the rejection of inferior varieties. We have already given an abstract of the report of the sessions of 1856 and 1857, and now add that of 1858. Though much of the information has been already anticipated by the American Pomological Society, we copy the doings of the French Congress, as an evidence of pomological progress in France. Notwithstanding the meeting was held at Paris, and was composed of two hundred and six delegates, from the various departments, including some of the most eminent cultivators in the country, scarcely a fruit was examined or decided upon which had not previously passed the ordeal of the American Pomological Society. Indeed, some of the French pears which have been well known here for twenty years, appear to be comparatively new fruits to the French congress.

The following is the list of pears examined, according to the Report of M. Chauvelot:—

VARIETIES OF PEARS APPROVED BY THE CONGRESS.

Auguste Jurie.	Belle Sans Pepins.
Arbre Courbé.	Bergamotte d'Eté.
Baronne de Mello.	Bergamotte Esperen.

Beurré Apremont.	De Louvenjoul.
Benoit, (Beurré August Benoit.)	Doyen Dillen.
Bretonneau.	Doyenné d'Alencon.
Beurré Capiaumont.	Boussock.
Clairgeau.	Defais.
d'Amanlis.	d'Hiver.
d'Amanlis Panaché.	Duchesse d'Angouleme.
d'Aremberg.	Panache.
de Lucon.	de Berri d'Été.
de Nantes.	Epine Dumas.
d'Hardenpont.	Figue d'Alencon.
Diel.	Fondante des Bois.
Duvernay.	de Charneu.
Giffard.	de Noel.
Hardy.	Frederic of Wurtemberg.
Dumortier.	Grand Soliel.
Six.	Graslin.
Sterckmans.	Jalousie de Fontenay.
Superfin.	Louise Bonne d'Avranches.
de Saint Vaast.	Marie Louise Delcourt.
Bon Chrétien d'Hiver.	Ne Plus Meuris.
Napoleon.	Nouveau Poiteau.
William.	Passe Colmar.
Bonne d'Ezee.	Premice's d'Ecully.
de Malines.	Rousselet d'Aout.
Broom Park.	St. Michel Archange.
Colmar d'Aremberg.	St. Nicholas.
Comte de Flandres.	Seigneur.
Conseilleur de la Cour.	Soldat Laborer.
Curé.	Theodore Van Mons.
De Tongres.	Triomphe de Jodoigne.
Des Deux Sœurs.	Urbaniste.
Delices d'Hardenpont.	Van Mons Leon le Clerc.
	Zepherin Gregoire.

The synonyms of these varieties are also given; but as we have already reported them in our previous notices of the Congress, we do not occupy space to repeat them here. M. Verlot, a distinguished pomologist, in a communication in the *Revue Horticole*, very justly objects to the course of the

Congress, in calling the old Beurré Bosc, Beurré Apremont, and other similar errors of adopting local names rather than the most popular and well known. Without a reference to the reports above named, we are very sure many of our cultivators would hardly know that the Fondante des Bois was our Flemish Beauty—the Seigneur the Belle Lucrative, the Doyenné d'Hiver the Easter Beurré, &c. We certainly think such mistakes only lead to confusion and increase rather than lessen the difficulties of nomenclature.

That the climate of France is no more favorable than our own, is best indicated by the fact, that the following are recommended to be grown as espaliers on a wall: Crassane, Beurré Gris, Chaumontelle, Beurré Rance, White Doyenné, Gray Doyenné, and St. Germain.

The following kinds were rejected: Alexandrine Douillard, Bergamotte Heimbourg, Beau Present d'Artois, Beurré Moire, Beurré de Montgeron, Bezi d'Echasserie, Esperine, Heloise, Malconaitre, Poire a Deux Tetes and Rousselet St. Nicholas.

The fourth session of the Congress was to be held at Bordeaux in September last. The report of this meeting has not yet come to hand. As soon as we receive it we shall give an abstract of it, that our cultivators may know what progress has been made the last year.

THE AUSTIN SHAKER SEEDLING STRAWBERRY.—This is the name given to a new seedling raised four years ago by the Shaker Settlement at Watervleit, N. Y., the berries of which were exhibited at the Farmers' Club of the American Institute last year, and attracted great attention. It is now proposed to offer it for sale next autumn, and that all may judge for themselves of its qualities, specimens of the fruit will be exhibited in New York, Boston, Philadelphia and Rochester. We doubt not from what we can learn of our friends in New York, who are good judges of the strawberry, that it will prove a valuable acquisition. An account of it will be found in our Advertising Sheet. We would suggest that the name be shortened by calling it simply the "Austin's Seedling."

NEW PEARS.—It has been our endeavor to keep our readers informed of all the new pears which have been introduced to

notice, both abroad and at home, and in our volume for 1858, (XXIII., p. 258,) we described all the new varieties up to that time. Since then quite a number of fine varieties have been added to the Catalogue, some of which have a very high reputation, and from the fact, that the French and Belgian cultivators are far more discriminating than heretofore, there is strong hope that they will prove equal to the description. The organization of pomological associations, and the examination of new fruits by committees especially appointed for that object, will, it is hoped, prevent the further introduction of inferior fruits. The Society Van Mons, (S. V. M.) composed of the most celebrated cultivators of Belgium, organized for the purpose of testing and proving the seedlings of Van Mons, are, as will be seen, responsible for the descriptions of many of the following new varieties, and, with such pomologists as Bivort at the head, there can be little doubt that they will mostly prove very valuable accessions to our collections:—

ADOLPHINE RICHARD, (S. V. M.)—Fruit medium, turbinate; skin clear yellow, spotted and striped with reddish brown; flesh white, melting; juice abundant, sugary, well perfumed. November and December.

ADELE LANCELOT, (Bivort.)—Fruit large, or very large, pyriform, pyramidal or conical; skin clear green, striped and shaded with red; flesh white, very fine, melting, buttery; juice abundant, sugary, vinous, having the flavor of the almond, and of first quality. Tree vigorous and productive for pyramids or standards. End of October. (S. V. M.)

BARON DEMAN DE LENNICK, (S. V. M.)—Fruit small or medium, bergamot form; skin golden yellow, marked and spotted with clear red; flesh white, very fine, melting; juice abundant, sugary, well perfumed. End of November.

BELLE D'IXELLES, (Millet.)—Fruit large, very melting, and perfumed; skin golden yellow.

BEURRE' BOISBUNEL, (Boisbunel.)—Fruit medium size, melting, and very buttery; juice abundant, sugary, and perfumed. Tree productive and vigorous. November and December.

BEURRE' DE ST. ARNAUD, (Gregoire.)—Fruit small, or medium, roundish, turbinate; skin golden yellow, marked with orange red at maturity, striped, shaded and spotted with clear red; flesh white, very fine, buttery; juice abundant, sugary, with a very agreeable perfume, always first quality. Tree vigorous, very productive for pyramids or standards. End of October.

BEURRE' DE CERCLE PRACTIQUE DE ROUEN, (1857.)—Fruit medium, turbinate, with a taste very refreshing. First quality. End of September.

BERGAMOTTE REINETTE, (1857.)—Fruit, medium, round, with a taste peculiarly refreshing; does not rot, and very productive. September.

CLEMENT BIVORT, (Bivort.)—Fruit medium, round, of Bergamotte form; skin golden yellow, strongly shaded and striped with red; flesh white, very fine, melting; juice abundant, sugary, strongly perfumed, of first quality. Tree vigorous and productive for pyramids or standards. November. (S. V. M.)

DOCTOR NELIS, (Gregoire.)—Fruit medium, pyriform; skin green, very slightly marked with brown, spotted russet, with black dots; flesh yellowish white, fine, melting, buttery; juice abundant, sugary, with a delicious perfume. Tree of medium vigor, very productive for pyramids. End of October.

DOYENNE' DES HAIES.—This variety, recently found growing wild in a hedge near Toulouse, is of great vigor, and is remarkably productive. From the Report of M. Lanjoulet, inserted in the Annales de la Societe d'Horticulture de la Haute-Garonne, it is thought this variety is a good substitute for the old White Doyenné, which in Belgium spots and cracks, as it does in our climate.

DOYENNE' DU CERCLE PRACTIQUE DE ROUEN, (1857.)—Fruit medium or large, round, refreshing, first quality. November.

FLORENT SCOURMAN, (S. V. M.)—Fruit large, pyriform; skin clear green, striped and spotted with brownish red; flesh very fine, melting; juice abundant, sugary, well perfumed. October to December.

FONDANTE DE MARS, (Delcourt.)—Tree very vigorous and productive. Ripens in March.

HELENE GREGOIRE, (Gregoire.)—Fruit large, or very large, oviform; skin smooth, glossy, clear green, slightly colored on the sunny side, striped and marked with gray; flesh fine, melting, half buttery; juice plentiful, sugary, having an agreeable perfume, with a slight almond taste; of first quality. Tree very vigorous, very productive for pyramids. October. (S. V. M.)

JEAN BAPTIST BIVORT, (Bivort.)—Fruit very large, turbinate; skin clear green, slightly yellowish at maturity, nearly covered over with grayish red, and striped with the same color; flesh white, very fine, melting, buttery; juice sufficient, sugary, slightly perfumed, first quality. Tree vigorous, very productive, for pyramids and standards. November. (S. V. M.)

ORPHELINE COLMAR, (Van Mons.)—Fruit very large, pyriform, pyramidal; skin greenish yellow, striped and dotted with brownish gray and black specks, colored on the sunny side with pale red; flesh yellowish white, fine, melting; juice abundant, sugary, with an agreeable perfume; first quality. Tree very vigorous, very productive, for pyramids, upon quince and pear. October and November.

POIRE DU CONGRESS POMOLOGIQUE, (1857.)—Fruit medium or large, oval, truncated; very fine, and very productive; first quality. November and December.

REYNAER BEERNAERT, (Bivort.)—Fruit medium, turbinate, pyriform; skin golden yellow, striped and dotted with red; flesh melting; juice abundant, sugary, with an agreeable perfume, and of first quality. Tree very vigorous for pyramids and standards. December to March.

ROUSSELET AELENS, (S. V. M.)—Fruit small, turbinate, pyriform; skin citron yellow, slightly colored on the sunny side, and striped and dotted with grayish red; flesh half fine, melting; juice abundant, sugary, perfumed like the Rousselets. Tree very vigorous and productive for orchards.

SAINT VINCENT DE PAUL, (Flon Grolleau.)—Wood thorny, grayish violet, dotted with gray; buds small, pointed; fruit pyriform, of the form and size of the Martin Sec, and of the same russetty appearance; flesh sugary, half melting. This good fruit ripens towards the end of January.

SAINTE GERMAINE VAUQUELIN, (Vauquelin.)—Fruit very large, turbinate, or ovoid; skin rough, dark green, strongly marked, and striped and dotted with grayish brown, shaded with the same color around the stem and calyx, becoming yellowish at maturity; flesh white, half fine, melting; juice abundant, sugary, with an agreeable perfume, appearing like the old St. Germain. Tree productive, and does well upon quince or pear, for pyramids or standards. November to May.

THOORIS, (S. V. M.)—Fruit medium, ovoid round, or Bergamotte shape; skin clear yellow, shaded and striped with grayish red; flesh yellowish white, half fine, melting; juice abundant, sugary, and with an agreeable perfume. September.

In addition to the above we find the following new varieties described in our foreign journals:—

MADAME VERTE.—Described by M. de Jonghe, who considers it a valuable variety. Its origin is unknown. The name first occurs in the Catalogue of Van Mons, published at Louvain in 1823. Some amateurs, contemporary with Van Mons, state that it was raised by one Gevers, formerly a nurseryman at St. Josse-ten-Nooden, near Brussels, and called after his sister, Madame Verté. M. de Jonghe states that it is eighteen years since he first saw the variety growing in the garden of an amateur, residing at Brussels, who informed him that he received it of Van Mons, who considered it a good sort. The fine growth of the tree attracted his attention, and he grafted it on a wild tree in his collection; it grew freely, and bore for the first time in 1850. The first three years the fruit did not appear large enough for general propagation, but in 1854 it improved in size and became later in ripening; in 1855 it ripened in November, and in 1859 it commenced to ripen the end of January.

The tree is of moderately vigorous growth, hardy and a good bearer, and the fruit quite distinct from that of any other variety. In size and shape it somewhat resembles the Walker.

M. de Jonghe remarks that in the opinion of several persons who possess strong trees of the Mad. Verte, about the

same age as his, there are few sorts to be preferred to it for pyramids in the open ground in respect to productiveness of the tree and quality of the fruit. It is late in coming into bearing, which accounts for the little we know of this as well as some other sorts which have been in existence nearly half a century. As it does well on the quince dwarf trees are to be preferred.

Fruit of this pear was tasted by the editor of the *Gardeners' Chronicle*, from which we copy, February 27, and found in excellent condition, sweet and rich, but not so buttery as the *Glout Morceau*.

PASSE CRASSANE.—A new variety raised by M. Boisbunel the younger, of Rouen. The fruit is medium or rather large, about three and a half inches broad and three deep, somewhat oblate in shape. Skin yellow, covered with russet dots. The fruit ripens usually in February, and keeps till March. Its quality is excellent; the flesh is very fine, very melting and buttery; juice abundant, sugary, and relieved by a very agreeable acid. Tree very vigorous and productive.

Obtained from seeds, and fruited for the first time in 1845. M. Boisbunel considers it as one of his best seedlings. The tree forms a handsome pyramid, the fruit large, its vigor medium, and its productiveness very great.

LOUISE BONNE DE PRINTEMPS.—This is another new variety obtained by M. Boisbunel, and fruited for the first time in 1857. The fruit so much resembles the *Louise Bonne*, that M. Boisbunel thinks it was raised from a seed of that variety, impregnated with some winter pear. It has the same leaves, the same colored wood, the same vigor and the same productiveness; this analogy and the period of its maturity justified the name. It ripens towards the end of winter and keeps till April. The fruit gives out a very strong perfume. The flesh is white, fine, melting and buttery, the juice abundant, sugary, and well perfumed. It is one of the best of late pears.

The tree is vigorous, productive, and of a beautiful habit, with numerous symmetrical branches. It flourishes either as a pyramid or standard, and will prove a fine acquisition. It does not grow upon the quince.

LEWIS PEAR.—We are glad to see this fine old pear appreciated by some of our cultivators. Dr. Grant of Iona, N. Y., enumerates it in a list of twenty choice varieties out of one hundred worthy of cultivation. We have long grown this pear, and have been of the opinion that the time would come when it would be esteemed nearly as highly as the Winter Nelis. Unfortunately it is one of those kinds, like the Dix, Cushing, and several other of our best American pears, which require at least fifteen or twenty years to fully prove their merits. On young trees the fruit is small and indifferent; but on old ones it is large and of first rate quality. The Lewis is a prodigious bearer, and the fruit keeps till February. We hope it will receive more attention.

KIRTLAND RASPBERRY.—This is a new variety, originated, we believe, by our correspondent, Dr. Kirtland of Cleveland, Ohio. Mr. Heaver of Cincinnati describes it as perfectly hardy with him on hill land; the canes grow about five feet high; the bark is of a brownish red color, and when in luxuriant growth it is covered with a white bloom. The fruit ripens the first week in June, (in Cincinnati) and continues bearing three weeks. In addition to this first crop it has for the last two years borne a partial crop in the fall, during September. Dr. Warder, the editor of the Cincinnati, fully endorses Mr. Heaver's opinion.

THE ADVANTAGES OF INARCHING.

FROM THE REVUE HORTICOLE.

THE French are exceedingly skilful in the various processes of inarching, grafting and budding; as we have before stated, the numerous methods of propagation in this way have usually been their own inventions, and have been fully described by Thouin, Dubreuil, and other authors in their elementary works.

Inarching is one of the old modes of propagation, known for a long period, but not generally practised; grafting with many plants having been found more convenient, and a

quicker method of propagation. It however possesses many advantages, especially when applied as here described, by placing the scion in the earth or in a bottle of water plunged in the soil, some of which are given by M. Lachaume, an intelligent cultivator, in the *Revue Horticole* of 1859. Impressed with its usefulness, we translate a portion of M. Lachaume's paper, and copy an engraving illustrating the mode of propagation:—

We present some of the advantages which can be obtained by the application of inarching, the result of our own experiments, followed by us since 1842, and assure horticulturists and amateurs that it may be employed with much profit. Among other examples, we name the two following.

In 1850, we had occasion to graft, with M. Mouchonnet at Choisy-le-Roi, a double flowering peach, on an espalier six years old, and which we believe had never borne fruit. The bark of the tree was so rough it would not permit of budding; we inarched upon it a branch of the *Grosse Mignonne*, as follows: two scions upon the main stem below the branches and two upon the principal branches. The operation resulted successfully, and when the scions began to grow, the branches were cut off. The new shoots grew upwards of five feet the same year, and the following one bore several beautiful peaches, which caused an agreeable surprise to the proprietor.

The results obtained here induced us to try it for furnishing the base of old pyramidal pears, simply placing *the scions* in earth at the foot of the tree.

From this experiment we operated upon a pyramidal pear. The scions or branches, of the length of two feet, were plunged into the soil to the depth of six or eight inches in the month of February or March, just in the direction it was decided to inarch. When vegetation had advanced so as to show the leaves and flowers upon the stock, we inarched the tree, as we have described in our *Method Elementaire*, leaving only four or five eyes above the point of the inarching, and shaded it from the sun by a sheet of paper. All succeeded as in the former case, with the scion placed in a bottle of water.

In a careful examination of the grafts, we found the part plunged in the water had produced a callous with a few roots which died for want of sufficient nourishment.

It was the same with the branches inserted in the soil ; but, here we attributed the death of the roots to the nature of the soil of Choisy-le-Roi, which is not favorable to the growth of the pear. The event justified our previous expectations, because, after having suggested this to an amateur of Ferte Gaucher, who came to examine our trees, he returned home and grafted in the same way the pear upon the quince, and the peach upon the apricot, with their base plunged in the soil. The grafts rooted perfectly, and at our horticultural exhibition in the autumn of 1858, he produced pears and peaches, inarched in the spring of the same year, with strong shoots more than five feet long, having at their base a pretty little tuft of roots. This fact would have passed unnoticed only that I thought it a duty to name it in showing the advantages to be derived from this mode of inarching, which are as follows: 1st, we can graft the tree, and 2nd, at the same time we obtain a tree on its own roots in cutting off the branch below the graft.

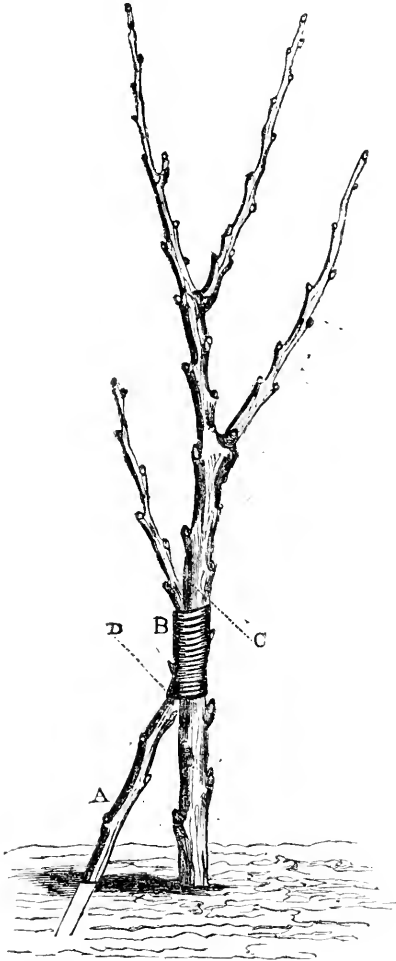
This last result has not yet been obtained with shoots or branches of the pear and the peach, though it has succeeded with the apple, for I possess the Calville, of Canada, that has been growing vigorously for three years.

The experiment proves that all our fruit trees are susceptible of being reproduced on their own roots, whenever they can be placed in a rich soil like that of Ferte Gaucher, which is an alluvial earth, excessively fertile.

The drawing (FIG. 5) represents the various details of the operation ; B is the part of a branch inarched to the stem of the almond ; C is where the stock should be cut off above the graft ; and D where it should be cut off below it.

This kind of inarching may be of great service to horticulturists and to nurserymen, where the grafts or buds have been destroyed by frost, since it can be done after vegetation has commenced, and thus prevent a scarcity of trees. It is also useful for refilling gaps or spaces upon old trees ; in fine, as there is a probable chance of rooting the grafts an

important result will be obtained, not only with fruits but with many exotic trees. It is for this reason that we would impress the public with this notice, and direct the attention of cultivators to further experiments.



5.

[We have copied but one of the illustrations—the other is precisely the same, with the exception of a small bottle which is sunk in the ground and filled with water, in which the base of the branch is placed.]

FLORICULTURAL NOTICES.

NEW BEGONIAS.—We have already, in our article on Begonias, in a late number, enumerated several of the new kinds which have been recently introduced to our collections. We have just had the pleasure of seeing some of them in very fine condition, in the collection of Messrs. Evers & Comely of Brighton. The plants were received from abroad early in the winter, and had now made several fine leaves so as to show their character. Among the number were Mad. Wagner, Miranda, Victoria, Zanthina Reichenheimi, grandis, and others. Grandis is peculiarly fine, with a leaf something like B. Rex, but of a more crimson shade, studded with prominent reddish points, on the upper surface, and of a uniform rich crimson tint beneath; Miranda is something like Rex, but has a broader band of silvery tissue. Victoria, though not so striking is yet very fine, with a bronze green ground tint, picturesquely dappled with silvery gray. They are all highly ornamental plants, and will form prominent objects for decoration of the greenhouse throughout the summer and autumn. Messrs. Evers & Comely have many new things which we shall notice when in bloom.

RHODODENDRON DALHOUSIÆ.—This magnificent Himalaya species, second only in the size of its blossoms, as well as beauty, to the noble Nuttali, has been in blossom in our collection; a small plant producing a single head of bloom. Individually the flowers may be compared to white lilies, being three or four inches broad, trumpet shaped, yellowish white, fading to clear white, and slightly perfumed. A large plant, covered with its large heads of massive snow-white flowers, must be a truly grand object. As a conservatory plant it must hold a place beside the camellia, and even surpassing it for magnificent effect.

VARIEGATED DAISY.—This is a highly picturesque variety of the common daisy, with large broad leaves of a golden yellow, veined with deep green. As an edging to small flower beds, its conspicuously mottled foliage will form a rich contrast by an appropriate selection of colors, while, as a pot

plant for greenhouse culture, its large crimson blossoms, rising from the green and golden foliage will be highly effective.

AMPHICOME EMODI.—This beautiful half-hardy plant, from the Himalaya Mountains, is now blooming in our collection. It belongs to the Bignonia family, and has a small pinnated foliage, with spikes of the most delicate pink flowers, with a yellow throat. It is herbaceous, and may be wintered in a cold frame, and turned out into the garden, or grown as a cool greenhouse plant. Its profuse spreading foliage forms a rich groundwork to the neat flower stems, which grow fifteen or twenty inches high.

ACACIA DRUMMONDII is one of the finest of the tribe. It has a dense bushy habit, and very small, delicate, deep green foliage. The flowers, which are pale yellow, appear in cylindrical clusters, quite different from most of the species. Its fine dwarf habit, beautiful foliage, and free flowering character render it one of the very best for small or large collections.

OUVIRANDRA FENESTRATA, the lace leaf plant, is growing finely in the collection of James Dundas, Esq., Philadelphia. It flourishes in the tank in the Victoria house, and Mr. Pollock, the intelligent gardener, has proved his skill in bringing it to perfection.

FARFUGIUM GRANDE.—Mr. Buchanan, nurseryman, New York, states that this fine plant “will withstand our most rigorous winters, without protection.” This fact will render it doubly valuable.

508. **CAMELLIA TRICOLOR IMBRICATA PLENA.** Double imbricated tricolored Camellia. Garden hybrid.

This is a new and very fine variegated Camellia, with “clear blush white flowers, regularly flaked with rich rose and rosy carmine; the petals are stout, in substance, nearly circular in outline, even margined and rose-like, elegantly imbricated, and assuming the cupped form so desirable in flowers of this class.” It has the same combination of tints as the well-known *C. tricolor*, but arranged with a degree of constancy equal to the finest bizarre carnation. It is an Italian variety

raised by Signore Carlo Schmitz of Florence, from seeds of *C. tricolor*. It is a showy and beautiful variety. The foliage is handsome, and the growth vigorous, robust and healthy. (*Illustrated Bouquet*, No. VII.)

509. *DIANTHUS HEDDEWIGI Hort.* HEDDEWIG'S JAPAN PINK.
(*Carophyllaceæ.*) Japan.

An annual plant; growing fifteen inches high; with various colored flowers; appearing in summer; increased by seeds; grown in good garden soil. *Illustrated Bouquet*, No. 7, pl. XXXIII.

This is the new celebrated and beautiful Japan pink, of which so much has been said, and in regard to which there is a great deal of pleasure in anticipation. Messrs. Henderson, nurserymen of London, who first received this variety from M. Heddewig, nurseryman of St. Petersburg, thus speak of it: "The introduction of it to European gardens is due to M. Heddewig, whose wish to see so fine a plant extensively circulated, induced him to offer it for sale to well-known English nurserymen, amongst whom Messrs. Henderson & Son were successful in raising the first group for exhibition. The plants appeared at the Royal Botanic Society's Exhibition, in July, 1859, where they formed one of the principal attractions amongst novelties, and obtained a medal in testimony of their distinguished merit."

In its growth *Dianthus Heddewigi* forms a neat compact plant, growing from thirteen to sixteen inches high, and by good cultivation branching freely from the base. In some specimens the stems are of an uniform purple tint, while in others they are deep green; the leaves are linear oblong; the numerous flowers are terminal, borne singly on the branches of the stem, are single, and from two to three and a half inches in diameter, close, compact, five-petaled, and salver-like, with fringed margins. The predominant color is crimson, varying in the richest conceivable shades and varieties, some plants producing self-colored, others parti-colored flowers, the former vicing with the finest dark velvet and damask tints, and these seem gradually blending in others with rich carmine and violet crimson; the centre of each flower is picturesquely marked with a broad radiating dark zone or ring, the rich velvety colors of which are exquisitely relieved by the central silvery gray anthers.

It is easily cultivated ; the plants thrive luxuriantly in any rich garden soil, or in a compost of friable loam and leaf mould, with little sand. Seeds sown in autumn, and wintered in a cool greenhouse or frame, will produce plants which will flower when turned out into the ground in summer ; and seeds sown in spring will form a succession to bloom all the autumn and early part of winter in the house. The plate represents some very splendid flowers, certainly the greatest acquisition of recent date. (*Illustrated Bouquet*, No. VII.)

510. DIANTHUS LASCINIATUS *Hort.* CUT-LEAVED JAPAN PINK.
(Carophyllaceæ.) Japan.

An annual or biennial plant ; with various colored flowers ; blooming in summer ; increased by seeds ; grown in good soil. *Illustrated Bouquet*, pl. XXXVII.

This is another of the magnificent Japan pinks, derived from the same source as the *D. Heddeewigi*, and distinguished from it by its taller growth, rather larger leaf joints, and its remarkably large and superb flowers, which are from three to four inches in diameter. It produces single and double-blossomed varieties. The petals have large lacerated tooth-like fringes at the margin, from a half inch to an inch in depth, which are very elegant, and produce a fine appearance. The colors vary from pure white, and carmine rose to brilliant shades of dark crimson, with radiating zones or belts of richer hue towards the centre. The seedling varieties also include rich self, crimson and maroon tints in higher and lower degrees of maturity. The light colored ones are at times finely stained with rose and violet-crimson, whilst the dark ones are rendered very effective by mottled veins and streaks of white.

It is cultivated in the same way as *D. Heddeewigi*. Seeds sown in autumn produce plants which will bloom in a cool greenhouse all the following spring ; and sown in April, and the plants put out into the open ground, will bloom magnificently all the autumn ; making with the former one of the most effective and gorgeous displays in the garden. In pot culture, the soil should be good loam and leaf mould, with an admixture of sand. (*Illustrated Bouquet.*)

REVIEWS.

BRIGHT'S SINGLE STEM DWARF AND RENEWAL SYSTEM OF GRAPE CULTURE, adapted to the Vineyard, the Grapery, and the Fruiting of Vines in Pots, on Trellises, Arbors, &c. By WILLIAM BRIGHT, Logan Nursery, Philadelphia. 12mo. pp. 121. Philadelphia: 1860.

If the culture of the grape, in which there is now such a general interest manifested, is not perfectly successful it will not be for want of information. We have been a somewhat careful observer of the progress of grape growing in this country for thirty years, and we believe have read all the works designed to render the process simple and easy. We have seen vines treated under new systems, and with the aid of new manures; yet we must say that every year has been a further remove from the superior culture of thirty years ago, as practised by some of the old gardeners, whom we might name, and who never read any book but Speechley's, the best by far that has ever yet been published.

Still there is much that is valuable in every treatise on grape culture, much that may be read with profit, especially by new beginners, and hence such elementary works as Mr. Bright's are always welcome; for it has one merit, of giving his own experience, simply, without reference to what others have done, and the amateur can either follow his advice, or reject it altogether; he is not confused in choosing between the dozen systems of as many cultivators, uncertain which to follow, till his doubts lead him astray in the attempt to combine the views of all.

We have not had the leisure to read carefully Mr. Bright's book; but so far as we have it appears to be a candid and fair view of grape culture. Whether there is so much that is *new* as he claims, we need not now discuss. We are rather inclined to think Mr. Bright has not read all that has been written upon the subject, by some of our best grape growers; it is enough, however, to know that his treatise will supply much useful information to amateurs, and be ample for all who do not wish to make themselves thorough masters of grape culture.

The chapter on special manures affords much matter for comment; but, as the author says, "it would require at least a complete elementary treatise on the chemistry of the substances named, which few would read unless previously instructed in chemistry, and still fewer would understand, or attempt to follow," we shall leave the subject for the present, perhaps to take it up at a future time, when our pages are less occupied than now.

THE YEAR BOOK OF THE FARM AND GARDEN FOR 1860. With numerous illustrations. 12mo. pp. 108. Philadelphia: 1860.

This is the title of a little work which has been before us for some time, and is now perhaps rather late to notice. Still, as the matter it contains is of interest the year round, and as it is the "Initiatory number," we may commend it as an interesting little volume, both to the farmer and gardener, and to all who take an interest in rural matters. The articles on fruit culture are by our correspondent, Mr. Scott; those on rural architecture by Mr. Sloan, a well-known architect of Philadelphia; and those on insects injurious to crops, by Mr. Stauffer of Lancaster, Pa.

TRANSACTIONS OF THE MASSACHUSETTS SOCIETY FOR PROMOTING AGRICULTURE. New Series. Vol. I. Part II. 8vo. pp. 132. Boston: 1859.

This is the second part of the proposed new series of the Transactions of this old society, whose volumes contain so much that is valuable in the early history of agriculture in Massachusetts. It contains an agricultural survey of Middlesex County, Mass., by Jos. Reynolds, M. D.; agricultural education, by H. F. French; agricultural miscellany, by R. S. Fay, and premiums on experiments with manures. Agriculturists, especially, will find it very interesting.

THE ORCHARD HOUSE, OR THE CULTURE OF FRUIT TREES IN POTS, UNDER GLASS, &c. By TH. RIVERS, Sawbridgeworth, Eng. ; also, an Appendix, by WM. SAUNDERS, Germantown, Pa. Pamphlet, 8vo. pp. 60. New York: 1860.

The Orchard House culture of fruits has had an enthusiastic advocate in Mr. Rivers, and in England it has been very generally adopted. This work illustrates Mr. Rivers's system, to which has been added some directions on growing trees and vines in the same way by Mr. Saunders of Philadelphia. Those who are interested in Orchard Houses will obtain much useful information from the perusal of the work.

General Notices.

THE CHINESE YAM.—Our experience in the culture of this yam is as follows:—About the middle of February, 1859, in our home nursery, which is deep light soil, we had a piece of ground forty-two feet long by five feet wide, trenched to the depth of three feet, and a good coat of hotbed manure worked into it at that time; the last week in March we had the ground ridged up in two rows, two and a half feet apart, the ridges being about nine inches above the ground level, and on these were planted seventy-two sets one and a half to two inches in length, and twelve whole roots, weighing from one to one and a half lbs. each, in all, eighty-four, or one foot apart in the rows. When they had grown about six inches, we had them staked with the largest pea sticks we could get; the strongest plants soon reached the top of these, after the points of the shoots began to droop over, and they soon commenced to bloom; this stopped the rapid growth which the plants were previously making, and lasts from six to eight weeks; the bloom, though small, of a French white color, is very fragrant, and the foliage is ornamental. We had the tubers taken out of the ground the beginning of November (this requires care, as a cut from the spade at this season of the year often causes them to rot;) the best plan is to open a trench three feet deep, at the beginning of the rows, and to keep following them to the end; the produce from the twelve large roots was seventy-four lbs. and the largest tuber weighed seven lbs. four ounces, (the remaining portion of the row in which these grew has been left for another season's experiment.) Now we come to the other row, wherein the small sets were planted, and these forty-two sets yielded upon the average two lbs. each (the largest weighing four lbs. ;) so, taking the remaining thirty sets at the last average it will be a very heavy crop; indeed a much heavier crop than we could grow of potatoes, even if they were all sound. We also grew a

piece of yams in our poor, light, sandy ground; this was only trenched two feet deep, with a moderate coat of farm-yard manure. Many of these were very small sets indeed, and not planted until the last week of April, one foot apart between the rows, and about nine inches in the row; these were left to take their natural course without any sticks to climb upon. When taken up the largest weighed one lb., and the yield was about three bushels per rod. We are pleased to find numbers of our customers are just beginning to appreciate this useful esculent.—(*Gard. Chron.*)

ANNUALS.—With a single light box, and a few barrow loads of dung and leaves, just sufficient to raise a gentle heat, any one may succeed in raising the principal portion of our best half-hardy annuals, some of which are equal in beauty to bedding plants. Hardy annuals in every stage require less attention to bring them to perfection; but even these are sadly mismanaged. Thick sowing is a great evil, if judicious thinning at the proper time is not attended to. The result of thick sowing is drawn weakly plants, which bloom prematurely, and are very shortlived; whereas by proper management in their earlier stages, you may secure a strong robust growth, enabling the plant to withstand both wind and rain, with impunity, and rendering it as luxuriant and hardy as a phlox. A certain class of annuals may be sown in the autumn, and wintered in a cold house or frame near the glass; frost, if possible, must be excluded. Ten-week stocks make a beautiful early bed when thus treated, and are generally nearly over when in time for replanting the bed with half-hardy plants. *Saponaria* makes a fine early spring-bed, and is easily wintered in a sheltered corner out of doors. Except annuals are required for very early spring flowering, I prefer the usual time of sowing, March and April; they generally bloom more profusely and last longer. I have an impression that if the cultivation of annuals was more generally understood they would soon occupy a more prominent position in our flower gardens, and be more appreciated than they are at present.—(*Gard. Chron.*)

BARBAROSSA GRAPE.—In your volume for 1857, I expressed an opinion that this grape required more heat than is usually given to Hamburgs and other late sorts. Since that time I have given it a fair trial, and I am quite convinced of the truth of what I then advanced. I bought a vine when it was first sent out, and planted it in a late house with Hamburgs and West's St. Peter's, where it still remains. In the following year I planted two of the same grape in a Muscat house, and one in an early vinery. Although the fruit in the latter house was very fine and sugary, it was not equal to that of other sorts then in use, and it was considered necessary to substitute another variety for the one in question. In April last, I grafted the Golden Hamburg on it, and it grew to the top of the house by June, and was a remarkably strong cane, the stock being a very strong one; at pruning time more than two thirds the length of the rod were left, and is now in a very promising condition. So well pleased am I with this stock for grafting the weaker-growing vines on, that this spring I intend putting

Lady Downe's Seedling on the old vine in the Hamburgh house, as it makes roots freely and in great quantities in almost any soil. What I wish to impress on those who have failed to produce this very fine grape to their own satisfaction is, to give it the treatment usually given to Muscats. I started my Muscat house about the middle of March, consequently the grapes were ripe early in September, and up to this time the Barbarossa bunches are hanging in beautiful condition. I agree with Mr. Butcher that this grape might be kept until April or May. I am not in a position to keep them later than March in the present year, which only leaves me the months of April and May without grapes, but having added a fourth vinery in 1858, I shall be able to fully test the keeping qualities of this grape next season. The grapes grown with the Muscats are very superior in every way to those grown in the late house; in the former they are juicy, full of sugar, and very rich, while in the latter the bunch is large, the berry considerably smaller and containing very little sugar.—(*Gard. Chron.*)

ANNUALS.—An excellent article in the *Florist* predicts that annuals will once more become generally cultivated for decorative purposes, both as in and out-door plants. Nothing in the way of plants can surpass their gay and interesting appearance, when their various shades of color and heights are properly arranged. Perhaps one drawback which belongs to them may be attributed to the vacant spots and untidy aspect they give the grounds when their flowering season is past, and to this, happening at a time when the garden is most frequented, may be assigned the cause for the almost universal encouragement afforded to the bedding of verbenas, scarlet geraniums, &c. I think the culture of annuals may be so managed as to go hand in hand with that of verbenas, &c., so as to have continuous successions of bloom early and late. Where there are good borders they may be sown very early and at such a distance that geraniums, &c., might be planted betwixt them, so as not to overcrowd each other, and thus when the flowering season of the annuals is on the decline they may be removed, and the other plants would quickly occupy their place. Another system of culture I used to adopt with success is this, viz.: during the month of September to sow thinly in pots or pans some of the following varieties—Candytufts, *Clarkia pulchella*, *Kaulfussia amelloides*, *Nemophila insignis*, *Collinsia bicolor*, *Schizanthus pinnatus*, *Viscaria oculata*, &c. These were kept in a frame from which frost was excluded, or in a cold part of the greenhouse, and as early in the spring as weather permitted, they were planted singly in rows in the flower beds, preserving the necessary width for planting verbenas, &c., betwixt them. By adopting this treatment one almost fails to recognise the same plants, so great is their beauty compared with the thickly sown patches we are in the habit of witnessing.—(*Gard. Chron.*)

SOLANUM CAPSICASTRUM.—During a visit to Berlin, in August, 1858, a small plant with red berries attracted my attention on one of the flower stalls of the *gen d'armes* market. Its novelty and beauty induced me to

bring it home, which, after many mishaps, was at length accomplished. It proved to be *Solanum capsicastrum*, which you have so much but not too highly extolled in a late number. It continued in full berry until the following April, so that at least during the eight worst months of the year it is a highly ornamental plant. It has flourished with me in a cool greenhouse planted in a clayey garden soil with a mixture of leaf-mould and sand. There are many seeds in each berry, and at the end of last April I sowed some in a pot of sandy soil, in which they germinated freely without bottom-heat, and some of these seedlings are now in berry. I find it very liable to be attacked by aphides, and this autumn, after the berries were full-grown and colored, several fell off without any apparent cause.—(*Gard. Chron.*)

SALT FOR ROADS.—A useful hint was dropped by your correspondent "D," when describing Clumber Park, &c., in April last. I have to thank him for the same, and also to acknowledge the courtesy of the forester, Mr. Spary, in giving fuller particulars by letter. I refer to the use of salt for the eradication of weeds on roads, walks or drives. Having applied it pretty freely last summer, over some half dozen miles, upon which we used to bestow most labor in hand-weeding, I would add my testimony to its efficacy. It is alike simple in application, and thorough in effect. And in a pitched stable yard, we have also had equally beneficial results. Let me quote Mr. Spary's own words as to its application:—"I prefer applying the salt (clean, dry, agricultural salt, costing here 18s. per ton,) by the hand. So the stronger the weeds, the stronger the application. I choose a hot day, in preference to wet or stormy weather. By going over the road twice a year, say in May or September, the weeds never get very strong; and, after much experience, I find no plan to equal it. By this way of cleaning roads, you do not disturb a single stone; and the harder your roads the fewer your weeds—and of course so much better travelling." I hope to use it more extensively next spring and summer; and have found Reeves's dry manure distributor a most efficient implement in its application.—(*Gard. Chron.*)

Gossip of the Month.

MASSACHUSETTS HORTICULTURAL SOCIETY.—The first exhibition in the new hall of the Society, in Washington Street, will take place on Saturday, May 23, when premiums are offered for plants and cut flowers. As there will undoubtedly be a spirited competition, the exhibition will be exceedingly fine, and well worthy the attention of amateurs and lovers of fine plants. All who intend to exhibit should send a notice to the Chairman three days before the exhibition takes place.

AMERICAN FRUITS IN ENGLAND.—We have just received a note from Mr. Rivers, too late for this number, in which he states that we were unjust in using his name as the author of the article signed "Pyrus." Mr. Rivers's note will appear in our next.

DEATH OF HON. B. V. FRENCH.—We regret to record the death of this well known cultivator, whose name has been associated with every horticultural improvement for the last twenty-five years. Our crowded columns have necessitated us to defer an extended notice till our next.

Societies.

HARTFORD CO. HORTICULTURAL.

The annual meeting of this Society was held on Saturday, April 4th. The Treasurer's report was read, showing receipts to the amount of \$291.66, and a balance on hand over expenses of \$32.89. The following officers were elected:—

President, G. W. Russell, M. D.

Vice Presidents, J. S. Butler, M. D., Ed. Bolles, A. W. Briggs, Hartford; H. W. Mygatt, Esq., Farmington; N. N. Stanly, Esq., New Britain; N. Porter, Esq., Berlin; Sheloon Moore, Esq., Kensington; S. Lyman, Esq., Manchester; E. A. Holcomb, Esq., Granby; H. A. Grant, M. D., Enfield; S. D. Cave, Esq., Canton; T. C. Austin, Esq., Suffield; H. S. Collins, Esq., Collinsville; B. F. Sonard, Esq., Southington; K. H. Phelps, Esq., Windsor; S. Steele, Esq., West Hartford; W. S. Comstock, Esq., East Hartford; Jos. Aland, Esq., Newington.

Corresponding Secretary, Col. D. S. Dewey, Hartford.

Recording Secretary, M. C. Weld, Esq., Hartford.

Treasurer, P. D. Stilman, Esq., Hartford.

The Society voted to hold exhibitions on Thursday, once in two weeks, during the summer.—Yours, D. S. DEWEY, Cor. Sec., Hartford, Ap., 1860.

ST. PAUL (MIN.) HORTICULTURAL.

At a meeting called by public notice, and held in the office of the County Auditor, for the purpose of forming a Horticultural Society for St. Paul and vicinity, Alex. Buchanan was called to the chair, and S. Hewson appointed Secretary. On motion of L. M. Ford, and seconded by B. F. Hoyt, the following resolutions were adopted:—

Resolved, that in view of the importance of cultivating fruit, flowers, &c., in this State, and to aid in its support, we proceed to organize a Horticultural Society for St. Paul and vicinity.

Resolved, that a committee of three be appointed to draft a constitution and by-laws, and report at the next meeting.

The committee afterwards reported a constitution, which was adopted.—Officers were elected as follows:—

President, Alex. Buchanan.

Vice Presidents, J. S. Prince, C. H. Schurmeier.

Secretary, George Scatten.

Treasurer, J. W. McClung.

Executive Committee, L. M. Ford, H. L. Moss, T. M. Smith, M. D. Clark, S. Hewson.—S. HEWSON, Secretary.

Massachusetts Horticultural Society.

Saturday, March 3d, 1860.—An adjourned meeting—the President in the chair.

Notice was given that this was the last meeting which would be held in the Society's building previous to their vacating the same, April 1.

James Lawrence and James P. Ellicott were elected members.

Meeting dissolved.

April 7th, 1860.—The stated quarterly meeting of the Society was held in the new Hall, corner of Washington and West streets,—the President in the chair.

A letter was read from the Société d'Horticulture of Rouen, France, soliciting scions of apples. The President stated that the scions had been supplied by Dr. Wight, the Corresponding Secretary, who had forwarded the same with a letter, a copy of which he read to the Society.

A letter was read from Dr. Bigelow, in behalf of Mount Auburn, soliciting the aid of the Society in constructing fountains in the Cemetery, the cost not to exceed \$1500 on the part of the Society. It was voted to comply with the request, and the Treasurer was authorized to deduct that amount, or less should not so much be required, from the next annual settlement with the Mount Auburn Cemetery.

Mr. C. M. Hovey, in behalf of Mr. Cabot, tendered his resignation as Chairman of the Committee on Fruits.

A letter was read from B. P. Cahoon, announcing that he had forwarded a sample of Rhubarb wine for trial.

Mr. W. W. Wheildon also presented a sample of grape wine made by him. Both of these were referred to Dr. Wight, C. M. Hovey and W. W. Wheildon to make a trial and report.

A Committee was chosen to consider the subject of increasing the pay of the Librarian.

It was voted to pay the Chairmen of the Fruit and Vegetable Committees each \$75 for their services for the past year.

The payment of salaries to the Chairmen of the Fruit, Flower and Vegetable Committees was referred to the Finance Committee.

The following members were elected:—I. S. Martin, J. D. Bates, E. W. Cobb, Jos. T. Brown, D. O. Goodrich, S. H. Gibbens, and J. M. Smith, Boston; Ed. Davenport, O. C. Proctor, Dorchester; J. L. Russell, Salem; A. Cummings, Jr., South Reading; And. Porter, South Danvers.

Horticultural Operations

FOR MAY.

FRUIT DEPARTMENT.

The month of April has been moderately cool and quite dry, and vegetation has advanced but slightly. There was a severe frost on the 30th, but trees were not forward enough to receive any injury. The fine weather has been highly favorable for all gardening operations, and transplanting has been performed with great advantage over the usual wet and chilly days of April.

GRAPE VINES in the grapery will now be advancing very rapidly, and if not already in flower will be so in a few days; as soon as the flowers expand, keep the house rather dry, and air freely in good weather, shutting up early in the afternoon so as to retain a good heat during the night. Stop the laterals as before directed. As soon as the fruit is well set, damp the house as before, morning, noon and night, and maintain a slightly increased temperature; grapes in very forward houses will need thinning the last of the month. Vineries may be planted now. Grapes in cold houses will require attention; close the house early to ensure a good night temperature. Syringe freely in good weather, but avoid it when damp. Dig the border to let in the warmth and air.

Vines in pots should be watered with liquid manure, and syringed often. Young vines for a succession should be shifted into larger pots or tubs.

Vines in the open air will begin to grow soon. Train all the shoots neatly to the trellis, and manure and spade the ground around them. Ground for new plantations should be trenched two feet deep and be well manured.

FRUIT TREES may yet be safely transplanted.

STRAWBERRY BEDS. May is the best time to make new plantations, as the warm ground gives the plants a vigorous root action. Old beds should be cleared of weeds and lightly raked, disturbing the roots as little as possible.

FIGS may be placed in the open air, and the pots or tubs plunged in the earth.

GRAFTING apples and pears may yet be done.

PRUNING may be continued in all leisure time.

INSECTS must not be forgotten; they are always at work, and should be looked after attentively. Oil soap will kill the thrip and green fly, which often infest trees early in the season.

FLOWER DEPARTMENT.

The cool weather has prevented the planting out of any tender things; even cold frames required a good covering most of the month of April, but as May comes in, warmer weather may be expected, and preparation should be made to get everything into the ground in good season. Ground not prepared should be immediately attended to.

CAMELIAS will be making their growth; continue to syringe freely till it is nearly completed, when it should be wholly discontinued.

AZALEAS, out of bloom, should be pruned in carefully so as to form neat round or pyramidal heads, have frequent syringings, and a good supply of water at the roots. Shade in sunny weather, and keep in a warm house. Repot such as really require it.

BEGONIAS will again require another shift into larger pots if doing well.

PELARGONIUMS will now begin to flower; discontinue syringing, but water freely at the root; shade from the hot sun. Few plants so well repay attention as the pelargonium. Young stock may be repotted.

CHRYSANTHEMUMS should be propagated from cuttings.

EPACRIS AND HEATHS of the hardier and free-growing kinds should be planted out in the open ground, in a light soil.

ACHIMENES AND GLOXINIAS should be repotted.

FUCHSIAS should be repotted; keep in a warm part of the house, and syringe freely.

JAPAN LILIES should be repotted.

CHINESE PRIMROSES, now nearly out of bloom, may be propagated from cuttings.

ACACIAS, now beginning to grow, should be headed in and repotted.

CALCEOLARIAS should be repotted.

CYCLAMENS, going out of flower, should be more carefully watered.

ANNUALS, raised in frames or hotbeds, may be planted out the last of the month.

BEDDING PLANTS of all kinds may be planted out about the 20th of the month; before this, they are in danger of light frosts.

FLOWER GARDEN AND SHRUBBERY.

The unusual dry weather has, in many places, prevented the rolling of the lawn to advantage, and an opportunity should be taken after the first rain to do it thoroughly. Top-dress with guano. Let the grass be cut as soon as it has made sufficient growth. Roll the walks. Plant out to fill vacant spaces and give a fine appearance to the grounds.

PERENNIAL FLOWERS may be transplanted.

ANNUALS of all the hardy kinds may be sown immediately.

HOLLYHOCKS AND DAHLIAS may be planted.

PHLOXES, if old roots, should be taken up and reset; they do not flower so well as young vigorous plants.

EVERGREENS, of all kinds, flourish best transplanted this month.

GLADIOLUS should be planted now, and if a succession is wanted, part may be reserved to set out the last of the month.

ROSES in pots may be turned out into the open ground.

CARNATIONS AND PICOTEEES should be planted.

ASTERS may be planted out in a frame in good soil, from whence they may be removed to the borders or beds in June.

TUBEROSES, AMARYLLIS, and other summer bulbs, may now be safely planted.

THE CULTURE OF THE VINE.

ALL who have read the interesting remarks of our excellent correspondent Mr. Cabot, regarding the culture of the grape in the great vine-growing countries of France and Italy, will probably have noticed the very great difference in the mode of cultivation. In France, he says, they "are planted in rows about four feet apart, the vines being about the same distance apart in the rows and trained to stakes of about four or five feet high, generally with one or at most two shoots." In Modena and Tuscany, he states, "a different method from that pursued in France prevails with respect to the cultivation of the vine. Here, instead of planting them in rows near together and training low, the fields are planted with mulberry trees or trees for fuel, and grape vines planted at the foot of the trees; these are trained up the trees, and the branches led from tree to tree as in festoons." Mr. Cabot had no means, he remarks, of judging of the relative advantages of the different methods, but supposed that each has its advantages, that commend it to the cultivators of the different countries."

Thus we see how entirely varied the culture of the vine is in countries bordering upon each other; and after the experience of many hundred years, we may at least infer that both methods are accompanied by about the same results. Whether this is so or not, is not material at this time. It is sufficient for our present purpose to know that the very opposite modes of culture can be pursued, and yet be attended with success. It is in reference to this that our remarks will principally refer.

A great deal has been written upon the culture of the vine; without taking into account the numerous French treatises which until within a few years,—since the vineyard culture of the grape has extended,—could have no application in our country, many works have appeared by English cultivators, beginning with Speechly, principally on the cultivation of the

grape under glass. These have contained the peculiar views of the several authors, some of whom were eminent grape growers, both as regards the preparation of the soil, and the system of pruning. The success which prompted some of these treatises could be in many instances attributed to causes of a local or peculiar character, and when followed out by other skilful men, were not attended with any very special results. We would not be misunderstood in our remarks. We do not say that some modes of culture are not better than others, but we do not admit that all who have intended to simplify the means of obtaining superior grapes by new systems have accomplished their object.

Without occupying too much space, it is simply sufficient to know the principle upon which all successful grape culture is based; and knowing this, it will be immaterial as regards the system adopted, provided other important particulars are not overlooked: it is this, that the grape, unlike the pear, the apple, the cherry, or in fact almost any important fruit, except the peach, bears its fruit upon the *new* wood, or the growth of the previous year. This one important fact impressed upon the memory of the cultivator, he cannot fail to obtain plenty of fruit, though its greater size, larger quantity, beauty and general excellence will depend upon the intelligence of the grape-grower in regard to the details of culture. He may adopt the single cane or spur system, the Thomery mode or the fan training, the horizontal or the upright, the short rod or long rod, the French or the Italian practice, or he may have no system at all, if due regard is paid to the proportion of wood to the strength of the vine, to the importance of light and air, and supply of food, he will still have a good crop of fruit.

The vine is a rapid grower, and, if allowed free course, its long annual shoots run into each other, and soon become a mass of tangled branches, filled with old and useless wood, upon which no fruit will ever grow. Hence the pruning is rendered more necessary than with other fruits. Besides, just in proportion as the sap is concentrated and the vine kept within bounds, the larger and finer will be the fruit. But if there is no limit to the extension of the roots, a single vine,

like the old Hamburgh at Hampton Court, may extend hundreds of feet and bear its ton of grapes, just as well as to have fifty in the same place. The object in increasing the number of vines is not only to fill a given space sooner, but that the pruning may be much quicker and more easily done, and the vine more easily managed, especially by those who are not experienced practitioners.

The importance of system in the treatment of the vine, both under glass and in the open air, is therefore apparent. And independent of those facilities which attend it, the beauty which comes from method is a powerful reason that we should practice it. With the adoption of system, the same course of pruning is pursued year after year. When the vine is pruned once, it is pruned again without much trouble; a fresh exertion of judgment is not necessary that too much should not be taken away here or there, and, after all, the result be unsatisfactory. A vine hanging in festoons from tree to tree, and loaded with its rich harvest, is no doubt a beautiful object in its proper place; but the garden, particularly the fruit garden, is a place where science is supposed to enter, and everything must be subjected to the gardener's art, the grape as well as the symmetrical tree.

But what we wish to impress upon grape cultivators is, that all this is not absolutely necessary to success, and those who have neither the time nor the taste to carry out any particular system need not be fearful of producing plenty of fruit, if they follow the one cardinal rule, of not allowing any OLD WOOD to accumulate, which never bears a second time. This ever kept in view, though a vine may extend its shoots a hundred feet, or be trained to a four-foot stake, it will bear just in proportion to its strength.

It has been urged that our native grapes were more impatient of pruning than the exotic vines; but whether this is so or not, remains to be fully proved. The rot which attacks the Catawba and other natives has been attributed by some to the French system of pruning, though not many experiments have been made to prove it. The foreign vine is as rampant a grower as the native—even more so—yet we do not hear of its being injured in this way in France. Still, it

may be that the soil may have some influence; the vineyards in France may be upon a dryer and less fertile soil than that of the Ohio plantations, and hence be divested of much of that luxuriance which they possess; or it may be some atmospheric influence like the blight, which attacks the pear in certain portions of the middle and western States. The result we know, and it would be a boon to vinerics if so disastrous a cause could be prevented.

There is no need, however, in the ordinary culture of the vine, of pruning upon the short system; for convenience, permanence, and beauty, the trellis seems the most appropriate mode of growing the grape. It is cheaply put up, and has no objectionable feature; and whether the horizontal, upright, fan, or zigzag mode of training is adopted, it affords the means of practising either or all of these methods.

In conclusion, we need only caution grape-growers to be *free* in the use of the knife. Where there is one vine pruned too severely, nine are not pruned enough. A proper knowledge of the capacity of the vine to fill a given space, is necessary to prune well, and this can only be obtained by some experience. Yet, as some basis to work from, the following general rules may be observed:—

1st. No shoots should be nearer than one foot of each other, and, with the larger-leaved kinds, a space of fifteen inches should be allowed.

2d. Prune back to within one eye of the old wood, every fall or spring, about one half of the annual shoots, thus giving the remaining eyes a chance to produce strong canes, which should be retained for bearing the next year, when the old bearing wood should be cut out to make room for new shoots, to replace those cut away.

3d. Disbud, or rub off, as soon as they make their appearance, all shoots not wanted for bearing wood.

As the summer management of the vine is not generally understood, we shall improve the first opportunity to give some hints in regard to it.

MEDICAL PROPERTIES OF PLANTS.

BY WILSON FLAGG.

THERE are some remarkable facts connected with the medical virtues of plants, proving that they are designed by nature as a protection against the ravages of insects and quadrupeds. In corroboration of this view, it may be observed that, when a plant is protected by thorns and spines, it seldom possesses any medicinal or poisonous properties. Nature has armed the cactus, the gooseberry, and trees in general that produce an edible fruit, with these mechanical means of protection. She has done the same for the rose, the hawthorn, and the rubus, whose branches and foliage afford a temptation to browsing quadrupeds. Where she has not armed a plant with such external means of defence, she has almost, without exception, medicated its substances. To some plants she has given a bitter flavor, as to the willow, the poplar, the cinchona; to others acridity, as to the mustard, the radish, and some of the arums. Some are furnished with a resinous gum, which serves, in the case of the coniferous trees, the double purpose of protection from the intense cold of northern winters, and from the browsing of herds. She has, in other cases, endowed a large number of species with poisonous properties, the nauseous taste of which prevents them from being devoured.

Hence we learn the natural cause of the medical virtues of plants. Not having the power of locomotion, they must inevitably be destroyed by grazing animals and herbivorous insects, were they not protected by some such safeguards. There is a similar provision used for the protection of certain animals. Those of a venomous character are such as, without exception, would otherwise be comparatively defenceless. They are mostly either reptiles or insects; the one being somewhat powerless from the want of limbs, and the other from their minute size. The venom of the insect seems, however, to be designed as a weapon to be used in its contentions with other insects, rather than to defend itself against the larger animals. The venomous serpents are invariably

of less than medium size; the larger serpents have sufficient power to protect themselves without venom.

As I have before said, the most of the bearers of wholesome fruit are protected by thorns, and the seeds of the fruit by a hard shell that guards them from the action of the stomach of the animal that swallows them. Hence the animal, by devouring the fruit, becomes a passive agent in the hands of nature for the dissemination of the species. Birds in this way act as nature's husbandmen, and plant multitudes of seeds of almost all kinds of fruit. The pulp of the fruit is the bait used by nature to cause the bird to swallow the seed, designing no evil to the bird, but using this means to cause the seeds to be planted at a distance from the tree; otherwise all the seeds must lie under the parent tree where they could not grow. In almost all cases it will be found, that when either a fruit or the substance of a plant is made tempting to a bird or an animal, the consumption of it, directly or indirectly, promotes the dissemination of the species.

In other cases, therefore, she has protected the whole plant and its products, as the *Datura stramonium*; the leaf and stalk of this plant are guarded by a nauseous poison, while the fruit is surrounded by prickles and a hard shell. In others, as the gooseberry and cactus, she protects the substance of the plant by thorns, while she invites animals to devour their fruit by giving it a nutritious and agreeable pulp. In these cases it must be borne in mind that the seed itself is guarded by a coriaceous shell that causes it to pass uninjured through the stomach of the animal. In other important cases no protection seems to be given either to the substance or to the fruit of the plant. The grasses belong to these exceptional cases. But it is to be observed that the perennial grasses are propagated chiefly by their roots or subterranean stems, which are so constructed that, while the leaf and the stalk are bitten off by the grazing animals, the roots gain vigor by their loss, and send up, for every blade that is destroyed, several new blades to take their place. Thus the herds, while they seem to be destroying the grasses, are, by this consumption of the leaf and stalk, causing the vigorous propagation of new plants from the roots.

The annual grasses, from which the most of our cereal grains are produced, seem, on first observation, to be peculiarly defenceless, since, while their substance is greedily devoured by quadrupeds, their seeds are the principal diet of innumerable birds. Their defence consists evidently in the vast multitude of seeds produced by them, and the rapidity with which they vegetate. The same may be said of some of the leguminous plants, the leaf and stalk of which are very grateful to animals. Their seeds, if tempting to animals, as in the case of peas, are very numerous, and vegetate immediately after being dropped upon the soil, and save themselves by their metamorphosis from the devouring bird. The seeds of a large proportion of the leguminous plants, however, are medicated, and rendered distasteful to animals.

In most of the seeds of plants, with the exception of those of the grasses, there exists an acrid, bitter, or narcotic principle, or else the seed is so hard that it cannot be digested. A nauseous and purgative principle exists in many kinds of beans, which causes animals to reject them; while, after they are boiled, they become acceptable. The seeds of the thistle and the burdock, and of many other compound plants, are very grateful to all the birds of the fuch tribe. Hence they are protected by a spiny bur, until they are fully ripened, when they hastily fly away upon their downy wings, and scatter themselves so widely that a saving proportion is secured from the voracity of the birds. Chestnuts are protected by a bur, acorns by a bitter quality, walnuts by an outer rind that is exceedingly nauseous and pungent, and by an inner shell that renders them safe from all animals except the rodentia.

The liliaceous plants in general are propagated by their bulbs, as the grasses are by their subterranean stems. These bulbs would be greedily devoured by animals, if they were entirely agreeable, especially by those which, like the hog, dig into the earth for their food. In warm climates, a great many animals find a considerable part of their subsistence in this manner during the annual dry season. This is true of the elephant and the tapir, as well as the hog. To preserve them from extermination, therefore, these plants are endowed

either with a remarkable productiveness in the multiplicity of their offsets, or their bulbs are made disagreeable or injurious to animals by some nauseous, acrid, or poisonous quality. Nature, however, does not design to enforce upon animals a total abstinence from these articles of diet, but rather enjoins moderation in the use of them; hence, although they can eat of them, they must eat cautiously and sparingly.

The onion, the leek, the garlic and the lentil are protected by a strong aromatic oil. The bulbs of lilies are generally cathartic and bitter; those of the colchicum and hellebore intensely narcotic. All these qualities are medicinal. Hence the bulbous plants afford a great number of valuable and well established drugs. Animals that search for the bulbs will eat only as much as they can with safety, being forewarned, when they have eaten sufficiently, by a loathing. They cannot make their chief subsistence upon any one kind, but probably find in one species an antidote to the bad effects of another.

The tuberous rooted plants are guarded from the voracity of animals by similar properties. The tubers of the different species of *Acorus* (*Calamus*) are hot and aromatic. The Arums, which possess very farinaceous roots, are protected by their extreme acidity. Many of them may be used for vesication; but their acrid qualities are dissipated by boiling, and they may thus be made to contribute to the sustenance of man. The umbelliferous plants, which are tap-rooted, are protected by an aromatic or by a narcotic principle that pervades their whole substance. The seeds are by this property secured from the birds, and the roots from the burrowing animals.

Though, as I have previously remarked, the northern edible fruits grow on trees and shrubs, which are protected more or less (in their wild state) by thorns and spines, many delicious fruits of warm climates are the product of trees which are highly medicated. The fig tree contains a milky juice which is exceedingly acrid and caustic. Were it not for this property, the tree would be eaten up by animals before it was ready to bear fruit. There are other species of the *Ficus* which are extremely poisonous, as the *F. toxicaria*, which is

used to poison arrows. On the other hand, the Jamaica fig tree produces a sap which is used as an antidote against the poison of the manehineel.

A large proportion of the tender herbaceous plants contain a bitter, nauseous or poisonous juice, as they would otherwise be particularly liable to be destroyed by herbivorous quadrupeds, on account of their tender fibre. The Cichoraceæ, as the endive and dandelion, have a bitter juice; the Apocynæ, a milky, narcotic fluid. The Euphorbiaceæ are caustic and bitter, and the most of the Solaneæ have a poisonous sap. The most of these plants have a succulent stem and leaf, and would be greedily devoured by animals if they were harmless and free from a disagreeable flavor.

While so many useful and nutritious plants are guarded from destruction by their thorns, or by their medical properties, the flowerless plants, for the most part, are devoid of nutritious qualities, and unprovided, therefore, with such defences. No animal browses, except with the urgency of extreme hunger, upon ferns or mosses, lycopodias or lichens; for, though they have no bitter or poisonous principle to defend them, their innutritious character saves them from depredation. There are two tribes of flowerless plants, however, which are nutritious, and it is remarkable that both of these are provided with a defence. The Fungi, or mushrooms, being very nutritious and edible, are guarded by a narcotic property resembling prussic acid. They would seem hardly to require this protection, as the infinite multitudes of their *spori* and the rapidity with which they vegetate would seem a sufficient means of securing their perpetuation. But their defences serve to corroborate the theory that the medical and mechanical safeguards of plants are in general proportion to the temptation they would otherwise present to the hunger of animals.

The poisonous qualities of certain mushrooms are exceedingly dangerous, but they are said to be effectually counteracted by antidotes. The Russians eat all the nutritious species indifferently, correcting their poisonous properties by thorough stewing, and counteracting their effects by drinking brandy after eating them. The ancients, perhaps more wisely,

stewed suspected mushrooms with some twigs of the pear tree, as an antidote to their bad effects. Certain animals, like the hog, are very fond of mushrooms, and probably distinguish the injurious from the harmless sorts by their acute sense of smelling, or, perhaps, have been taught by instinct to find the antidote for the poisonous kinds.

Antidotes seem to afford no protection to the palate from the disagreeable flavor of bitter and nauseous herbs, but they are often sure preventives of the effects of poisonous herbs when taken into the stomach. Nature has evidently provided certain animals with this means of defence; we cannot otherwise account for their security from the effects of those which we know they devour. When we see the goat browsing with impunity upon dangerous narcotics, we must not necessarily conclude that this animal is not susceptible of their poisonous influence, but he readily finds the antidote, and, prompted by a peculiar appetite excited by this poisonous food, greedily consumes it. Thus man, after eating heartily of roast meat, feels an urgent appetite for acid drinks, or acidulous fruits, which correct its disagreeable effects.

It is not improbable that the ancients discovered that the twigs of the pear tree were an antidote to the effects of mushrooms, by observing that certain animals, after eating them, showed an eagerness to browse upon the pear tree. This remark I put forth only as conjectural, for I have no positive evidence that the twigs of the pear tree possess this power of counteracting the effects of mushrooms. That antidotes exist and are in common use by wild animals, when they have exposed themselves to poisons, cannot be denied. Many assertions, however, may have been made which are false. The twigs of the pine tree, if frequently chewed, are said to be a safeguard against the virulent effects of the poison of sumachs. This may or may not be true; but the fact will, I believe, be admitted, that persons who are in the constant habit of frequenting the woods are seldom susceptible of dogwood poison. I am inclined to attribute their security to the influence of some antidote partaken by the habit of chewing the twigs of various aromatic and slightly bitter shrubs and trees.

Among the flowerless plants, the only species that are nutritious belong either to the Fungi or the Algæ. But while the former are protected by medication, there is not a single seaweed which is poisonous or medicated in any way. The reason is that the seaweeds have no need of such a safeguard, because, under the water, they are protected by their position from the voracity of animals. Nature makes no useless provisions of any kind. Though she seems in some instances to delight in profusion and in apparent waste, as in the infinite multiplication of the seeds of certain plants, this is, nevertheless, one important means of securing the preservation of those species which are freely devoured by birds and insects.

It may be made apparent, also, that in almost all the provisions of nature for the prevention of one evil she has accomplished other beneficent purposes. That profusion which would otherwise be needless for the preservation of the species, contributes to the wants of other beings. In the properties which she has made inherent in certain plants to protect them from animals, human beings are provided with valuable remedies for disease, and the lower animals with antidotes against the poison of other plants and the venom of reptiles and insects. Nature may seem, in some of these respects, to be working against her own laws. For, it may be asked, of what use, for protection, is the poisonous juice of a plant, if animals may still freely devour it, provided, in obedience to an unerring impulse, they immediately partake of a vegetable antidote that always grows abundantly in the neighborhood of the poison? Because, it may be answered, the design of nature is to prevent the destruction, not the use, of the plants which she has protected. No animal, however well secured by antidotes within its reach, would eat so freely of a medicated plant as of one that is harmless. The goat, that does not refuse the nightshade, would probably eat but little of it. The cow will occasionally feed upon burdocks, which, if they were not bitter and nauseous, would never be allowed by the grazing animals to come to maturity.

NOTES OF A EUROPEAN TOUR.

BY THE HON. J. S. CABOT.

DEAR H.—Since I wrote you last I have been through Southern Italy to Naples and the environs of that city, about fifty miles beyond. After having spent a few weeks there, I returned to Rome, and from thence, by a route different from any I had before passed over,—through Perugia,—I came to this city. My excursion into Southern Italy was extremely satisfactory—as much, if not more so, than any part of my journey thus far; and having seen it, it seems to me that no one can be said to have seen Italy without visiting the southern portion of the peninsula.

The inducements to undertaking this excursion are numerous and various. The country passed over is one of great beauty, consisting, as it does, of valleys and table lands of most exuberant fertility; bounded, on one hand, by the sea, and on the other by a range of mountains of the most picturesque character,—the higher and more distant naked and bare, with their highest peaks covered with snow, the lower and nearer range being rounded, covered with vegetation or cultivated to their tops, upon whose summits or along whose sides are thickly scattered towns and villages, many of them with their walls of the middle ages yet perfect, old feudal castles and watch-towers; while from the heights, over which the road occasionally passes, wide views are obtained of the Mediterranean, and the headlands and shores of its bays. Then, too, there is the city of Naples, alone worthy of a visit, with the manners and customs of its inhabitants and of the environs, in their bright gay costumes, probably all new and strange to its visitant; Vesuvius, with the buried cities at its base, with numerous objects of classic or historic interest in the remains of the past grandeurs of Rome scattered all round the shores of the gulf,—these, taken together, form a combination of attractions so diverse in character that it would seem as if those of every taste could not fail to find something for their gratification. But these are foreign to the purpose now in hand, which is rather to write to you of

the country and its products, as seen with the eye of a farmer or gardener.

The city of Naples is surrounded by a wide expanse of level country, of great fertility, bounded by lofty mountains. The great plain of Capua extends for a distance of more than twenty miles; while beyond it, in a northerly direction, is, though higher and somewhat rolling, yet still level, a table land of equal extent and fertility. It is all carefully cultivated, as is the case in all parts of Italy that I have seen,—even the steep slopes and summits of the mountains, where there is soil sufficient and it is otherwise susceptible of it, the sides of the hills being thrown into terraces, faced with stone, when otherwise too steep for the purpose. In the valleys and on the plains the soil is of great depth, for, where excavations had been made in it, the soil many feet below the surface seemed to be the same in quality as at the top, and in it all plants and trees appeared to thrive in great luxuriance. In some places there is clay, but generally the soil seemed to me a reddish brown mould, that, although somewhat adhesive and stiff, was still friable and easily pulverized. These valleys and plains appeared to me to exhibit a peculiarity in this—that the rocks or ledges, where they do occur, and the soil, are exactly alike, only that in the former case it had been cemented together and hardened, and in the latter had become mellow and friable. If building materials are wanted—almost all buildings being of stone—all that is necessary is to cut up this hardened soil or stone into blocks of a suitable size, an operation that can to some extent be performed with an axe, and the object is obtained; and, if these same blocks should be afterwards pulverized, an apparently not very difficult task, a fruitful soil is the result. It may be that in considering this a peculiarity, I but betray ignorance of what is of common occurrence, but as such the fact presented itself to me.

The means whereby the tilling and cultivation of the soil is brought about, seem very inadequate to the purpose and to the results obtained. Some of it is done with a plough of the rudest and most simple construction—a piece of timber, about four feet long, with one end sharpened to a point, sometimes,

but not always, coated with plates of iron placed horizontally, into which two other pieces, one to serve for a handle, the other for the oxen to pull it by, are inserted at proper angles; yet, with such an instrument, in this soil what appears to be very tolerable work is performed, at least such as seems to answer the purpose of its cultivators. But very much of the cultivation is performed by hand—a kind of hoe, with a large blade shaped very much like a spade, having a short handle, and a small, sharp pointed shovel, with a long handle, being used. As the summers are very hot, with frequently little or no rain, much of the land is irrigated artificially, by means of water pumped up from wells and conveyed about the fields in small aqueducts of brick.

In the immediate vicinity of Naples, there are extensive gardens for raising a supply of vegetables for the market. In addition to the kinds usually grown, there is one extensively cultivated that I have rarely if ever seen in the United States. I mean the artichoke. It is, I suppose, generally a favorite, from the quantity raised, though it is not so with me. Great quantities of cauliflowers, too, are raised, and these here are very fine. The slopes of the mountains, even to their summits, or as far as they are susceptible of any cultivation, are occupied for the most part with olive trees, that apparently thrive in situations that hardly seem capable of supporting any vegetation, although of course not as well as in more fertile soils. The valleys and plains are covered with grapes, with some fruit trees intermingled, the vines being universally trained over trees planted for the purpose, sufficiently far apart to permit the growth of crops beneath them, and this to such an extent, that, as the traveller passes along, he rides for miles and miles through, as it were, a continuous vineyard. The crops principally cultivated are wheat, flax, a large bean as food for horses, with some lupins. Wheat, or some other corn, is of course the main crop, and most of the land is devoted to it. It is, from appearances, sown in rows, or in narrow beds, with a vacant space between the rows or beds to permit of its being cleaned or cultivated, or perhaps for these sometimes to act as drains to carry off the surplus surface water. It is the custom in the spring to clean or

cultivate the crops of grain and other produce by hoeing or ploughing between the rows, and it is no uncommon thing to see from fifty to seventy-five men and women employed with their hoes in a single field. The flax grown is of two kinds—one, the common flax, that is somewhat extensively raised to be manufactured into linen for domestic purposes, this being done by the women, whom it is usual to see sitting by the roadside spinning with a distaff held in their hand, the same described as having been in use hundreds of years ago; the other variety is a larger plant, something between hemp and flax, raised for the purpose of being made into cords and lines. The beans cultivated are a large, coarse variety, raised in large quantities as food for horses; lupins being raised also, as I presume, for a similar purpose, though to a much less extent.

As you may well suppose, from the number of vineyards, there is much wine made in Italy. These may be divided into two classes, sweet and dry, perhaps I might say acid, for all this last class are more or less so, and each of these again into many varieties, taking the name of the town or district where produced, there being generally a red and white wine of each variety. All of the wine of which I have tasted seemed to me light, without much strength—not more than belongs to good bodied cider; indeed, one of the sweet kind seemed to bear a strong resemblance to good cider, except in this, which gave it the advantage in my opinion, that it had the flavor of grapes instead of apples. Many of these wines are very pleasant, with a good deal of flavor, and if at first not entirely agreeable, they from use become so. Some of the principal wines in Southern Italy are—the *Lachryma Christi*, a product of the vines that grow on the slopes of Vesuvius; the *Capri*, that takes the name of an island at the entrance to the Gulf of Naples; and the *Falernian*. These are all somewhat acid, bearing more resemblance to the Bordeaux wines than to any other that I now remember, although each with its own distinct and peculiar flavor, the first having, in my judgment, the preference. The *Muscatel de Syracuse* is a sweet wine, of a decided and very peculiar flavor,—that of the richest raisins,—and to those fond of a

sweet wine it is very agreeable. The Montefiascone and Orvieto are very pleasant wines, without the acidity of the three first named or the sweetness of the last. The Aleatico de Firenze, the Chianta, and the Montepulciano are Tuscan wines,—the first a sweet wine, with somewhat of the flavor of the Muscatel de Syracuse, though not as decided or as rich, and the two last dry, the Montepulciano, to my taste, being the richest and best flavored of the two. One of the pleasantest wines for a light table wine that I saw in Italy was at Genoa, called the Aste Blanc, resembling our very best cider, but with the flavor of grapes instead of apples. The Vin ordinaire is, everywhere that I have seen it, very indifferent, and I presume seldom drank by strangers or those who can afford anything better. Wine is a common beverage, and Italy, as it seems to me, affords a strong instance confirmatory of the opinion of such as maintain that a free use of light wines, preventing that of ardent spirits, is conducive to temperance, for I have never seen in any part of the peninsula a person under the influence of intoxication.

Besides grapes, the fruits principally cultivated are oranges, figs, peaches, apricots, pears, apples, and cherries. Of several of these, as they were not in season when I was there, I cannot speak of my own knowledge, but must depend upon information obtained from reliable sources. The oranges are of two kinds—one, the common orange of commerce, like the Sicily oranges; the other a very small orange, called Mandarins. This last is generally most esteemed, but I did not consider it as good as the larger variety. It lacks juice. It has this peculiarity—the outer skin hardly adheres at all to the pulp, but the whole can be pulled off with great ease. The other variety, the large kind, is very fine. They are sweet, juicy, and, eaten newly gathered, have a freshness and flavor frequently wanting in those imported from abroad. To me, the oranges of Salerno and Sorrento are among the best I have ever eaten. Oranges are usually raised in somewhat sheltered places, on the southern slopes of hills, or in enclosures in the towns. An orange grove of healthy, vigorous trees, with their glossy foliage loaded with golden fruit, is a beautiful sight. The largest trees that I have seen were

twelve or fifteen feet high, with trunks six or eight inches in diameter. Figs are extensively raised, and are preserved in considerable quantities. The dried are very good, nearly if not quite equal to the Smyrna figs. These are at least of two kinds—one very small when dried and pressed, not more than three quarters of an inch across, the other resembles the common fig. Peaches are very good, though not superior to those raised in the United States. Apricots are, if I may use the expression, a specialty of Naples, growing to a great size, and being of superior flavor. I am told by those whose opinion is entitled to consideration, that the Naples apricots excel all others. A good many pears are raised in Southern Italy, if any judgment can be formed from the number of pear trees that one sees. Many of them are of large size, and seem universally to be on their own roots, at least I do not remember to have seen any on quince. No particular pains seems to be taken in their cultivation, or in trimming or training, but they are left to grow as nature dictates. I have seen but one variety of winter pears, and that was not very good. I could not identify it with any degree of certainty, nor could I learn of any name under which it is cultivated. It was of good flavor, but did not mellow sufficiently. The autumn pears, I am told, are very good. Apples—winter apples at least—are very poor. I have seen several varieties, and they all had the same fault, were hard and never became mellow, and this I learn is generally the case. Some that I have tasted are of good flavor, and they keep well, being hard and perfectly sound now, on the first of May. Probably the climate is not suited to them.

The flora of Italy seems to me very rich and varied. The wild flowers are numerous and in great variety, beginning to bloom by the last of February. The fields and roadsides are made gay with them, at least all through the spring. The flowering shrubs are also varied and numerous. Some of both of these were familiar to me, and such as are cultivated in our gardens, but with many I was unacquainted. Of such I shall not attempt a description, for, to my misfortune, what little knowledge of plants that I possess is that of a florist and not of a botanist. Among others I noticed the two

colored sweet-scented honeysuckle, twining itself among the laurustinus flowering on the hedges; the mountain sides covered with flowering heaths, and occasionally gay with patches of cyclamen, with their bright crimson flowers, while frequently the air was literally perfumed by the sweet-scented purple violet. There was one plant that I noticed that seems to me to be worthy of a place in our gardens, where I do not remember ever to have seen it. I took it to be a species of anemone, as it bears a strong resemblance, in many particulars, to the *Anemone pulsatilla*, or wind flower, but differing in color. The color of the flowers was purple, with a spot on each petal of a darker shade, edged with one of a still lighter. The flower was quite large, and it was quite ornamental. One of the most ornamental trees or shrubs now in bloom is the Judas tree—the same, I suppose, as the one so designated in the United States—also called here the *St. Marc*. Its bright purple flowers, with which every limb is covered, contrasted with the deep green of the foliage of the *Ilex*, are very beautiful. Besides native plants, hedge rows of roses are frequently met with, and not unfrequently thickets of camellias, bright with their many-hued blooms. Geraniums grow to a large size in the open air, with some species of cactus and aloes, among which a stately palm occasionally is seen rearing its lofty head; all these of course in a state of cultivation to a greater or less degree.

I have now given you, in brief, a *resumé* of the productions of Southern Italy, so far as the same have fallen under my observation, or as I have obtained information respecting them; but you must remember that in both cases these are, with me, exceedingly limited, and that, were they more extended, the statement might be essentially modified; as it is, you must receive it subject to the drawback arising from this cause. In addition to the products mentioned, cotton is also, as I learn, cultivated to some extent in the yet more southern parts of the peninsula.

With respect to the yield per acre of the several crops, I have no information to be depended on; but when you consider that the soil is fertile, is all cultivated, that it never lays fallow, for as soon as one crop is taken off the seeds of another

are put into the ground, that although in winter vines and deciduous trees shed their leaves, and, with other plants, go into a state of rest, that vegetation never ceases, and that you may have green peas and fresh vegetables every day in the year, it can scarcely be but that the product in the aggregate of an acre must be very considerable.

The present spring is very backward in Italy, and a great, an unusual quantity of rain has fallen. Fruit trees are but just out of bloom, and the leaves of the trees have not yet attained their full size, while, for the last month, it has rained continually. I am told that this state of things is entirely unprecedented. This may be so, and yet persons are so apt to be deceived in matters of this kind, that it is very possible the consulting a meteorological register would prove the present state of things to be not without a precedent. During the past few months there has been a great deal of dull, disagreeable wet weather, so that it seemed that Italy was entitled to anything but the praises that have been bestowed on it for clear skies and bright suns, and yet occasionally there has been days that appeared to be a realization of all that the fancy of poets have imagined and sung of their beauty. I have now distinctly in my memory occasional sunsets, when the whole western heavens were so filled with a golden light as to show, that, in the warm and mellow tints imparted to pictures of Italian scenery, the painters had not so much trusted to their imaginations as they had simply copied nature.

It seems to me that the difference between Italian and American skies consists in this, that in the case of the former the line of the horizon is not as clearly and sharply defined as in that of the latter; that the sun is less brilliant, while there seems to be a kind of haze in the atmosphere, that, without obscuring them, gives to mountains or other distant objects a blue and misty appearance. And it struck me, too, that there was this marked difference between an American and Italian spring, that while in America, as soon as the frosts have ceased, vegetation bursts forth with almost magical celerity and vigor, frequently clothing the naked and apparently dead limbs in the course of a few days with flowers

and foliage, in Italy all these processes of nature seem exceedingly slow in their operation. This year I saw almond trees in blossom in the latter days of February, and in equally favorable situations the peach trees were not in full bloom until the last of March. But as I have said above, I am told that this spring is peculiar, and perhaps to draw any general conclusion from what I have observed is scarcely warranted.

The people of this part of Italy are sometimes represented as an indolent people. This may be so; I have not sufficient acquaintance with them to confirm or contradict the charge. So far as it is true, it may be owing to the enervating influence of the climate. Italy, too, is exceedingly populous, with probably a superabundance of labor, so that employ may not be always to be obtained, and besides, the actual means of subsistence can be procured without constant and unremitting labor being demanded as the condition. So that, although the traveller, as he passes through the towns, sees men apparently idle loitering in the market places or basking in the sunshine, and that, when his carriage stops, he is besieged with clamorous beggars, yet still, in view of what has been and is constantly accomplished,—that the land is carefully cultivated, the steep mountain sides thrown into terraces, faced with stone, as judiciously and skilfully executed as if done under the direction of accomplished engineers; that the roads, built over the most difficult places on sometimes the face of almost perpendicular rocks, are among the best, if not the very best, in the world,—one is justified in questioning the justice of such a charge the people of Southern Italy with being unreasonably prone to an indulgence in the “*dolce far niente*.”

But beautiful as is Southern Italy, with its fertile valleys and picturesque mountain scenery, notwithstanding the classic and historic interest and associations that cluster around its towns and cities, yet to all its charms there is one great drawback—the malaria is its bane. It is sometimes said that everything has its compensation: this may be so, and in its exemption from this scourge, New England perhaps finds one for her hard, rocky soil and uncongenial climate.

I might write to you of the country between this city and

Rome,—my route lying down the valleys of the Clitumnus and the Chiana, the last sometimes said to be one of the most fertile in Europe,—but to do so would be but to give a repetition of what I have already said of Southern Italy, except so far as a difference of latitude may exercise some slight influence upon its products. I shall therefore at once close this letter, already unconscionably long, by bidding you for the present adieu.

Florence, May 2, 1860.

POMOLOGICAL GOSSIP.

AMERICAN FRUITS IN ENGLAND.—Dear Sir: Hood, in one of his Gilbert Gurney tales, makes his hero tell an adventure on the Thames one summer's evening. Gurney, it seems, was rowing in his pleasure boat, and came alongside of an old gentleman who was also enjoying his evening row. The war of words was commenced by Gurney calling out to him, "You have no *business* in that boat, Sir." What do you mean, Sir?" replied the old gentleman, "it is my own boat." "I tell you, Sir," reiterated Gurney, "you have no business in it." The old gentleman, bursting with anger, replied, "What do you mean, Sir, by your insult? it is my own *pleasure* boat, Sir." "Ah, there, I told you so," replied Gurney, "you have no *business* in it," and then left him in a fit of anger.

Now I say that you have no *business* to introduce my name to your columns as the writer of an article signed "Pyrus." I do not know "Pyrus," but, in looking over the article, I find no personality in it, and merely a glorification, by a "Britisher," of the English climate and English fruits—giving you Yankees credit for having sent to us some very fine plums, some excellent early and late peaches, and some apples of great excellence. I think "Pyrus" made a slip with his pen in the sentence, in saying that the apple and the peach are the only fruits grown to perfection in the States, evidently forgetting melons and strawberries, which, judging

from what I read, are grown to an enormous extent, and with great success. As to pears, we seem to be about equal; we have given you one really good,—the Bartlett,—and you have given us the Seckel. I know but little of the Chaumontel, which “Pyrus” praises so highly, but I do know that the Monarch pear, grown against a wall in this part of England as large as a full sized Easter Beurré, and, eaten in February, is one of the finest pears ever tasted, yet with you it is worthless. The Gansel’s Bergamot, grown against a wall in the north of England, I never remember to have tasted. In some seasons in this neighborhood it is of the most delicious flavor, in others only very moderate.

I am told that it is a breach of editorial etiquette to write to or about any person as the author of an anonymous article, without actual proof that he or she is so. I hope you will in future think of this.

I and “friends in council” have tested some of your American pears, and have been highly amused at the effect of our cloudy skies upon them. I have given my opinion of them, when writing to you and friends in the States, but without ill nature. Why should you be offended because our much abused climate will not bring some of your American pears to perfection? and why should you use my name so freely because you see the opinion I have given you, printed and signed “Pyrus”? Depend upon it, dear Sir, it is all a stomach question,—your digestion is weak—you are dyspeptic. You must leave off eating “fixings,” and confine yourself to juicy mutton and beef, with Allsopp’s bitter ale in small doses, and Amontillado sherry. I will, on receipt of an order, forward you a kilderkin of bitter ale. It will restore your digestion, and make you a cheerful editor for life.

From what I gather in your columns, and from those of that excellent and well-managed paper, the “Country Gentleman,” I am inclined, like “Pyrus,” to form a poor opinion of the climate of your Eastern States, and am induced to recommend that when a more perfect climate is found in your vast country, which one day will be the case, you should all vacate them, and leave even your fine city of Boston to us grumbling Britishers, who are always finding fault with our

climate and our government. We should gladly take possession, but soon commence to grumble.

With respect to the New Rochelle blackberry, it seems to be cheap in England, for a Yorkshire nurseryman advertises plants at six shillings per dozen. It has borne fruit in many gardens in England. From what I have seen of it, I believe that I could show you in this country many hundreds of hedges of our English blackberry giving fruit as large or larger than the New Rochelle, for in this part of England blackberries are most abundant, and in warm seasons very fine. In mentioning this fruit, you should not have alluded to "shop." Editors ought never even to think of such common things as pounds, shillings, and pence.

I am quite inclined to think that the article signed "Pyrus," in the Gardeners' Chronicle, and which seems to have offended your nationality, was written for the comfort of English gardeners, who hear so much of your enormous progress in fruit tree culture as to feel disheartened at not being able to grow peaches by the acre. The ever-to-be-lamented A. J. Downing, a true-hearted garden-loving *gentleman* in every sense of the word, has given us vivid descriptions of the blights and diseases to which your fruit trees are liable. You were not offended with him, but I hope deeply grateful, for no man in any country ever did so much for gardening in a few years as he did when the Horticulturist was edited by him, and I may add that you also owe much to his immediate successor in the editorship. In the course of a few years, when our "Great Easterns" make the voyage from Liverpool to Boston in six days, I hope we shall have in alternate years fruit exhibitions at the above towns. We shall show our best, and I am sure you will do the same. In the meantime you must not feel sour because your climate is too cold in the winter and too hot in the summer; or, what our florid, healthy grazing farmers would call "neither good for man nor beast."—Yours truly, THOMAS RIVERS, April 6, 1860.

We are glad to hear Mr. Rivers disclaim the authorship of the article upon which we made the comments in a late number. All, therefore, that we said in regard to Mr. Rivers must be transferred to the anonymous writer, whoever he

may be; but as we supposed Mr. Rivers had done more to introduce and prove our American fruits than any other nurseryman, it would now appear there is some one who has done a great deal more than he has, though, besides Mr. R. Thompson, we know of none who is so well acquainted with them. In view, therefore, of the prominence of Mr. Rivers in this very matter, we had not only a good reason to attribute the article to him, but were, we think, guilty of no breach of etiquette in doing so.

But why should Mr. R. justify the spirit of the communication and feel so irritated if he was entirely innocent of any knowledge of the matter? On the contrary, if the article was a narrative of facts, the writer, whoever he might be, need not be ashamed of it. But Mr. Rivers must be aware it is not true, and therefore, instead of apologizing for it, he should, it seems to us, have denounced it. It is not a "stomach question" at all, though Mr. R. may think so, and he need only read the remarks of the Messrs. Berekmans to know that if it is, there are more diseased stomachs than one, and he must forward a whole case of the "bitter ale" and "Amontillado sherry" to restore the digestion of all who have read the communication of "Pyrus."

If Mr. Rivers is inclined, like "Pyrus," to form a poor opinion of the climate of our "Eastern States" from reading "that excellent and well-managed paper the "Country Gentleman," he certainly can do so; that excellent agricultural paper is alone responsible for its teachings. We think, however, it would be as well for Mr. R. to form his opinion of the climate of the Eastern States from some of its own agricultural or horticultural journals, which at least disseminate no such errors. Probably Mr. Thomas knows as little of our climate as Mr. Rivers. As regards emigrating to another clime as soon as a better is found, perhaps it would be well to know what that climate is first. We certainly never lost our crop of pears but *once in twenty-five years*, and we think we can find a remark of Mr. Rivers, (*Horticulturist*, 1848, p. 555), that he had "one hundred and fifty trees of Marie Louise *twenty years old*." They are "as usual, he says, *full of blossoms*"; but it is "FIVE YEARS SINCE I HAD A CROP,

which is also the case in the pear gardens near London"! Who talks of emigrating to another clime?

So miserable is the climate of Hertfordshire, that Mr. Rivers's Easter Beurrés "*were hard and never ripened,*" and, as a last resort, he grafted them (two or three hundred trees) with that comparatively worthless pear, the Capiaumont, to supply the Britishers with fine fruit! as he found this, to use the hackneyed Yankee phrase, "would pay." Mr. Rivers must have as forgetful a memory as another cultivator we might name, who denied that he wrote a letter signed by his own name, or certainly he would not talk about our bad climate in comparison with his own.

But we have no room to follow up these remarks. We simply wish to say, as true-hearted a "garden-loving *gentleman*" in every sense as Mr. A. J. Downing was, it will not do to take all he said as facts. He had, in common with all of us, his failings. What he wrote about the BLIGHTS, certainly did not offend us, because, with the exception of the summer blight, it was mere moonshine, and we are *not grateful*, nor do we think any of our cultivators are, for his recommendation of salt, gas tar, copperas, and forty other things to cure all the diseases (but which killed thousands of trees) so terribly numerous some would imagine, to hear Mr. Rivers talk. The pear in the Eastern States has no disease whatever; the apple none. The blight, as it is called, which attacks the pear in some places in the middle and western States, is local; it is not known either South or East. In our experience of twenty-five years with many hundred thousand trees, we never saw a diseased pear tree here. We are as well aware of the valuable labors of Mr. Downing as any one. The first ten volumes of our Magazine, to which he was a constant contributor, are our best appreciation of them. Had Mr. Rivers read these volumes he might have learned that we knew quite as well as he who Mr. Downing was, and what he did for gardening in this country.

In conclusion let us say to Mr. Rivers, that, cold as our climate is in winter and hot as it is in summer, we can always have an abundance of the best fruit. We neither need to grow apple trees in *pots* or pear trees in *boxes*, nor to have

an orchard house to raise a hundred or two of pears and apples. Our market is flooded with Northern Spy's and Baldwins and other equally as fine apples, at a price which even the poorest man in Britain could buy; peaches are full as plentiful and about as cheap as potatoes in London, and all other fruits, save the nectarine and apricot, are far cheaper and better than can be obtained in Covent Garden market. If Mr. Rivers should send his Capiaumont pears to our market, he would soon find cabbages "would pay" better.

FRUITS AND THE SEASON AT THE SOUTH.—In a pleasant letter from our correspondent Mr. Berckmans, of Augusta, Ga., about fruits, &c., he writes as follows:—"I have just done with about one half of the *summer pruning* of my orchards. I can state that we are from seven to eight weeks *clear* in advance of Boston, (six weeks of Philadelphia); our strawberries ripen about the first of April, and I had pears and peaches set the *tenth* of March; my vines of melons are over a foot or sixteen inches long, and we never have to protect them from the striped bug. We have the cureulio, but not more than in the North, if as much; and I have to kill the first caterpillar upon a pear tree.

By-the-by, the foliage of Dana's Hovey and Excelsior pears (Admirable also) is most splendid; perhaps a great deal more brilliant and large than with you. From what kind of seed did that lucky man (Mr. Dana) raise his pears? They have much of the Seckel foliage, or of the Swan's Orange. These are what I call acquisitions. We have fine fruits enough, but we want trees as hardy and as beautiful as forest trees. We can only expect it from native seedlings. * * * You cannot well conceive what a difference *our* sun brings about in the foliage of trees. It is a source of constant wonder and pleasure to me to see those noble Buffums, Swan's Orange, Michael Archangel, Clairgeau, &c. &c., develop their rich and profuse foliage and the fruit is in the same ratio. I had in 1859, a Triomphe de Jodoigne weighing 22½ ounces! luscious as a good Swan's Orange, which it resembles *very much* in flesh, flavor and juice, (or *water*, as André Leroy has it.)

My Maxatawny grape is running about as in 1859, and has 8 or 10 bunches set. I shall surely send you one of the *things*, if nothing happens to them.

Apropos, Augustus Dana seems to be of more delicate habits than his brothers. [It is entirely unlike the others, having more the character of the Winter Nelis.—ED.] I had eight new varieties from France, which came here in April; among them Gen. Tottleben, Admiral Ceecil, Louise Bonne de printemps, &c., came all the way through Belgium, England and New York, and . . . still alive! but that is a bare chance. The great point is to have them true, and I believe I can rely fully upon my correspondents.

Your Concord *stumps the world*—bearing and growing more than any other grape vines. The Brincklé grape, a noble grower with us, has now bunches in process of blossoming, *not yet set*, of five inches long; what will that be? Diana, a noble bearer, full of bunches; Rebecca, rather delicate; Delaware, more hardy, but below the Brincklé in vigor.—Respectfully yours, L. E. B., Augusta, May 2d, 1860.”

NEGLEY PEAR.—A variety long cultivated in Pittsburg, Pa., but just been introduced to the notice of cultivators by Mr. J. S. Negley of that city, who gives a brief account of it in the Horticulturist. He states that, upwards of fifty years ago, his grandfather leased a lot of land in Pittsburg, and soon covered it with fruit trees. One pear tree, which stood near the house, escaped the accidents which destroyed many of the other trees. It is still a fine healthy tree. As there are no other trees like it, it is supposed to be a seedling, and was called the Negley pear by the Pittsburg Horticultural Society. The tree is growing in a rather unfavorable situation, yet it was the only variety out of fifty which bore last season.

Mr. Negley describes it as follows:—Tree vigorous, upright, pyramidal and very symmetrical in growth, comes early into bearing; wood very clean, reddish brown; foliage abundant, of a rich green.

Fruit above medium, obtusely obovate, nearly regular, sometimes a perfect pyriform; skin a rich lemon, shaded with bright crimson, quite free from specks and imperfections; flesh white, tender, moderately melting, very juicy, but fine;

flavor rich saccharine, sprightly vinous, highly perfumed and delicious; core of medium size. Ripe the last of August in Pittsburg, and keeps nearly a month. The pear is very handsome, and commands a good price in the market. In general appearance it resembles a perfect White Doyenné. It is a very beautiful pear, so Mr. C. Downing says, but is not so melting as he desires.

CULTIVATION OF THE FUCHSIA.

FROM THE GARDENERS' CHRONICLE.

THE Fuchsia, when well treated, is one of the most beautiful of spring and summer blooming plants, adapted alike to the decoration of the conservatory or the garden. Especially as ornamental objects for the verandah or piazza, they stand preëminent, both as regards gracefulness of habit and profusion of bloom. Even as ordinarily grown, it is always a beautiful plant; but, when subjected to good culture and grown as specimens six or eight feet high, it yields in magnificence to few others. It is in the latter character that we would see it more extensively grown; and to this end the article which we now copy gives ample directions. If treated as here directed, the most splendid specimens may be obtained, and this beautiful plant reclaimed from the neglect it has so long received. We shall never forget the magnificent appearance of the many specimens we saw in English collections, some of them twelve feet high, and loaded with thousands of its graceful and beautiful blossoms. The following is an essay read before the South Easton Floricultural Society, near London, by Mr. R. Oubridge, gardener to J. Foster, Esq., and is a complete synopsis of the course of treatment to obtain splendid specimens. All who appreciate fine plants may follow with safety his directions, and be sure of a successful result:—

In submitting to your notice a few brief remarks on the culture of the fuchsia, it would not, I think, be amiss for me

to just glance at the early history of the plant, as there is something very romantic in its introduction to general culture. Any of you who have ever travelled as far as Hammersmith, will have observed in that locality a very large nursery, the original proprietor of which was Mr. Lee, the celebrated founder of the nursery called the Vineyard, at Hammersmith. This nursery during the eighteenth century could boast of as large a trade as any nursery in the three kingdoms, therefore it will not be surprising when we find him introducing the rarest and best novelties of the age. Well, you will ask me now, what about Mr. Lee and the fuchsia? I will at once reply to your question by relating the following story.

It was said that Mr. Lee had been informed that in the neighborhood of Wapping, in the window of an humble dwelling, growing in a pot, was to be seen a graceful plant, with beautiful drooping flowers like ear-rings. Of course, his curiosity was excited; the description given was such that he knew of no plant in his nursery whose character corresponded with the glowing account afforded him of the said plant; so at once he procured a coach and posted off to the said locality, having obtained an introduction to the owner of the plant, whom he found to be no other person than the wife of a sailor. After speaking of the good qualities of the plant, he asked the good woman what price she demanded for it, at the same time offering her a golden coin; but she refused it, saying that her "Jack" had brought it home from a foreign country, therefore she would not part with it for his sake, and after using all the persuasive language he was possessed of, and a promise that he would propagate a plant of the same for her, he succeeded in obtaining possession of it, not without first depositing in her hands all the cash he had about him, which was a trifle short of ten guineas. Homeward bound, and carefully nursing his treasure, we find him busy in propagating and converting into a plant every available piece of the same. Soon it found a ready sale at an enormous profit; and to the above source may be traced the general culture of the fuchsia.

I will now proceed to furnish you with a few remarks re-

specting its general character and culture. Speaking first of varieties—these may be divided into four classes: 1st, *dark*; 2d, *light*; 3d, *white corolla'd*; and 4th, *fancy varieties*. Of course, the floral market can boast of numerous varieties belonging to each class, numbers of which, except for novelty, are unworthy of being cultivated. Therefore it is for the cultivator to know which kinds are most suitable for the purpose he requires them for, because some are dwarf, others tall and straggling in their habit; again, some are slender and graceful, others will flower prematurely, without making the slightest disposition to grow. Now we will consider what are the requisite qualities of a good fuchsia: first, a free growing, graceful habit, not rampant in its growth, but imparting in form as it grows the shape of a pyramid, the lower branches becoming widened in circumference as the upper ones extend; the second, fine healthy foliage; the third, abundance of bloom; and the last, but not least, quality of the flower, never banish one from your collection that pertains to the above perfection until you are satisfied that its successor is a decided improvement. You will perhaps ask me to recommend sorts. I will enumerate those that I grow, as I am conversant with their merits. Others I must leave to your better judgment and the recommendation you may receive from the seller and the raiser. Mine are as follows:—

DARK VARIETIES.—Catherine Hayes, Souvenir de Chiswick, Little Bo-peep, Donna Joaquina, British Sailor, Governor General, General Williams, Tristram Shandy, Wonderful.

LIGHT VARIETIES.—Fair Oriana, England's Glory, Clio, Fairest of the Fair, Duchess of Lancaster, Rose of Castille, Prima Donna, Venus de Medici, Queen of Hanover.

WHITE COROLLA'D.—Princess of Prussia, Princess Royal, Mr. Story.

FANCY COROLLA'D.—*Serratifolia*, *Dominiana*, *fulgens*.

I shall simply confine myself to the general culture of the plant, supposing you grow it for all purposes, exhibition and home decoration. If you propagated your own plants, you would do so early in the spring or in the month of July. I prefer the latter month if I cannot obtain cuttings till late in the spring, because those struck in July will not generally

flower the same season, but continue to grow fast during the humid months of the autumn, and if convenience favors you you can maintain their growth till their flowering season; whereas those propagated in the spring flower before the plants have had time to shape themselves or acquired sufficient strength to form a good specimen for the future. In striking them, use a little silver sand, say about two inches, on the surface of the pot; cover the cuttings with a bell glass, for that will hasten their rooting. Take care to wipe the glass dry every morning. After they have rooted, pot them into 3-inch pots; place them in a little bottom heat if you have it; if not, cover over with a hand-glass. Continue to shift from one size to a larger one till you have gained your desired object, viz., that of a good formed plant, suitable for the structure you grow it in, or the purpose you require it for. Now during all these various stages of growth, we will suppose you have carefully attended to the stopping or the pinching off of the shoots with the view of inducing a bushy habit; for instance, when the plant is fully established in its first shift you must stop the leader if there is not a tendency to emit laterals regularly up the stem, and then again whenever you find the same fault prevail; so that the eye of the cultivator must be constantly on the alert, watching his favorite objects as he would some little foundling.

Some of the plants will not bear the rays of the sun when powerfully shed on them so well as others, so that they will need a slight shading; and all sorts require it during the hottest months of the year when in flower, or else the flowers will drop quickly. So they will if you allow the soil to become soddened with too much water, for this, like everything else, must be applied judiciously; by no means let them get dry, or the foliage will soon afford you evidence of the fault by turning yellow, and gradually losing its healthy hue; during the last stages of the plants' growth you may apply weak liquid manure water. If the plant is of a robust habit it does not need so much stimulating. Now again a little judgment is required; that for such weak growing varieties as the Princess of Prussia and others should be much lighter than that used for the stronger habit one. The heavier the soil the

slower the growth, but a bushier habit accompany it in its infancy.

I find them thrive well in the following compost well incorporated: one part good mellow loam, one of rotten dung, and a small quantity of peat earth for making the soil light, and a fair sprinkling of silver sand. Take care and provide plenty of drainage and clean pots, and by following the above directions success will attend your exertions.

And now for the after-treatment. When they have done flowering, let them be placed out of doors in a situation fully exposed to the due influence of the sun; this will assist in ripening the wood; apply water sparingly, just sufficient to prevent them from suffering through drought, so that they may by degrees lose their foliage, but by no means expose them out on frosty nights or the frost will materially injure the wood that produces for the forthcoming season. Having accomplished the above you may store them away in a cool part of the greenhouse, giving them enough water to keep them from dying.

The fuchsia is a very accommodating plant, for it will commence growing at any period after a rest that you like to excite it; but that must depend on circumstances that are at your command for favoring an early growth, and also what season you wish them to be in flower.

I will now say something about pruning old plants previous to their new growth. Some of the sorts partake of a weak growth, and only require the ends of their shoots nipped off; others of a robust habit will bear being cut into three or four eyes; but the cultivator in performing this operation must have an eye to the shape he intends his plant to assume.

One word more and I close my essay. I have not said anything respecting their preparation for exhibition—such as the sorts best adapted, and the best mode of packing and conveying them to the exhibition, and other little trifles worth knowing.

I believe I am somewhat qualified for the task, having during the past season had three first prizes awarded to me at two of the principal horticultural exhibitions in the kingdom, I may say the world,—the Crystal Palace and the Royal Bo-

tanic flower-shows,—so that at some future period I shall feel most happy in giving you my experience on the above subject.

THE BRUGMANSIAS.

It is but very recently that attention has been directed to the decorative character of our lawns and gardens by the introduction of plants remarkable for their stately habit, their remarkable foliage, or showy flowers. So long accustomed to the usual variety everywhere planted, and ignorant of the capacity of others for ornamental effect, we have been satisfied with what has been accomplished, and have made little or no efforts to introduce anything different.

But the spread of information upon every department of gardening, and the introduction of many new plants of a highly ornamental character, well adapted to garden decoration, are effecting changes in our grounds which tasteful planters are desirous of emulating. Hence the introduction of these plants is gradually extending, and a due appreciation of their merits becoming more general.

Of this class, among others which we have already noticed, and shall continue to record, are the Brugmansias, whose stately habit, large foliage, and immense trumpet-shaped flowers form such attractive objects throughout the latter part of the summer. Of rapid growth, and adapted either to vases or the open ground, they are highly decorative and magnificent ornaments of the lawn. So much are some of them prized in English gardens, that houses have been specially erected to protect and keep fine specimens through the winter. We recently noticed an account of a single specimen growing at Crown Castle, Ireland, which was twenty feet high, and covered an area of 170 square feet, and expanded hundreds of its magnificent flowers.

There are several species and varieties of this and the allied family, the *Datura*, of which we have an example in the now well known and beautiful *D. Wightii*. But while the *Daturas* are herbaceous, the *Brugmansias* form trees of larger or

smaller size, of which the *B. arborea*, a drawing of which (FIG. 6) is annexed, will give a good representation. Recently some new and fine additions have been made, one of which, the *B. humilis* or *chlorantha*, has double yellow flowers, very handsome.



6. BRUGMANSIA ARBOREA.

These fine plants, grown as standards in large pots, wintered in the greenhouse and turned out into the ground in June, or placed in large vases upon the lawn, produce a fine effect. Their huge, pendent, trumpet-shaped and fragrant flowers are produced abundantly throughout August and September.

They are of easy cultivation ; they may be raised from seeds or grown from cuttings. They should be planted or struck

early, and potted off and placed in strong bottom heat, where they will grow rapidly, and will require shifting into larger pots frequently during the summer. Supply them with plenty of water, occasionally using liquid manure. They will attain the height of three feet and begin to flower in September.

On the approach of winter they should be placed in a cool part of the greenhouse, or even a cool cellar, watering very sparingly. On the return of spring, they should be again started into growth, pruning the head if it is required. Repot, if necessary, and plant out or remove to the lawn in June. They will soon begin to bloom and give a constant succession of flowers. The soil they like is a rich loam.

We hope to see these old and neglected plants receive attention. They need only to be seen in fine condition to become indispensable ornaments of every fine garden.

ARBORICULTURAL NOTICES.

THE WINTER OF 1859 AND 1860 IN GREAT BRITAIN.—The past winter was one of great severity in Great Britain, and as spring advanced its effects were more apparent, showing a destructiveness of many supposed hardy trees, shrubs and plants such as has not been experienced probably during the present century. Trees which are rarely if ever the least injured were killed to the ground, and others so much cut up in the foliage as to destroy their beauty. Even trees which in our climate we have never yet known to be severely hurt, were partially killed, and, as will be seen in the article we are about to copy from the Gardeners' Chronicle, peaches and nectarines were wholly destroyed.

As all this injury, however, is attributed to the sudden cold of October last, when the thermometer fell to 17°, a depression not unusual in our climate as early as November, and not to its intensity later in the season, it may be supposed that the results of this severe trial may be of little value to us. But the facts induce us to think they are especially worthy of attention, and that we have overlooked one of the most in-

portant things in the acclimation of trees, viz., the early maturity of the summer growth. This obtained, so that the severe early frosts do not injure our trees, they will pass the intensest cold of midwinter in perfect safety. This is shown in the returns which have been made in Great Britain. For while in some localities certain trees were cut down to the ground, in others quite as cold they were very little hurt.

Another important fact is that the following list furnishes good evidence as regards the hardiness of certain trees, showing conclusively that there are some of the Coniferæ, which we have hoped might eventually prove hardy, so constitutionally tender as to render it useless to continue further experiments. We commend the remarks of Dr. Lindley to the attention of all lovers of trees, assured they will furnish a fund of facts for consideration in regard to the effects of frost upon trees, and lead them in the right direction in their future experimental efforts:—

The time has now arrived when certainty may be obtained as regards the effects upon garden plants of the disastrous frosts of last autumn. It will be remembered that after a summer of unusual heat and drought, the ground temperature in September having risen to 63° , and in much of October still remaining at 62° , rain began to fall heavily by the beginning of September. In about forty days, prior to the 21st of October when the frost occurred, not less than $5\frac{1}{4}$ inches of rain had fallen; the effect of all which was precisely that of a smart bottom heat at the end of winter. Numerous plants were forced into unnatural growth. Some, more excitable than others, had formed shoots several inches long; others of a more torpid nature had filled themselves with sap, and were ready to grow. Spring flowering shrubs thought that spring had come. At this conjuncture, without any material gradual decrease of temperature, the thermometer suddenly, on the 21st of October, fell to 23° , on the 22d to 21° , and on the 23d to 17° . The ground actually lost 10° of its heat in five days! The watery juices of plants were congealed, and all succulent vegetation had the air of being boiled. In the gardens near London, broccoli, coleworts,

Brussels sprouts, cottager's kail, and even celery so utterly perished, that, as soon as the temperature once more rose, nothing was seen except brown flabby dead leaves hanging lazily from rotting stems. The loss of market gardeners and of farmers with their root crops was enormous, and it was evident that the destruction of exotic plants must be also very great. To say to what extent this destruction has been carried, the time, as we have already said, has come, and we solicit information upon the subject from our correspondents, for their mutual benefit. It is evident that all such exotics as have borne the shock of last October are to be regarded as absolutely hardy.

For ourselves we only propose to mention a small number of instances of death or escape from death which have come beneath our own notice, in cases where plants have been wholly unprotected, and which appear to be most especially deserving of remark.

Among the plants that have been *utterly destroyed* are great numbers of standard rhododendrons, the bark of whose stems has been split and thrown off; this is most especially the case with standards worked on *R. ponticum*; those on *Catawbiense* have suffered less. Hardy heaths are gone in many places, with the exception of *Erica carnea*. So is *Dacrydium Franklinii*, the Huron pine, from which so much was expected. *Laurus regalis*, the Californian Bay tree, is not in much better plight. *Eugenia apiculata*, which had lived many years under a north wall, and *Olea ilicifolia*, about whose hardiness scarcely any doubt was entertained, are both gone. And, what was most especially unexpected, *Farfugium grande* has to be added to the roll of deaths in some places. Among American and Indian conifers, *Cupressus Macnabiana* has died in warm places though unharmed in cold ones.; *Cupressus Uxdeana* has suffered much in all directions, and has even perished outright, and must in future be regarded as incurably tender; and the state of *Pinus Llaveana* and *australis* is such as to hold out little hope of their recovery.

Among the species which are *very much injured*, but not killed at present, one of the most striking cases is that of *Pinus excelsa*, the beautiful Himalayan Weymouth pine, the

ends of whose shoots are wholly destroyed. Another is that of peaches, nectarines and apricots in the nursery quarters; and of a standard Brussels apricot, 20 feet high, and probably 30 years old, which will never recover; yet a Breda apricot tree in the same garden seems to have taken no harm; both these stand on grass. The hardy Riccarton fuchsia, under a north wall, whose branches have generally survived, is dead to the ground. Spiræa Lindleyana has died back two thirds; and so has an old tree of Kolreuteria paniculata.

Injury, without probability of death, has been sustained by the rare Thujopsis dolabrata, which was making some young sprouts when the frost came; Myrica californica, the upper branches having gone, while the lower, protected by the upper branches, survive; Fagus Cunninghamii, the evergreen Tasmanian beech tree; Garrya elliptica, which has lost the ends of most of its shoots; Viburnum Tinus, the common Laurustinus, which is in the same state, except in sheltered places; Jasminum nudiflorum; Cupressus funebris, so far as the primordial prickly shoots are concerned; Cupressus Knightii, and Pinus insignis. Perhaps, too, Pinus Montezumæ and tuberculata must stand in the same rank, although their leaves alone are brown at present.

On the other hand, the following have been found *proof against frost*:—Cupressus Lambertiana, Goveniana, torulosa, Lawsoniana, and Macnabiana (the latter in cold places); Thujopsis borealis; Libocedrus chilensis and Doniana; Thuja gigantea; Abies bracteata and Pinsapo; Torreya grandis and Myristica; Juniperus oblonga and mexicana; Larix Griffithii; Sequoia sempervirens, although a little burnt in some places; all the species of Cephalotaxus, which are evidently as hardy as a common yew. As for Pinus Gerardiana, Lindleyana, Benthamiana, monticola, muricata, Fremontiana, and cembroides, they are not even browned. Pinus radiata must be mentioned separately because of the singular beauty of its emerald green foliage, which no cold seems to harm. The new Rhododendron Fortuni has saved its beautiful foliage and is now pushing vigorously; Viburnum hirsutum, the hairy Laurustinus, maintains its ancient reputation for hardiness; the great Japanese bamboo and the Pampas grass are

safe (but the little black bamboo does not look well); as for *Skimmia japonica*, the Japanese pinnated Berberries, *Cotoneaster marginata*, *microphylla*, and their allies, *Berberis Darwinii*, and the Chinese box, they all have the constitution of a Whitethorn. Camellias under north walls have proved more hardy than Laurels; but their flower buds are dead. Finally, the *Hovenia dulcis*, a tree forty years old in the Chiswick garden, has sustained no damage, although a species of southern China, and trained to a south wall.

It would be a vain attempt to endeavor to reconcile facts like these with any theory of climate. What we learn from them is, that plants, like animals, have each their own peculiar constitutions; that some are capable of bearing what is fatal to others from the same country; and that although these peculiarities have probably been implanted in species by long exposure to certain conditions to which they have been able to adapt themselves, yet there still remains behind what animal physiologists term *idiosyncrasy*, which seems to be beyond the reach of explanation. This moreover is demonstrated, that although introduced plants may for a long series of years appear to be capable of bearing a new climate, yet there will arrive, at some time or another, a set of conditions which they cannot support, and which drive them out of their adopted home. And thus it is that the great features of vegetation remain the same essentially in every country, from age to age, notwithstanding the interference of mankind.

FLORICULTURAL NOTICES.

FERNS AND LYCOPODS.—These beautiful plants, we are pleased to learn, are receiving considerable attention from our more energetic amateurs and nurserymen, who begin to appreciate the rare elegance of their delicate foliage. The Botanic Garden at Cambridge possesses a very fine collection, which is well managed by the intelligent gardener, Mr. Zin-gerbel. They are appropriately planted in a border properly prepared, where they flourish as freely as in the shady re-

cesses of their native habitats. Messrs. Evers & Comely, of Brighton, have also a rich collection, grown in pots, but still in good vigor. In our own collection we have, among several others, the new *Pteris argyrea*, a variegated fern, with green and silver fronds, of large growth, pronounced the most beautiful of all that have yet been introduced. In English collections they are prized as highly as the most ornamental flowering plants, and we trust our own amateurs will show their good taste in introducing at least a few of the most beautiful into their gardens. We shall have something to say about their culture and general treatment soon.

YUCCA PARMENTIERI, a new species from Mexico, has been introduced into English collections. It is stated to be a very handsome species.

CLIANTHUS DAMPIERI.—This showy plant, which we have already described, is attracting much attention in England. Messrs. Henderson & Son, of London, have a fine specimen, which expanded about 500 blooms the last month.

TRITOMA UVARIA GRANDIFLORA is the name of a new variety, said to have the finest flower trusses of the whole tribe.

CINERARIAS.—These beautiful plants are attracting great attention among the English cultivators. At the late exhibition of the Royal Botanic Society a large number of seedlings were exhibited, to several of which were awarded prizes for their superior merit. A great advance has been made both in shape and variety of color, which will give them additional claims to attention.

THE YELLOW CORYDALIS.—This uncommonly handsome herbaceous plant is very near the *Altai Corydalis stricta* of Stephan. The *Gardeners' Chronicle* says:—"Our copy of Maximovicz's *Flora amurensis* being in the hands of the binder, we are unable to say in what peculiarities the Russian botanist discovers its specific distinction; it is however certain that it is very different from any plant in our gardens. The stems curve gracefully upwards to the height of a foot or so, and are of a dull but agreeable red. Sessile bipinnatifid delicate leaves clothe them, emerald green on the upper side, while a clear bloom is spread over the under side. The flowers, which grow in dense spikes at the end of the stems, are large

golden yellow, stained with bright brown towards the point. Mr. Moore, of Glasnevin, to whom we are indebted for specimens, speaks of it thus: "I herewith send you specimens of the pretty *Corydalis speciosa*, which you noticed in the Chronicle of Dec. 1858. It makes a fine addition to our spring plants, and probably will be easily managed. At any rate, it is perfectly hardy in this climate. The flowers I send you were cut from a plant which stood in the open border all the winter without protection, and the thermometer fell so low as six degrees above zero. Wanting its usual covering of snow, it may prove impatient of our changeable winters, as I have already found it. Out of four plants two have died which were kept in a cool frame, and one is sickly, which grew near that which has flowered so finely in the open border. The bright yellow flowers contrasted with the purple stems and glaucous foliage combine to make it a conspicuous plant. Is it more than biennial?"

NEW FUCHSIAS.—The new fuchsias, especially the double varieties, are very great improvements upon the older kinds. One of the latest and best is Sir Colin Campbell, which, in addition to a fine free growing, compact habit, has large flowers, with very double corols of a deep violet blue. It is a fine acquisition, and, with the Marquis of Bristol, Star, Imperialis fl. pleno and others, highly desirable in every collection.

The new single fuchsias of the year are also very fine, especially those of Messrs. Banks & Smith, two remarkably successful growers: Mr. Banks's are Magic Flute, Leoline, Crown Jewell, La Crinoline, Isa Craig, Stradella, Flower of France, &c.; Mr. Smith's are Butterfly, Criterion, Elegantissima, Great Eastern, Solferino, and Senator, all very large flowers, of fine form.

NEW DWARF NASTURTIUMS.—The new nasturtiums Tom Thumb Beauty, Tom Thumb Yellow, and Tom Thumb Scarlet, are each beautiful plants for summer decoration, of dwarf habit, their neat foliage completely hidden by the profusion of bloom.

511. *DIPTERACANTHUS AFFINIS Hort.* SIMILAR *DIPTERACANTHUS.* (Acanthaceæ.) Brazil.

A stove plant; growing two feet high; with scarlet flowers; flowering in winter; increased by cuttings; grown in loam, peat and sand. Illustrated Bouquet, plate xxvii.

A very showy plant, with large blossoms two inches in diameter, resembling in shape the petunia; in brilliancy of color they will sustain a comparison with the old and well known verbena Melindres, or the *Salvia splendens*. It has glossy, oblong, acuminate, laurel-like leaves of a thick leathery texture, and the flowers are borne from the axils of the terminal shoots. In cultivation it requires a good temperature, and pinching in the shoots to make bushy specimens: after a proper period of rest and maturity in the autumn, it displays its brilliant blossoms in abundance. (*Illus. Bouquet.*)

512. *PYRETHRUM ROSEUM*, VAR. *PYRETHRUMS*. Garden hyb.

Hardy plants; with various colored flowers; appearing in summer. *Ill. Bouquet*, pl. xxxvii.

The *Pyrethrums* have recently attracted the attention of German and French cultivators, and new varieties have been produced: as yet the improvement has been but slight, the flowers not being full double, but they are desirable for their showy colors, as well as their free flowering habit. Three sorts, *atrosanguinea*, *Duchess de Brabant* and *Chas. Baltet* are figured in the *Illustrated Bouquet*, each having rose colored flowers nearly two inches in diameter.

We have no doubt the *Pyrethrums* will be so much improved that we shall possess full, double, perfect shaped flowers of all colors. There is no reason why it should not yield to the skill of the hybridizer as well or better than the *chrysanthemum*, and a class of hardy plants produced which will be among the richest acquisitions to our gardens. The above named sorts are described as follows:—

ATROSANGUINEUM.—A beautiful variety, from one and a half to two feet in height, having very elegant dark green, double mixed leaves; flower stems green, purplish at the base: Flower heads nearly three inches in diameter; rays rich violet crimson, richly contrasted with a golden yellow disc.

DUCHESS OF BRABANT.—Neat dwarf, and compact in growth, from twelve to eighteen inches high; leaves pinnatifid; flower heads large, nearly four inches in width, the rays rich rosy crimson, the disc prominent bright yellow.

CHARLES BALTET.—A very handsome plant of more robust growth, and handsome foliage; flower heads large, terminal,

semi-double, four inches in diameter, the central or disc florets transformed to a dense series of short, light rose or pink tinted tubes, which are surrounded by the beautiful stump-shaped, rosy carmine red florets of the ray.

Other new kinds, which are equally beautiful, are *P. roseum nanum*, *P. Delhayii*, *P. Tom Pouce*, *P. Gloire de Mayence*, *P. Milleri*, *P. Ambrose Verschaffelt*, *P. Theophite Massarl.*

Two or three of these flowered in our collection last year, and their graceful, pinnated foliage, and large rosy-tinted flowers on tall stems elevated above the foliage, produced a pretty effect. We have now many seedlings from these plants, and would direct the attention of florists to the improvement of so desirable a class of flowers.

513. *PTERIS ARGYREA Moore.* SILVERY-LEAVED *PTERIS.*
(Polypodiaceæ.) India.

A stove plant; growing five feet high; with green and silvery leaves; increased by division of the roots; grown in coarse leaf mould and sand. Illustration Horticole, 1860, pl. 211.

The ferns, as we have already remarked, are so graceful a tribe of plants, and destined to become popular among real lovers of beautiful foliage, that we shall notice all the newer and choicer kinds. The present species is from Central India, and is one of the most noble and remarkable yet introduced, producing fronds five feet or more long, whose particular beauty is owing to the broad silvery band in the centre of each pennæ and its divisions, giving it a rich and unique appearance. It was sent from India by Mr. Lobb, the collector of Messrs. Veitch, and by them introduced to the public. It is a superb acquisition. (*Ill. Hort.*, April.)

514. *STATICE BONDUELLI Lestil.* BONDUELLI'S *STATICE.*
(Plumbaginææ.) North Africa.

A perennial half hardy plant; growing two feet high; with yellow flowers; appearing all summer; increased by seeds; grown in good garden soil. Bot. Mag., 1860, pl. 5158.

This is the pretty yellow-flowered *Statice* which we have already briefly noticed among our list of new annuals. The root is perennial, but the plants bloom the first year, when the seeds are sown early. The leaves are radical and spreading, forming a tufted mass of green, and the flower stems,

which grow a foot or more high, are covered with bright yellow flowers, retaining their beauty for a long period. It is one of the prettiest of the genus, and is among the few of the yellow-flowered species known to us. Of all border flowers, few plants exceed it in the abundance as well as long duration of its blossoms. (*Bot. Mag.*, Jan.)

Massachusetts Horticultural Society.

OPENING OF THE NEW HALL.—The first exhibition of the Society in their new Hall, in Washington Street, was opened on Wednesday, the 23d of May, and continued till Saturday, the 26th.

Under the direction of a Committee appointed for that object, the new Hall has been fitted up in very fine order, the walls newly painted in panel work, the ceilings frescoed, and the suit of adjoining rooms for the monthly meetings papered, painted and carpeted. With the single exception of the Hall, which does not show off the plants in consequence of side light only, the Society is better accommodated in the new place than the old one. The floor room is quite as ample, and, in consequence of the width of the building, more table room is obtained, with an abundant space for visitors. As a temporary arrangement until the Society can find a new location for a building of their own, we think the members may congratulate themselves upon the choice of the new Hall.

The Hall is situated upon the corner of Washington and West streets, with a broad main entrance from Washington, and a back entrance from West street, affording very ample facilities for the contributors in bringing in and taking away their plants. It is reached by two flights of stairs. The Hall is nearly as wide as it is long, and well lighted on two sides; the recesses of the windows are fitted with seats for the accommodation of visitors, and the walls between the windows hung with very large mirrors, which reflect the whole arrangement. This consists of four tables running lengthwise of the Hall, which may be used either for fruit or flowers by putting up or taking away the moveable stands. In the present exhibition, the two outside tables were filled with plants, and the middle one with cut flowers. The circular flower stands are placed at one end of the Hall, near the light, and the opposite end is arranged with a low stage for plants.

The present exhibition, though large and fine, was not so extensive as we anticipated; still, the show was by far the finest the Society ever made. There were more rare and choice, and less common and inferior, plants than heretofore; annuals and bedding-out plants did not appear in collections as last year; but fine foliaged plants and superb specimens occupied their place.

The principal collections came from Messrs. Hovey & Co., Evers &

Comely, and W. T. Merrifield of Worcester. Messrs. Wilder, Strong and Trautman sent several very fine things. Our report is as follows:—

From Hovey & Co. upwards of fifty plants in pots, comprising, among other things, a superb specimen of *Begonia Rex*, very near two feet broad; several pyramidal and standard Azaleas, of remarkable beauty; a fine *Eschynanthus*, *Pelargoniums*, Heaths, Yuccas, and a collection of Coniferæ. The azaleas were variegata, *Maitländii*, a perfect specimen, *Osbornii*, *Gled-stanesii*, four feet in diameter, *rosea magna*, and the rare and beautiful Criterion: *Begonia Rex*, Queen Victoria, and splendens *Argentea*; *Aràlia reticulata*, *Dracæna terminalis*, a fine *Oncidium flexuosa*, with eight flower stems; *Tremandra verticillata*, *Caladiums*, *Dieffenbachia*, *Crotons*, *Lilium Brönnii*; variegated geraniums, Alma, Perfection, Bijou and others; new pelargoniums of the following kinds—Lucifer, Snowflake, Richard Benyon, Basalisk, Dolly Dutton, and another remarkable spotted seedling; yuccas, glauca, *Sieboldii*, *alæfolia*, *alæfolia variegata*, *glaucescens*, and *gloriosa*; *Abies Nordmanniana*, *Thuja Lobbii* and *gigantea*, *Thujopsis borealis*, *Cupressus Lawsoniana* and the new *Thuja Hoveyi*; all fine specimens. The fancy pelargoniums were Perfection, Helen Faucet, Eulalie, Evening Star, Emperor, and Cambridge Pet; several new Ferns, new Double Petunias, and other plants.

Messrs. Evers & Comely had a fine collection of Begonias, among which were Rex, Victoria, Mad. Wagner, Augusta, Reichenheimi, Miranda, Amabilis, Queen of England, which appeared the same as Victoria, and some others; quite a collection of well-grown Ferns, including *Scolopendrium vulgare crispum*, *Nephrodium molle*, *Blichnum pectinatum*, *Asplenium obtusiloba* and *corymbiferum*, &c. *Dracæna gracilis*, *Maranta regalis*, very fine, *M. vittata*, a fine *Cissus discolor*, *Grevillea robusta*; *Fuchsia Sir Colin Campbell*, one of the best of the double sorts; *Berberis Bealii*, *Tillandsia grandis*, and many other fine plants, but not in flower.

W. T. Merrifield, Esq., of Worcester, sent a small and choice collection of variegated and fine foliaged plants, which was very attractive; it comprised several new Begonias, a small specimen of the charming *Caladium Chantini*, whose deep green leaves are copiously spotted with bright crimson, *Maranta vittata*, fine, *Hoya variegata*, *Dioscorea discolor* and *zebrina*, *Dieffenbachia maculata*, *Dracenas*, the pretty *Aspidistra lunata*, *Farfugium*, several Ferns, &c., an attractive and most acceptable contribution.

From the Hon. M. P. Wilder, came four large Fuchsias, well grown, but unfortunately mostly of one sort; a very fine specimen of the handsome *Cissus discolor*, trained to a flat trellis; *Rhynchospermum jasminoides*, two Azaleas, and some Pelargoniums.

From W. C. Strong, twelve very large Pelargoniums, of perfect shape, but not so full of blooms as to hide the foliage. The sorts were Topsy, Silver Queen, Novelty, Lady Drummond, Auguste Miellez, Pictum, Cloth of Silver, Carlotti Grisi, Evening Star, Barbette, Advancer, and Mad. Van de Weyer; also, six handsome Gloxinias, in fine bloom, and a seedling Pelargonium belonging to the Hybrid Bedding section, called Nelly Bly, white, with a small spot, very beautiful.

From M. Trautman, several new seedling Double Petunias, very fine, Pansies, *Begonia* Rex, *Erica ventricosa superba*, *Maranta zebra*, &c. The Cambridge Botanic Garden sent *Begonia* Rex, handsome specimens, some Cinerarias, and other plants. From E. S. Rand, small specimens of a pretty yellow *Lycaste* and *Maxillaria Harrisoni*.

Tulips and cut flowers were exhibited by the President, A. C. Bowditch, J. Nugent, Dr. E. G. Kelley, J. McTear, Wm. Claflin and others.

Mr. Egerton, gardener to Mr. Claflin, sent a small fountain of his own invention, which he calls the self-acting fountain, throwing as it does a small jet for nearly an hour. It was neatly made of pine cones, and ornamented with flowers.

Of fruits, there was a small display, but very good. O. Bennet sent some very handsome peaches, and J. F. Allen sent peaches, cherries, and grapes. C. S. Holbrook, remarkably handsome peaches and nectarines.

In the vegetable department, Messrs. Wilder and Holbrook had fine cucumbers, and Dr. E. G. Kelley, S. Sweetser, and Mr. Wilder, very large rhubarb.

AWARD OF PREMIUMS AND GRATUITIES.

GREENHOUSE PLANTS.—For the best display, to Hovey & Co., \$15.

For the next best, to Evers & Comely, \$12.

SPECIMEN PLANTS.—For the best, to Evers & Comely, for *Begonia grandis*, \$10.

For the next, to M. P. Wilder, for *Cissus discolor*, \$8.

For the next, to Hovey & Co., for *Oncidium flexuosum*, \$6.

For the next, to J. McTear, for \$4.

PELARGONIUMS.—For the best, to W. C. Strong, \$5.

For the best Fancy, to W. C. Strong, \$5.

For the next, to Hovey & Co., \$4.

PANSIES.—For the best, to M. Trautman, \$4.

GRATUITIES.—To W. T. Merrifield, for collection of plants, \$8.

To Hovey & Co., for general collection, \$8.

To M. P. Wilder, for collection, \$6.

To M. Trautman, for collection, \$4.

To Cambridge Botanic Garden, for the same, \$5.

To Hovey & Co., for *Azalea Gledstanessii*, \$4.

To Evers & Comely, for Ferns, \$8.

To Evers & Comely, for new *Begonias*, \$8.

To W. Spooner, for *Verbenas*, \$3.

To M. Trautman, for *Auriculas*, \$2.

To M. Trautman, for *Petunias*, \$2.

To W. C. Strong, for *Pelargonium* seedling, \$1.

To W. C. Strong, for *Gloxinias*, \$2.

To Hovey & Co., for *Petunias*, \$2.

To Evers & Comely, for *Tillandia splendens*, \$1: and *Maranta regalis*, \$1.

To E. S. Rand, for Orchids, \$2.

To J. Egerton, for fancy flower stand and fountain, \$3.

To A. C. Bowditch, for preserved wreath, \$3.

Horticultural Operations

FOR JUNE.

FRUIT DEPARTMENT.

The spring has been one of the dryest ever known; not a single rainy day occurred from the 16th of April up to the 21st of May. It has been also one of the most favorable for fruit, which has set well in consequence of the absence of cold easterly storms so frequent at this season. Though rather dry for planting, it has been, on the whole, highly favorable for the garden.

GRAPE VINES in the grapery will now be swelling their crop, and will need thinning at once. Keep up a good temperature by closing the house early, and give air freely in fine weather. Damp down the house two or three times a day. Top all laterals as they require it. Vines in cold houses will be in full bloom, and will need more care; close early in the afternoon, and damp down the floors and walks; top laterals, and tie in the spurs; mulch the border if dry weather sets in. Vines in pots, now ripening their crop, should be more sparingly watered, and young vines for fruiting next year should be repotted and encouraged to make a vigorous growth. Vines in the open air should now be regulated, cutting away superfluous wood, and layering in the strong wood for next year's bearing. Manure freely. If the vine-fretter attacks the leaves, syringe with whale oil soap.

STRAWBERRY BEDS may yet be made; old beds should be covered with cut straw to keep the fruit clean. Water freely in dry weather.

PEACH TREES in pots should be removed to the open air.

SUMMER PRUNING should now be attended to; commence by nipping off to two or three eyes all the strong lateral shoots, and cut away superfluous branches.

THINNING FRUIT should receive attention; commence as soon as it is well grown, and take off all the ill-formed and inferior specimens.

FLOWER DEPARTMENT.

AZALEAS will now be growing vigorously, and will require attention if neat, compact, bushy, well shaped specimens are wanted. Continue to forward them in a warm, moist house, and pinch the shoots often. Syringe freely, shade from bright sun, and repot if necessary. By close attention to all these, large specimens may be grown in a short time.

CAMELIAS will now be setting their flower buds, and water should be more sparingly given. As soon as the buds are prominent, remove to the open air in a half shady situation.

CINERARIAS, done blooming, should be removed to a cool, half shady situation, and be carefully watered till ready for propagation. Seedlings should be potted off; seeds may still be sown.

CHRYSANTHEMUMS should now receive attention. Young plants, already potted off, should be shifted as soon as the pots are filled with roots. Pinch off the tops of the plants, and water freely in dry weather.

PELARGONIUMS will now be in full bloom, and will retain their beauty a long time if shaded in the middle of the day. Now is the time to tie down and prepare specimens for another year. Cuttings of fancy kinds may be put in now.

JAPAN LILIES should be repotted, and tied up to neat stakes.

BEGONIAS should be repotted and kept in a half shady part of the house.

ACHIMENES should be repotted.

CHINESE PRIMROSES should be removed to a cool frame, and the double kinds propagated from cuttings.

FUCHSIAS should be repotted.

CYCLAMENS should be planted out in a cool half shady place, where they will form fine strong bulbs.

ORANGE TREES may be planted out in the open ground.

WINTER-FLOWERING PLANTS should now be looked after, repotted, and plunged out in the open ground.

BEDDING PLANTS of all kinds should be got into the ground at once.

ROSES, growing in the house, should be well pruned in, so as to obtain a strong and vigorous growth.

CACTUSES should now be freely watered.

HEATHS, of the free-growing sorts, should be planted out in the open ground, and the choicer kinds placed in a cool frame where they can be protected from the hot sun.

FLOWER GARDEN AND SHRUBBERY.

The very dry weather has kept the lawn in a rather backward condition; but the recent rain will soon show its effects, and mowing should be commenced at once. Roll well before mowing; apply more guano if needed. Roll and rake the walks; fill up all vacant places in the shrubbery with bedding plants or plants from pots.

ASTERS AND ANNUALS, forwarded in pots or frames, should now be planted out.

DAHLIAS should be planted, using a good quantity of old manure. Water in dry weather.

GLADIOLUS may yet be planted.

NEAPOLITAN VIOLETS should be divided and reset for winter blooming.

CARNATIONS AND PICOTEEES should be planted.

POLYANTHUS should be divided and reset.

MONTHLY CARNATIONS should be planted.

HERBACEOUS PLANTS, PÆONIES, &c., should be neatly staked as they advance in growth.

BOX EDGINGS may yet be planted.

TULIPS, HYACINTHS and other bulbs should be taken up as soon as the foliage turns yellow, and their place filled with annuals.

BEDDING PLANTS should be put out to fill all vacant spaces or beds prepared especially to receive them.

INSECTS should be looked after. The rose slug will begin to work immediately; destroy them by syringing with whale oil soap, in the proportion of one pound to six gallons of water.

ORCHARD HOUSES.

ORCHARD HOUSES are all the fashion in Great Britain. Under the lead of Mr. Rivers, with the enthusiasm which he has brought to bear upon them, and the extreme uncertainty of all kinds of fruit in that cloudy and cool climate, they have obtained such a prominence as to absorb other modes of culture, and to lead us at this distance to suppose that they are as necessary to ensure a crop of fruit as graperies are to ensure a crop of foreign grapes in our country. And so it is. There is no fancy about it. Where the Marie Louise and other pears lose their crop for years in succession; where the peach never perfects its fruit as a standard, and only on a wall by extra care; and where the choicer plums do not attain their rich flavor only upon walls, there is in reality absolute need of orchard houses, if anything better than rather hard English apples and gooseberries are required. Hence orchard houses are indeed a boon to English cultivators, and that great attention should be directed to them is no more than we should expect from the skill of English gardeners and the abundant wealth of the kingdom. In no country has the artificial culture of fruits been carried to higher perfection. Uncongenial as the climate is for the growth of fruits, yet not even the tropics yield some of the native kinds in more luscious condition. The pineapple, the acknowledged king of fruits, is produced as it is nowhere else raised. And the grape disputes the palm with those grown under the warm skies of the sunny East. But all this has been done at great cost,—at a cost which no nation less wealthy could afford. These luscious fruits, however, have only graced the tables of the opulent; and to bring them within the reach of the mass, to show them how they may enjoy what has so long been denied them, is an object worthy of attention. This—thanks to Mr. Rivers—orchard houses are undoubtedly destined to do. They may be built at little expense—they may be managed without

great skill,—and a crop of fruit rendered as certain as the most ordinary garden products.

But Great Britain is not America; about 10° further north, with cool summers and mild winters,—with a damp atmosphere and cloudy skies, free from the extremes of heat and cold, and wet and drought, to which our climate is subject, what is useful there,—nay, even a matter of necessity,—may have little or no value here. The science of culture is applicable to a greater or less extent everywhere, but that we should do just what is deemed appropriate in Great Britain is simply absurd. Profiting, however, by all that our transatlantic friends suggest—viewing their experiments as they should be viewed, from the necessity of the case, we may, while we do not follow blindly in their path, learn a useful lesson from their experiments.

Important, therefore, as orchard houses are to Great Britain, we have not thought them of similar importance here. Familiar with everything that has been written, by the most earnest advocates, a witness of Mr. Rivers's earlier experiments in this way, we have not thought the subject one of paramount interest to our cultivators, and have therefore had but little to say upon the subject; not ready to admit their importance, and unwilling to condemn that our sanguine friends might find the best evidence in their trial, we have awaited patiently the grand results, tolerably well convinced that though a pretty amusement for amateurs, they had no element of ultimate usefulness.

In this we take the term in its general meaning—"orchard houses"—or the culture of fruits in pots or tubs, for when we apply it to certain fruits, as the peach, the nectarine, the grape and fig, we certainly shall not say they are very agreeable and desirable aids to the perfection of these fruits: this we stated twenty-five years ago, when we cultivated them very successfully in this way, and described our method in the earliest volumes of the Magazine, and urged upon all our amateurs the real necessity of this mode of culture, as the only means of securing an *annual* crop of the finest fruit. We have never seen any reason to change our opinion; on the contrary, we have advised our friends never to cultivate these fruits as

permanent trees, but by all means to grow them in pots or tubs, so that the trees could be removed to the open air, where alone the fruit can attain that rich flavor characteristic of its excellence.

That we have not misunderstood the term, an "orchard house," Mr. Rivers states that he once described it as his "glass-roofed shed;" still, as it must come into extensive use, a better name may be found, expressive of this peculiar structure, which is not a vinery or pinery, or peach-house,—but *a place for many fruits*,—it may, therefore, I think, be called, without affectation, an "orchard house," without fire-heat, and where the trees remain throughout the season." So Mr. Sargent of Fishkill understands it, and in an article in the Horticulturist, views its importance as we do.

We have not time to state all the objections which apply to orchard houses in our climate. They are many: but that most important of all is, that trees cannot be wintered safely in them; they are nearly as cool at night as the temperature outside, while the sun heat by day, without constant airing, is equivalent to an English vinery. Hence the trees, unless well protected, are chilled by frost, and excited by heat, either of which, alone, would be injurious to the crop, and, in combination, destructive of the trees.

So far but few complete experiments have been made, at least we have heard of but few. Fortunately, in our immediate neighborhood we have one under way, and with every chance of testing the experiment. Recently we had the pleasure of looking through an orchard house erected by G. G. Hubbard, Esq. of Cambridge. Though only built a year ago, and the trees tubbed in the spring of 1859, the house now contains 150 trees, comprising pears, apples, plums, cherries, peaches, apricots, nectarines, figs and grapes. All in the finest possible condition, and many of them bearing full as much as such trees should bear. The house is 115 feet long, by 18 wide. It is rather flat, being 12 feet high at the back, and $8\frac{1}{2}$ feet at the front. The back wall has sashes at the top $3\frac{1}{2}$ feet wide, and the front wall $2\frac{1}{2}$ feet, all moveable. The roof sashes are stationary. A walk $3\frac{1}{2}$ feet wide runs round the house, and the bed in the centre is filled with the

trees, all in tubs 18 inches diameter, placed in three rows, the length of the house. These trees are now from 10 to 15 days in advance of those in the open air. Eton cherries, (June 13,) are just beginning to color. Mr. Welch, the intelligent gardener, informs us the only difficulty he experienced was in keeping the trees back; for had they started as soon as they would only for his personal attention, they would all have been injured by the cool nights of April, when the thermometer, at night, inside, was but a degree or two higher than the open air.

Of the success of Mr. Hubbard's house, which we cannot but think one of the most complete of the kind in the country, we shall give due account. If it comes up to the merits accorded to them by Mr. Rivers we shall be pleased to chronicle the event. One thing we must say, and that is, that Mr. Hubbard's house is not a "glass-roofed shed," but a most thorough-built, ornamental and complete house, as much so as the best grapery ever erected; perfectly tight, and though a rather flat roof, without a leakage. The expense of its construction would build half a dozen glass-roofed sheds. We should not omit to add, the trees under Mr. Welch's care are most admirable specimens of vigor and beauty.

Already, Mr. Welch informs us that it is the intention of Mr. Hubbard to put in a hotwater apparatus for heating it next spring, when it will no more be an orchard house, but a forcing house. All the expense and labor and care of so many trees will not compensate for the gain of ten days or a fortnight in the crop. With the view to its eventually becoming just what we think all such houses must be, hibernatories for wintering trees, and accelerating the growth in spring, and removing them to the open air in June, where they obtain more warmth than the English forcing house receives,—vines have been planted to each rafter, that they may give a remunerating crop. This will, we doubt not, be the result of all orchard houses in our climate.

Such are our views regarding orchard houses. Without a heating apparatus when they cease to be orchard houses they can offer no peculiar advantages over a good cellar, where trees can be protected from frost and damp, to be returned to

the open air in April or May, where their crop is full as sure as under the alternating influences of the heat and cold of a "glass-roofed shed," a more correct name for such structures.

TREATMENT OF LANDSCAPE.

BY WILSON FLAGG

"O may I ne'er forget
Nature, thy laws! be this my steady aim
To vindicate simplicity, to drive
All affectation from the rural scene." GRAHAME.

IN my early communications to this journal, I occasionally treated the subject of improving landscape. I have never discussed it so freely as I would, because I was loth to express my entire dissent from the general practice. I have long been persuaded that the rules and principles of English gardening, as laid down by popular authors on this subject, have done great harm in this country. Though the system of embellishments advocated by them is called "the natural style," its effect has been to drive out the characteristic features of nature, wherever it has been adopted. The authors who have written in favor of it have destroyed that love of simplicity which might have grown up spontaneously in the heart of the community, and have cherished a taste for dressed grounds and highly ornate dwellings. Our people have been induced to lay out estates in a style which the most of them were not able to support, and which, even if well supported, is often all but a mockery of nature.

With respect to small gardens, it is idle to contend that one method of laying them out is more tasteful than another; the neatest and most economical is the best. Style, in these small matters, is nothing but fashion; it would be absurd to dignify it with the name of taste. It matters nothing at all, if the owner of such a piece of ground be satisfied, whether it be round or square, geometrical or hieroglyphical; whether the beds and paths resemble checkerboards or goose-tracks; whether the plan be that of a kidderminster carpet or a map.

of the moon. These little flower patches do not concern landscape; they are not a part of the province of one who is making an attempt to improve the aspect of the country.

The general plan of an estate of several acres is, on the contrary, an important consideration. Yet in regard to this, the chief concern of an adviser is to prevent men from doing mischief by their endeavors to accomplish some great and splendid work, and to say what they ought to avoid, rather than what they ought to perform; for the great evil that has already happened has come from doing, and not from neglecting. Let a company of ten persons make a picturesque tour in New York and New England, and nine out of the number would agree in deciding that the most beautiful and the most delightful places in these States belong to rustic proprietors, who have never given a thought to embellishment; men who have an innate sense of the beauties of nature, and who would not wantonly, or from motives of avarice, allow a valuable tree or group of trees to be cut down; but who have never conceived a senseless fancy for what is called "landscape gardening." Every rustic proprietor is not of this stamp. Too many of them have no sense at all of the beauties of nature, and have made their estates bald and cheerless by destroying trees and removing collections of natural shrubbery. The latter do from avarice what the suburban improver does from taste and fashion. They both despoil nature of her charms—the one to collect a few dollars from the "timberer," and to make room for potatoes; the other for foolery and fillagree. In the one there is a cheerless rudeness, in the other an unsatisfactory counterfeit of rural beauty.

It was about a century ago that the English system of laying out grounds, termed the natural style, was invented. The only respect, however, in which it differed from the prevailing methods was the abolishment of straight lines and symmetrical arrangements, the adoption of irregular curve lines, and the abandonment of symmetry; and this was the ostensible and the only plausible reason for naming it the natural style. In this respect it must be allowed that there is an apparent imitation of nature, whose arrangements of objects are seldom

uniform. It possessed none of the true characteristics of a natural style. It abolished symmetry, but retained formality; it abandoned regularity and introduced affectation. Clipped yews and the objects of the topiary art were sacrificed to make place for whole acres of “melancholy lawn”—extensive fields of smoothly-mown grass, from which every human being, every bird, and every living creature was excluded.

The true lovers of nature were generally shocked by the affectations of the new style; its formality under serpentine disguises; its costly artifices dressed in the mask of nature, and its general preference of the counterfeit to the real, which were some of its characteristics. A few eminent authors advocated the new style, and, in connection with it, promulgated many excellent thoughts. Such were Whatley and Horace Walpole. But the most distinguished authors who wrote on the subject—R. P. Knight and Uvedale Price—condemned it and sought to refute its principles. But it had become fashionable; and fashion always overrules everything that comes in opposition to her dictates, not excepting even decency and virtue.

In the old methods of laying out grounds, those portions only that were contiguous to the house were made the subjects of art, and these were excessively formal and mathematical. Had the originators of the new style confined their improvements within these narrow limits, no great evil would have been done. But they extended their operations beyond the garden into the domain of nature, and, with profane hands, ventured to transform her rustic sanctuary into an ornate temple of art. So entirely abhorrent, as it seems to me, is the general practice of this art to nature, in the truest and best sense of that term, that the very words “landscape gardening” always produce in me a mental emotion closely allied to the physical sensation of *nausea*.

“The smooth expanse,
Well cropt and daily, as the owner’s chin,
Not one irregularity presents,
Not even one grassy tuft, in which a lark
Might find a home, and cheer the dull domain.
Around the whole a line vermicular,
Of melancholy fir, and leaning larch,

And shivering poplar, skirting the wayside,
 Is thinly drawn. But should the tasteful Power,
 Pragmatic, which presides, with pencilling hand
 And striding compasses, o'er all this change,
 Get in his thrall some hapless stream that lurks
 Wimpling through hazelly shaw and broomy glen,
 Instant the axe resounds through all the dale,
 And many a pair, unhoused, hovering lament
 The barbarous devastation. All is smoothed,
 Save here and there a tree; the hawthorn, briar,
 The hazel bush, the bramble and the broom,
 The sloe-thorn—Scotia's myrtle—all are gone;
 And on the well-sloped bank arise trim clumps,
 Some round and some oblong, of shrubs exotic,
 A wilderness of poisons, precious deemed,
 In due proportion to their ugliness." GRAHAME.

Mr. Price remarks, in relation to this practice of grading and smoothing all uneven surfaces, and giving them, in all cases, a nicely-rounded outline—"Many an English gentleman may have felt deep regret when Mr. Brown had *improved* some charming trout stream into a *piece of water*; and that many a time afterwards, when, disgusted with its glare and formality, he has been heavily plodding along its naked banks, he may have thought how beautifully fringed those of his little brook once had been; how it sometimes ran rapidly over stones and shallows, and sometimes in a narrower channel, stole silently beneath the overhanging boughs. Many rich natural groups of trees he might remember, now thinned and rounded into clumps; many shady and sequestered spots which he loved when a boy, now all open and exposed, without shade or variety; and all these sacrifices made, not to his own taste, but to the fashion of the day and against his own natural feelings."

It is worthy of remark that these improvers do the very thing which the agriculturist is obliged to do, when he must reduce a natural pasture to tillage. The agriculturist, however, does this from necessity, and not from a stupid idea of making nature wear a more pleasing aspect. A brook following its natural courses would prove very inconvenient to the tiller of the soil, and he would subject it to masonry and geometry for economical purposes. The idea, however, of

performing the same work for the sake of improving the charms of scenery, is perfectly absurd. For this latter purpose, the simple removal of redundancies and disagreeable objects is all that is required, and we should leave to nature all that spontaneity which is compatible with our enjoyment. Nature is not to be left unimproved, but, except for agricultural purposes, she must not be artificialized. The improver deforms nature as much by smoothing original inequalities of surface, and "improving trout streams into pieces of water," as he would by arranging the trees of a forest into rows. Straight lines are not the only things in the world which are repugnant to nature.

These remarks may be thought needless by some, because the English system, in the main, is not applicable to the circumstances of this country. But its want of adaptedness has not prevented its objectionable principles from being extensively adopted and carried out. Everywhere I see evidence that they have taken strong hold of the public mind. It is seen in the general preference of "melancholy lawn" to pasture fed by flocks; in the admiration of exotics, and the general contempt of our more beautiful indigenous shrubs; in the extremely artificial taste displayed in our rural cemeteries; in the abhorrence manifested of everything that is spontaneous in its growth; in the silly serpentine that disfigure the enclosures of ornate dwelling-houses, and in the disposition to use the spade and the shears in situations that ought to be left sacred to nature and the birds. In the many elegant seats which have been lately built on the steep wooded hills of Medford, West Cambridge and the adjoining towns, it is sad to perceive how effectually the proprietors are spoiling the real beauty of their situations by their attempts to improve nature.

It will require several papers to make clear to the mind of the reader my ideas of the objectionable points in the system of landscape treatment, as advocated by Smith, Kemp and other popular authors on landscape gardening. Though the English system contains many excellent views of nature and rural improvement, especially as inculcated in the writings of Whatley and Walpole, it is remarkable that the best ideas

were first announced in the works of those authors who opposed it. It is also a curious fact that the ideas connected with this system which are most worthy of regard, are buried, with the books which contain them, in the alcoves of old libraries and are forgotten. The public have cherished only the ornate and artificial practice of English gardening, and this is all that is inculcated in the popular works which have been produced and published within the last twenty years. The most prominent feature in this practice is a combination of ornament with a false imitation of nature; it cannot be extensively carried out without spoiling our landscape, and its requirements are attended with a constant outlay of enormous expense.

Its expensive character will very shortly be exemplified in the New York Central Park. If the people who live in a city are willing to spend millions upon a work which might be made more delightful, on a different plan, with a tenth part of the cost, it is idle to complain. A counterfeit of nature is better than nothing at all of the kind in a city, where men are thankful for any sort of a place of rural recreation. But where private individuals are preparing to lavish millions upon the face of the landscape in the country, it is a question of serious importance whether Nature is to be shut out entirely from her own domains, for the enthronement of Art,—or whether she is to be improved by a course of treatment which is favorable to the development of all her beautiful and characteristic features.

NEW MODE OF PRUNING THE PEACH.

FROM THE REVUE HORTICOLE

WITHIN a few years the French have adopted a new mode of pruning the peach quite unlike the old system, and somewhat analogous to the mode of pruning the pear by means of summer pinching or pruning. The inventor of this new mode was M. Grin of Chartres. M. Dubreuil, the learned horticulturist, and teacher of various modes of pruning, thinks

highly of this new system, and does not hesitate in giving it preference to the old, because, he says, "trees which had been submitted to this treatment for a period of three years have proved that it is a superior mode. We have taught the old mode of pruning for sixteen years, yet we give it up as readily as we would abandon it or any other mode of operation whenever we could find a better. Such is, in our opinion, the duty of those who profess to teach. None should have the pretence to suppose there is any limit to progress; and those who are not willing to accept these real ameliorations of culture, should not impede those who do."

For the last three years, short pinching has been tried in a great number of places. In several localities it has been perfectly successful. In others it has more or less failed. These last results have been solely owing to the improper mode of treatment. Hence there are various opinions in regard to the value of this process. M. Dubreuil then proceeds to answer twelve objections which have been urged against the new system, and he shows, as we think conclusively, that they are merely imaginary, and such as always accompany any innovation upon old and well known modes of treatment, whether applied to a plant or tree. We have no space to copy them in full.

The results, says M. Dubreuil, which pertain to the new mode of training the peach, offer the following advantages, which we noticed in 1856:—

1st. Economy of labor resulting from the summer tying or nailing of the shoots, and the winter tying or nailing of the main branches.

2d. Economy in the construction of the trellis. Those intended for other kinds of fruits answering every purpose, as the tying or nailing is applied only to the main branches of the tree.

3d. The winter and summer pruning given to this kind of treatment are very simple, and are more readily understood by the gardener.

4. The fruit spurs projecting from the front of the old wood are sheltered from the sun by the foliage.

5. The fruit spurs upon the bearing branches being very

short, the latter can be kept much closer, as it is sufficient to have only a space of a foot, (30 centimetres), which will allow double the number, and, consequently, double the quantity of fruit upon the same espalier or wall.

These various advantages do not result from the influence of any exceptional circumstances. Our instruction in various parts of the country allows us to prove this in different climates and under the most varied circumstances: in the environs of Paris, in the Seine-et-Marne, the Seine-Inferieure, L'Eure, L'Orne, le Puy-de-Dome, l'Ain, la Haute Garonne, les Basses Pyrenees, la Cote d'Or, la Haute Saone, le Rhone, &c.

Let us place the two following inconveniences by the side of these advantages:—

1st. The necessity of preserving the usual space between the main branches of the tree, under the old form, with the loss of time in covering the espalier or wall.

2d. Much greater care in attending to the summer shoots (*bourgeons anticipés*) during their development.

It is evident that these inconveniences are more than compensated for by the preceding advantages. Hence we should not hesitate in adopting the new mode of pruning, particularly for the peach, submitted to the oblique or horizontal mode of training, (*cordons oblique or vertical.*) Experience has already shown the utility of some modifications appertaining to the first mode of training adopted by M. Grin.”

In order to understand fully the system as explained by M. Dubreuil, it may be necessary to state what is in fact generally known, that the peach tree bears its fruit on the shoots of the preceding summer; these, when growing vigorously, throw out laterals, which are termed summer laterals, because they are produced from the buds of recent formation on the young summer shoots, and not from the old wood of the preceding year. Sometimes, according to the condition or vigor of the tree, no such laterals are produced, unless the growing shoot is stopped, or cut in, which induces the freshly-formed buds to break into shoots, instead of remaining as buds till another year. These the French term *bourgeons anticipés*, to distinguish them from the regular shoots, that is, those which grew from the buds of the preceding year.

The Gardeners' Chronicle of 1859 has translated, in the main, M. Dubreuil's article, and though not so complete as might be desired, yet the rendering of the French, with the many technical terms, into English, induces us to copy this translation, as it was made with the aid of Mr. R. Thompson, the best authority in such matters in Great Britain. With the aid of the engravings, we think all will understand the principle of the new mode of pruning, as well as the details of its practice. The translation is as follows:—

According to the new system it appears, that of the shoots which push from mature buds those situated on the front and



7. FIRST PINCHING OF THE BUDS OF THE PEACH.

sides of the branches only are retained; those behind are disbudded as soon as they are $2\frac{3}{4}$ inches long. At the same time the others are pinched so as to preserve only the two lower well-developed leaves, as at A A, (FIG. 7.) The weak leaves, B B B, are not taken into account. This pinching has the effect of causing the young buds, situated in the axils of the two

leaves, to burst into shoots A A, (FIG. 8), and when these shoots are 2 inches long, they also are cut off above the first leaf



8. SECOND PINCHING OF THE BUDS OF THE PEACH.

from their origin. The secondary laterals which push from the first ones are likewise pinched to one leaf from their bases, as at A A, (FIG. 9.) Those shoots which push afresh from vigorous parts are entirely removed.

These operations cause the production of buds which at the winter pruning have the appearance represented

by FIG. 10; they are then cut at A A, A A, so as to leave only the flower buds nearest the base.



9. THIRD PINCHING OF THE BUDS OF THE PEACH.

When numerous laterals push, on the leading shoots, c, (FIG. 11), those situated behind are entirely removed. The others ought to be pinched as soon as the second pair of leaves have the buds in their axils sufficiently advanced. If the operation is deferred too long, the shoot lengthens and a spur is produced, which at the winter pruning is like that represented by FIG. 12. If the operation is performed too early,



10. FRUIT SPURS OF THE PEACH RESULTING FROM THIS MODE OF SHORT PINCHING.



11. YOUNG BUDS (BOURGEONS ANTICIPES) OF THE PEACH, JUST AT THE PROPER TIME TO PINCH.

before the buds have commenced to form, the shoot withers, as in FIG. 13.

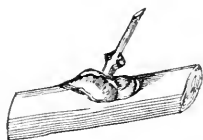
But when the pinching is performed at the proper time the shoot ceases to lengthen, and the lower pair of leaves remains near the base. At the winter pruning the shoots have the appearance represented by FIG. 14.



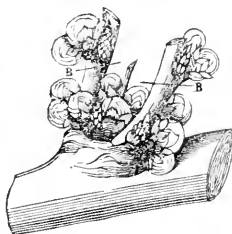
12. SPUR OF THE PEACH (ANTI-CIPE) RESULTING FROM THE BUDS (ANTICIPE) PINCHED TOO LATE.

It sometimes happens that, in spite of pinching, the laterals continue to lengthen. In this case a cut is made with the point of the knife on one side of the base, as at A, (FIG. 15), about half an inch in length. This cut stops the growth, and a few days after, the lateral is pinched, and the eyes are formed in the axils of the two lower leaves., as at D.

All the laterals having been pinched for the first time, on several of them one or two generations of young shoots will be produced. These are



13. SPUR (ANTI-CIPE) OF THE PEACH DRIED UP, RESULTING FROM PINCHING TOO LATE.



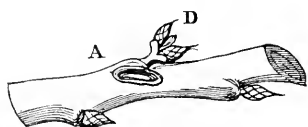
14. SPUR (ANTI-CIPE) OF THE PEACH RESULTING FROM PINCHING THE BUDS AT THE PROPER TIME.

pinched above the leaf nearest to their base, as already explained, and this operation will give rise to shoots as represented in FIGS. 14 and 16. At the winter pruning they are cut as at B, (FIG. 14.)

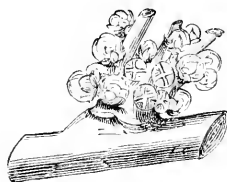
Sometimes the spur resulting from these repeated pinchings becomes entirely composed of blossom buds, as represented (FIG. 16.) If left they so completely weaken the spur that it is apt to die. To prevent this all the flower buds are cut off, and an incision made as at A, (FIG. 17.)

Finally, close pinching is not practised during the first year after the tree is planted.

Such appears to be the plan now advocated by M. Dubreuil under the name of *pincement court*, which we prefer to call

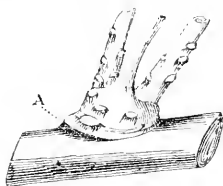


15. LITTLE SPUR (ANTICIPE) OF THE PEACH, RESULTING FROM PINCHING THE BUDS (ANT.) AND THE INCISION.



16. SPUR (ANT.) OF THE PEACH, BEARING FLOWER BUDS ONLY.

spur pruning. That the method has been unsuccessful in several places he admits, but he thinks that this has been owing to want of skill in the operator. His own experience tells him that it possesses the following advantages:—



17. SPUR (ANT.) OF THE PEACH, AS IN FIG. 16, DEPRIVED OF THE FLOWER BUDS AND SUBMITTED TO THE INCISION.

1. It saves labor by getting rid of the necessity of summer and winter nailing.
2. It saves half the cost of trellis work, (the French train their peach trees to wooden or wire trellis.)
3. Winter and summer pruning becomes much more simple and more readily understood by gardeners.
4. The fruit spurs projecting from the front of the old wood protect it with their leaves from the scorching action of the sun.
5. The fruit spurs being very short, the old wood that bears them may be twice as thick, and consequently a wall will carry twice as much fruit.

Nor does it appear to M. Dubreuil that the plan of spur pruning is affected by climate; for he has practised it successfully in extremely different parts of France. We must, however, express a doubt whether an equally satisfactory re-

sult would attend it in our damp insular climate. That is, however, a point to be determined by actual experiment, and in no other manner.

In conclusion we may add, that we think highly of the importance of this new system, especially when applied to pot culture of the trees, as it will enable us to keep them within reasonable bounds, and at the same time obtain more fruit. In our climate there is no doubt, when properly done, the wood will ripen perfectly, though it might not in Great Britain. We shall refer to this subject at another time, and supply any omission in the translation not given in the above extract.

POMOLOGICAL GOSSIP.

AMERICAN STRAWBERRIES IN FRANCE.—Notwithstanding Hovey's Seedling and other American varieties have long been introduced to Europe, we hear very little in regard to them. Mr. Mackintosh, in his *Book of the Garden*, describes the Hovey, and gives it a high character, and M. de Jonghe, in a letter to the *Gardeners' Chronicle*, in 1858, is particularly complimentary to the raiser of it, who, he says, obtained "the first great results in seedlings." But it has not to our knowledge ever been shown at any of the great London Exhibitions, and is comparatively unknown, among at least English cultivators.

M. F. Gloede, one of the most extensive cultivators of the strawberry in Europe, who grows from one to two hundred varieties, and has produced some fine seedlings, has taken especial pains to procure the best American varieties. A highly intelligent cultivator, a man of the "right sort," as he has been called by an eminent English strawberry grower, he is free from the prejudice of most English cultivators, and is determined to add everything to his collection that can claim any merit, of American origin. And we deem it a great pleasure to say that we hope to give our readers an article from him upon our American strawberries in France,

which will express the views of one of the most gentlemanly and experienced horticulturists in Europe. We shall at least have an impartial account of the success of our American strawberries abroad.

In a recent letter from M. Gloede, dated June 6, he writes, among other things, as follows:—

“The varieties you sent me will be duly tested this year. They are all very fine plants, and have plenty of fruit set, (except Harlem Orange, which is barren.) [It is quite worthless, in fact a miserable berry, when you can find one.—*Ed.*] Jenny Lind is beginning to ripen, and several others change color, so that I shall soon be able to examine them. You shall have a detailed and impartial account of them, for your interesting magazine. From what I see thus far, they are all very hardy and healthy sorts, and kept their leaves green throughout the winter, without the least protection. * * * Our strawberry season is full fourteen days later than ordinary years, and I expect that, under usual circumstances, Jenny Lind will ripen about the 20th of May, which is very, very early. Yours truly, F. GLOEDE, Aux Sablons, France.”

NEW FRENCH STRAWBERRIES.—We have now in full bearing the following new varieties, which are said to be remarkably fine, and some of which appear to possess much merit, viz., La Constance, Wonderful, Bonté de St. Julien, and Duc de Malakoff. We shall report upon them in due season. From appearance, La Constance will not only prove the best, but we think will become a very desirable variety. Admiral Dundas, Sir Harry, and Sir Charles Napier stood the winter admirably, and are bearing a handsome crop of superb fruit.

WILSON'S ALBANY has fruited with us this year in fine condition, and has come fully up to our expectations, as one of the sourest, most dirty colored, and disagreeable flavored of all recently introduced sorts. The Chairman of the Fruit Committee of the Massachusetts Horticultural Society made the very apt remark, that it was an excellent sort to make vinegar of. Our excellent correspondent, Dr. Kinnicott, has already informed our readers that he did not like its *elderberry flavor*—and he was quite correct, for it is medicinal enough. Besides, it is soft, watery, unfit for carriage, has a

very large calyx, and is hollow at the core; its only good qualities are hardness and productiveness, which will please anybody. Speaking of these latter qualities to a cultivator, he thought they were no addition, for the more one had of them the worse he was off. Wherever strawberries are grown for the table and not for sale, the Wilson will find but few admirers. Since writing the above we learn the Fruit Committee of the Massachusetts Horticultural Society has passed a unanimous vote that the "Wilson's Albany is unworthy of general cultivation."

THE FINEST STRAWBERRIES at the late great Exhibition at the Crystal Palace, Sydenham, May 26, were Sir Charles Napier and Oscar, a new sort noticed by us in our last volume.

HANDSOME GRAPES.—Mr. Turner of Randolph exhibited some very beautiful specimens of Champion Hamburgh grapes, grown on a vine in a pot, planted only a year ago. The bunches were not large, but the berries were very large and handsome. It will prove a valuable variety.

TRENTHAM BLACK has been fruited by W. C. Strong of Brighton. The fruit was from a vine in a pot. We had the pleasure of tasting it, and were highly pleased with its quality. It is a very juicy, brisk-flavored grape, and fully sustains the reputation which had preceded its introduction into our gardens. It should be added to every choice collection.

STRAWBERRIES IN CONNECTICUT.—At a recent meeting of the Hartford County Horticultural Society there was a remarkably fine display of strawberries, containing twelve or fifteen of the most popular and well-known varieties. Mr. H. Affleck received the FIRST prize for Hovey's Seedling, which the Homestead says "was probably as fine a show of one variety of strawberries as was ever upon our tables. The berries were monstrous, and in perfect order, and the smallest in the dish of large size,—and they were raised by one who has DISCARDED the Wilson, with many other varieties."

Notwithstanding this, it seems there was a deal of grumbling about the award of the premium, "which, in the opinion of some practical men, as well as a majority of some of our amateur cultivators," should have been given to Wilson's Albany, which, the editor adds, "beyond question, is the

favorite berry." It is fortunate the Hartford County Horticultural Society has a committee who know what a good strawberry is, as well as one practical man who has the good judgment to DISCARD such a berry as the Wilson. The following gratuitous information from the same source may be useful to amateurs planting new beds:—"OUR own opinion of the merits of the strawberries which have been known and tested hereabouts would lead us to place Trollope's Victoria FIRST, Wilson's Albany second, Peabody third"!!

How perverse the Fruit Committee were may be gathered from the fact, that the highest prize for the best three kinds was given to Mr. J. H. Rood for Boston Pine, Hovey's Seedling, and Wilson's Albany, when Dr. Russell had such choice sorts as McAvoy's Superior, Brighton Pine, Hyde's Eliza, &c.

THE AUSTIN SHAKER STRAWBERRY.—As we have already noticed this new strawberry, and alluded to its merits, we deem it our duty to give all the information in regard to such a new candidate for public favor. Agreeably to the notice which has appeared in our advertising pages, and other papers, the fruit was sent to our office for exhibition. It arrived here from Albany on Friday afternoon, June 22. Of course carriage so far would injure any berry more or less, and it must be judged under these circumstances. It is unnecessary to say we were disappointed; our expectations were large, because it was asserted to be of such size that twelve had weighed a pound! and it would measure two inches in diameter. We found on measuring one of the largest and finest berries, which was in very good order, that it measured about four and a quarter inches in *circumference*, (an inch and three eighths in diameter,) and FOURTEEN berries, taken indiscriminately, weighed A QUARTER OF A POUND; a pint box contained thirty-two berries. We are thus particular that our cultivators may appreciate our disappointment. In justice to Mr. Miller, who sent the fruit, we should add, that in his letter he stated the fruit was not so large as it was last year, and that the frost had not only injured the crop, but the dry weather had been unfavorable for the growth of the fruit.

A few days later Mr. Miller called upon us with another lot

of the fruit, and a plant in a pot, containing several ripe berries; from these we could judge better of its several qualities, which we may sum up as follows:—Size, about the same as the Boston Pine; color, very pale scarlet, like the Monroe Scarlet, with deeply imbedded seeds, and little hollow in the centre. Flesh, pale pink, quite soft, not appearing to stand carriage well; flavor medium; calyx large. Vines vigorous; leaves slightly hairy. Fruit stalks long. It appears to be a very good bearer.

Compared with Wilson's Albany it is far superior to it in every respect, for it is really an eatable berry, while its size is equal, its bearing properties as good, its color better, and the berries do not hug down to the ground like that kind. As a variety in a collection it has very good properties, but as compared with its advertised merits it falls far below them.

THE HEATH FORM.

BY WILSON FLAGG.

PLANTS of a social habit, though of an inferior size, and consisting of a few species, frequently characterize the vegetation of certain countries and districts. The European heaths are of this description,—two or three species, by their extensive multiplication, having given their name to the plains which are covered by them. One single representative of this family—the *Erica vulgaris* (*Calluna*)—covers miles of space on the continent of Europe, and, in connection with one or two other species, furnishes an uninterrupted vegetable covering to the earth's surface from the plains of Germany to Lapland on the north, and to the Ural mountains on the east.

The heaths may be described as resembling miniature fir trees, having, instead of cones, a profusion of minute campanulate blossoms, of various hues. Their foliage is almost acicular, and bears a ratio to the small size of the plant; as if, to make a heath plant, nature had reduced not only the size of the fir, but the size of its foliage in the same proportion. The heaths are scarcely exceeded, except by the moss-

es, in the uniform delicacy of their structure. Hence they have always been admired by florists, who find also in nature those multitudinous varieties which in other species are produced by culture. The difficulty attending the cultivation of heaths has prevented the extensive adoption of them in private collections; but they will never cease to be admired.

The genus *Erica*—the true heath—is said to comprise four hundred and forty legitimate species. Many varieties have also been produced by the arts of the florist. It is one of the most numerous tribes of plants; and it may be considered, on this account, the more remarkable, that in Europe, where it forms so important a part of the vegetable covering of the earth, there should be only a very few species.

The heaths are properly an African group of plants. Their true home is the Cape of Good Hope, where many species are small trees, and are so extensively multiplied as to be described as forests. Some of the arborescent heaths are found again in North Africa, and extending across the Mediterranean into Europe, they adorn the coasts of Spain and Italy, and are abundant in the isle of Teneriffe. Combined with the *Cistus* groves of Spain and Portugal, they give those countries a beautiful and peculiar aspect, that distinguishes them from all other parts of the earth. The Cape of Good Hope is the central point from which the heaths have spread into other regions, pursuing a northwesterly course towards Europe, and not extending into Asia from the eastern part of Africa.

This family of plants is considered in Europe as indicating a barren soil. The plains called heaths or heath-lands are a sort of sandy bogs, which are favorable to the growth of the heaths, while other plants, with this disadvantage of soil, cannot successfully contend with them. The tenacity with which they maintain their ground renders them a great obstacle to the agricultural improvement of certain territories. They spread over large districts, to the almost entire exclusion of other vegetation, rendering them unfit for pasturage, and useless for any purpose, except the feeding of bees, to whom they supply an ample repast but an inferior honey. The farmers in Essex County, Mass., who have seen the dyer's broom spread itself over the hills, usurping the sovereignty of

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the ground and entirely displacing the grasses, may form some idea of the agricultural evils attending the spread of the heath in Europe.

In the geographical distribution of plants no phenomenon is more remarkable than the occasional entire disappearance of a certain tribe of plants beyond a particular geographical line; or, as Dr. Hooker expresses it, "instances of a sudden change of vegetation, unaccompanied with any diversity of geological or other features." Although the common heath covers wide tracts, from the coast of Belgium to the western declivity of the Ural Mountains, beyond this boundary are neither heaths nor oaks. After passing this line, we no longer meet with the tree or the shrub, though we pursue our journey across the continent to the Pacific coast. This is deservedly regarded as one of the most surprising facts in geographical botany, there being no well-understood principles or facts to account for their disappearance. The differences of climate and soil in those two parts of the continent of Asia are also insufficient to explain the phenomenon.

If we leave the true heaths, we find plants of this form prevailing in other parts of the globe. Such are the Epacridae, in New Holland, and the Andromedas, Pyrolas, &c., in America. The Epacridae bear great resemblance to heaths, and are like them in their social habit, covering extensive regions in Australia, like the heath-lands of Europe. The Epacris was mistaken by the first settlers for a true heath; and there may be good reason to doubt whether there is sufficient difference to warrant the botanical distinction. This cannot be said of the American heathlike plants, the Andromeda, the Gaultheria, and the Epigaea. Not one of these possesses the delicate acicular foliage of the Erica, nor would they be mistaken for a plant of this genus. The nearest resemblance to the European heath-lands in this country is formed by the *Andromeda calyculata*, which often covers several acres of peat meadow with its closely matted shrubbery.

It is often lamented by the lovers of wild flowers that the heath—the poetical favorite of florists—the humble flower of solitude—the friend of the bird and the bee, affording them

a bower of foliage and a bouquet of sweets, and furnishing a bulwark to doves and nightingales against the inroads of advancing civilization,—it is often regretted that this plant should be entirely absent from the new world. Not a single species of *Erica* is known to be indigenous in America. But if its absence be a source of regret to those who have learned to admire the plant, as the poetical symbol of melancholy and as a beautiful ornament of nature, this absence may, to the agriculturist, be a source of congratulation. We have in America our compensation in the whortleberry tribe, whose numerous species, occupying like the heaths those lands which are not yet reduced to tillage, become, in their beneficent products, a source of profit to thousands of indigent gleaners of the pastures, and of simple luxury to all our inhabitants. Let us be satisfied that nature has dealt so bountifully with us; and though she has denied us the barren flower and left the imagination unrequited, she has given us in the place of it an agreeable fruit, that furnishes annual occasions for many a delightful excursion to the youths and children of our land, and a simple blessing to the poor.

I have often thought that even if we suppose, like the goose, that all things were made for our particular benefit, nature has provided certain plants for no other purpose than to prevent the extension of agriculture. I do not believe I am alone in feeling a disagreeable emotion at the idea of the reduction of the whole earth to the spade and the plough. How melancholy the thought of the metamorphosis of every tract of land into cities and model farms! Nature, to secure the earth from any such possibility, has provided such plants as the social heaths to throw impediments in the way of mercantile and agricultural progress. She wants some freedom for those happy creatures who have not yet forsaken her guidance. These obstacles, however, are hardly sufficient to resist the force of the steam engine, which is likely to banish nature entirely from her own domains. Pestilence pervading all the productions of the earth will then be nature's remedy and her revenge. Fruits decaying before they are ripe; domestic animals dying with murrain; insects revelling in pandemoniacal freedom, released from the power of the exterminated

birds, will leave man without the means of subsistence, and he will perish from the earth—as he has perished before—the victim of his own avarice, banished from the earth for grasping that dominion which belongs to nature.

ARBORICULTURAL NOTICES.

THE NEW CONIFEROUS TREES.—All the information that can be obtained in regard to the newer coniferous trees will be read with interest by all who appreciate the importance of these additions to our gardens,—now so numerous, and of such varied character and beauty. We have already, in our several volumes, given an account of nearly all the kinds introduced to notice, to which we may refer amateur planters for particulars respecting their native locality, growth, &c. What will be read with equal or greater interest is a description of these trees as they appear after attaining a moderate size in ornamental plantations where they have been introduced, and where their merits, in comparison with other trees, can be readily distinguished. Such an account of some conifers in Scotland, we find in the *Gardeners' Chronicle*, copied from a Scotch newspaper, supplied by Mr. Neilson, an experienced cultivator, and, we may add, an undoubted lover of beautiful trees. We may say in conclusion, that though the *Deodar cedar* and *Washingtonia* are not quite hardy in the climate of New England, the tribute to their elegance will be none the less appreciated. But with such fine trees as *Picea nobilis*, *P. Nordmanniana*, *Thujopsis borealis*, and *Cupressus Lawsoniana*, which have been found hardy, we may feel delighted that we have some of the most noble and graceful conifers yet discovered.

The beautiful *Cedrus Deodara*, from the Himalaya Mountains, with its ever verdant glaucous foliage and pendent shoots, drooping elegantly like water falling from a crystal fountain, must take a foremost place on the lawn to represent grace in all the loveliness of the vegetable creation. A large

specimen of this fine tree, (as I have seen upon the ornamental nursery grounds at Bagshot, west of London, belonging to Mr. Waterer, nearly 40 feet in height), with its under-trusses of flounced branches resting upon the grass, is one of the grandest objects that the eye could desire to look upon.

The next I shall name as a companion to the *Cedrus Deodara*, must necessarily be the *Araucaria imbricata*, from the mountains of Chili, with its strange indescribable appearance of symmetry, whose strong arms and needle-pointed scaly foliage, which is retained by it from the first to the last days of its existence without shedding a single leaf, renders it an exception to the general rule. When this noble tree attains the height of 20 feet and upwards, it becomes an imposing object of great magnificence. Fine specimens may be seen at Rozelle, near Ayr; as also Dysart House, Fifeshire; the Botanic Gardens, Edinburgh; and Keir, Perthshire; and no one can look upon such objects of natural grandeur without reverencing the Author of all things.

Another plant that demands a prominent position is *Picea nobilis*, from the auriferous regions of California, where it attains the height of 200 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, while he contemplates such wonderful arrangement of beauty, elegance and perfection. There are a few fine plants in the neighborhood of Falkirk, one of which, at Arnotdale, grew 6 feet within the last two years.

I shall now admit into this honorable society, as a good and respectable companion to the last-mentioned tree, a dignitary from the never-to-be-forgotten field of blood and battles, the Crimea, viz., *Picea Nordmanniana*, which attains the height of 100 feet in its native habitation, and is of a silvery green color, with outspreading, gracefully-formed branches, and does not seem to be affected by heat or cold, or whether the thermometer is above or below zero. There are, comparatively speaking, no large plants of this beautiful tree in Brit-

ain. The largest specimen I have seen is about 12 feet high, in the ornamental nursery grounds at Woodlands, in Sussex, belonging to Messrs. Wood & Son.

We must pay great respect to *Picea Pinsapo*, from the mountains of Spain, whose introduction into this country was in the year 1838, and whose claims to a position in the front of the lawn cannot be well resisted by whatever amount of sophistry may be used by any of the Fir tribe. Its pyramidal growth and pale green foliage, with thick, compactly set, bristling shoots of a uniform and stylish appearance, renders it one of the most interesting of trees. A fine specimen, upwards of 12 feet in height, and otherwise perfect as a plant possibly could be, was lately sold from the nursery grounds of Messrs. Drummond & Sons, Stirling, but died in consequence of the removal, which I regret very much, as it was something worth going to see; indeed, a much more interesting object at any time, to a plant fancier, than a view of "Mar's Wark," in the same town.

At a meeting of such notables of competitive beauty and fashion, it is not an easy matter to resist the claims of the great *Washingtonia gigantea*, from the Californian grove, whose patriarchal fathers have, according to the rings of growth, arrived at the respectable age of 3000 years and upwards, and attained the height of 360 feet, and are in the same position that they were on that day when the children of Israel passed through the Red Sea. This magnificent tree is neither a fir, cedar, juniper, cypress, yew, nor arborvitæ, but a kind of conglomeration, which partakes freely of all the grandeur, loveliness and beauty of the whole. Its foliage is a lively evergreen of elegant growth, and is without doubt one of the handsomest trees that a lawn can be adorned with. The largest in Britain are little over 10 feet in height. A fine plant at Rose Hall, Falkirk, 6 feet 3 inches, and one at the Kilns, Falkirk, nearly the same height, have stood this season 27° of frost, by a Kew registering thermometer, without being the least injured. Such hardihood entitles this noble giant of the forest to be admitted freely into the land of the mountain and the flood. Before taking leave of this mammoth of the vegetable world let me add that there is in

the Crystal Palace at Sydenham a specimen represented by the bark, which has been stripped off some giant in the Californian grove. The bark is about a foot in thickness, and has been so erected as to show the tree in all its glory, standing erect to the height of about 70 feet, and inwardly furnished with forms and chairs, so that those who are weary of sight-seeing in the Palace may find a resting-place within this temple of bark, in whose capacious hall there is more ample accommodation than in some of the worshipping places of the Mormonites.

At such a highly respectable meeting of the congress of trees from different parts of the world, we must admit the claims of *Cupressus Lambertiana*, from Upper California, which has now been about 22 years in this country, consequently has acquired a residence, and been much admired for its splendor as an ornamental tree. It attains the height of 60 feet in the land of its nativity, with a stem 9 feet in circumference, and is one of the fastest growing and most beautiful of the cypress tribe, but should be planted in a situation where it will not get a severe stroke of wind, as it has a tendency to be easily uprooted. Beautiful specimens, upwards of 20 feet in height, may be seen at Dysart House in Fifeshire, and the Botanic Gardens, Edinburgh, where at each place it forms an object of great beauty.

The next that I shall add to this list of notables is *Cupressus Lawsoniana*, from the Shasta and Scots valleys in Northern California, discovered by the famous plant collector, Mr. Murray, who says he found this species growing 100 feet high, and two feet in diameter, forming the handsomest tree found by him in his whole expedition, the habit being most graceful, with the branches at first curved upwards like those of the common spruce, and towards the end hanging down like an ostrich feather, with the leading shoots when young drooping like those of the Deodar. This lovely tree is named in honor of Mr. Lawson, of Edinburgh, who has done so much for the introduction of fine conifers into this country, which fully entitles him to have his name handed down to posterity by such a tree. The largest plants in this country are not much

over four feet in height, with the exception of a very few that may be two or three feet higher.

As a northern luminary, *Thujopsis borealis*, of frost-bearing qualifications, requests to be admitted to get his rights of comparative beauty discussed upon the green, as he considers there should have been honorable mention made of his name at a much earlier stage of the proceedings. This is a tall evergreen tree from Nootka Sound, in Observatory Inlet, where it grows to the height of 100 feet, with gracefully curved, out-spreading branches, and has very much the appearance of the tree which preceded it, viz., *Cupressus Lawsoniana*, with the exception that its habit of growth is more robust and masculine, and that when it becomes aged it is covered with small blisters that are filled with a fine aromatic balsam, which make grace, beauty and fragrance combine. It has only been a few years in Britain, therefore is too little known to most people.

There are numerous other justifiable claims from several of the *Pinus* and *Picea* tribe, as also from *Cedrus atlantica*, the Scotch and Irish yews, and a great host of cypresses, junipers and arbor-vitæ, all demanding a representation with a fair field and no favor; but as each would require a somewhat long description to show their genealogy and prove their propinquity, I shall defer their claims till a more favorable opportunity, with the exception of two favorites, which I shall admit in order to throw light upon the lawn, like golden candlesticks ornamented with glow-worms. *Taxus baccata variegata* or Golden Yew, when trained to the height of 8 or 10 feet, has no rival for ornamentation, as each leaf is edged with a fine golden yellow color, and the effect of richness and grandeur thus produced is most wonderful. And lastly, the beautiful *Thuja aurea* or Golden Arbor-vitæ, of Knaphill and Bagshot celebrity, with its neat, compact growth and beautiful yellow color, must come forward. When the points of the shoots open in spring, it has the appearance of being literally gilded with gold. The largest plants do not exceed four feet in height.

FLORICULTURAL NOTICES.

DIANTHUS HEDDEWIGI.—This new annual, about which so much has been said and of whose beauty so much has been expected, proves fully equal to the splendid representations of the flowers. They have been splendidly in bloom in our collection, with the most gorgeous velvety crimson flowers, fully three inches in diameter. The ease with which it is raised, the abundance of flowers, their large size and splendid colors render it altogether one of the most valuable acquisitions of late years. Grown either in pots or turned out into the open ground, the plant soon begins to flower abundantly.

BOUGAINVILLEA SPECTABILIS.—A lovely climbing plant under this name has long been known to English gardens, where the reputation which preceded its introduction was of the most extravagant character. It was said that no American climber would bear comparison with it. But for many years all attempts to bloom it were in vain. After a while a few blossoms opened at Chatsworth, and one or two other places, but so far from the high reputation of the plant that all attempts to grow it were discontinued.

At last a traveller from Sicily brought to England some dried fragments of a wonderfully beautiful purple hop plant, which he had seen growing over a wall in Palermo. The masonry he said was on fire, as it were, with the vivid gleams of richly colored masses of crimson flowers, illuminated by a Sicilian sun. It proved to belong to *Bougainvillea*. Attempts were then again made to bloom it, but no flowers would come.

“Skill and patience have at last reaped the reward which always follows them.” A horticultural “Rarey,” says the *Gardeners’ Chronicle*, “has learned how to subdue our vegetable cruizer.” A wooden box filled with *Bougainvilleas* was sent the editor, and a more gorgeous spectacle never greeted horticultural eyes. Imagine piles of great veiny scales, like those of the female hop, dyed with the richest tints of what is now-a-days called mauve color; a tint in which crimson and violet and purple are exquisitely blended. And now for the first time he recognized the truth of the reports that had

attended the first visit of the plant to Europe. Assuredly there is nothing in the whole vegetable kingdom more gorgeous than this.

Mr. Daniels, the excellent gardener who succeeded in blooming the Bougainvilleas, sends the following statement of the treatment of his plant:—I enclose for your inspection a small branch of the *Bougainvillea spectabilis*, in my opinion one of the most beautiful stove plants ever introduced. I am told it is but little known, and is in very few collections. No one that has a stove ought to be without it. I have heard it said that it is difficult to bloom, but nothing can possibly grow or bloom more freely than it does here. The original plant was received from the Continent three years since, in a thumb-pot; it was grown for one year in a 12-inch pot, when it was turned out into a square brick pit, 3 feet by 3, into a mixture of leaf soil and loam, with a good proportion of broken bricks and charcoal. It bloomed well last year, and this year it is covered all over with the same beauty as the piece I send you, and for cutting it is invaluable. The plant is now trained to the roof of a span-roofed house, and covers about 200 square feet, and its stem near the ground is six inches in circumference, and, if allowed to run, it would soon cover 1000 feet. But I consider the back wall of a lean-to house would be the most suitable place for it.

It is a superb plant, and should be introduced to our gardens. It requires just the same treatment as the *Bignonia venusta*.

515. LLAVEA CORDIFOLIA *Lygascæ*. CORDATE-LEAVED LLAVEA. (Filices.) Mexico.

A greenhouse fern; growing two feet high; increased by division of the roots; grown in coarse leaf mould and sand. Bot. Mag., 1860, pl. 5159.

One of the most beautiful and rare ferns, with a very peculiar habit, for, with a fructification in many respects resembling that of our well known *Cryptogamia crispa*, it bears on one and the same frond two kinds of pinnules; the lower portion consists of sterile pinnules only—the upper portion forms a graceful drooping panicle of pod-shaped fertile pinnules. No fine collection, Dr. Hooker says, should be without this charm-

ing plant. It is a solitary species of the genus. A warm greenhouse suits it. (*Bot. Mag.*, Jan.)

516. *BEGONIA FRIGIDA* *Hutal.* FRIGID BEGONIA. (Begoniaceæ.)

A greenhouse plant; growing a foot high; with white flowers, appearing in summer; increased by cuttings; grown in light leaf mould, loam and sand. *Bot. Mag.*, 1850, pl. 5160.

A rather pretty species, introduced from the continental gardens. It has small foliage, green on the upper surface and reddish below, and produces clusters of small white flowers. A good addition to a collection, but not remarkable for any particular merit. (*Bot. Mag.*, Jan.)

517. *DIDYMOCARPUS PRIMULIFOLIA* *Gardn.* PRIMROSE-LEAVED DIDYMOCARPUS. (Cyrtaudaceæ.) Ceylon.

A stove plant; growing six inches high; with pale lilac flowers, appearing in winter; increased by division of the roots, grown in light soil of leaf mould and loam. *Bot. Mag.*, 1860, pl. 5161.

A rather pretty plant, with the general appearance of the primrose, having leaves which are covered with a copious down, peculiarly hoary, almost white. It grows near shady rocks in forests. The leaves are spreading, and flower stems, which are numerous, are terminated with a cluster of pendent half tubular flowers of a pale lilac, soon changing to white. (*Bot. Mag.*, Jan.)

518. *DIANTHUS VERSCHAFFELTII* *Hort.* VERSCHAFFELT'S HYBRID PINK. (Carophyllaceæ.) Garden hybrid.

A half hardy or hardy plant; growing one foot high; with white and crimson flowers, appearing in summer; increased by cuttings; grown in good garden soil. *Ill. Bouquet*, pl. xxxvi.

A remarkably beautiful variety, raised by M. Hirschbach, of Cologne, Prussia, between *D. Maulei* and *D. arboreus*. It has a dwarf, branching habit, something like the Sweet William, and the flowers, which are disposed in large round heads, resemble the white garden or florists' pink. The petals are white, marked at the base with a rich crimson blotch, and these blotches, in each circle of petals, converge into a distinct zone or belt, which renders it peculiarly handsome. It possesses a free and healthy growth, and young plants, turned out into the border, flower throughout the months of May and June. As a conservatory plant for spring flowering it is very beautiful. (*Ill. Bouquet*, part viii.)

519. SPIRÆA NOBLEANA *Hook.* MR. NOBLE'S SPIRÆA.
(Rosacæ.) Garden hybrid.(?)

A hardy shrub; growing 4 feet high; with red flowers, appearing in summer; increased by layers; grown in good rich soil. *Bot. Mag.*, 1860, pl. 5169.

A new and fine species, introduced to notice by Mr. Noble, nurseryman, Bagshot, who sent specimens to Dr. Hooker, with the following remarks:—"It must, I believe, be a hybrid between *callōsa* and *Douglāsii*. I had these two growing side by side. I raised young plants from the seed of *S. Douglāsii*, supposing them to be true; but their growth and flowers appear to be exactly intermediate between the two; and what appears remarkable is, that the whole of the bed, containing several hundreds, are quite the same." The inflorescence is intermediate between the *callōsa* and *Douglāsii*, having dense broad panicles of red flowers. It corresponds in all respects with dried specimens sent home from California by Mr. Lobb, supposed a wild hybrid, and Dr. Hooker thinks the seed must have been received from there, perhaps mixed with *Douglāsii*. The future alone will decide this. It is more nearly allied to *Douglāsii* than *callōsa*. It is, however, a very beautiful shrub, having a finer foliage than *Douglāsii*, while the flowers are deeper colored and produced in short, dense, subconical heads. It is probably as hardy as *Douglāsii*. (*Bot. Mag.*, March.)

520. CHAMÆBATIA FOLIOLOSA *Benth.* LEAFLETTED CHAMÆ-
BATIA. (Rosacæ.) California.

A half-hardy (or hardy) shrub; growing 2 feet high; with white flowers, appearing in summer; increased by layers; grown in good garden soil. *Bot. Mag.*, 1860, pl. 5171.

One of the most remarkable of rosaceous plants, in its flowers resembling a shrubby *Potentilla*, but with leaves more resembling the very compound foliage of some species of *Milfoil*. It is a native of the higher parts of the Sierra Nevada, where it was first discovered by Fremont in 1844, afterwards by Hartweg and Mr. Shelton; but it remained for the indefatigable Lobb to send home living plants to Messrs. Veitch & Sons. It is believed to be entirely hardy in England, and will form a handsome shrub: its broad tansy-like leaves are very beautiful, and, as a handsome foliaged plant, it is well worthy of attention. The flowers are small and white, not

very showy, but contrasting neatly with the delicate leaves. It is allied to *Cerocarpus* or Feather bush, recently introduced to the National Garden at Washington. (*Bot. Mag.*, March.)

521. *SCHOMBU'RGKIA LYO'NSI* Lindl. MR. LYONS'S SCHOMBURGKIA. (Orchidaceæ.) Jamaica.

A stove epiphyte; growing one foot high; with white and purple flowers, appearing in summer. *Bot. Mag.*, 1860, pl. 5172.

Considered one of the "prettiest of the genus," remarkable for the great length of the reflexed bracts; the uniformity of the sepals and petals, and the copious purple spots on the generally pure white ground. A new and very fine orchid. (*Bot. Mag.*, March.)

522. *GAZANIA SPLENDENS* Hort. SPLENDID GAZANIA. (Compositæ.) Garden hybrid.

A greenhouse plant; growing a foot high; with orange and maroon flowers, appearing in summer; increased by cuttings; grown in rich soil. Illustrated Bouquet, pl. xxix.

A new and very beautiful plant, finely adapted for bedding out, and extremely valuable from its dwarf, compact habit, and profusion of orange-colored flowers, appearing all the summer. It is supposed to be a hybrid between the old *G. rigens* and *pavonia* or *uniflora*. The present variety is similar in general growth to *G. uniflora*, but differs in its dwarf, compact, close-branching habit; it is occasionally suberect, but becomes decumbent by the weight of its blossoms. The stems, which are green with a reddish tint, bear smooth, glossy, oblong-spathulate leaves, furnished here and there with small single or twin side lobes; these leaves are dark green above and silvery white beneath. The blossom heads, which are from three to four inches in diameter, resembling rich golden orange chrysanthemums with gracefully divided margins, are picturesquely marked at the base of each floret with a broad spot of a rich brown chocolate tint upon a black base, and close beside this is a distinct white spot on the same dark ground. These distinct colors produce a rich and highly ornamental effect."

The plants are of the easiest culture, growing in any good soil, yielding a continuous profusion of gorgeous blossoms from June to the latest period in the autumn, requiring no

support, affected neither by the "summer's storm nor the autumn's change," closing its magnificent flowers by night and again unfolding them by day, it has few equals for the flower garden. From its free growing habit, its showy blossoms and the profusion in which they are displayed, this will prove one of the greatest additions to our summer blooming plants. (*Ill. Bouquet.*)

523. *TORENIA ASIATICA*, VAR. *PULCHERRIMA Hort.* PRETTY
TORENIA. (Labiatae.) India.

A greenhouse plant; growing one foot high; with blue and violet flowers, appearing in summer; increased by cuttings; grown in leaf mould, peat and sand. *Illus. Bouquet*, pl. xxiv.

We have already noticed this new *Torenia*, which is a valuable acquisition, similar in general habit to the well known *T. asiatica*, but infinitely superior in point of beauty. Indeed, its rich velvety colors are such that no artistic skill can adequately represent them. The growth of the plant is less straggling than the *T. asiatica*, and the foliage is slightly pubescent and of a livelier green. It also flourishes well in a cooler house than the former plant, and will probably stand our hot sun much better; but whether it will be more useful for this purpose or not, its rich violet spotted corols will render it indispensable for the summer decoration of the greenhouse or conservatory. (*Ill. Bouquet.*)

General Notices.

LAPAGERIA ROSEA.—Although this charming Chilian climbing plant has now been in this country some years, few have as yet been very successful in their attempts to flower it properly. Some account, therefore, of the different modes of managing it, by which abundance of blossoms have been secured, may not be unacceptable; for when well bloomed it is a plant of unusual attraction and beauty; the flowers are bell-shaped and pendent, of the richest carmine mottled with white, and measuring from two to three inches across,—a glowing description certainly, but a correct one. Its roots are thick and fleshy, and it is doubtless a plant tenacious of life and not easily destroyed under ordinary management; but like many other plants it requires peculiar culture for its perfect development. A. says:—"I have grown my *Lapageria* in a stove, where, for the last three or four

years it has never failed to bloom beautifully. One planted out in the border of a camellia house has not grown any. Another planted in the border of the stove in one season made a shoot twenty feet long, and is now trained up the rafter. It is found to grow best in pure leaf-mould mixed with pieces of decayed wood, taking care to have the roots near the surface."

B. writes: "I have grown a fine specimen of this charming plant, which is unquestionably one of the finest half hardy climbers in cultivation. My plant blooms freely, and the blossoms last long in perfection. I keep it in my greenhouse. The soil I use for it is leaf-mould, turfy loam, and peat in equal portions, to which are added a few potsherds and a little sand. My plant is in an 11-inch pot standing on a platform, and trained along a wire across the house about nine inches from the glass."

Here therefore are two very different modes of treating this plant, and yet both are reported to have been attended with equal success. My own experience, however, teaches me that the greenhouse is the proper place for it, and in this I am supported by the Messrs. Veitch, in whose nursery at Exeter it has produced more flowers, perhaps, in a given space than in any other establishment in England. In order to flower it in perfection, it is found that it must have a well-drained, highly porous soil of peat and loam, which will admit of the plant, while growing, being deluged with water; in short, too much of the latter can scarcely be given from the time it begins to push till it has done blooming, after which moisture should be gradually withdrawn with the view of inducing it to ripen its wood. Under this treatment, which is that practiced by the Messrs. Veitch, it flowers most profusely, each shoot forming a wreath of gay blossoms for several feet in length.

Your correspondent therefore, who has had a plant three years in a warm greenhouse and cannot get it to flower, may gather a hint from the above. The principal points evidently are porosity of soil, and during the growing season abundance of water, which the asparagus-like roots eagerly suck up. I would advise your complainant to lift his plant carefully and replant it, after having prepared a station for it, as directed by the Messrs. Veitch. After that, with due attention to watering, it might perhaps be induced to reward him with a fine display of blossoms.—(*Gardeners' Chron.*)

GESNERA CINNABARINA.—This is a plant which should be encouraged by all who have the command of a stove; it is greatly superior to the old zebina. I find it most effective for table decoration; the play of light on the rich hairy foliage is beautiful in the extreme, and it is an ornament to any collection of plants. It has the merit, also, of remaining in bloom during several of the dull months of the year. It should be started now, and grown in a mixture of sand, leaf-mould, rotten dung, and a little loam. It requires plenty of light to keep it compact and bushy, and extra heat when showing flower; in fact, at that stage mine are transferred from a hot-water pit to an orchid-house. I consider it one of the most valuable importations of late years.—(*Gard. Chron.*)

TRANSPLANTING EVERGREENS IN SUMMER.—The following is my experience in this matter: In the very hot weather of July, 1856, I set to work ten men to remove old evergreens; viz., Yews, Junipers, Arbutus, Lauristinus, and Portugal and common Laurels. These were from four to ten feet high. The plan I adopted was to make a hole first, not too deep, but sufficiently wide to allow all the roots to be laid out straight, then to prepare the shrub for removal, caring but little for the ball of earth, but getting all the small roots possible. Then move the plant into its new home, cover the roots with fine soil, tread a little to make the plant stand upright. Then fill up the hole with water as it sinks down, which it will soon do; fill in the soil all round the hole carefully as the water sinks away, never allowing it to run out, which it will do if the hole is filled up too fast. Next day tread the soil somewhat firmly, after which make a ridge all round the edge of the ball, in order, as it were, to form a dish; fill this with water three times during three successive days, then level the ridge down, covering the mud over with soil. After this no more water is required at the roots; if the weather be dry, syringe the shrubs overhead three or four evenings. Nothing more will be required but to look at them now and then. The following spring they will grow away and be quite at home in their new situations. This July I have planted a young laurel bank facing the west; the plants now look well, and there is not one dead among them. The young laurels are treated the same as the large shrubs, except that they get no syringing. In my opinion the months of July and August are the very best for removing valuable large evergreens. Treated carefully as above they are sure to grow, and they get hold of the soil immediately, for the earth is like a hot-bed, into which the young roots soon enter. I have removed deciduous trees in the summer months on dull days. Some have not grown; those that have now look well. The long branches are shortened in one half. During removal the sun causes the leaves to flag, but they soon recover.—(*Gard. Chron.*)

GOLDEN HAMBURGH GRAPE.—Experience enables me to state that this new seedling is quite equal to all that has been said in its favor; gardeners are therefore unquestionably under an obligation to Mr. Veitch for bringing it so prominently before the public. When its true character shall have become better known, it cannot fail to take a high position among our standard varieties. Mr. Bushby informed me that it is the result of a cross between the Black Hamburgh and Stillward's Sweetwater, but independent of any such information, persons at all acquainted with the habit of these two kinds would have no difficulty in determining its parentage. The Golden Hamburgh possesses a strong vigorous habit, the leaves have less substance than those of the Black Hamburgh, and are more transparent in color. The length of a medium sized bunch averages from nine to ten inches, the width of the shoulders a little less, and it should weigh about two pounds. The berries are round, and when well grown, measure from $3\frac{1}{2}$ to $3\frac{3}{4}$ inches in circumference. Such is the general character of this grape, as produced at Tortworth during the present season, from a plant

propagated from an eye during the spring of 1858. With the exception of the Muscat of Alexandria, we have no white grape in which are combined so many desirable properties, the flavor being all that the most fastidious could desire—the flesh firm, juicy and saccharine. It submits to early forcing in pots with the greatest facility, but requires a temperature of from 68° to 70° to set the berries thickly, and a rather dry atmosphere. During the present year I have ripened two successional crops in pots, one on the 24th of April, the second towards the end of June, and in each case the crop has been most satisfactory. I also observed the Golden Hamburg, exhibited at the last June show of the Stroud Horticultural Society, grown in pots, by J. Biddell, Esq., Stratford Abbey, where it also produced large bunches with finely swelled berries. This therefore may be regarded as additional testimony in favor of its uniform character. My knowledge is not sufficiently extensive to enable me to state its qualities as a late grape, but, judging from the delicacy and thinness of the skin, there is not resistance enough to overcome the foggy days of autumn and winter.—(*Gard. Chron.*)

SOLANDRA GRANDIFLORA.—In our younger days the first flower we saw of this plant astonished our then untutored eyes with its great size and beautiful form. Since then we have occasionally seen plants with one or two flowers upon them, stiffly grown in small pots, supported by a few ugly stakes, which is evidently far from the method in which it ought to be cultivated. At Glasnevin it is treated as a climber, and planted out against one of the supporting pillars of the house, the top of which it has long ago reached, and is now trained across the roof. When we saw this plant, last week, there were then from 100 to 200 expanded flowers on it, and it was then past its best.—(*Gard. Chron.*)

GERMAN CHINA ASTERS.—In no class of flowers with which I am acquainted has greater improvement been effected than in that of asters, and as they have always been favorites with me perhaps a few words on their culture may not be unacceptable.

I do not sow too early; on the contrary, some say I sow too late; but I have never experienced any disappointment on that account. As a rule my seed is generally sown the last week in April; but it has sometimes been put in later than that. The young plants are pricked out about the middle of June, and are finally planted where they are to bloom about the end of that month. I sow in a cold frame under glass in drills. The plants come up in a few days, after which I give them as much air as the weather will permit, and as soon as they are about an inch high remove the lights for two or three days and then prick out on a slight hotbed three or four inches apart. Before the plants begin to run transplant to where they are to bloom. Previous to planting, the soil should be well broken up and made tolerably rich with well rotted manure, and the plants should be moved with as much ball as possible. Plant in rows a foot apart and ten inches asunder in the row.

Concerning kinds, those I have hitherto grown I have had from M. Vilmorin, of Paris; but this year I have had some from Messrs. Carter, of Holborn, of which I entertain great expectations. Of these the following descriptions have appeared in their "Gardeners' Vade Mecum":—

Truffaut Pyramidal Aster. This indicates the great care and perseverance the grower has taken in rearing it; there are now five varieties of it, viz., *Fleur Perfection*: the blossoms of this kind are unusually large; petals long and but slightly reflexed; height from two to two and a half feet. *Fleur Bombée*: the flowers of this variety are very large and full, and form almost half a ball; height from two to two and a half feet. *Fleur Chrysanthème*: the blooms of this are not so large as the preceding; the petals are entirely reflexed; height about two feet; produces more side flowers than the previously described varieties. *Fleur Pivoine*: the Pæony-flowered Asters turn their petals towards the centre, and a flower not quite in full bloom resembles a ball; height from one and a half to two feet; produces but few side flowers. *Fleur Imbriqué* and *Pompone Imbriquée*: the petals of these over-lie each other exactly like slates, one on the top of the other to the centre of the flower; the *Pompone* produces smaller blooms, but of such beauty that they resemble a perfect half ball, and being dwarf, look well planted in front of taller kinds.

Quilled Aster. The individual petals of the ordinary blossoms consist wholly of tubes or quills, and the exterior crosses only are blossom petals, which are slightly reflexed; it is from one and a half to two feet in height, branches freely, and throws out many large blossoms; its fittest use is for flower groups in parks or general ornamentation in the flower garden.

Turkish Aster. This very much resembles the quilled, but it grows only to a height of one to one and a half feet, has many branches, and the flowers are smaller than the preceding.

Dwarf Aster. The individual portions of the blossom-tube are partly tube-like and partly leaf-like; it reaches a height of from $\frac{1}{2}$ to one foot, and is richly covered with moderate-sized flowers; they are principally used for edging.

Globe Aster. The principal flowers of this aster are very large, and so arched that they may be compared to a half ball; most are quilled; height from two to two and a half feet.

Pyramidal Aster. The beautiful large flowers appear on this nearly all of one height; it produces very few side flowers; most probably it received its name because it resembles an inverted pyramid; some blossoms are quilled and others not; height from two and a half to three feet.

Bouquet Aster. This deserves its name, for each individual plant is so richly covered with bloom that the green of the foliage is scarcely visible; almost every plant forms itself into a perfect bouquet; height from three quarters to one and a quarter foot; highly ornamental in pots; blooms for a long time.

Giant Emperor Aster. This variety has sprung from the Pyramidal, and for size and form is unsurpassed; the flower consists in the middle of little tubes, outwardly they are little leaves, and are so regularly formed as to

leave nothing to be desired; it bears only a few flowers on a robust, strong stem, from which the side-sprouts grow in the form of a candelabrum; in favorable cases it produces five flowers, of which the chief blossom is four inches in diameter; in spite of its size, all its flowers are of an equal height.

If these prove more beautiful than the striped kinds and brilliantly colored selfs I have been in the habit of growing, they must be fine indeed.

I may add that if the weather is dry after planting out I water until the young plants have fairly taken root. About the first week in August I top-dress with rotten dung from an old hotbed, and again give a good soaking of water if the soil is dry. When the plants come into bloom, if some of the latter are wanted in unusually good condition or for exhibition, they must be shaded and secured from wind waving. Some thin out the blooms and tie the plants to small stakes; but this attention I pay as a rule only to the outside row; the interior of the bed I leave to take care of itself.—(*Gard. Chron.*)

Gossip of the Month.

NEW STRAWBERRIES, OR OLD ONES UNDER NEW NAMES.—Last season I took occasion to notify you of the very peculiar action of a few members of the standing fruit committee of the Pennsylvania Horticultural Society, in regard to a strawberry which had been declared identical with the "Hovey," but on further consideration they thought it too good to be designated by so unpopular a title. They therefore agreed to call it the "Germantown," for a noted borough in the consolidated city of Penn, lately famous as the residence of "Querist," a great anti-Hoveyite, and dwarf pear enemy.

Time has fully convinced all impartial observers that Young, who claimed to have a seedling called "Germantown," had a mixed bed principally of Hovey's Seedling, which, by a little special cultivation, produced choice fruit and attracted considerable attention. A certain wide-awake "novice" thought the chance for a new thing too good to be passed by, found, perchance, an hermaphrodite flower among six or seven sorts purchased as the *Germantown* of the professed originator. This wonderful plant he pitched upon as distinct from *Hovey*, and therefore a true *Germantown*; he handed it over to the chairman of the committee, who had already decided *German-town* and *Hovey* identical, and behold, when a certain Mr. Felten produced his next dish of the *Germantown* at the meeting of the Penn. Hort. Society, in June, 1859, a premium was awarded it as a distinct fruit, and now the *Germantown* takes its place in a certain "Garden Manual" as a select strawberry, but nowhere else. This season it was not produced by the former exhibitor—his "*Felten's Great Seedling*" outshaded it. The *Hovey* was exhibited, however, under several names. So ends, I hope, this attempt to foist a fruit on us under a new name, when it is well known to all who desire to know it as an old one.

A premium was awarded at the June meeting this season to "Felten's Great Seedling," (Wilson's Albany,) although the committee admit that they can see no difference between it and the Albany. Boyden's Mammoth they cannot distinguish from the Victoria. So that all three of these professed novelties are old ones under new names. What next?

Now, Mr. Hovey, when you get rid of the "Pyrus" question, so provocative of international feeling and climatology, give this strawberry question another editorial review—not, however, while you are in the dyspeptic condition ascribed to you by the representative of "Pyrus," who is so jealous of his nationality, and so loyal to the crown and climate of gloomy Albion.—R. R. S.

P. S.—Have you never published a glowing account of Rivers's Nurseries, that would entitle you to a little of the consideration so lavishly heaped on a gentlemanly New York weekly, whose editor visited Mr. Rivers at home?—R. R. S.

Societies.

BELMONT FARMERS' CLUB.

THE SECOND ANNUAL STRAWBERRY FESTIVAL.—The Second Annual Festival of this flourishing Club was held in Belmont, on Wednesday, June 27th, and was one of the most successful of the kind ever made. As fine as the exhibition was last year, it far surpassed it this. The fruit was not only larger, but in greater abundance, and every way superior. The Belmont cultivators fully understand the culture of the strawberry. They know what the public require, and they have the good judgment to raise that which will pay best.

We venture to say that no such exhibition of strawberries was ever made in any country. About 46 baskets were placed upon the table, holding from two to four quarts each. TWENTY-NINE of the baskets were Hovey's Seedling, seven Brighton Pine, and the others, Virginia, Jenney Seedling, Jenny Lind, &c. The Hoveys were wonderful specimens of cultivation, those that took the prizes being five to six inches in circumference, splendid in their rich deep crimson glossy coloring, leaving nothing to be desired. The Brighton Pines were good, but rather small, and we learn from some of the leading market growers, that it is falling off, and does not give general satisfaction. A single basket of Wilson seemed to set off in bold relief its dirty, dingy, blackish berries against the tempting color of other kinds, to say nothing of its quality, which creates an involuntary sensation of its vinegar-like juice.

We have but little space at this late hour, and give the award of premiums:

CLASS I. Sweepstakes, best three quarts, open to all varieties:—

For the best, to G. A. Locke, \$5, for Hovey's Seedling.

For the next, to J. C. Wellington, \$3 for Hovey's Seedling.

For the next, to W. H. Locke, \$2 for Hovey's Seedling.

For the next, to O. Russell, \$1 for Hovey's Seedling.

CLASS II. Best two quarts of Hovey's Seedling :—

For the best, to W. D. Fletcher, \$3.

For the next, to J. C. Wellington, \$2.

For the next, to Wm. Richardson, \$1.

CLASS III. Best two quarts Brighton Pine :—

For the best, to W. H. Locke, \$3.

For the next, to Wm. Richardson, \$2.

For the next, to C. S. Winn, \$1.

CLASS IV. Best two quarts other than the above :—

For the best, to G. A. Locke, for Jenney Seedling.

For the next, to J. C. Wellington, for Jenny Lind.

For the next, to J. W. Marsh, for Scotch Runners.

For the next, to G. S. Teel, for Early Virginia.

Gratuities were awarded for several baskets of Hovey's Seedling, nearly equal to the prize baskets. Prizes were also awarded for fine bouquets, &c., that decorated the table, which was beautifully arranged, under the superintendence of Mrs. Grant. We almost forgot to mention the very fine display of grapes and peaches by Mr. W. Cheney.

At the close of the exhibition, which was thronged with visitors from Boston and the surrounding towns, attracted by the fame of the Belmont strawberry growers, as well as the sociability of its citizens, the prize baskets of fruit were disposed of at auction. The first prize basket of Hovey commanded \$7. The second \$4.50; the third \$4, and the fourth \$4.25. We are glad the Club have concluded to continue their annual festivals, and we are sure it is only necessary to know this to have every year such a gathering as even the metropolitan exhibitions cannot effect. Such a show of strawberries in the city would startle those who see only the diminutive stuff, which the New York and New Jersey cultivators send to our market, unfit for anybody to eat.

PROGRESSIVE GARDENERS'.

We have received a copy of the rules and by-laws of this Association of Gardeners in Philadelphia, with a list of the officers and members. The officers for 1860 are as follows :—

President—Wm. Saunders.

Vice President—Wm. Grassie.

Secretary—R. Robinson Scott.

Treasurer—John Gerney.

The Society already numbers nearly fifty members.

AMERICAN POMOLOGICAL.

The Eighth Session of this Institution will be held in the city of Philadelphia, commencing on the 11th of September next, at 10 o'clock, A. M., and will be continued for several days.

This Society, the first National Institution for the promotion of Pomological Science, was organized in the year 1848. Its sessions have brought together the most distinguished cultivators of our country; its transactions have embodied their various researches and ripest experience, and its Catalogue of Fruits has become the acknowledged standard of American Pomology.

Its example has created a general taste for this science, inspired pomologists with greater zeal, and called into existence many kindred associations. Its progress has been remarkable and gratifying, but it still has a great work to perform. Its general catalogue should, from time to time, be enlarged and perfected, and local catalogues formed, embracing the fruits adapted to each State and Territory of the Union. The last of these suggestions was made by the Chairman of the General Fruit Committee, at the seventh session of the Society, in the year 1858. This has been carefully considered, and is deemed worthy of special attention. It is, therefore, earnestly recommended that each State Pomological, Horticultural, or Agricultural Society, charge its Fruit Committee with the duty of collecting information, and presenting the same, with descriptive lists of Fruits adapted to their location.

The importance of this subject, and the increasing value of the fruit crop of the United States, call for a prompt and cordial response to this request,—for a careful preparation of said list, and for a full and able representation, at the approaching session, from all parts of the country.

The various State Committees of this Society are expected to submit accurate and full reports of the condition and progress of fruit culture, within their limits, together with definite answers to each of the following questions. These reports, it is desirable, should be forwarded to the Chairman of the General Fruit Committee, HON. SAMUEL WALKER, Roxbury, Mass., if possible, as early as the 1st of September, or to THOMAS W. FIELD, Esq., Secretary, Brooklyn, New York.

What *six*, *twelve* and *twenty* varieties of THE APPLE are best adapted to an orchard of *one hundred* trees for family use,—and how many of each sort should it contain? What varieties, and how many of each, are best for an orchard of *one thousand* trees, designed to bear fruit for the market?

What *six* and *twelve* varieties of THE PEAR are best for family use on the Pear stock? What varieties on the Quince stock? What varieties, and how many of each of these are best adapted to a Pear orchard of *one hundred* or of *one thousand* trees?

What are the *six* and *twelve* best varieties of THE PEACH? What are the best varieties, and how many of each, are best adapted to a Peach orchard of *one hundred* or of *one thousand* trees?

Answers to these questions should be made from reliable experience, and with reference to the proximity or remoteness of the market.

Held, as this convention will be, in a city easily accessible from all parts of the country, it is anticipated that the coming session will be one of the most useful the Society has ever held. Societies, therefore, in every State and Territory of the Union, and the Provinces of British America, are

requested to send such number of delegates as they may choose to elect. Fruit-growers, Nursery-men, and all others interested in the art of Pomology, are invited to be present—to become members, and to take part in the deliberations of the Convention.

In order to increase as much as possible the interest of the occasion, members and delegates are requested to forward for EXHIBITION as large collections of fruit as practicable, including specimens of all the rare and valuable varieties grown in their respective districts, and esteemed worthy of notice; also, papers descriptive of their mode of cultivation—of diseases and insects injurious to vegetation—of remedies for the same, and to communicate whatever may aid in promoting the objects of the meeting. Each contributor is requested to make out a complete list of his contributions, and present the same with his fruits, that a report of all the varieties entered may be submitted to the meeting as soon as practicable after its organization.

Societies will please transmit to the Secretary, at an early day, a list of the Delegates they have appointed.

Gentlemen desirous of becoming members can remit the admission fee to THOMAS P. JAMES, Esq., Treasurer, Philadelphia, who will furnish them with the Transactions of the Society. Life Membership, twenty dollars; Biennial, two dollars.

Packages of Fruits may be addressed to THOS. P. JAMES, 630 Market Street, Philadelphia.—MARSHALL P. WILDER, President, *Boston, Mass.*; THOMAS W. FIELD, Secretary, *Brooklyn, New York.*

Massachusetts Horticultural Society.

ROSE EXHIBITION.—The annual exhibition of Roses took place on Monday and Tuesday, the 25th and 26th of June, at the Society's Hall in Washington Street.

The exhibition, though very good, was not equal to last year. In some varieties, especially Hybrid Perpetuals, it was better; but in other classes, less extensive. Notwithstanding the very general beauty of the June roses, their hardiness and easy cultivation, which will always render them favorites, we are glad to see more attention given to Hybrid Perpetuals, which, under the skill of the French cultivators, have been elevated to a rank and importance they could not formerly claim, but which bid fair to excel all that has yet been seen of this queen of flowers. The newer acquisitions are very remarkable, and a few more such roses as *Auguste Mie*, *Lælia*, *Lord Raglan*, &c., will drive out of cultivation all but a few of the old favorites.

The stands were tolerably well filled with roses contributed by the President, Hovey & Co., F. Parkman, E. Stone, M. P. Wilder, C. Copeland, A. Apple, J. Nugent, G. G. Hubbard, W. Heustis, J. McTear, Evers &

Comely, W. C. Strong, J. C. Chaffin, J. F. C. Hyde, J. W. Wolcott, and others. E. Stone had a fine display of Hybrid Perpetuals, in fine order and in large variety, as did Mr. Copeland. The finest flowers in the several stands of this class were Gen. Jacqueminot, Lord Raglan, Auguste Mie, Sydonie, Cardinal Patrizzi, Etendard de Marengo, Lælia, Jules Margottin, Lion des Combats, Portland Blanc, Triomphe de Paris, &c. Messrs. Hovey & Co. had a dozen or more blooms of Gen. Jacqueminot, which were dazzling from their brilliancy of color.

The June roses were very fine, and the following *thirty* in the stand of Hovey & Co. were perfect blooms of equally perfect roses:—*Hybrid China*, Coupe d'Hebe, Mad. Plantier, Paul Perras, Geo. IV., Thurette, L'Obscurité, Brennus, Vandael; *Provins*, Kean, Cœillet Parfait, Shakspeare, Boula de Nanteuil, Marq. of Lothian, Perle des Panachees, Triomphe de Rennes, Gil Blas, Bizarre Marbrée, Cynthia, Sir W. Scott, Amiable; *Alba*, Mad. Legras St. Germain, Mad. Hardy, Joasine, *Damask*, Painted, Mad. Stollz, La Ville de Bruxelles, &c.

The Moss roses numbered some thirty or forty varieties, mostly from Hovey & Co., M. P. Wilder, and C. Copeland. Mr. Nugent made a show of Saffrano, and a few other tender roses.

In addition to the roses, Messrs. Hovey & Co. exhibited the new Silver Fern (*Pteris argyrea*), one of the greatest acquisitions to the class of ornamental-foliaged plant. The fronds are pale green, with a distinct and broad silver line in the centre of each. E. S. Rand sent a small but pretty specimen of the old Pavetta borbonica, not often seen, but quite a novelty with its handsome foliage. J. A. Kenrick sent a fine cut flower of *Magnolia macrophylla*, and the Hon. M. P. Wilder a magnificent specimen of *Stephanotus floribundus*, trained in a depressed cone, and quite covered with its delicately-scented white flowers. The President, W. J. Underwood, and Hovey & Co. sent very handsome prize pinks.

AWARD OF PREMIUMS AND GRATUITIES.

HARDY JUNE ROSES.—Class I. For the best thirty, to Hovey & Co., \$6.

For the next best, to A. Apple, \$4.

For the next best, to M. P. Wilder, \$3.

Class II. For the best twenty, to G. G. Hubbard, \$3.

Class III. For the best twelve, to J. Nugent, \$4.

For the next best, to Hovey & Co., \$2.

HARDY PERPETUAL ROSES.—Class V. For the best twenty-five, to

A. Apple, \$6.

For the next best, to Hovey & Co., \$4.

For the next best, to W. Heustis, \$3.

Class VI. For the best fifteen, to F. Parkman, \$4.

For the next best, to A. Apple, \$3.

For the next best, to Evers & Comely, \$2.

Class VII. For the best ten, to J. McTear, \$3.

For the next best, to Evers & Comely, \$2.

For the next best, to F. Parkman, \$1.

MOSS ROSES.—Class VIII. For the best display of named varieties, to Hovey & Co., \$4.

TENDER ROSES.—Class X. For the best display of varieties, not less than ten, to J. Nugent, \$4.

LARGE BOUQUETS OF ROSES.—Class XI. For the best two, to Evers & Comely, \$4.

GRATUITIES.—For collections of roses, to E. Stone and C. Copeland, \$10 each.

To M. P. Wilder and A. Apple, \$5 each.

To Joseph Breck, W. C. Strong, G. G. Hubbard, and J. W. Wolcott, \$3 each.

To Evers & Comely, Hovey & Co., W. Heustis, J. Nugent, J. McTear, and D. W. Lincoln, \$2 each.

To F. Parkman, J. A. Kenrick, J. C. Chaffin, and J. F. C. Hyde, \$1 each.

To E. S. Rand, for Pavetta borbonica, \$5.

To Hovey & Co., for new Silver Fern, \$4; also for Rondeletia, \$1.

To M. P. Wilder, for Stephanotus, \$3.

To D. Murray, for native plants, \$2.

To J. A. Kenrick, for Magnolia, \$1.

To J. McTear, for fuchsia Rose of Castile, \$1.

To Miss E. M. Harris, for wreath, \$1.

To Miss M. P. Wilson and Miss Monroe, for baskets of flowers, \$1 each.

To J. Breck and W. J. Underwood, for Paisley pinks, \$1 each.

Obituary.

DEATH OF ENOCH BARTLETT.—We regret to record the death of Mr. Bartlett, which took place at his residence in Roxbury, on Monday, June 25th, in the 81st year of his age. Mr. Bartlett was one of the pioneer members of the Massachusetts Horticultural Society, and for many years one of its Vice Presidents. Formerly he took an active part in everything pertaining to horticulture, but he so long ago relinquished the pursuit that very few of the younger members knew him. The Bartlett pear was named in honor of Mr. Bartlett, having first been introduced from Great Britain into the garden which he afterwards purchased. It was then thought to be a seedling, and consequently called the Bartlett.

Mr. Bartlett was a sincere friend of all horticultural improvement, and contributed frequently in former years to the exhibitions; he was for some years a member of the fruit and other important committees of the Society, and the older members who were so long associated with him officially, and more recently as a neighbor and citizen, feel keenly the loss of one whose early counsel and good judgment aided in the organization and future progress of the Society.

Horticultural Operations

FOR JULY.

FRUIT DEPARTMENT.

JUNE has been cool and moist, with but little warm weather thus far; yet vegetation never looked more flourishing; fruit, which promised so well in May, has not come up to expectations; pears, particularly, did not set well, but what fruit there is is remarkably fine and handsome.

GRAPE VINES in the grapery will now begin to color, and will still require much care. Should the bunches, if not already done, and stop all laterals as they advance too far. Continue to damp down the house, discontinuing it gradually as the grapes ripen. Air freely, both day and night, in good weather. Vines in cold houses will now be swelling their fruit rapidly. Keep up a genial atmosphere by the free use of water; top the laterals, and thin the berries, if not already done. Give the border a good soaking, if dry weather sets in. Vines in pots should be shifted as soon as they require it; water liberally, using liquid manure, once a week. Hardy grapes should now be attended to; prune away all superfluous shoots not wanted for bearing wood next year, being particular not to expose the young fruit to the sun. Thin out the berries, if fine specimens are wanted. Syringe with sulphur water, if there are any signs of mildew.

STRAWBERRY BEDS should receive attention; dig under the old vines to allow space for the young runners to grow. Prepare ground for new beds next month.

FRUIT TREES in pots should be summer pruned, and have liberal waterings with liquid manure.

SUMMER PRUNING should be looked after this month. The trees are now growing vigorously, and will require the most attention.

FRUIT should be thinned immediately. Commence by taking off all the ill-shaped and poor specimens, and finish by picking the poorest of what remains.

INSECTS should be attended to. If the slug attacks the pear, syringe with whale oil soap. Trees attacked by the bark louse should be washed with a strong mixture of whale oil soap.

FLOWER DEPARTMENT.

The season being so far advanced as to allow the removal of all the plants to the open air, their space should now be filled, from reserve frames or houses, with summer blooming plants, such as Gloxinias, Achimenes, Fuchsias, Japan Lilies, &c., which will keep up the show throughout the summer. Attend now to the preparation of the winter flowering plants, repotting all such as need it, and bringing on young stock. Look after the summer climbers, and train them up carefully, cutting away superfluous branches.

CAMELIAS that require it should be repotted immediately; it is the best season for this operation.

AZALEAS should be repotted; continue to grow them in a warm close house, nipping off the ends of the young wood to make hardy plants; tie into shape all intended for specimens.

CHRYSANTHEMUMS should be shifted as soon as they fill the pots with roots. Use rich soil, and do not let them flag for want of water. Plunge out in an airy place. Top the shoots as they advance in growth.

PELAGONIUMS should be headed down this month; giving them but little water until they begin to grow. Put in the cuttings for young stock.

BEGONIAS should be repotted.

ACHIMENES should be shifted into their flowering pots.

CHINESE PRIMROSES should be kept in a cool frame. Seeds may be planted now.

CINERARIAS should be divided and potted, and placed in a cool frame, partially shaded till well established. Sow seeds now for a young stock.

CALCEOLARIA SEED should be sown this month.

SALVIAS, VERBENAS, &c., for winter blooming, should be repotted, and plunged out in the open ground.

BOUARDIAS should be repotted.

TUBEROSES should be repotted.

SPECIMEN PLANTS, for particular purposes, should be repotted, according to their growth.

SCARLET GERANIUMS, for early winter blooming, should be plunged in the ground in pots.

CALLAS should be allowed to dry off by turning the pots upon their sides.

HOTHOUSE PLANTS, of various kinds, will be benefited by giving them an abundance of air and a little rest at this season.

FLOWER GARDEN AND SHRUBBERY.

The grounds should now be in the finest possible order. The lawn should be closely cut, the walks hard and smooth, and borders clean. Roll the lawn before mowing, and stir the earth wherever dry and hard. Cut away old flower stalks, and prune shrubs which have done blooming. Stake and tie up Hollyhocks, Dahlias, and other tall-growing plants, and peg down Verbenas and other dwarf-growing flowers.

DAHLIAS should be staked and mulched with strawy manure. Water freely in dry weather.

GLADIOLUS should be neatly staked.

DAISIES should be divided and reset in a half-shady place.

PANSEY SEEDS should be sown for next spring stock.

PEONIES will be benefited by cutting off the old seed pods.

PHLOXES should be watered in dry weather.

DWARF PINKS may be divided and reset.

ROSES may be layered this month.

PLANTS of all kinds may be plunged in the ground to fill vacant places.

HOLLYHOCK, BLUEBELL, and other biennial seeds may be sown this month.

CLIMBING PLANTS should be neatly tied up to strong stakes.

SHRUBS of all kinds may be layered this month.

SOMETHING ABOUT STRAWBERRIES.

THE strawberry is so universally cultivated, and everywhere acknowledged as one of the most delicious as well as the most wholesome of fruits, that we need make no apology for again introducing it to the notice of our readers. Not because we have not, time and again, given all the information in regard to its cultivation which the most inexperienced can require, but for the purpose of noticing some of its characteristics, the growth and introduction of new varieties, the true properties of a good berry, &c. For we cannot but believe, that, in these particulars, there is yet the want of much information, otherwise we should not find our markets supplied with such ordinary fruit, or our gardens filled with so many comparatively worthless varieties.

An opinion seems to have obtained too generally, that there is but little difference, after all, in the varieties of the strawberry; one may be larger than another, but in quality there is too much similarity to make it a matter of much importance. Even to the present day, after the lapse of twenty years and the introduction of at least five hundred new varieties, some still cling to the old Virginia (or large early Scarlet, as it is often called) as the best and most profitable of all strawberries. We certainly have no wish to discuss the matter with those who think thus, but it cannot be denied that such opinions give but little hope of pomological progress. Upon the same reasoning it might just as well be claimed that the old Madeleine or Amire Joannet pears were better and more profitable to raise than the Bartlett or Louise Bonne of Jersey.

But there is a difference, and a very great difference, in strawberries, just as much as there is in pears. They do not, it is true, extend over such a season, but then the quality is as varied as that of the Bartlett, or Andrews, or Belle Lucrative pears, all ripening at the same season. Because a strawberry, even as sour as the Wilson, is called good where there

are none better to compare with it, it does not follow that there are not others far more delicious. In fact, the distinctions are of the nicest kind: like, we may say, those in the finest wines, which the real connoisseur will detect by the bouquet alone. And so it is with strawberries. The various sorts must be tried together; for, so refreshing is the most ordinary fruit, that we detect the lusciousness of some only when they are eaten together. Indeed, without further argument, we think it will be admitted, at least by those who are familiar with various kinds, that there is more difference in them than has generally been acknowledged.

It is somewhat singular that two cultivators, situated at such remote distances,—one in America the other in Belgium,—should arrive at the very same conclusions in regard to the qualities of the strawberry; the only difference being that the observations of the former were made in 1833, and the latter sometime subsequently. In our Magazine for 1837, (Vol. III., p. 242,) in some remarks upon the production of new varieties, we wrote as follows:—

“It is many years since Messrs. Knight, Keens, and others, first produced new and superior varieties to those previously in cultivation; but the great success of their experiments, which were pursued with great zeal, led them to continue them, and the result has been the production of an immense number of new kinds, but of which only ten or twelve can be said to be really worth growing. None of these do well in our climate, unless the Downton, which may be an exception, although it does not flourish with the vigor of the American sorts, but produces a fine fruit, and the vines are much hardier than other kinds. The Methven Castle, or Methven Scarlet, is a large and tolerably hardy strawberry, but it is very destitute of flavor. Some new and said to be very remarkable sorts have been made known within a year or two, but they have not yet been introduced, and their value in our climate not yet ascertained. When, however, we consider the great difference between the climate of this country and that of Great Britain, it is somewhat doubtful whether any of their fine varieties will ever be sufficiently hardy to stand our winters.

“Convinced, from such conclusions, that we must look to our own gardens for *hardy* varieties of strawberries, we attempted, about four years since, to raise a number of plants from seeds, with the hope of selecting some one or two which would possess all the good properties of a strawberry, and of a character sufficiently hardy to stand our winters unprotected; and although at the present moment our plants have not been fully tested, they have so far that we are assured of something much better than *any* of our previously known American kinds, and we are not yet certain but what equally as fine in flavor as the best English varieties.”

This was written, as will be seen, before our seedling had been fully proved. In 1840, (Vol. VI., p. 284,) when we described it in our Magazine, we reiterated our opinion:—

“We have, in the article alluded to, spoken at some length upon what we consider an important subject; viz., the production of new varieties of strawberries from seed, to take the place of those older kinds, principally of foreign origin, which have long been cultivated, and which, either from defects of cultivation, the severity of our climate, or other causes, do not produce sufficiently abundant to repay the labor and expense of their growth. To varieties originated in this country we must therefore look for fruit, so superior in every good quality, as to eventually drive out of cultivation those old sorts, whose growth and product is at the best uncertain, and whose treatment, to be attended with success, must be the result of a great deal of care and attention.

“After cultivating the Keens’ seedling, Downton, Methven, Southborough, and other sorts, we became well satisfied that neither of them possessed such qualities as would render them profitable kinds for ordinary cultivation: the vines of the first were too tender, and there was always danger of losing part of the crop; the second, though a good sized and fine flavored fruit, was uncertain in its product,—the vines containing both barren and sterile plants, rendered it objectionable on that account. The Methven was a rather insipid, though a large and showy fruit; and the Southborough, a handsome looking berry, was too shy a bearer to depend upon. There seemed to be wanting a variety combining the qualities of two or

more of these, and we set out upon the experiment of attaining this desirable result, determined, if time would allow, to pursue it until our object was accomplished. How far our labors have been crowned with success, will be seen in the course of our remarks."

As a standard of excellence, we gave the following summary: Vines, hardy, capable of living through our winters without injury; leaves, long, not so numerous as to shade the fruit too much; scapes, of moderate length, so as to elevate the fruit above the ground, stout, and well branched with numerous peduncles; fruit, large, round or ovate, well formed, of a good color and polished surface; flesh, firm, juicy, without a core, of a brusk, rich, grateful flavor. These properties we valued as follows: Hardiness, 3; flavor, 3; size, 2; productiveness, 2; firmness of flesh, 2; color, 1.

M. De Jonghe, of Brussels, Belgium, communicated to the *Gardeners' Chronicle*, in 1858, the results of his observations in strawberry culture,—an article which we intended to present to our readers at the time, but probably, to a greater portion of them, it will be entirely new now. He is the raiser of *La Constante*, one of the very best varieties we have yet had from Europe, being similar, in nearly every quality, to *Hovey's Seedling*. Since fruiting it freely this year, we can better appreciate the force of M. de Jonghe's remarks, which correspond so nearly with our own. We commend them to the careful attention of our readers:—

In *Lindley's Guide to the Orchard and Kitchen Garden*, translated, in 1837, by A. Poiteau, of Paris, there is a complete recapitulation of the progress made up to that time. In that work, strawberries are divided into seven classes, according to the habits of the plant and the fruit.

During the twenty years which have elapsed since the publication of the above work, seed has continued to be sown, and varieties, more or less improved, of the different types and their variations have been obtained. Whether these types are indigenous to the localities assigned to them, which is doubtful, or that they are the product of a single type,—the Alpine or Wood strawberry,—which is most probable, it is

nevertheless true that the essential botanical characters are applicable to all the species. Whatever may be the character of the fruit, that of the seed, placed in cavities more or less deep, when observed through the microscope, is absolutely the same; it pushes and grows in the same manner. Whether the leaf-stalk has its hairs horizontal or ascending; whether it be nearly naked, long or short; whether the leaves are glabrous or not, of a darker or lighter green, round or oval, toothed or serrated—what is it that is required at the present day of the strawberry, no matter to what type it may belong by its external character, to render it worthy of cultivation? This is the practical question which occupies our attention, putting aside all other considerations except that of the amateur's strawberry in the open ground. Having cultivated the principal varieties for upwards of twenty years, in different soils and situations, we have studied them under these different conditions. Here the success was satisfactory; there something was desirable; elsewhere certain varieties proved of indifferent quality, unproductive, or bad. It requires several years before decisive conclusions can be arrived at as regards the real merit of a variety.

From our experience we have come to the conviction that the first requisite in a new variety is undoubted hardiness, and without being particular as to soil. Next, a fine habit of growth in the leaf-stalks and scapes; then, abundant bearing, fine form of the fruit, and, above all, excellence of flavor. Each of the conditions comprises several other shades of difference, but they include all. Nevertheless, the conditions ought only to be imperatively demanded of a variety, when, like all other products of the earth, it is placed in a situation of soil and aspect suitable to its nature. The plantation must have been made on good principles, and the plants ought to be two years old, and to have received the necessary culture. It must be understood, that the application of principles may be modified according to the skill of the cultivator.

Of all existing varieties, what strawberry unites every desirable point of excellence? Who can name it with certainty? for, attempting to do so it would be necessary to hear its character from many witnesses.

When a new variety is sent out, from the advertisements one would be led to believe that the philosopher's stone had been found! Under cultivation, these varieties occasionally present some points of improvement, when compared with well cultivated plants in bearing. Nevertheless, we have seen none, up to the present day, which, in strict justice, can be said to combine every point of excellence. I believe that I may be permitted to use this decisive language, because, for twenty years, I have successively tried in my grounds all the best varieties, and out of one hundred of these, not more than a score remain that can be considered as meritorious in certain respects.

On commencing to raise seedling strawberries, we know the principles admitted in pomology for the choice of seeds. According to these principles, we take our seeds from the more improved varieties, or those obtained in other latitudes. It was the varieties raised by Hooper and Hovey that gave us a first result. The second was afforded by seedlings from the varieties raised by Pelvilain, Wilmot, and Keens. Then we had recourse to the Bicton White and Prince Arthur,—the former differing most from its original type; the latter presenting, in its habit of growth, the beauty and the flavor of its fruit, the most marked characters, and, in our opinion, I may say the most improved. On this point I appeal to the testimony of experienced amateurs, capable of judging on the subject. By isolating the seed-bearing plants, we believe that we have obtained from these varieties a number of good ones; and one more especially so, to which we have given the name of *La Constante*, will long remain in collections. The plant is hardier than its parent, and less particular as to the kind of soil where it succeeds. It is from this peculiarity that it derives its name. It is of a stocky growth; the peduncles are very strong; its productiveness is great; and its fruit is of a handsome conical form, of a rich delicious flavor, surpassing that of its parent. Have we, then, found the philosopher's stone? We do not think so.

In fact, *La Constante* has produced seedlings presenting other characters, and among these seedlings we have remarked two varieties of which the sepals (divisions of the calyx)

are reflexed, that is to say, having the base of the fruit wholly uncovered. I doubt whether this peculiarity has been remarked up to the present time. Is this a step in advance—a new condition of excellence?

In every branch of horticulture, the progress made in our time is incessant. This is undeniable; but at the same time, it must not be concealed, we are far from the extreme limits at which we may arrive. This work requires time, space, and a perseverance, which leaves nothing to chance. It is not impossible that at last may be obtained a handsome and good strawberry which is freely double-bearing. There are certain principles which must be known and acted upon with discretion, and upon which all success depends. As regards the raising of strawberries from seed, they constitute a whole theory.

Thus it will be seen, that, in 1833, after having tried every European variety to be obtained, we pronounced them comparatively worthless, or at least so unprofitable that we must look to American seedlings for a desirable variety. And a little later, sometime since 1837, M. de Jonghe, after a trial of more than one hundred European sorts, arrived at the same conclusion, and also commenced the growth of seedlings to supply what appeared to be wanting. And it is no more than justice to M. de Jonghe to say, that so far as our experience of thirty years goes, and the trial of every English variety of any reputation up to this time, there is not one which will at all compare with his *La Constante*. It is all that he has claimed for it, and will, we think, prove to be the finest European variety which will withstand the vicissitudes of our colder and variable climate.

A close examination of M. de Jonghe's remarks will show that he makes precisely the same statement of the properties of a strawberry as we did in 1838; showing undoubted *hardiness* to be the "first requisite" of a new variety, next a vigorous growth, then abundant bearing, fine form of the fruit, and, above all, "excellence of flavor." By this standard has he judged *La Constante*, and if every new seedling introduced during the last twenty years had been judged by it, as it

should have been, our cultivators would have not only been saved from great disappointment, but would have been richer by thousands of dollars. Indeed, a true estimate of the loss of time and loss of crops, in growing inferior varieties, would be beyond belief. It may be safely stated that *double* the amount of profit might have been realized if the best varieties were planted. As an instance, we can state that Mr. Chenery, of Belmont, obtains a larger profit on a *half acre* of Hovey's Seedling, than Mr. Scott, of Brighton, on *two acres* of mixed sorts. Truly, one would think, as M. de Jonghe says, that the raiser of every new seedling "had found the philosopher's stone."

To the remarks of M. de Jonghe, Dr. Lindley, the editor, replies very tartly, because the author gives so much credit to American cultivators. "Our frequent correspondent, we perceive," he says, "correctly expresses the ideas of Belgian growers on this subject, but since they are very unlike the ideas of English gardeners, we must not pass them by without comment."

"What is very remarkable in the communication to which we allude, is the total absence of all allusion to our greatest English growers, undoubtedly by far the most successful of all raisers of new strawberries. Mention, indeed, is made of Keens, who chanced to obtain the well-known useful variety that bears his name, and of Wilmot, not one of whose seedlings now remains in cultivation. We are also informed that Hooper and Hovey 'gave us a first result,'—a singular mistake, considering that the first result had been obtained long before those growers were heard of."

"The first great improvers of the strawberry," Dr. Lindley says, "were Mr. Knight and Mr. Williams, of Pitmaston, who, before 1823, had commenced experiments upon crossing the American with other strawberries, with a view to improve the quality. Out of the multitude of failures, there was at last obtained by the first great pomologist his famous Downton and Elton strawberries, which have laid the foundation of the whole of Mr. Myatt's celebrated kinds. It was by the intermixture of American strawberries,—immense bearers, but deficient in sugar and aroma,—with the high flavored Black strawberry,

which scarcely bears at all, that the new race was established, and this was the true beginning of all the improvements that have since been effected. The success of Keens was a mere accident. That Myatt had some fixed principle of action in producing new varieties, there can be no doubt, though we are unacquainted with its nature. He seems to have worked upon the varieties of Mr. Knight. That he achieved great success is abundantly proved by his 'British Queen,' the finest strawberry yet raised in any country. Had M. de Jonghe been acquainted with what had been doing at the headquarters of strawberry growing, he would certainly have altered his ideas concerning the history of its progressive improvement, to which Ingram, Cuthill, and many others contributed at least as much as Messrs. Hooper, Hovey, and Pelvilain."

No one who is acquainted with the history of strawberry culture will deny that Mr. Knight was one of the first to attempt the improvement of the strawberry. But yet he was as unfortunate in producing a superior variety as he was in producing a superior pear. The Downton and Elton were long ago thrown out of English and American collections. Keens did more, in his accidental way, as Dr. Lindley terms it, than his predecessors; for, to this day, Keens' seedling is, taking it all in all, the best strawberry in Great Britain. All the others, except Wilmot, began strawberry culture long after our seedling was raised. Yet none but Mr. Myatt have raised a strawberry hardly worth growing.

M. de Jonghe replied to these remarks, and showed that he knew very well what had been done in strawberry culture in England, having frequently visited London during the past fifteen years, and examined the different collections of Messrs. Myatt and others.

Such is the history of the improvement of the strawberry, and American cultivators will, we think, agree with M. de Jonghe, that however suitable the English varieties may be for the climate of Great Britain, they are not fitted for ours. As regards the question whether the British Queen, or any other English variety, is the finest strawberry "yet raised in any country," there will be various opinions; for ourselves, we should like to taste the first variety that could equal, in

fineness of texture, brilliancy of color, and rich, brisk, luscious flavor, our best American sorts. So far as our experience goes, and it is by no means limited, we think they are all coarse-grained, watery, and comparatively insipid fruits.

We think, with M. de Jonghe, that, notwithstanding the very great improvement, "the philosopher's stone has not yet been found." There is yet room for further improvement; but it is of such a nature as not at all easy to be accomplished. The experience of twenty-five years proves this. But this should not discourage further effort. With an acknowledged standard of excellence, we can discover at once whether we have obtained any desirable result.

What, then, should be the properties of a new strawberry? According to what has been stated, they should be a hardy, vigorous vine, a large berry, a good form, a firm flesh, and, above all, "excellence of flavor." These would seem to be qualities enough; yet there are others of great importance, one of which is a small, reflexed calyx, which shows off the fruit, and allows of speedy picking when the fruit is gathered without it, as in our markets; and there are numerous qualities which the experienced market cultivator detects, which go to make up the total in a new berry.

In the introduction of new varieties, therefore, no fruit should be considered as worthy of cultivation that does not surpass, in all the above requirements, any existing sort. A fruit ripening at the same time as the Jenny Lind, should be larger and better to be entitled to any notice; another, ripening at the same period as Hovey's Seedling, should be larger and better to deserve cultivation. Because a new seedling looks well, bears well, and is in reality a very good strawberry, it does not follow that it is worthy of a name and extensive dissemination. Not at all. It must surpass an older variety, or it only serves to confuse cultivators in their selection of sorts, and cause additional labor in their growth, without affording any adequate return; on the contrary, after a few years of anxious attention to bring out what these varieties never did possess, they are thrown aside as worthless stuff. We appeal to intelligent cultivators if such has not been the case with more than *one hundred* varieties raised within ten

years, and all brought out as superior to anything that had previously been seen, and yet where are they ?

To save all this trouble and disappointment, let the standard of excellence be established by every horticultural and pomological society in the country, and any new seedling which does not surpass it in some one quality should be proclaimed as unworthy the attention of cultivators. We shall then be relieved of an annual supply of new sorts, which have their day and disappear, never to be seen again.

DRESSED GROUNDS.

BY WILSON FLAGG.

THERE are certain situations, in which it will not be denied, how much soever we may admire the qualities of rudeness and rusticity, that dressed grounds are pleasing and indispensable. But such places must savor of art, rather than nature, and be of such a character that the dressing is needful to harmonize with the elegance of the buildings which they are intended to embellish. The grounds in the narrow enclosures of dwelling-houses in the city, or in any crowded settlement, require to be dressed to correspond with the neatness and elegance of the house which they surround; and even in the country, the enclosures of an elegant house should be dressed in a corresponding style. If the owner cannot afford this expense, he should build a plain house; for plain, homely houses only look well in a rustic landscape.

It is admitted that there is no picturesque or poetic expression in dressed grounds; but it is equally true that there are no such expressions about an elegant house. There are certain pleasing qualities in art and in nature, which the united efforts of wealth, genius, and art cannot accordantly combine. The attempt to produce these incompatible effects has been frequently made, and is constantly repeated at the present time,—but all in vain. Wealth and art can make magnificent houses and beautiful parterres: but they cannot give to the former the quiet and romantic loveliness of a laborer's

cottage in the fields, surrounded by poison ivy and wild grape-vines; nor to the latter the poetic beauty of a knoll of wild flowers in a neglected corner of a mowing-field. Wealth is painfully in the way of these attainments; but to make amends for this shortcoming, it places a great many honors and a great many luxuries in the hands of its possessors, which poor men, who live in poetic houses, cannot command.

A wealthy man may live in a homely and humble cottage; but his wealth must be unknown to the public, even in this case, to render his abode as interesting as that of a poor man. Such humbling of oneself, it is too well known, comes rather from miserly than romantic motives. Yet we have all seen instances of a little different kind,—of wealthy families, for example, who, on retiring to the country, have endeavored to engraft the pleasing expression of rusticity upon their ornate residences—striving, without renouncing their pride, to “snatch a grace beyond the reach of art,” from the simplicity of rude cottages. But vain is every such attempt to make “style” and poetry go hand in hand, either in nature or in real life: it ends in producing only ludicrous effects, like the yoking of a pair of steers into a fashionable coach.

A virtuous and simple country girl, in her father’s rustic cottage, brought up among lambs and turtle doves, as innocent as they, and as beautiful as the “lilies of the field,” is an object of poetic interest. A merchant-prince may marry her, and be very happy: but as soon as she has become his wife, and is removed to his elegant villa, she ceases to be a poetical object. She may still possess all her maiden virtues, improved by new accomplishments of mind and manners; but she is no longer poetical. Nature has reserved these poetic charms for people in humble life: remove them out of their sphere, and the spell is immediately broken. The very wild flowers, when snatched from their sequestered nooks, and mixed with the flowers of a gay border, are overlooked or lose all their attractiveness in the midst of this flaunting embroidery.

To resume my illustration. Let the wife of this wealthy merchant be reduced to poverty and widowhood, and obliged

to return to the old cottage, in its primitive rudeness, with one or two young children dependent on her care,—and the picturesque halo that gave lustre to her maidenly beauty now gleams about her, in her daily walks, as in former years.

But let us suppose this merchant, in his zeal to do something for the old folks, after promoting their daughter to his own palace, should employ an architect and gardener to improve the cottage by giving it some artistic touches. The improvers strip off the wild grape vines and the poison ivy from its walls, and neatly paint the outside, after supplying those appendages which are supposed to distinguish the works of artists from those of rude mechanics. They also remove the wild roses, the cornels and whortleberry bushes from the grounds, and plant a collection of dandy spruces and larches all around the house, on a smooth surface of graded lawn. After these alterations, the “place” may afford more satisfaction to an “artistic eye;” and the old rustic inmate may feel more like a gentleman, when, on returning from his labors, he views in these coxcombical trees and fantastical gimeracks, the evidence that he also is keeping pace with modern civilization and æsthetics. Still, it must be plain to any intelligent observer, that, by making these improvements, the generous son-in-law has just as effectually ruined the poetical character of the old house as he effaced the poetic lustre that surrounded its heroine by making her his wife. There are more things in nature than are dreamed of in your “landscape gardening,” Horatio!

The wealthy, if they wish to live in style, must be satisfied with neatness and elegance. The poor only, since the age of feudal romance and castle-building is past, can dwell in picturesque and romantic situations, and not change their character and disenchant them, by their occupancy. And this is, perhaps, the poor man’s compensation for the lack of those honors and luxuries which are the fruits of wealth. But, strange as it may seem, the poorer classes of America voluntarily renounce these pleasant advantages, and spoil all the enchantment that naturally clusters around a humble rural home, by their endeavors (which seem to be peculiarly American) to do as wealthy people do, thereby demonstrating

that a poor man's affectation of style is infinitely more absurd than the rich man's affectation of rudeness. Thus honest ploughmen spoil the simple beauty of their residences by making them artistic; and by converting their rude enclosures into dressed grounds, they dispel every charm that once rendered them picturesque and attractive. The hands of ambitious art carry the fatal wand that disenchant every pastoral scene of its peculiar beauty, and transforms all the poetry of nature and of rural life into prose.

A great deal has been said of late, by lecturers, preachers, and essayists, to persuade men to live and appreciate "the beautiful." But men do not require to be taught this, for it is a predominating trait of character with the ignorant and uncivilized. It is the charm of landscape that is not beautiful, and of homely houses having a simplicity about them far more desirable than beauty, which men must learn by education to appreciate. The love of the beautiful is essentially vulgar: it is the *tattooing* principle of the human mind—it is the love of feathers, fashion, and brocade. It needs not to be taught; the object of education should be to repress it, for everywhere it is leading people into excesses. The beauty of the human face is an entirely different thing; but the admirers of "the beautiful" look at a woman's elegant dress, and do not particularly observe her features. To children and boors a border of pæonies is vastly more charming than the rude scenery of our half-wooded New England hills—because this scenery is homely, and they cannot be agreeably affected by the sight of anything in landscape, except it is beautiful.

There is, indeed, very little in landscape that is beautiful, except in a relative sense; its charm lies almost entirely in its suggestions. If there were no pleasure for our eyes except in the beautiful, nothing visual in nature would affect us agreeably except a "gardenesque" flower bed. The mind must, to a certain extent, be cultivated and mature to understand the suggestions of landscape, upon which its relative beauty is founded. As we advance from childhood to maturity, and from ignorance to culture, all the scenes of nature become to us full of associations—some pleasant and others

disagreeable. These scenes, though they do not affect all persons alike, on account of the different circumstances in which they have become habituated to them, awaken similar trains of thought in persons of similar habits of life. Hence arises the picturesque in nature and art, which but few persons can appreciate unless they are trained to it. And this is indeed the only intellectual property of landscape: that which is merely beautiful can be appreciated by any tattooed Indian.

Still, though the picturesque and the poetic are more charming qualities to those who can perceive them than the beautiful and the elegant, it is the latter only that can be associated with the luxurious homes of the wealthy. The grounds that enclose them must be dressed, and a constant expense must be laid out to keep them in proper trim; for a dressed enclosure, left to itself even for a single month in the growing season, becomes a spectacle of unseemliness and deformity. Neglect is a source of the beauty of many a rustic byway and of many a rough pasture and hillside. But here is no cultivation; here are no exotics requiring a gardener's care and an artificial soil. The peculiar beauty of dressed grounds is converted into actual ugliness, after any continued neglect. Their elegance can be maintained only by constant diligence and labor.

A clean, white-painted house, with green blinds and a neatly ornamented fence around it, is often a beacon to call the traveller's attention to the want of neatness in the enclosures, which are allowed to be a receptacle for all the sweepings and waste that are cast out of the doors and windows. How much more pleasing is a plain unpainted house, where neatness prevails, though we cannot discover about it a single attempt at decoration. But there are many persons who can appreciate finery and even elegance, who have not learned the first principles of neatness. In the progress of the individual, as well as of society, from barbarism to high intellectual culture, men first learn to appreciate splendor and finery; the love of neatness does not come to them until after still further progress.

There are many places in the suburbs of this city, in which

the grounds in front of the house are left continually in a shameful condition of neglect, chiefly on account of an attempt, in the beginning, to lay out a work which the owner could not afford to keep in its original style of elegance. It is absurd, in these situations, to think, by neglect, to obtain the advantages of a natural thicket. Uncleanliness and shabbiness stare us in the face, without a tithing of nature's pleasing intricacy and spontaneity. A thicket of firs, spruces, and arbor vitæ, intermingled with exotic flowering shrubs, is a common sight, within a few miles of Boston; but it affords the spectator no pleasure. The spaded grounds under this mass of shrubbery are offensive. Those who have the charge of them forget, perhaps, that elegance, neatness, and beauty are the objects to be sought in dressed grounds; and that all attempts, by an irregular crowding of plants, to make a picturesque imitation of nature in an artificial spaded soil, are utterly vain.

Cultivated enclosures are not the places for thickets, especially if they are exposed to the dust of a street in town. Intricacy is opposed to that neatness which is the peculiar charm of dressed grounds. Formality must reign here, whether it be apparent in geometrical figures, or half concealed in a counterfeit of irregularity. Just in proportion as a place is decorated, nature must be sacrificed. A parterre is an artificial, not a natural work; for, though nature gives the increase, Paul designs and Apollos plants it. An artificial soil and treatment are required for dressed grounds of every description; and from these sources comes the expense that attends them,—for exotics will perish, or become ugly and worthless objects, unless the gardener is constantly at his work, and unless the soil is annually recuperated by artificial fertilization.

In uncultivated portions of the country, every little patch of spontaneous shrubbery and wildings is pleasing. We can obtain these things without expense; but if we covet lawn, or florists' flowers, or rare plants from a foreign clime, the first cost is to be repeated annually to preserve them in perfection. Every rood of cultivated soil, every foreign shrub and vine, every plat of grass, calls for constant labor and expense. As

soon as these things are left to nature,—as they are frequently left by those who begin with a great show and cannot maintain it,—she refuses to take care of them, because she has a place for everything, and cares not to rear in one country what belongs to another. She abhors monopolies; and if we try to combine the natural wealth of the land of the citron and myrtle, with that of the land of the hickory and maple, nature will not withdraw her rain and her sunshine, but she leaves them to our artificial care, and without it they perish.

NOTES OF A EUROPEAN TOUR.

BY THE HON. J. S. CABOT.

DEAR H.—That in moving about from place to place I should not with any certainty remember where my last letter to you was dated is not a matter of surprise. I think, however, it was Florence. At all events my last two months, since I left that city, have been passed in Northern Italy, in Milan and Venice, and in travelling thence through the Tyrol by the pass of Finster Munz, Bavaria, and the so-called Salskammergut to this city. Travelling much of the way by carriage, and stopping occasionally for a day where objects of interest presented themselves, as in the old cities of Bologna, Padua, and Verona, it afforded me a much better opportunity of seeing the country, than if I had only obtained glimpses of it from the windows of a railroad car. Much of the country passed over was beautiful and interesting, and to see it has afforded satisfaction, if attended with no other benefit.

I am almost tempted to the task of giving you an account of some of these old cities of Venice, of Padua or Verona, names with which all are more or less familiar. Of Venice, where the Rialto is yet a mart, where much traffic is carried on, though no longer “where merchants most do congregate,” and probably not even the type of an Antonio or Shylock can be found; of Venice, that yet offers in the many evidences of her former power and greatness when she was the centre of eastern commerce, in her numerous palaces of a rich and

peculiar style of architecture, rising directly out of the canals where her gondoliers yet ply their trade, many attractions of a more substantial character than these romantic associations to the passing traveller ;—of Verona, where, though you should not meet either of her “Two Gentlemen,” you are yet shown, in a by-street, an ancient but comparatively mean-looking building, as having once been the abode of the Capulets ;—of Padua, once the seat of perhaps the most renowned university in Europe, and whose students were numbered by thousands, a university yet existing, although at present closed. But to do so would be to attempt what others have already ably performed, and be overstepping the self-imposed limit of confining myself to such statements of what I see as have reference to the agriculture of the countries I may visit.

I am aware that in an adherence to this rule on the present occasion I run the risk of making my letter peculiarly tedious and uninteresting, for I can say but little in reference to the particulars alluded to, concerning Northern Italy, without repeating what I have already written you respecting the Southern portion of the Peninsula, for both are alike in their general features and in their products, with such allowance as should necessarily be made for a more or less northerly latitude ; in both instances consisting of rich plains and fertile valleys, bounded by mountains that, though lofty, are rounded and covered with trees or verdure, or by yet higher ranges, sublime and majestic in their very barrenness and desolation, with their summits even now covered with snow.

Padua possesses, I believe, the oldest botanical garden in Europe, and though not very extensive apparently sufficiently so for its present necessities. There is quite an extensive collection of plants, both hardy and tender, several hot and greenhouses, with long ranges of pits and frames, being occupied by the latter. I had not time to examine them with much care, but, with a portion at least of the hardy plants, an arrangement of grouping them according to their uses seemed to have been adopted ; as medicinal plants in one plot, and culinary in another. One part of the ground was appropriated to an arboretum, that contained fine specimens of trees of

many varieties, both evergreen and deciduous; among the last were fine specimens of Magnolias and Tulip trees. The garden is tastefully laid out. In it are some small ponds of water, supplied by a stream that runs by its side, a bridge over it giving entrance to the garden. I noticed here the finest plant of Banksian rose I have ever seen. It was a mass of flowers, and covered the whole end of a building. The garden probably was, and perhaps now is, connected with the university, and contains a hall where lectures on botany are given. The curator appeared intelligent and efficient, and the garden was in good order.

The great plain of Lombardy, fertile and well watered, occupies a considerable part of Northern Italy. As I saw it, it seemed everywhere cultivated; covered with crops of grass and grain, and planted so thick with trees, that where a wide extent could be embraced in a single view it was like looking over a forest. These trees are planted in rows sufficiently far apart to permit the ground beneath being cultivated. Besides wheat and other grain, grass and clover, I noticed in some places fields of Indian corn, and occasionally, though only to a limited extent, of potatoes. The trees are for the most part the mulberry, for the feeding of silk worms, silk as you know being an important product. These trees are cut in very close, so as to leave them with short stems and thick rounded heads. In most cases a grape vine is planted at the foot of each tree, trained up among the branches, and then led from tree to tree, as in festoons. From this you will perceive that there is not a very great difference in the agricultural products of Northern and Southern Italy, except that in the former the orange and the olive cease to be objects of general cultivation. In the neighborhood of Florence there are somewhat extensive groves of olives, but I do not remember to have seen any since I left it.

I had an opportunity of visiting a place where the breeding and rearing of silk worms was being carried on, and as you may not have seen anything of the kind I give you a brief account of what I witnessed. The worms, when I saw them, on the last of May, were as large as a large quill, about two inches long, and I was told by the man in charge of them

that in one week more they would have finished eating. They were in large boxes or drawers about eight feet long, four wide, and two or three inches deep. There were several of these boxes, one above the other, with a space of a few inches between to allow of a free circulation of air, this being necessary for the health of the worms. They are fed with mulberry leaves stripped from the trees, four times daily, the leaves being scattered very thick over the surface of the boxes, that were literally covered with worms. I was there at the time of their evening meal, for which they seemed to be impatiently waiting, as manifested by the rising up of their heads when the boxes were approached.

In travelling from Italy into Germany through the Tyrol the passage was through a very different, and to some a much more attractive country than that to which I have above alluded—where the level plains ceased, to be succeeded by fertile valleys amid lofty mountains, sometimes craggy bare rocks with their face sheer precipices hundreds of feet deep, at others wholly or partially covered with trees or verdure, and where, sometimes high up on their slopes, apparently better suited to be the eyrie of the eagle than the abodes of man—houses and green fields could be discerned. The road wound round among these valleys, following the course of the Adige, but gradually ascending, until at the pass of the Finster Munz it passed over the summit of the Tyrolese Alps. Here one might easily suppose himself suddenly transported from summer into winter or early spring, for, having eaten ripe cherries the day before at Verona, here the trees were just blooming, and many early spring flowers just opened, and shrubs and trees not yet in leaf. This pass of Finster Munz presents a scene of the wildest and most romantic character. A deep narrow gorge, through which a stream falls and rushes between high rocky mountains, partially clothed with trees and shrubs, with their summits obscured by clouds or white with snow—while the road, a striking evidence of the scientific skill of Austrian engineering, is carried along the sides of the steep mountain, by terraces and galleries cut in the rock hundreds of feet above the bottom of the rocky glen. In ascending the southern side of this

mountainous region the cultivation seemed somewhat of the same character as that of the plains at their base, consisting of grass and grain, with more of Indian corn, and without the mulberry trees that so covered the latter. There were numerous vineyards along the lower slopes of the mountains; here no longer left to run among the branches of trees, but trained low to a stake, or often to a slight and cheaply constructed trellis, occasionally formed somewhat in the shape of an open fan, and sometimes with two stakes, one driven into the ground a few feet in front of a shorter one behind, being connected by a cross-piece so as to permit the vines to be trained nearly horizontally, the cooler climate of these valleys demanding I suppose a different mode of management. Among the upper valleys on the lower slopes of the mountains were numerous groves of fine walnut and chestnut trees, chestnuts as you know being a not unimportant component part of the food of the inhabitants of this part of Europe. The nuts are similar to our American chestnut, only greatly exceeding them in size. They are eaten roasted, and you can scarcely pass through the streets of an Italian town without seeing them undergoing this necessary preparation. As you approach the summit of these mountains both grapes and chestnuts disappear, the climate permitting probably the growth only of the hardiest trees, or the cultivation of anything but grass or grain. On the ascent, before reaching the higher parts of the mountain valleys, I noticed great quantities of fruit trees, apples, pears, and cherries; the pears rather predominating. In some instances there were quite orchards of both pears and apples. Many of these were large fine trees. No particular pains seemed to have been taken in their cultivation, pruning or training, but they looked healthy and vigorous. On descending these mountain ranges towards Germany the country presented an appearance similar to that of the ascent from Italy, neither did any noticeable difference in cultivation present itself. The road followed the course of the Inn, coursing the valleys, at first narrow and afterwards gradually swelling out in some instances to broad plains, that in Bavaria, round Munich, become of great extent, but by no means equal in beauty to those on the Italian side of this

range of mountains. The country is populous. There were numerous towns and villages, some very ancient, and not wholly unknown to fame, as Trent, celebrated in Ecclesiastical annals, and Innspruck, for its loyalty to the house of Hapsburgh. The landscape, beautiful in itself, had oftentimes its natural charms increased, by the heights above the valleys being not unfrequently crowned by old castles and feudal strongholds, picturesque objects of themselves, and tending greatly to enhance the general effects of the scene.

That much of the Tyrol is beautiful probably no one would be disposed to dispute, particularly the fertile valleys lying in the midst of mountains clothed with trees and verdure even to their summits, their lower slopes covered with groves of walnuts and chestnuts, and yet I am hardly ready to admit that any of it is quite equal to some parts of Italy. I doubt if I am quite as susceptible to the charms of mountain scenery as most persons, owing to a natural deficiency of taste, and a want of appreciation of the sublime as an element of beauty. Or it may be owing in part also to the fact, as you well know, of my having been born and always lived on the rough seashore of Massachusetts Bay, amid its rocks and hills, and that thus broad fertile plains and wide valleys seem the more beautiful by contrast with that with which I am familiar. I question whether any landscape would be beautiful in my eyes that was void of fertility, verdure, and some cultivation. That mere mountains, no matter how lofty their summits, how wild and deep the gorges between them, if naked and bare, although they might give rise to feelings akin to awe, would fail to excite pleasurable emotions. Do not understand me, however, as intending to depict the Tyrolese Alps as mere naked rocks, for such is not the case. On the contrary they are not destitute of trees or verdure. Fertile valleys and cultivated hillsides too constantly present themselves among them. All I mean to say is, that I prefer a rolling country, with smooth rounded swells, to a mountainous region.

On leaving Munich for Vienna, as I approached the Bavarian frontier, the road passed for some forty or fifty miles through a country that presented a combination of attrac-

tions, having previously led over an interesting plain, a country where rounded hills and high valleys, among and upon which were large groves, or perhaps I might say forests, succeeded to the level plain, with villas and towns, thickly scattered about, and where, lying among these hills, were two large lakes. After entering the Austrian frontier, the country continued to be very much of the same character, though perhaps wilder and more romantic, for as I again drew towards the mountains, the hills increased in height and became more precipitous. At Saltsburg this valley widened and spread out into a plain, watered by the stream upon whose banks the town is situated, flowing through it. This plain in the rear of the town, being bounded by high wooded hills, while others of a similar character rose in front, though not so as to wholly surround it in that direction. All this country, hills and swells, as well as the valleys and plain, seemed to be of exceeding richness and fertility, covered with most luxuriant crops, similar to those of which I have already spoken. Immediately behind the town rises a lofty hill, with its face towards the town, so steep and perpendicular as only to be ascended by flights of steps, its summit being crowned by an ancient castle. From this was as rich and varied a prospect as I have ever witnessed, embracing a wide extent of mountain and valley, wooded hills and fertile plain, dotted with villas, one of them imperial, and country houses, with a wooded height in the distance, and a large convent, of imposing appearance, upon its summit. This view has been celebrated as among the finest in Europe, and seen as I saw it by the setting light of the summer sun, it seemed to me as if too much could not be said in its praise. The mountainous country around and beyond Saltsburg, is called the Salskammergut: a name that it takes probably from the fact of its possessing extensive mines of salt. In this part of the country last referred to, I saw great numbers of fruit trees, apples, pears, and cherries. Sometimes the road for miles was bordered on each side by rows of trees of these fruits, many of them large fine specimens. I have rarely, if ever, seen so many large pear trees within the same space, even in our own country. Pears are probably grown, not only as

fruit, but to be manufactured into perry, and fruit must be a product of some importance; appearances this year indicated a good crop.

There are two circumstances that contribute, in my view, to increase the beauty of the landscapes in this part of Europe. One is the character of the buildings. These are of stone, or brick covered with stucco, to resemble stone—built with very thick walls, so that they serve the use of many successive generations of owners. I do not mean that they are artistically constructed, or handsome in themselves; on the contrary they are often large rambling structures, that answer for a shelter alike for the owner and his herds and flocks. But still they contribute to the general effect, and with the walled towns, feudal strongholds, and old watch towers, along the hills, are picturesque objects. Even when dilapidated—it is not a dilapidation that gives the idea of neglect and unthriftiness. On the contrary it speaks of age, of their exposure to the storms for centuries, and thus makes them but the more venerable. Another is the absence in general of all enclosures, so that on the plains there extends on all sides for miles on miles one great sea of verdure. Fences are generally unsightly objects in themselves, and when of frequent occurrence they interfere with the view and break up the continuity of the landscape, destroying that idea of vastness and extent their absence is calculated to induce. But if these two circumstances favor, there is another that you may think will tend to detract from the beauty of the landscape, that is, the absence of houses of moderate extent, surrounded by ornamented and highly-kept grounds. Such are rarely seen. Palaces and castles you may meet with; ornamented villas rarely. It does not seem to me that the Italians are given to rural pursuits or occupations; that they prefer the life of the town, and there, and not in the country, have their homes and their enjoyments.

I saw this year cherries and strawberries, for the first time, on the 17th of May, at Verona, and found them a day or two after in plenty at Venice. The cherries, as to be supposed so early in the season, were small and indifferent. The strawberries were the wild strawberry, the common red Wood of

our gardens; and this was the only variety that I saw anywhere in Italy, or until my arrival in Vienna. From this circumstance, and from the fact that I never but once saw them under cultivation, and then to only a very limited extent, I judge strawberries are not much cultivated in Italy. These wild berries are very small and poor. At Vienna I saw some large strawberries of two varieties, what I cannot say; they went under the name of English strawberries, and probably were varieties imported from that country. The price was high; they are sold by the small shoal basket or dish, in a not very definite quantity, at a price equal, as I estimated it, in American measure and money, to twenty-five cents a box for the wild, and seventy-five cents for the large varieties. Cherries are sold by the pound at prices, early in the season, equal to about eight or nine cents our quart, afterwards much cheaper. They are very abundant, and of several varieties. The two most common and abundant is a black cherry of moderate size, sweet and good flavored; the other of a light red color, larger, but not as rich, one of the hard-fleshed varieties somewhat resembling the Elton in appearance. The other varieties that I saw were inferior, and hardly worthy of mention, except that one of them was such as I had never before seen, being small and of a light amber color, almost white, used for preserving. Under what name the different varieties are known I could not ascertain. To do so is a matter of no easy task. The answer to my inquiries of the sellers, in relation to this subject, having generally been, that a pear was a pear, and an apple an apple. Further I could not get. I saw in the market at Vienna, on June 20th, plums, apricots, and pears; the two first from Trieste. The plums were of two varieties, neither of which do I remember to have before seen. One was of good size, of a light yellow color, of tolerable flavor, [Probably the *Jaune Hative*.—*Ed.*] The other round, dark red, looking like a mammoth cherry, but insipid. To give you an idea of the condition in which the nomenclature of fruit is with the dealers, I was told that both these plums were called *Reine Claude*. The pears were called and I supposed were the *Madeleine*.

I believe that I have once or twice told you of a pear that I have repeatedly seen the past winter, and that I could not positively identify with any variety with which I was acquainted. I eat the same pear I think, again, at Verona, the last of May, and it was then melting, juicy, and, for the season, very good; though before when I saw it it was hard, and on that account I did not consider it of any value. It may be that it does not ripen till late in the season, for I was told that it would keep the whole year. After a good deal of inquiry I learn that it is a variety generally cultivated in Italy, and that in Verona it is called the Trentozzi, and at other places Spina (*i. e.* Epine) Carpani. Have you ever heard of this variety? I do not remember ever to have seen the name on any catalogue. Pears are so extensively cultivated in Italy, and this part of Germany, that I think it very probable among them there may be varieties that we do not possess, and that would be desirable acquisitions.

I have already told you how much the Flora of Italy impressed me for its exceeding richness, variety and abundance. The more I saw the more I was struck with it; and it seemed to me that the colors of the flowers were more vivid than I had before seen them. What I have said of Italy is equally applicable to the Tyrol. The whole country is one great flower garden; everywhere they are to be seen. Climbers are twisting about every hedge-row—every bank by the roadside, every field is strewed with them; so that as you look from a short distance they seem but one mingled mass of bright and gaudy colors. Unfortunately, among these gay denizens of the fields, there are some that are noxious weeds. Large patches of dandelions, buttercups and oxeyed daisy are not of unfrequent occurrence, and I suspect that the corn poppy, with whose brilliant flowers the fields are actually red, is a not much more desirable possession. Some one has said of Italy, “that even her weeds are flowers.” I should not be surprised if, in view of their abundance, her cultivators might think the converse of the statement more correct: that her flowers are weeds.

But it is time to bring this rambling letter to a close. It has been written under difficulties, at intervals, as opportuni-

ties occurred. I hope that, if it has no other merit, it will at least have that of proving to you the sincerity of the assurance that I am your friend,

J. S. C.

Vienna, June 20, 1860.

POMOLOGICAL GOSSIP.

WILSON'S ALBANY STRAWBERRY.—In our last we noticed this variety, which has been so highly praised by the Albany cultivators, and in some portions of the West. Some have thought that the decision of the Massachusetts Horticultural Society was too hasty in voting it as “unworthy of cultivation.” We notice, however, that in this instance the Committee have been anticipated by some of the best pomologists in New York, as will be seen by a reference to the meeting of the Fruit Growers' Society of Western New York, copied in another page. At this meeting not only was it pronounced by Mr. Coppock “not fit to eat,” but the testimony of Mr. C. Downing and others was, that the plants “died out after producing one crop;” in fact the second year, Mr. Glen said, it was “almost worthless.” A greater number of bad qualities have not been combined in any strawberry offered to the public the last twenty years; its only admissible quality being a heavy crop of berries “unfit to eat” the first year. There is one cultivator, fortunately, whose taste of it “never tires.” This is Mr. E. Herendeen, nurseryman of Macedon, who says it will produce four times as much as most other sorts. Mr. H. must be a real lover of strawberries, as well as very unsuccessful in his culture of other sorts. The testimony of nearly every cultivator at Buffalo was that the Crimson Cone, Genesee, Early Virginia, and Hooker, with them respectively, were quite as great bearers as the Wilson. We invite all interested in strawberries to read the report. It shows that there is a real need of some standard to guard against the introduction of every new seedling offered for sale.

SEEDLING STRAWBERRIES.—We have made the remark on recent occasions that, if care is taken in the selection of seed,

strawberries quite equal to the best of the new sorts offered to the public may be easily raised. In corroboration of this, we notice that Mr. Landon, a cultivator of Jonesville, Wis., states, in the report of the Fruit Growers' Association of Wisconsin for 1859, that he has grown the Willey, Genesee, Hooker, Jenny Seedling, McAvoy's Superior, Jenny Lind, Iowa, Early Virginia, Longworth's Prolific, Walker's Seedling, and Wilson, and that he has "about twenty seedlings of his own; *any one* of which is equal to the above."

HOVEY'S SEEDLING STRAWBERRY.—We supposed so old a variety as this was familiar to every cultivator throughout the country, more particularly to our best pomologists. That it is not so we can only suppose is owing to the cultivation of spurious sorts under this name, or the mixture of many varieties by neglect. That in hundreds of instances others are grown for it, is well known. Mr. Underwood, in his communication in our last volume, has stated that "one of the members of the Belmont Farmers' Club," who ought to know the Hovey, as extensively and splendidly as it is cultivated there, "was in Ohio last year, and remarked that the farmers in that State had been supplied with the Seedling from Rochester, and that none of them had a plant of the *true variety*." Nothing but this can account for the fact that Mr. F. R. Elliott, who has been a careful observer of fruits for twenty years, and has published descriptions of them in his *Western Fruit Book*, should not until this year know the true character of the Hovey. Around Cleveland, to which city he has recently removed, they have always had the genuine Hovey, and sent quantities of superb fruit to the Chicago market. Here Mr. Elliot saw it in its original excellence, and finally recognized its qualities, as will be seen from the following note to us received a short time ago:—

Dear Sir: I have been carefully examining varieties of the strawberry this season, and especially to their value as market sorts; and, however I may have regarded your seedling heretofore, my observations this season have satisfied me that there is as yet to me known *no one sort that in every respect* is as desirable as your own. What the Shaker seedling and Downer's are I cannot yet say, not having seen their fruits.

I am making daily notes on fruits—just now the cherry season. Shall I send you some? For my notes on strawberry, see the *Ohio Farmer* for June 30th.—Yours, &c., F. R. ELLIOTT, Cleveland, Ohio, June 27, 1860.

[We shall be extremely glad to have Mr. Elliott's notes on cherries, especially in reference to Dr. Kirtland's fine seedlings, which he has so good an opportunity to test.—ED.]

LINCOLN CHERRY.—This is a seedling of Dr. Kirtland's, the original tree of which, with several others, was given to Mr. F. R. Elliott in 1849. All proved to be but "a slight remove from the Mazzard" but one, which had so marked and distinct a character that Mr. Elliott made notes of it from year to year, but, in consequence of the introduction of so many of the Doctor's seedlings, he concluded to reserve it for some future time. Having again become a resident of Cleveland, he has concluded to name it in honor of the distinguished candidate for the Presidency—Mr. Lincoln, of Illinois. Mr. Elliott describes it as belonging to the sweet cherry class. Tree vigorous, with spreading habit and large foliage; fruit large, oblong heart-shaped, pointed; color, when ripe, of a brown red; suture rather broad, shallow, half round; stem one and a quarter inches long, medium size, set in a deep cavity; flesh almost firm, veined and marbled, with shades of red, sprightly, juicy, sweet, and pleasant, fully equal to Elton; stone rather above medium size. Ripe from 1st to middle of July. As a market cherry it proves to be a valuable variety.

EVERGREENS IN FLOWER GARDENS.

All who are familiar with the present style of gardening in Great Britain, must have noticed the prevailing taste for flowering plants, immense quantities of which are bedded out every year in the form of ribbon borders, scroll work, and arabesque figures; forming a mass of coloring so showy and varied as to make them the principal feature of the grounds. Fortunately we have not with us, as yet, the wealth, or rather the disposition, to use it in this way; nor the prevalent taste

to introduce this style to any great extent, and therefore we need not have any fear of its general adoption with us. Still, there is already a too great fondness among our amateurs for bedding plants, and an absence of a genuine love of really ornamental objects,—such as evergreen trees and beautiful shrubs,—which may lead to the introduction of the former to the exclusion of the latter. We appreciate bedding plants as highly as any one, but we are not ready to allow them to usurp the place which should be devoted to trees, whose beauty dies not with the autumn cold, but lives on, regardless of frost, in perennial verdure, rendering the humblest home cheerful in winter, and attractive at all seasons.

It is, we repeat, in consequence of the present rage for summer blooming plants, that we are even fearful that the finest evergreen trees and ornamental shrubs will be too much neglected among us, that we present our readers with the following timely hints in regard to the employment of evergreens in flower gardens. There was some reason, when, in former years, we could have only a White pine, or Balsam fir, that we should pass them by; their rapid growth, and the wide berth they needed, being too great for many gardens. Besides, in time, they became shabby and bare. But now that we have the small and compact junipers, the elegant arbor-vitæ, and pretty cypresses, all little more than large bushes, they can be introduced into every garden, supplying a want long felt, and affording a pleasure which the gaudiest flowering plant can never yield.

The following article we copy from the Florist:—

EVERGREENS IN FLOWER GARDENS.—If the present fashion of planting flower gardens is persisted in much longer, all our grand English gardens will be so much alike that it will be a mere toss-up which is the best worth seeing. As it is, we judge gardens now by a very different standard from what existed twenty years back. The rarest exotic trees and shrubs, the richest collection of plants, or the highest degree of cultivation, go now almost for nothing with our modern ideas; and the comparative standard of excellence is really this: How many thousand pots of bedding plants do they

turn out?—as if the entire beauty and interest of a place depended on so many hundred feet, more or less, of ribbon border, or on two or three thousand geraniums or verbenas systematically pitted against each other. This mode of comparing places with each other reminds one of the announcement very seriously made by guides to cathedrals and large show-houses to their visitors, that the buildings contain exactly so many doors and windows,—a point of so much importance in their estimation, that the grandeur and associations of the edifice are insignificant in comparison.

Now, with all deference to the admirers of modern flower gardening, who are so much in love with strong coloring, we must express an opinion that there is a wide field for improvement in this particular line of garden decoration; and that this taste for multiplying masses of colors, at the expense of every other feature of landscape gardening, is neither based on sound principles, nor yet justified by any authority of recognized talent. The question is an important one, and we moot it by way of discussion, being fully persuaded ourselves that a more general introduction of certain classes of evergreens, as elements in the composition of geometrical gardens, not only as giving effect to the general design, but as neutralizing glaring colors, and we may add of giving a higher finish and a more permanent character to this style of gardens than they at present possess, would be much preferable, more particularly when not filled with plants.

It may be considered by some of our readers that we are carrying our ideas quite as far in one direction as the taste we are criticising goes in the other; that, in fact, we are retrograding and going back to the times of Le Nôtre and the “Grand Monarque,” instead of progressing with the age. We are willing to admit that this is true to some extent, and that we are going back to the oldest and purest style of geometrical gardening. But we wish only to graft the improved materials which are now furnished us in the shape of new evergreens and flowering plants on the elaborate “arabesques” and beautiful scroll-work of the old masters; in fact, to combine the interest and beauty of modern results in gar-

dening with that perfectness of pattern and rich elaborateness of design, which characterized the school of Le Nôtre.

We speak advisedly when we say that very many of our most celebrated gardens, and with them we shall class those of the Crystal Palace, are laid out with no leading principle of design in their composition. They are, to speak plainly, composed of miscellaneous aggregations of parts, frequently at variance with each other, and very rarely presenting a unity of composition, taking even each part by itself. We do not condemn this arrangement so much as we do the after-management, or planting, on which point nearly every garden we inspect appears to us to be degenerating into a mere formality—a repetition, over and over again, of the same system and the same plants. We regret this the more, as we frequently have witnessed marked and distinctive features about places, which, if taken advantage of, might have been converted into scenes individually interesting and appropriate to the situation.

We have stated already how much the taste for excessive flower coloring has increased of late years—we fear at the expense of more really important objects. How interesting in our young days used to be a visit to Woburn, to look over the various collections of plants, hardy and exotic, for which it was then famous; or to Wentworth, to see Mr. Cooper's Orchids and Scitamineæ, to say nothing of the kitchen garden; or to magnificent Chatsworth (thanks to Sir J. Paxton, we hear that this place is not modernized yet), with its giant conservatory, its lily house, orchid houses, and, above all, its carefully arranged arboretum and conservative wall. Then there was Syon, when Forrest maintained a style of keeping most admirably adapted to the place. At the present time the arboretum at Bicton is worth a journey from London into Devonshire to see; planted by Glendinning before flower-gardening, as it is now, had absorbed every thought, it is the great feature of the place and county.

Let us ask what comparison can be drawn between a modern flower garden and the interesting and unique collection of plants which occupy the grounds at Abbotsbury Castle on the Dorset coast (which affords a striking evidence of what

may be done by taking advantage of peculiar localities), or let us take the Coniferæ at Bayfordbury, or the general collection of evergreens at Elvaston, where we hardly know which to admire most, the beauty of the plants or the artistic skill which arranged them. Thanks to some proprietors, there remain many places where other things beside calceolarias and scarlet geraniums are cared for. The grand banks of American plants at Tottenham Park and Highclere are not yet grubbed up to make room for verbena beds, and we hope will long remain, as worthy the hands that planted them, and the sites which they so magnificently adorn.

We understand that the first landscape gardener of the day is much averse to over-floral decoration, and that, taking advantage of the many suitable forms of evergreens for decorating geometrical gardens, he is employing them more largely on every occasion, not only as architectural trees, but extensively for scroll patterns, as well as more simple figures. We therefore hope to see, at Kensington Gore, good examples in this style of art, by the gentleman we allude to—Mr. Nesfield.

It is a necessary principle in geometrical gardening, that, however elaborate the design, each figure of it, and each member of the figure, should be clearly defined. The importance of this was well understood by the originators of the style, and the beautiful arabesque patterns and embroidery work usually planted out in dwarf Box was surrounded by colored gravel, to contrast with and bring out the figures in relief. The introduction of variously shaded evergreens will at the present time admit of several combinations of colors, which may be worked into the design, so as to produce the richest effect, and these again may be relieved by edging the figures of the pattern with flowering plants to contrast, just as Le Nôtre relieved his figures with different colored gravel.

For large figures and scrolls, where the centre lines will be from 18 to 36 inches in height, the common yew and Tree box will still be the most useful plants for the purpose, presenting two distinct shades of green. Both these may be relieved by edging them with the variegated kinds of each

species. Thus, take the common yew for a centre, then a band on each side it of the best variety of gold-striped yew, edging off with the paler colored silver-striped variety, and you have a band which, when carried out through all the intricacies of a scroll or arabesque pattern, will give an effect of the richest description; and by leaving a margin round the outside for an edging of variegated geraniums, themselves to be edged with blue lobelia, and one of the most pleasing combinations of color is the result. If only the common yew is employed, the scarlet and rose-colored geranium would suit better, but we have no room for close particulars. The gold and silver-striped box should shade off the common box and its varieties with self-colored leaves. Another very beautiful scroll plant, of the richest golden variegation, is the *Chamaecyparis variegata*, and one easily kept into shape by pruning. The golden Thuja is another plant which could be worked up with the best effect; the striped hollies present us with several variations of color, all valuable for this purpose. We may mention the variegated and self-leaved *Euonymus*, the common Savin and *J. tamariscifolia* and its variegated ally. The common juniper forms a beautiful plant for bordering, but it should be trained. We need not allude to the common and *Colehis laurel*, the *Phillyrea*, and several other plants, which will be called for, when once public taste leads in this direction.

The introduction of clipped evergreens for carrying out elaborate designs in garden patterns, would have a charming effect in winter, when ordinary flower gardens are naked, or at best with the beds promiscuously filled with dwarf shrubs, which never look satisfactory, and would present a no less pleasing combination of color during the summer season, with the outline of the figures tastefully relieved by flowers.

[Some of the new arborvitæ will be very beautiful for this purpose. The Thuja *Hoveyi* in our climate will take the place of *T. aurea*, which is not quite hardy.]

YUCCA STRICTA.

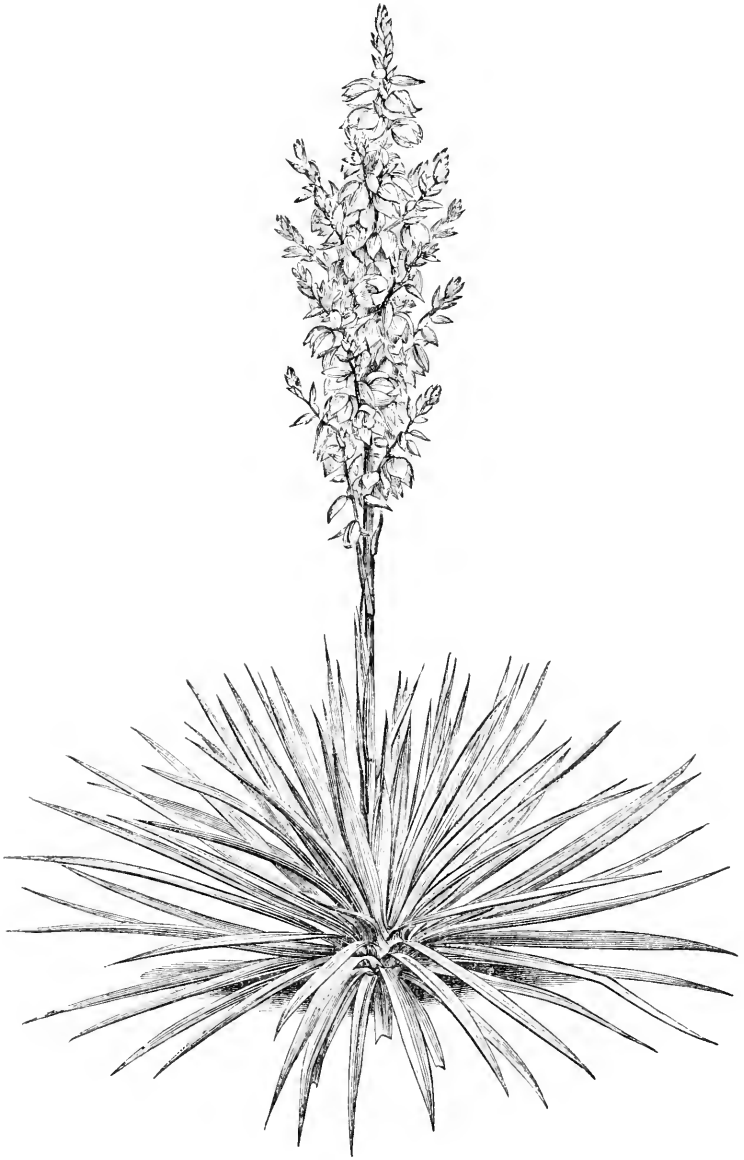
BY THE EDITOR.

IN a late number (p. 169) we gave an account of several *Yuccas*, and offered some remarks upon the ornamental character of the plants generally, and their highly decorative appearance in grounds of larger or smaller extent, both as additions to the flower garden, and as prominent objects upon the lawn, where their rigid and symmetrical foliage and plume-like spikes of snowy flowers produce so striking an effect. We are glad to know that our article has had the intended effect, and that a class of plants, so long neglected, is attracting the attention of amateurs, who will soon introduce them into their grounds.

We have already stated that most of the *Yuccas* are natives of America, and principally from the southern parts of the United States and Mexico, and are consequently most of them only half-hardy. In introducing them into our grounds it is therefore important that the different species should be correctly described and named, otherwise great disappointment would ensue to those who plant them out with the expectation that they will prove hardy, as some of them are.

Unfortunately, in Europe, where they have been more or less cultivated for a long time, the species, with the exception of the older kinds, are not very well known, and have been catalogued or described under several names. Besides, what may be hardy in Great Britain or France may not be hardy here. Beyond, therefore, the known hardy sorts we shall have to test all the more newly introduced kinds before deciding on their ability to stand our severe winters. As, however, some are quite hardy, there is reason to hope that others, from the more northern or mountainous parts of our Southern States, may withstand our cold as well as the common *filamentosa*.

M. Carriere, in the *Revue Horticole*, has undertaken to straighten out the confusion which already exists in foreign collections in regard to the *Yuccas*, and in an essay on the classification of the species and varieties has thrown much light upon the subject, and produced a table under which all



18. YUCCA STRICTA.

the known species and varieties can be easily arranged, which will greatly facilitate the means of distinction. At another time we shall present his views, and give the table of classification.

We have only space now to describe and figure a fine species which we have had in our collection for some time, and which appears to be quite new here. It corresponds so nearly with the *Y. stricta Sims*, described by Carriere, that we do not hesitate to give it that name. It is a stately plant, attaining the height of six or seven feet. Carriere also gives two varieties of the species, viz., *stricta elatior*, and *stricta intermedia*, differing in minor points, but with the same general aspect.

The *Yucca stricta* (FIG. 18,) belongs to the *filamentosa* class, and seems to be, says Mr. Carriere, "intermediate between two types, equally stemless, the *Y. flaccida* and *Y. filamentosa* being more nearly allied to the former than the latter." It is distinguished by its more erect leaves, and by its mode of vegetation, forming a less number of underground stems or *drageons* than other species.

It is a stemless plant, presenting at the base a swollen appearance, very marked, produced by the insertion of the leaves, which are numerous, somewhat fleshy, about fifteen inches long and two inches wide, narrow at the base, attenuated at the summit, and terminating in an obtuse point, not very resistant, strait, sometimes twisted, strongly channelled, and bordered with several grayish white filaments. The stem is green, pubescent, very strong, attaining the height of five to seven feet. The branchlets, are very strong, about six or eight inches long, green, averaging from twelve to fifteen flowers, which are greenish white, bell shaped and pendulous.

It blooms the latter part of July, and from the stately habit of the flower stem, its large whitish blossoms, and the remarkable disposition of its branchlets it has an aspect unique and striking, and when seen across the lawn, backed up by evergreens, forms one of the most attractive objects in our grounds.

It is perfectly hardy, and is not particular as to soil; only the height of its flower stem is augmented when planted in deep, rich sandy loam.

General Notices.

BEDDING PLANTS AT THE ROYAL BOTANIC GARDEN, KEW.—In the Botanic Garden itself the grounds are at present extremely gay with flowering plants, especially the little garden in front of the large palm-house, the vases, charmingly filled with scarlet geraniums, which surround the little lake there, and the beds along the sides of the principal walks. The arrangements in regard to bedding plants observed last season, and fully reported at p. 687 of our volume for 1858, have proved so satisfactory that, with one or two trifling exceptions, they have been employed again this year, and even with better effect than last. Nothing, in its way, could possibly be more brilliant than the Dwarf Scarlet geranium called Punch, which is even preferred here to Tom Thumb. Fine beds of it may be seen at the termination of the principal walk near the lake. Other masses of geraniums, verbenas, calceolarias, roses, fuchsias, and mignonette are also in great perfection; and of the purplish black-leaved *Perilla nankinensis* we observed some charming little circular beds, which, when judiciously introduced as they are here into gay floral combinations, are really very effective. For edgings to beds nothing appeared to be better than variegated balm and *Cerastium tomentosum*. In the herbaceous ground there is also a tolerable amount of plants in flower, and the grass, though here and there exhibiting signs of having been greatly burnt up, has very much improved in appearance since the late rains.—(*Gard. Chron.*)

TREE MIGNONETTE.—The *Reseda odorata*, or common sweet Mignonette, treated after the following manner, forms a real treat in the conservatory during the winter and spring months.

Sow in spring a number of small 4-inch pots. When up, clear off all the plants but one in the centre; as it grows, train it upwards to a stick until it is a foot high, or two if you please; do not allow any shoots to grow on the stem, and remove all leaves to within a few inches of its top. When the plant gets as high as you wish it, top it, and then it will throw out side branches; as they advance pinch off their tops until you have formed a nice bushy head to your plant, and above all do not allow any bloom to appear until it has become strong, which will be by winter, if it has been well attended to. For the first winter it will not be advisable to have them in larger than 8-inch pots. Mignonette being an annual, if the seeds are not picked off after flowering it is ten to one that the plant will die. I have had an excellent Tree Mignonette three years old—very bushy, and full of flowers all winter. Mignonette is often neglected at midsummer, when our hands are full of other work, and yet this is the very time when Tree Mignonette wants most care, for the flowers, not being wanted during summer, ought then to be removed, in order to have a fine winter display.

To keep worms from entering and disturbing the roots, add a handful of soot at each sifting over the drainage.

Mignonette delights in a sandy loam, not too light, and being a grass feeder a little diluted manure-water may be given once a week with advantage. If this is contemplated the mould need not be made so rich in the first instance.

Winter Mignonette, as it is generally called, requires to be treated differently from the above. It is generally sown about the 20th of August, if later it will not acquire sufficient strength by winter for the London market. I generally grow from eight to ten plants in a 48-sized pot, which is six inches deep. For this sowing it is safest to use a light sandy and rather poor mould, for if the latter is too rich and strong the plants damp off during winter. Out of nearly a thousand pots, I have scarcely lost one by attending to this; by not allowing a drop of rain to fall on them during winter, by never watering them unless they were flagging, and by admitting at all times plenty of air. In the case of frosts coming, however, they are closely covered up, and sometimes for a week or fortnight together; and if you have not followed the above rules, you will suffer severely from damp. Do not expose your plants for some days after the frost breaks up, and that only by degrees; above all things do not expose them to the sun. My anxiety to give them light, after being so long covered up, has sometimes led me for a moment to forget this, and I have suffered severely for my negligence.

Should the winter prove mild the plants will root into the ashes they are placed on; therefore they must be lifted up occasionally to break the roots. Slugs will annoy you if you do not look after them; they fatten on Mignonette. To retard some of the pots pinch the heads of the plants; by this means they will not flower so strongly, and will yield a succession of bloom.—(*Gard. Chron.*)

PLEROMA ELEGANS.—Your correspondent's plant may have got into ill health from two causes—first, from the soil being in a bad state; and secondly, from the plants being wintered in a greenhouse. I would advise him to examine the roots, and if he finds that the soil has become sour, let him reduce the ball considerably, and repot in as small a sized pot as possible, using the following mixture, viz.:—Two parts good rich loam, one part peat, and one part silver sand. Place the plant in a greenhouse; shade it at all times during the summer when the sun is bright, syringing occasionally, and about the beginning of October let the plant be placed in an intermediate house, where the temperature will not be less than 40° at any time during the winter. In April it must be replaced in the greenhouse, where, if exposed to the sun, and if a liberal amount of air be given in fine weather, it will ripen the wood made during winter. By the beginning of May flower beds will appear and expand by the middle of June, and will in all probability repay the grower for any extra trouble he may have taken with it.—(*Gard. Chron.*)

Gossip of the Month.

VISIT TO HOVEY & Co.'s NURSERIES.—The beautiful drives and fine country residences and gardens in the vicinity of Boston are numerous and full of interest, and should be visited and seen by all strangers. One of the finest that may be enumerated, is the famous nursery and gardens of Messrs. Hovey & Co. of Cambridge; their collection of pear trees, of which they have some three hundred varieties, and of each variety a specimen tree in bearing condition, as well as their extensive collection of fruit trees, includes every variety worthy of cultivation.

The splendid collection of roses, at the present time in full bloom, the great variety of shrubs and ornamental plants, the smooth and evenly kept lawns enclosed with specimen hedges of the buckthorn, hawthorn, privet, American thorn, English hornbeam, &c., &c., the avenues bordered with every variety of Norway spruce, pines, and evergreen trees, the greenhouses and hothouses filled with tropical plants and fruits, excite in the mind of the visitor pleasure, delight, and astonishment that there can be found in this country such perfection in the art of gardening and pomology.

To visit the grounds of the Messrs. Hovey is a pleasure at any time, but to receive a special invitation to meet them there personally with a score of distinguished horticultural gentlemen, and to listen to their instructive conversation upon fruits and flowers, is indeed a pleasure which can be appreciated to its full extent only by one who has been favored with such a privilege.

By the politeness of Mr. C. M. Hovey, we were present at his house on the 3rd inst., where we met many of the distinguished horticulturists, whose names are familiar and well known to the public. After an hour of interesting conversation and discussion principally upon the cultivation of the strawberry, we went through the extensive grounds, examining the various specimens of trees, admiring the flowers and testing the strawberries from the beds, and then returned to the house and were introduced to a banquet, which never could have been surpassed by any of the ancient feasts.

On an elegantly laid table were thirty varieties of strawberries! Only think of that, thirty distinct varieties on thirty different dishes! was the like ever seen before? thirty kinds and each kind by itself, we might almost say worthy of cultivation for general use! Variety after variety went the rounds of the table, were tasted and their merits discussed; the greater part of these were imported kinds, and some of them were now shown for the first time, among which was *La Constante*, a strawberry surpassing everything we had ever seen as regards size, color, and general merits; in the collection were also fine specimens of the *Duc de Malakoff*, *Bonte de St. Julien*, *May Queen*, *Wonderful*, all fine strawberries, and which are said to stand our climate remarkably well, and other varieties which we have not time to name.

After all the new kinds had been duly tested, a dish of Hovey's Seedlings, a well known variety propagated from seed and first introduced by Mr. C.

M. Hovey more than twenty years ago, was brought in, and after due trial were pronounced to be equal in flavor, color, and size to any that had been tasted; and in the course of a few well-timed remarks by the Hon. M. P. Wilder, that gentleman alluded to the Hovey's Seedling, as a variety which had stood the test of nearly thirty years, and had not depreciated in its quality in the least degree; that it stood to-day as it did when he first knew it; its flavor, its color, and its size were the same if properly cultivated, and it was conceded by all who had cultivated it for the market, that no better or more profitable variety for general cultivation could be found; and in closing, Col. Wilder paid Mr. Hovey a well deserved compliment by saying, that he had done more for the benefit of strawberry culture in this country than any other man.

The history of this seedling shows the perseverance with which Mr. Hovey labored, year after year, to produce a strawberry which would combine all the requisite qualities necessary for a good market berry: he commenced his experiments in 1833 and did not succeed in perfecting, or rather obtaining the present seedling, until 1838, when it was shown for the first time under its present name at the exhibition of the Mass. Horticultural Society on the 30th of June of that year. In obtaining it he probably rejected twenty seedlings, which, although not coming up to the standard he required, were of themselves perhaps as good, if not better, than many of the new varieties which are brought before the public each season and offered for sale at high prices.

The visit to the Messrs. Hovey will long be remembered by the gentlemen whose good fortune it was to be present, as being one of the most interesting and agreeable occasions ever enjoyed; and in taking leave all expressed themselves delighted with the attentions they had received, and the information obtained respecting the cultivation of strawberries in the vicinity of Boston.—C. H. B. B., in *Mass. Ploughman*.

SPECIAL PRIZE FOR BARTLETT PEARS—Silver cup, valued at \$25. Messrs. H. B. Stanwood & Co., jewellers, of Boston, have, with great liberality, placed at the disposal of the Committee of Arrangements of the Massachusetts Horticultural Society a beautiful silver cup, to be awarded to the finest dish of Bartlett pears, at the Annual Exhibition in September. The prize is open to *all competitors*, subject only to the rules and regulations of this Society. Weight and perfection of fruit will be important requisites in the decision of the judges. Competitors should give due notice to the Chairman of the Committee, in writing, previous to 12 o'clock, Monday, September 17. The fruit presented will revert to Messrs. Stanwood at the close of the Exhibition.

CROPS IN WISCONSIN.—The Madison (Wis.) *Patriot* of the 14th inst. says:—Having taken a short trip, about one hundred miles, into the country, this week, we are somewhat posted on the state of the crops—at least on the route to Richland county. The corn crop looks exceedingly brilliant; indeed, we never saw it looking better north of forty-two degrees. The wheat is heavy, long-headed and well filled, and the yield must be

enormous; while rye and oats are of the "tallest" kind. We saw some specimens of oats over six feet high. We also discovered several fields of waving barley and buckwheat that presented a most prolific appearance. On the whole, we do not believe that old mother earth—so far as this part of the world is concerned—was ever burdened with such prolific harvests before. If no unforeseen accident befalls the farmers for the next two weeks, the crops of Wisconsin will be positively enormous, and this state will have a surplus of not less than twenty million bushels of wheat. This ought to yield at least \$15,000,000, and with our other surplus products \$5,000,000 more—enough, to say nothing of our lumbering and mineral resources, to clear Wisconsin from debt, with plenty of "change" in every man's pocket.

Societies.

FRUIT GROWERS' OF WESTERN NEW YORK.

The June meeting of this Society was held in Buffalo, on the 27th and 28th ultimo, and, as usual, the time was devoted to the discussion of various fruits. The meeting was organized by the appointment of S. H. Ainsworth, of Ontario Co., as Chairman, in the absence of the President, Benj. Hodge, Esq., of Buffalo, who was unable to attend, on account of sickness. A Committee was appointed to prepare subjects for discussion, who reported that Strawberries, Cherries, Raspberries, Currants, and Pears, should be taken up in the order they are named. We have not space to copy the entire Report, which appears in the Rural New-Yorker, but copy that in reference to strawberries, as interesting at this time.

STRAWBERRIES.

Which are the best six varieties for market, and the best six for family use, and which the best method of cultivation in each case?

E. Herendeen, of Macedon, could recommend but one variety for market, and that was Wilson's Albany. It will produce four times as much as most other sorts, and twice as much as any other. It is rather acid, but of a good flavor—one of which the taste never tires. It not only produces a great crop, but uniformly large berries; those of the last picking being almost as large as the first. Cultivate in rows, first setting plants eighteen inches apart in the rows, and the rows four feet apart, and allowing the runners to cover half the ground. Mulch with straw or cut grass. In answer to an inquiry, Mr. H. said he had cultivated Triomphe de Gand, but not as extensively as the Wilson, which he thought would produce twice as many quarts to the acre.

Prof. Coppock, of Buffalo, could not agree with Mr. Herendeen. Did not find the Wilson more prolific than some others, and thought it was not fit to eat, being altogether too acid. Its acid was peculiar and harsh, leaving a bad taste in the mouth. It had been grown quite extensively around Buffalo, and some pains had been taken to give it a notoriety, but the people could now distinguish between a good and a poor berry. The ladies

said it was not good for preserving, as it would not keep well, and even when it does is of a miserable flavor. Trollope's Victoria is a good bearer. Triomphe de Gand not productive. Scott's Seedling is equal to Wilson for productiveness, and can be carried well. Genesee is a good bearer, and a fine family berry, but too soft for market. In answer to an inquiry as to the quality of Scott's Seedling, Mr. C. said it was very good,—in fact, the flavor was fine. Would recommend for culture Scott's Seedling, Genesee and Longworth's Prolific, and call attention to a chance seedling of his own, which came up from seed of some Cincinnati strawberries. It was a very prolific berry, bearing more than Wilson,—rich and luscious, and bears handling,—may be rolled like marbles; but not quite as luscious as Burr's New Pine.

Mr. Moody, of Lockport, said we needed earlier berries than the Wilson. Jenny Lind is early, large, productive, and a fine fruit. Burr's New Pine is the finest flavored of all. Peabody is a very good strawberry. Triomphe de Gand bears well when grown in hills, but must not be allowed to run into a mass. Scott's Seedling he considered the meanest berry in cultivation. His soil was a chestnut loam. Recommended as the best six varieties, Jenny Lind, Triomphe de Gand, Hooker, Trollope's Victoria, Monroe Scarlet, and Wilson.

Prof. Coppock considered Prince's Eclipse a valuable early berry, prolific, medium sized, and of fine flavor. With regard to the cultivation of strawberries, Mr. C. stated, in reply to a question, that he ploughed and subsoiled his land, placing it in good condition as for a crop of corn or wheat. His plants were set in rows, about eighteen inches apart. He mulched with tanbark, buckwheat straw, &c., but never with sawdust. Once in about five years ploughed up the beds and made others. The excrementary matter thrown off by the old plants rendered it necessary to form new beds. Did not allow the plants to grow too thick in the beds.

C. L. Hoag, of Lockport, was well pleased with Wilson and the Pyramidal Chilian. Hooker, as a family berry, never was excelled, although rather tender. Pyramidal Chilian next to this, almost as productive as Wilson. Wilson is of fair quality when fully ripe. Never cultivated except to destroy the weeds, as deep stirring of the soil near the roots is apt to injure them, and injure the crops. The soil Mr. H. cultivated was a sandy loam.

F. Glen, of Rochester, said there was one variety which had not been mentioned, that he thought would produce more berries in a season than any other variety—the Crimson Cone. From a bed containing sixteen square rods, he picked last season 1100 quarts, and this season 1000. Wilson's Albany the second year was almost worthless, but the first year very productive. He considered Tromphe de Gand the best of all. Large Early Scarlet was a very valuable sort, and in three years would yield more berries than Wilson.

James Vick, of Rochester, coincided with Mr. Glen as to the productiveness of the Crimson Cone. A few years since this was almost the only variety grown for the New York market, and several of the growers in

Jersey had informed him that it was the only variety from which they could make money. He believed they were now growing other varieties to some extent. Mr. V. also called attention to the advantage of growing strawberries in hills, stating that a plant, if kept shorn of its runners, would become very large by side shoots from the crown, and would throw up twenty or thirty fruit stalks, bearing eight or ten good berries each, thus giving a couple of hundred to each plant.

Mr. Glen had grown strawberries in this way, and had counted thirty clusters of fruit from a single plant, but did not think this the most profitable mode of culture.

Prof. Coppock said there were some advantages and some disadvantages in the hill system. The principal disadvantage was, that where a portion of the plants is killed by the frost, it makes a great vacancy, while if grown in a mass it would not be noticed.

C. L. Hoag said Hooker's was very productive when grown in hills. Had seen it give as large a crop as Wilson's Albany. The Pyramidal Chilian is the hardiest of all varieties.

Chas. Downing, of Newburgh, being asked to express his opinion on the question, said he regarded Wilson's Albany as the most productive variety, but had a great dislike to its flavor, and would not grow it. Jenny Lind is a fine early sort. Triomphe de Gand was his favorite. Trollope's Victoria was of good quality, but not productive. Hooker does not do well. Scott's Seedling is a fair bearer, but of poor flavor. Was cultivating a new variety from Canada called Ladies' Pine, in flavor like Burr's New Pine, and moderately productive.

Mr. Beadle knew nothing about cultivating for market, and could only give his experience in growing for family use. His preferences were the Large Early Scarlet, Hovey's Seedling, which does well and gives a few large berries on each truss, the root being of moderate size, Burr's New Pine, the best strawberry, and tolerably productive. The rival of it in flavor is Triomphe de Gand. Hooker bears large berries and fine crops, with few small berries on the truss. Some say Hooker is tender. With us in Canada all strawberries are tender. When covered with leaves all are safe. Wilson best for productiveness, but of poor flavor. Was testing Triomphe de Gand, and it promised very favorably. Victoria looked as though it would prove a shy bearer.

Mr. Downing said the Wilson died out after producing one crop.

Mr. Glen said this was his experience.

Prof. Coppock being inquired of as to the manner and time of planting, said he planted any time when he could obtain good plants and the soil was in order. Take up the plants, and clip off two thirds of the tops and one third of the roots. Then mulch the roots and plant. Immediately after planting, throw two or three quarts of fresh tanbark over the plant, burying it. In a little while the plant will appear above the tan, healthy and vigorous. Just before winter, give a covering of tan, as a winter protection, using about a peck to ten plants. If plants were put out in the autumn, obtained about half a crop the first season.

Massachusetts Horticultural Society.

Saturday, May 5, 1860.—An adjourned meeting of the Society was held to-day,—the President in the chair.

A letter was read from the President of the Société de la Seine a Rouen, returning thanks for scions sent that Society, and requesting copies of any of the Society's publications.

The Fruit Committee were authorized to choose a Chairman in the absence of Mr. Cabot.

The Library Committee were authorized to procure the following works:—Synopsis of Zoophytes, Atlas of the same, Structure and Classification of the same, Report on Crustaceæ.

M. P. Wilder, Jos. Stickney, and W. C. Strong were chosen a Committee to open the box taken from the corner stone of the old building in School Street, and, after some remarks upon the same, it was voted that it be sealed up and placed in the hands of the Treasurer for safe keeping.

Mr. Wilder presented Resolves upon the death of Hon. B. V. French, which were read, and ordered to be recorded.

Jos. Cruikshanks, W. J. Buckminster, and P. J. Stone, were elected members.

Adjourned one month, to June 2.

June 2.—An adjourned meeting of the Society was held to-day,—but there being no business it was dissolved.

June 30.—Exhibited. FRUITS: The show of strawberries at this exhibition was very good, and contained the following new varieties from Hovey & Co.: La Constante, Wonderful, Admiral Dundas, and Sir C. Napier, all splendid specimens, particularly the La Constante, which, for uniformity of size, beauty of form and brilliancy of color, was all that could be desired. Wonderful is a coxcomb-shaped fruit, and though large, slightly greenish at the point. Sir C. Napier proves to be a very valuable sort, large and extremely beautiful, ripening late. The Admiral Dundas were also very large, some of the berries measuring six to seven inches in circumference, very showy.

Mr. O. Bennet exhibited a basket of Late Crawford peaches, which we think were never surpassed at this season. The basket contained fifty superb fruits, and some of them measured a foot in circumference, beautiful colored, and high flavored. Mr. M. H. Simpson made a fine show of handsome grapes, large bunches, and finely colored. Of strawberries, Mr. Scott had a new seedling called Lady of the Lake, of moderate size, apparently a good bearer, but rather coarse. Mr. Simpson sent a basket of Goliah, large and showy. Mr. Bunce of Westford sent a seedling, similar to the latter, but possessing no prominent quality; inferior both in appearance and quality to Jenny Lind. Mr. Manning had specimens of the Cutter.

The Fruit Committee, who have examined the strawberries more carefully than usual, made the following Report:—

STRAWBERRIES.—The show of strawberries at the rooms of the Massachusetts Horticultural Society this year has been fine. Most of the old sorts and some of the new ones have been exhibited.

Hovey's Seedling still maintains its high reputation both as a market fruit and for amateur cultivation. No variety, perhaps, is more profitable when properly cultivated.

Jenny Lind has appeared well and is a favorite variety to grow with Hovey's Seedling or separately. Though not of the very highest quality, yet very desirable on account of its earliness.

Brighton Pine has done well this year in most instances. It is a fruit of good size, firm, good color and flavor. A desirable sort.

Scott's Seedling is not considered worthy of general cultivation.

Lady of the Lake, a seedling from the Brighton Pine; large, and said to be very productive, yet is coarse in appearance and texture, and of second quality. Does not seem to be desirable.

Cutter's Seedling. This is a comparatively new sort, of fair quality, medium size, color similar to Jenny Lind. Its value will depend on its hardiness and productiveness.

A strawberry exhibited by Messrs. Bunce & Co. was new to the Committee. It was of medium size, color rather light, fine texture, not very firm, flavor good, lacks spirit. Worthy of a further trial.

Hooker. Color dark red, like Wilson's Albany, good size, acid and of high flavor. Not always hardy. It does not seem to be a desirable variety.

Wilson's Albany. Is of dark color, good size, very productive, but very acid and of poor flavor. Unworthy of general cultivation.

La Constante. This is a new French variety, exhibited for the first time this season, by Hovey & Co. Fruit very large, color of Hovey's Seedling, of regular conical form, quite firm, flavor good, great bearer, and may prove a valuable variety for amateurs.

Wonderful. A new English variety, large size, coxcomb shape, dark color, firm, flavor good; said to be very productive.

May Queen. Same origin as the last; small, early, flavor fair; same season as Jenny Lind. Not desirable.

Bonté de St. Julien. A foreign sort; fruit large, color rich crimson, coxcomb shape, flavor peculiar, great bearer.

Duc de Malakoff. Large size, color dark, flavor decidedly poor.

La Belle Bordelaise. A French variety of strong Hautboy flavor, highly esteemed by some and strongly disliked by others; very productive. To amateurs who are fond of a strawberry of this flavor it is of value.

None of the foreign sorts rank high when compared with the best American varieties; and are not desirable for general cultivation. Experience shows that the Hovey's Seedling, with some varieties for impregnation; Jenny Lind, and Brighton Pine, are varieties worthy of general cultivation. Some would include Boston Pine, which is a fruit of high flavor, but not first rate for market, as it does not hold its color well. It is sometimes grown with Hovey's Seedling.

For the Fruit Committee,

JAMES F. C. HYDE, *Chairman pro tem.*

July 7.—The stated quarterly meeting of the Society was held to-day,—the President in the chair.

Dr. Wight read a Report upon the various kinds of wine tried by the Committee.

Dr. Wight also read a letter from the Cincinnati Horticultural Society, giving some account of the condition of horticulture in that vicinity, and requesting copies of the Society's publications.

The Committee to procure a set of dishes for the exhibition of Fruits were requested to attend to the same in season for the Annual Exhibition.

The following members were elected: C. Allen, S. Gilbert, Jr., Wm. Bailey, Geo. R. Rivers, D. U. Martin, O. S. Morse, Isaac Adams, F. J. Humphrey, F. L. Lee.

Adjourned one month, to August 4.

Horticultural Operations

FOR AUGUST.

FRUIT DEPARTMENT.

THE month of July has been highly favorable to vegetation, without any extremes of heat, and with abundant showers, which have kept up an active growth. We doubt whether the fruit ever looked better than at this time.

GRAPE VINES in the grapery will now be maturing, and all watering should be discontinued. The laterals will still continue to break and push, and they should be headed in. Air should be given freely, both day and night, in order to give color and flavor to the fruit. Vines in cold houses will be swelling rapidly, and will soon begin to ripen. Continue to damp the walks, and close the house rather early, in order to maintain a genial temperature. Stop the laterals as they require it. Hardy grapes should be thinned of superfluous wood, and the new shoots tied in. Water, if dry weather sets in.

STRAWBERRY BEDS may be made this month. Prepare the ground immediately. Manure heavily and dig deep, trenching if possible. Plant the vines the latter part of the month, selecting strong young plants. Set in rows, two and a half feet from row to row, and one foot apart in the rows. Keep old beds free from weeds, and after laying in what runners are required cut off the rest. Vines for forcing should now be obtained by placing the runners in small pots, sunk in the ground.

FRUIT TREES in pots should be well watered, and have a slight pruning by nipping off the ends of the strong shoots.

RASPBERRY PLANTATIONS will be benefited by cutting away the old wood as soon as the fruit is gathered.

SUMMER PRUNING should still be kept up.

THINNING FRUIT should be done immediately, as late in the season it is of little benefit to the fruit that remains, though it may strengthen the trees.

BUDDING should be commenced immediately, beginning with the pears.

AUTUMN GRAFTING with fruit spurs should be done this month. It is a good way to try any new variety of which fruit buds can be obtained.

FLOWER DEPARTMENT.

AZALEAS should now have completed their growth, and be removed to the open air, in a half-shady situation, to ripen their wood. Water moderately, and syringe often. Young plants may be kept on growing till next month.

CAMELLIAS should be freely watered, and syringed every day in good weather. All repotting should be done this month. Grafting should be done now.

CHRYSANTHEMUMS should be repotted. Stop heading in the shoots, and carefully tie the branches to neat stakes. Water liberally, at least twice a day in dry weather, and use liquid manure freely.

PELARGONIUMS, headed in early, will begin to break, and when sufficiently advanced they should be shaken out of the old soil, and repotted in smaller pots. Place in a frame, if convenient, and water carefully for a week or two.

OXALIS BOWEI AND **HIRTA** should be repotted.

MIGNONETTE, for winter blooming, should be sown immediately.

CALCEOLARIA seeds may yet be planted.

PANSIES, for winter blooming, may be sown now.

ROSES, for winter blooming, should be repotted. Use good rich soil, and plunge the pots in the ground.

JAPAN LILIES, in pots, done flowering, should be sparingly watered.

CACTUSES, now making their growth, should be freely watered, and have a sunny situation in the house.

FUCHSIAS will need attention. Repot all that require it, and water with liquid manure.

IXIAS AND **SPARAXIS** may be repotted, and placed in a frame.

PLANTS of all kinds should be looked over, repotting such as need it.

FLOWER GARDEN AND SHRUBBERY.

With so fine a season the lawn should be in admirable order. A little attention will keep it so the remainder of the season. Roll after heavy rains. Hoe, rake, and roll the walks, and keep the borders clean and free from weeds. Stake and tie up all tall growing plants.

DAHLIAS will now be growing rapidly, and will require to be pruned and tied up. Water in dry weather.

CARNATIONS AND **PICOTEES** should be layered immediately.

JAPAN LILIES, now coming into bloom, will retain their beauty a long time, if shaded from the hot sun.

HOLLYHOCKS, sown last month, should be transplanted into beds. Seeds may still be planted.

ROSES may be budded and layered this month.

WHITE LILIES may be taken up.

PERENNIAL SEEDS, of all kinds, may be sown.

OUR NATIVE FRUITS.

IN a recent number of the Magazine, our correspondent, Mr. Berekmans, in some Pomological Gossip, alluded to Mr. Dana's seedling pears, and spoke in praise of their splendid foliage. "They are," he says, "what I call acquisitions. We have fine fruits enough, but we want trees as hardy and as beautiful as forest trees. We can only expect it from native seedlings."

But it appears that the idea of Mr. Berekmans, that we must only "expect it from our native seedlings" is an "error of opinion," because some obtuse writer could never "perceive why a pear seed, containing within itself the germ of its future character, deposited in the soil, on one or the other side of the water, should come up and make a different tree on account of the place of its growth." As the error of opinion may be with the author of the latter remark rather than with Mr. Berekmans, we propose to look at the subject somewhat in detail, because we think it is one of some importance to American cultivators.

We might, while there is just now so much attention given to the Darwinian Theory, so called, though promulgated long before by an intelligent Scotchman, refer the writer to Mr. Darwin's volume, as illustrating, in a large degree, Mr. Berekman's idea. For however so much we may differ from the learned author of that startling theory in his deductions as regards the origin of species, we do recognize the law of "natural selection," for in our long experience in the production of thousands of seedlings of various plants through many years we have acted in accordance with it, always choosing such seedlings as showed the most hardy and robust habit, living through all vicissitudes of climate, often standing alone when others had perished from the same causes which offered no check to their progress. This "struggle for life," as Mr. Darwin calls it, is the result of some variation in the organism of the plant itself, which variation was laid up in the *germ*,

and in no way due to any peculiar influence upon the living plant. We refer all who have not reflected upon this subject to that part of Mr. Darwin's book which treats upon "natural selection." We now turn to the objectors of Mr. Berekman's remarks.

"We never could perceive why a pear seed, containing within itself the germ of its future character, deposited in the soil, on one or the other side of the water, should come up and make a different tree on account of the place of its growth."

*Certainly, very remarkable, when the most ignorant cultivator knows that certain vegetable seeds, raised in England, are comparatively worthless in this country. What market gardener would sow English onion seed? or cabbage seed, if he could get American. Inquire of our best market gardeners, and they will tell you that many other kinds will never produce a profitable crop. Now, where lies the cause of this? Certainly not in the influences which surround the plant, but just where this writer says, "in the germ," which contains within itself "its future character." Thus we see that there is an acknowledged difference in seeds raised on one or the other side of the water. A pear seed, grown and perfected in the climate of Europe, may start up, as we know other seeds do, under very different characteristics from what it would in the climate of America. To deny this would be to deny that there is any difference whatever in the influence of our climate and that of Europe upon plants. On this head we have some valuable remarks from a correspondent. "We do not know," he says, "enough about the secret laws governing the organism of plants and germs to lay down any indisputable rules. Now the fact that we cannot tell out of a number of foreign seedlings which will do for us, is enough, to show they are not reliable. Native seedlings are at hand, easily selected, in advance for years, and will yield results, before foreign seedlings will find their way to our shores, either 'in lumps,' or as selected ones; in both cases they have to undergo a second process of trial of selection, a bare loss of three or more years.

What is the law of nature? The propagation of a given

species or family of plants under the best conditions of health, strength and hardiness. Nature does not care about what we compel her to yield by artificial means—that is the fruit proper, or its *refinement*, (the envelope only.) She concentrates all her power on the seed or germ for the successful reproduction of the species.

The leaves, the roots, the pulp, (surrounding the embryo of future generations) the tree itself are only means and ways to reproduce the same plant or tree in the best condition. To pretend that similar influences affect only the tree and the pulp, (or fruit) without producing any corresponding alterations in the germ or embryo, seems to be illogical, since that very germ is, and must be, considered as the main point, the great object of all vegetation.

I will not go further in the examination of a theory which looks so natural. I only say that I should recommend the native seedlings, as the surest, the best adapted to this climate. Not only do I suppose that climates and latitudes alter and affect the tissues and general organism of plants, and their seeds; but I have good reasons to believe that soils have some decided influence upon, and leave or deposit some of their constituents in the seeds of plants, if these plants have ripened their products for a series of generations or seasons in that soil.

As I have sown many seeds of fruit trees both sides of the Atlantic, let me state some facts, the result of years of experiment.

In Belgium, England, and part of France, at least three fourths of the pear seeds come up and grow. The mild and damp climate of those regions protects their tender constitutions. In the United States not one tenth will stand the first summer, or the first winter. Our dry absorbent atmosphere, sudden and extreme variations of temperature, with other *hidden* causes, kill the tender plants by the thousand. Those which survive are all hardy. *There* is a selection already made by nature. The cases of blight, which have come under my notice, were most all confined to European varieties; indeed, with the exception of leaf blight on a Sheldon I have never seen a native variety affected by it.

Of thousands upon thousands of European seedlings, (I speak of refined varieties, not of wild stock,) I have lost more than one half; many show signs of weakness or non-adaptedness to our climate, by the shedding of their leaves early in the summer, even when grafted upon limbs or bodies of sound trees, the surest process of *restoration* or *invigoration*; and that has happened so often, and to such an extent, that I have abandoned the European seedlings (grown for me by a friend and sent to me every winter) to rely only upon such seedlings as will stand our climate, one in a hundred, and these are all from pears, apples and peaches grown in the United States."

These are precisely our views upon the subject, and the theory of "natural selection" is the basis of operation.

Because some European pears are just as hardy as our own native kinds, does not alter the question in the least. One or more foreign varieties may be just as hardy as our selected native seedlings. It would indeed be strange if they were not, out of the 80,000 seedlings which Dr. Van Mons alone raised, to say nothing of the labors of Duhamel, Deschamps, Esperin, Gregoire, Bivort, and others in this way.

But this is the exception, and not the rule. Take, for instance, the whole catalogue of hardy, free growing, productive foreign pears of *accidental* growth, of high quality, and what is their number. Why, not one half the number of those of native origin, all introduced to notice within thirty years. Does not this prove that "natural selection" has even done more for American cultivators in that time, than all Europe has done for us in a whole decade of centuries?

Take ten foreign pears, haphazard, and see how they compare in hardiness and vigor with our own, viz., Leon le Clerc, (V. M.), Bonne des Zees, Summer Francreal, White Doyenné, Bartlett, Easter Beurré, Winter Nelis, Gansel's Bergamot, Brown Beurré, Sieulle. The same number of American sorts, viz., Swan's Orange, Abbott, Buffum, Boston, Kingsessing, Merriam, Columbia, Lawrence, Dallas, America, Hovey (Dana's), Cushing. How great the difference; what, it may be inquired, should produce such a marked contrast?

Our correspondent thus refers to the simple fact that the Flemish Beauty and Urbaniste are stated to be very hardy.

“More of the European varieties will prove to be so. I have a great number of varieties (perhaps a thousand) which are cultivated for the sake of reference, comparison, or for a last and fair trial, before they will be dropped. It would be strange, indeed, if out of that number only two varieties were perfectly hardy at the North and West. Let the fruit growers be better acquainted with such native seedlings as the Buffum, Kingsessing, Westcott, Swan’s Orange, and I feel confident, in point of vigor, beauty and hardiness, these native varieties will stand any comparison, to say nothing about more recent varieties, although my opinion is fixed in regard to their future preëminence. I intend to discard old *enfeebled* varieties, to make room for young America. Time will tell.”

Strange, indeed, that it should be a matter to boast of that two European varieties were entirely hardy. Is that all? Not in our experience, for we find several equally as hardy as the Flemish Beauty; still, as regards vigor, beauty, and other important requisites, the natives are far in advance of the foreigners. They loom up majestic in proportion, and rich in verdure, while, alas, too many of the former, if not decidedly weaker, have not the hale, hearty, robust constitution which enables them to stand all the trying elements of our stern climate. We can only compare them to the aborigines, who, with scarcely any protection to their swarthy limbs, defied the bitter cold, which came near disheartening our pilgrim fathers, and decimated their sturdy band.

“We can only expect it from our native seedlings.” Is this a popular error? On the contrary, so self-evident is its truth, that it would be hardly worth while to combat the opposite opinion, but that many who have not studied the subject more deeply might be misled. It is the bad influence which results from such ideas that we contend against; but for this we should let it pass as of transient interest. If we would expect a rapid advance in pomological science we should be very careful not to build upon any exploded systems, the result of old ideas; but with the lessons of experience,

aided by a true knowledge of nature's laws, follow that course which has already produced such grand results, convinced that in so doing we shall achieve a work which will be a blessing to posterity.

COUNTRY SEAT OF THOMAS LEE, ESQ.

BY WILSON FLAGG.

IF any one would see a specimen of the English system of laying out grounds, divested of all its affectations, and combining all the best ideas of this art, he should visit the country seat of Thomas Lee, Esq., in Jamaica Plains. Mr. Lee professes to have laid out his grounds strictly according to the English style: but he has evidently selected its best features, and engrafted upon them some excellent ideas of his own.

The dwelling-house is plain and unostentatious, possessing the perfection of simple grandeur. Indeed, there is a great deal of that humility in its appearance, which ought to be apparent in all houses that form important objects in a rural landscape. If you are a critic, you may look in vain for any thing like formality in the whole place. In avoiding one kind of formality, it is notorious that improvers are apt to fall into another kind. In endeavoring to escape from the sensible though ungraceful precision of straight lines and right angles, they have most generally fallen into an extreme of affectation, in irregular and geometrical curves. Mr. Lee has avoided both the one and the other, by reason of fully comprehending certain general principles of art and nature, which are seldom understood.

There are no hedgerows here; for the proprietor considers them as fences, not as ornaments, and has discovered no necessity for using a fence of this sort. The simple paling, that marks the boundary line of his estate, is covered and concealed by a plantation—apparently a spontaneous growth—of miscellaneous shrubbery, consisting chiefly of indigenous shrubs, such as cornels, viburnums, black alders, and others

less common in our woods. Adjoining this border of shrubbery, the undergrowth of the wood is allowed to remain, partly for the accommodation of the less familiar birds, which he says require the concealment and seclusion thus afforded them, no less than their produce of berries. As we advance from the boundary through the trees, and approach the house, the shrubby undergrowth is cleared, and the ground is left to a spontaneous growth of herbaceous plants and flowers.

This wood covers the hilly parts of the estate, and consists chiefly of hard-wooded trees, and a few pines. Among them are some beautiful species of oak, which is Mr. Lee's favorite tree. As we leave the wood, we enter the cultivated part of the grounds, embracing a wide extent of lawn, in the highest keeping. A hollow dale, between two wooded hills, is entirely covered with this lawn, which almost wholly surrounds the dwelling-house, and is kept as smooth and as soft as velvet during all the growing season. The lawn is a very attractive portion of the estate; and the clumps of trees and shrubs which are scattered sparingly upon it, relieve it of all that baldness of appearance, which is apt to be the effect of lawn of considerable extent. These clumps are such perfect imitations of the spontanicity of nature, that no person would suspect that they were artificial in their design. They could have been brought to such perfection only by excellent judgment and skill.

Another peculiarity of this place is the small number of paths and avenues by which it is intersected. Wherever one is laid, there is a practical necessity for it. Mr. Lee has never daubed them over his grounds for the sake of indulging people with the pleasure of looking at their silly prettiness. No fanciful serpentines disfigure his fields with their unmeaning pretences. Utility and convenience are the principles upon which his paths are planned: all the adornments of his grounds are derived from trees, shrubs, and flowers, green grass, and a judicious arrangement of the different objects.

Mr. Lee is a great admirer of art as well as of nature; but he abhors its affectations. He is a liberal patron of young painters, having employed them in numerous instances to copy scenes from nature, and views especially which are to

be seen from different parts of his estate. His ideas on subjects of art are entirely original and peculiar. He cannot bear the coxcomby of affected connoisseurship, and dislikes the cant words which may be termed the slang of the fine arts. A visit to this estate would amply reward any lover of art and nature, by affording him a sight of one of the most remarkable specimens, in this part of the country, of the natural style of laying out grounds, without any of its corruptions, and with many original improvements suggested by the proprietor's own taste and genius.

I cannot but be impressed, when I look upon these grounds, with the thought, how much of our landscape which has been spoiled by the vanity of improvers, would have been left to delight the eyes of sensible people, if the principles which have been carried out in this place, had been generally understood and practised! But, as Mr. Lee remarked, the public must pass over a stage of affectation and false taste—cockneyism as it is often called—in their progress from rudeness to the highest refinement. The American public are now in this transition state: hence the shocking destruction of some of the most pleasing features of nature, which is apparent in the suburbs of all our cities and villages.

I would follow his suggestion and add, that the *rude stage* exhibits plain and homely houses, dedicated to comfort and convenience; landscapes in all the tangled wildness of nature, and without embellishment,—improved only so far as to meet the simple demands of agriculture. *The transition stage* exhibits ornate, glittering, and splendid dwelling-houses, sumptuous monuments and other buildings, in which the architect makes use of his art solely for the display of art; gardens full of carpet patterns; landscapes wholly artificial; nature sacrificed to vanity, and simplicity to artistic splendor. No nation, except England, has ever passed beyond this stage. *The last stage* is one of true intellectual refinement, in which there is an apparent return to the rudeness of the first stage, because of the simplicity and sobriety of its embellishments. In this stage architecture becomes more plain, sculpture is but little regarded for the decoration of landscape, and art is used to improve, not to destroy, the character of nature.

Mr. Lee's grounds present an excellent specimen of what might be considered a genuine product of this last stage in the progress of taste. He has exhibited in perfection the art of combining nature and art, so as to produce the most desirable effects. He has not committed the common error of doing too much, although no man in the country has done more; but, like a master of art, wherever he has placed his brush or his pencil, he has added a new grace to the features of his landscape. Here are no artifices; for art has been used not for trickery or deception, but for developing realities. Mr. Lee would scorn all those conceits which are so highly lauded in certain works. His grounds are an excellent study for any one who is capable of appreciating their peculiar merits; and so far as art and nature are compatible, they exhibit the perfection of the landscape art.

ENGLISH STYLE OF LANDSCAPE.

BY FAIR PLAY.

WHILST perusing the pages of your valuable journal, I was greatly surprised by the sweeping denunciations levelled against the various systems of landscape gardening, and against the modern or English style in particular, in an article headed "Treatment of Landscape," by Wilson Flagg. I may simply observe that I cannot glean from Mr. Flagg's article what are, or whether he really has any definite views of the principles he so unreservedly condemns, yet, without assigning any logical reason, he unhesitatingly charges the authors and advocates of the English style of landscape with destroying that love of simplicity which he conceives to be the product of external circumstances,—but which I think a principle inherent in mankind,—and planting upon its ruins a false taste. In proceeding, I would call upon him to substantiate that charge.

Again, he says, it, the English system, abolished symmetry but retained formality, abandoned regularity and introduced affectation. I assume that to be a false definition, or, in other

words, the definition as the counterfeit of English gardening. The views of Pope, Addison, and Pitt, the originators and amongst the first exponents of its principles, may be summed up in these words: it abolishes formality, yet retains symmetry; it discards affectation, though retaining regularity as far as consistent with the picturesque. In fact, Mr. Flagg seems to have mistaken the counterfeit for the original—the one the product of circumstances, the other the offspring of the most consummate taste and undoubted genius; and he might, with equal propriety, charge the most eminent masters of sculpture and painting with the production of the ugly Dutch dolls and those miserable daubs that we see hanging in the windows of cheap bookstores, as charge the English style with the production of these deformities that he says are becoming so common in this country.

Before closing, I would intimate to Mr. Flagg that he who seeks to ignore principles having their origin in the laws of progress and the requirements of civilization, should be able to adduce some startling and distinct theory, capable alike of practical illustration and of casting existing systems in the shade, or else he should be content to abandon the walks of civilized society and retire to the wilds of the country, with the bear and the savage for his companions; where he can roam in untutored simplicity, without experiencing the nausea with which the mention of landscape gardening affects him. When there he had better not wander too deeply into the intricacies of nature's unreclaimed wilds, or else he may find that even nature can be intricate and irregular without being symmetrical; and should his love of the beautiful tempt him, with the eyes of a true artist, to peer deeply into the most sacred recesses of nature's solitude, I should not be surprised if, at times, he accused her even of formality.

And if, as from Mr. Flagg's article I conceive him to be a man of a vivid imagination, he will find that when nature, luxuriating in unrestrained freedom with her tangled mazes of underwood and her towering monarchs of the forest, and bearing the undisturbed impress of that wild, majestic beauty which is her chief characteristic, does not approximate too near to the Elysium of his dreams as a chaste specimen

of the modern style of gardening, with its lowing oxen, its frisking lambs, its expansive meadows, and its hills decked with noble dwellings peering from beneath stately trees, both foreign and native,—the one capable of striking the human breast with awe, the other only with love and contentment.

I cannot endorse his strictures on the New York Central Park. I will simply say I was greatly pleased with it, and that I do not think the next generation will be of Mr. Flagg's opinion concerning it.

I fear you will deem me guilty of unwarrantable presumption in seeking to occupy so much of your valuable space, but I trust you will take the plea I offer as a slight extenuation of my presumption. The plea shall be my name—Fair Play.

I have not considered Mr. Flagg's letter in detail, it being too general in its character for that purpose; but should he feel inclined to enter more minutely into the discussion of the subject, he may find a more able, but he will not find a more willing opponent than Fair Play.

POMOLOGICAL GOSSIP.

SCOTT'S SEEDLING STRAWBERRY.—This fine variety appears to be quite variable, if we may believe the reports which have been made in regard to it. In the Report of the Fruit Growers Association of Western New York, Mr. Coppock said it "was good—in fact, its flavor was fine." He also placed it as the first of three varieties for market culture. Mr. Moody of Lockport, on the contrary, stated that he considered it the "meanest variety in cultivation." The question occurs, did Mr. Moody have the true Scott's Seedling? We fear not. As explanatory of this variation the *Rural New Yorker* makes some remarks which we think have no foundation in theory or fact. We quote the passage:

"Perhaps there is no fruit we cultivate so easily affected, both in quality and productiveness, by soil and climate, as the

strawberry; hence there is a great difference of opinion among cultivators in different localities—a difference of opinion that sometimes seems strange and contradictory.”

Now what is the proof given to sustain this? Why, simply that a prominent horticulturist of Massachusetts, at the last Pomological Convention, considered Scott's Seedling as a “miserable bearer,” when at Rochester it had proved to be very productive. Now we wish to ask, what does this amount to, or what does it prove? The prominent horticulturist probably never raised a berry of Scott's Seedling, and yet ventured to give his opinion about it, from what he may have seen, and this opinion, a mere opinion, is taken as evidence that soil and climate affect the flavor of the strawberry. It is all moonshine. The productiveness of a strawberry we admit, may be affected by *soil*, though not by climate. A sand bank would not of course give as good a return as a deep rich earth. But as to a change of quality we do not believe that any perceptible alteration would be made by either soil or climate. The fact that Scott's Seedling is pronounced one of the very best strawberries at Boston, Rochester, and Buffalo, proves this. Here we consider it not one of the most productive, but unexceptionably fine in quality—in fact, if we could have but two sorts for our own eating, Scott's Seedling would be one of them. It is entirely unlike any other strawberry, and as dissimilar in flavor as any two varieties of any fruit, unless we except the pear.

As further evidence of this variableness of the strawberry by soil and climate, the New Yorker states that “We tried to eat the Wilson at the hotels at Buffalo, and from the plants, but it was too intolerably sour to be eatable. It is the only time we ever tasted strawberries that could not be made eatable with sugar. Green gooseberries would be about as palatable. Mr. Downing, who was with us at the time, stated he could not eat them as grown at the East.” But, continues the writer, “In Rochester we grow them of fair quality.”(!) Can it be so? We know Rochester is a favored city. Its nurseries are great, and its nurserymen gentlemanly, intelligent, active, enterprising, and skilful cultivators, and everything they undertake to do they do well.

But this is making a sour strawberry sweet, how do they do it? This will be a secret worth as much as the secret of Prof. Comstock's Terraculture. You must tell us, brother New Yorker, "the how" to this.

Perhaps, after all, we are in error; and might alter our opinion after we get hold of that "bitter ale" and the "Amon-tillado sherry" that is on the way to us from Mr. Rivers. After "confining" ourself to these awhile, our Wilsons will probably taste as sweet as they do at Rochester. It is not uncommon to lay the fault everywhere but upon ourselves. Till we have proved this, we shall let our contemporary have his fill on the Rochester Wilsons, while we will be content with Scott's Seedling.

The difference of opinion that seems so "strange and contradictory" is simply, we fear, as Mr. Prince supposes, the substitution of a spurious for the true variety.

NEGLEY PEAR.—This variety, which we recently noticed, is stated by Mr. Heaver of Cincinnati to have been tried by the Horticultural Society of that city, who received the specimens from Mr. Negley, and, in the opinion of the Fruit Committee, "it scarcely deserved to be classed as second quality."

THE BARTLETT STRAWBERRY.—This is a new seedling, originated, we believe, by A. S. Fuller, of Brooklyn, N. Y., and stated to be "a large variety, nearly as productive as the Wilson, but every way superior to it in quality. Its firmness and fine crimson color, it is stated, will give it a high place as a market fruit."

CUTTER'S SEEDLING STRAWBERRY.—This recently introduced variety, originated long ago by Mr. Cutter, of Lowell, and highly praised for the peculiarity of bearing six to ten *days longer* than any of the popular kinds, was exhibited at the late meetings of the Massachusetts Horticultural Society about *half* the same length of time as La Constante, Sir C. Napier, Hovey, and other sorts, showing that it does not bear *so long* by ten days as the fine old kinds.

WIZARD OF THE NORTH STRAWBERRY.—This new Scotch seedling, which has been stated to be of extraordinary size, and colored pictures of it sent out with berries as large as cocoanuts, has been taken down a peg by some of the intelli-

gent strawberry growers of Great Britain, one of whom, Mr. R. S. Yates, don't believe every new variety is such a wonder. He writes to the *Gardeners' Chronicle* that he trusts the venders of these new kinds will not be afraid to submit them to the judgment of the Fruit Committee of the London Horticultural Society—not in the shape of a few “petted berries, grown and pampered for the purpose, but a large basket full.” One of the sorts, he says, “has been and is now splendidly exhibited under glass in a frame in every seed and nursery establishment: surely the vender will not shrink from showing us the luscious realities from whence the artist drew his pictures.”

Mr. Robertson, the originator of the “Wizard,” subsequently offered four or five prizes, of £2 and £1 each, to be awarded in 1861; and denounced the “Wizard” which Mr. Yates had fruited to be “a spurious” one. He also sent the editor a reply to his criticisms, in a letter filling six foolscap pages! which was declined an insertion. The following rejoinder from Mr. Yates closes the controversy about this famous berry, and we commend it to our strawberry amateurs as quite as well adapted to the latitude of the United States as Great Britain.

“I am glad that at length Mr. Robertson has thought it behooved him to advert to my letter inserted in your columns last February. I then stated that I had purchased, in 1855, from one of the most respectable nurserymen in the south of England, a Wizard of the North, and, comparing it with plants purchased through one of his accredited agents, the two are identical. Mr. Robertson acknowledges his obligations to the Pomological Society for noticing his Wizard, but craves an extension of time for exhibiting it. Surely, he who could show it with such *éclat* at Paisley in 1857, must be in condition to repeat it in 1860; and I would respectfully submit to Mr. Robertson, that he is bound promptly to show in reality to his purchasers what he is growing. It does not meet the case to offer various prizes in 1861, for the best dishes of what may prove a worthless article: the money paid for it may be something, but it is as nothing compared with the time, the loss of ground, and ultimate disappointment in the

result. Let Mr. Robertson once show, before a recognized authority, that his renowned (on paper) Wizard is worthy of cultivation, and whatever may be the failure of others, he has cleared himself. Should it be any further incentive for Mr. Robertson, either from his own or another's productions (whenever they are ready), I will add three guineas to the amount offered by the Pomological Society, provided he will place the same amount (five guineas), to be paid over to the Gardeners' Benevolent Institution, in the event of his failing to obtain their certificate."

So much for *picturing* strawberries somewhat larger than Baldwin apples. Cultivators of seedlings, who describe their productions as bearing *four to six* times as much and *twice* as large as well known kinds, might take a hint from this which would be of great value.

BUCKLAND SWEETWATER GRAPE.—Messrs. Ivey & Son exhibited fine specimens of this rare grape July 10th, before the London Hort. Soc. It has a beautiful bunch, and it is a variety which, when better known, cannot fail to be a favorite. The bunch is of good size, well shouldered, and handsome, and the flavor good. This variety is here scarce—not more than two specimens of it in a fruit bearing state being yet in the country.

INGRAM'S HARDY PROLIFIC GRAPE.—A new variety, exhibited before the Fruit Committee of the London Horticultural Society, July 10th, by Mr. Standish. It is a Black Muscat. The bunch shown measured nine inches in length, and was well furnished with handsome oval berries, possessing an agreeable slight musky flavor. It is stated to ripen perfectly in a cool house among Hamburgs; it must therefore be considered an acquisition. At the next meeting, July 31st, it was exhibited again, and awarded a first class certificate.

PRIMATE APPLE.—This delicious summer apple, by far the best of its season, deserves to be extensively cultivated. It is about the same size as the Early Harvest, and similar in color, but it is less acid, more tender in its flesh—almost as melting as a pear—and possesses a rich aromatic juice. The tree is vigorous and healthy, with an ample foliage and excellent habit, added to these it bears early and is productive.

NOTES ON DR. KIRTLAND'S CHERRIES.

BY F. R. ELLIOTT, CLEVELAND, O.

FROM your expressed wish to receive some notes upon the cherries of Prof. Kirtland's originating, I now write, not with a view to description, but only additional confirmation to, or detraction from, their published merits. Before touching upon my own notes, I wish to ask of you, or your correspondents, information respecting the bearing qualities of "Kirtland's Mammoth." The original tree is in rich garden cultivated soil—grows vigorously—blossoms profusely, but unfortunately has never as yet perfected over about half a crop as compared with Rockport, Governor Wood, and many others.

I notice, in connection with these notes of Prof. K.'s cherries, that Mr. Downing (who now has the oldest tree of the kind, the original having died) states the "Early Prolific" to be a great bearer, and to ripen with Belle d'Orleans. The Early Prolific, you will recollect, is one of Dr. K.'s seedlings.

DOCTOR.—This is one of the very earliest, ripening nearly at the same time as Purple Guigne. I do not think it will pay as a market cherry, for it inclines to bear so profusely that the fruit is often small; but it is desirable as a tree for family uses, for the fruit ripens up sweet quite early, and hangs a long time on the tree without any decay.

OHIO BEAUTY.—Judging from the fruit on many trees this year, and from notes sent me by growers to whom I formerly sent buds, I have never given this variety as much praise as it has deserved. The fruit is large, a beautiful clear light red, of a sprightly, deliciously sweet, juicy character, that takes the palate of every one.

DELICATE, CAROLINE, HOADLEY, FAVORITE, and "BILL AND COO"—Are all of full, medium size, of a brisk, lively, juicy, sweet character, second only, if at all, to Belle de Choisy as delicate table fruits, but not at all suited to market purposes where any extent of carriage is necessary. Where a grower is near a market in which the fruit can be sold to be consumed, their bearing qualities and their delicacy for table

purposes renders them valuable. If I were to select but one out of the five, I should waver between Delicate and Caroline.

KIRTLAND'S MAMMOTH.—Of this I have spoken above. In richness of flavor, I think it, among cherries, where Seckel is among pears. If it bears well elsewhere, it is certainly the perfection of light-colored cherries. I ate it this season in connection with almost every other sort known in the books or among pomologists.

RED JACKET, KENNICOTT.—These are two sorts that ripen regularly at the same time with Downer's Late. The first is certainly as large again, of almost or quite firm texture, without any of the Mazzardy tinge that belongs to Downer until it fully ripens. They are great bearers; fruit rich red or yellow—the Kennicott often quite dark. In markets where the light-colored cherries sell best, these are two of the most desirable to grow as late maturing kinds. Our market here, singularly enough, demands a black or dark purple cherry,—a dark cherry, even if quite inferior in size and quality, often bringing more price than a light one of superior size and quality.

POWHATTAN.—This comes in connection with the remark just made. It is only medium size, but the tree bears profusely. The fruit is all fair and does not rot, and will command in our market a price above that of many of the light-colored sorts, ripening at same time, and of superior character.

Joc. o-Sot.—This is one of the very best, and also most profitable of the Black cherries. It bears abundantly, but not profusely, like Gov. Wood. The fruit is as large as Black Tartarian, more firm, and of a rich flavor—almost equal to Black Hawk or Black Eagle. He who plants this will never regret it.

BLACK HAWK.—This is unquestionably the highest flavored, richest, Black cherry grown. The tree is a good bearer, even when young, but thus far it has been a difficult tree to propagate, at least so say nurserymen. I have not been growing cherry trees for sale since I first described it.

BRANT, LOGAN.—The original trees of these two kinds stand within twenty feet of each other. The fruit is of large size, half, or nearly firm flesh, rich, sweet juice, and one perhaps

as valuable as the other for market, but the Brant is the richer fruit of the two, and the pit is smaller than that of Logan.

OSCEOLA.—Another of the Black cherries, that competes with Joe. o-Sot. This year, the original tree did not show as well as usual. It may not be known to many, that Prof. Kirtland planted out his seedlings as standards when about three years old, and, the next year afterward, engrafted the top shoot with some well known approved named sort, intending, should the seedling be poor, to cut away that part of the tree, viz., the lower branches. This has been done on many, but on many others the seedlings have proved superior to the graft. The Osceola was engrafted with Napoleon, and, while the main part of the tree is now of that variety, yet the fruit on the few lower limbs of the seedling named Osceola were this year, although comparatively imperfect, yet far more valuable than the fruit of the graft.

ROCKPORT, KIRTLAND'S MARY.—These are two sorts, that merit the attention of every cherry tree planter. The first is an early cherry, of large size; tree a beautiful upright grower, and an abundant bearer. The Kirtland's Mary is of very large size, and, until fully ripe, very firm flesh; when fully ripe, it is of very rich flavor, juicy, and excellent,—excellent, not in catalogue repetition and comparative meaning of the word, but excellent in a sense that makes it equal, if not superior, to most varieties ripening at the same time. It will be recollected that some years since Prof. Kirtland published a card, wherein he stated that, by mistake, in cutting grafts from a tree, part of which was Elton, he had inadvertently sent that variety out as Kirtland's Mary. All who grow the two sorts can easily detect the one from the other, as the Kirtland's Mary is much the most robust, or rather stocky, short-jointed wood, and the leaves without the red petioles.

DACOTAH.—This is a new variety, named this season. It has been grown by Charles Pease, Esq., son-in-law of Prof. K., from seed of some of Prof. K.'s best sorts. The tree resembles Rockport in growth. The fruit is of the color of Black Tartarian, about the same size, perfectly smooth and regular on the surface, glossy jet skin, and produced not only on the

limbs, but on short spurs on the body of the tree, and so shaded with the foliage as in great measure to prevent attacks of birds. In character the flesh is half tender, juicy, sweet, high flavored. It does not ripen until after Black Tartarian is gone; and, for those who like Tartarian and desire another, similar, both in growth of tree and in general character of fruit, but ripening later, this will be desirable.

There are many more which I have again examined this year, and compared with former published remarks; indeed, my list of sorts examined this season numbers something over one hundred. Nothing, I suppose, to you, but few sections of the West have as good, or rather as large, collections of named bearing fruits as are to be found around Cleveland.

A species of blight—I think from *Scolytus pyri*—is prevalent hereabouts, destroying many pears, and extending to quince and apple.

Among some three hundred sorts that I have fruited and examined hereabouts, the “Wharton’s Early” ranks above “very good” as an early pear. It is now ripe and gone. The history of it is, that it originated from seed by Silas Wharton, a pioneer fruit grower of Southern Ohio. Grafts were freely distributed by the late A. H. Ernst, and I suppose you have it; if so, please let me know your estimate of its value.

HALE’S EARLY PEACH.—This is a new sort. For description, &c., I will refer you to the Ohio Farmer. It ripens some ten days sooner than Early Tillotson, is free from mildew in growth of tree. At present it promises very desirable.

THE LILY FORM.

BY WILSON FLAGG.

SOUTH AFRICA is the part of the world which is most distinguished by the liliaceous form of vegetation, though the true lilies are indigenous to the temperate zone in the northern hemisphere. From the Cape of Good Hope, and the contiguous country, were derived the most splendid of our green-

house plants belonging to this order. Here we find the *Amaryllis*, the *Ixia*, the *Gladiolus*, and *Pancreatium*—all noted for their luxuriant foliage and their splendid flowers. In this quarter of the globe we observe the greatest luxuriance combined with the greatest diversity,—each genus flourishing in gregarious masses, and preferring particular locations, determines the climatic and geological character of the region. Like most other plants of a succulent nature, they are adapted to periodical extremes of wetness and drought, and this alternation is needful to bring them to the perfection of their flowering.

In America, plants of this form are perhaps equally abundant; but they are not of a social habit. The *Alstroemerias* in Mexico and South America take the place of the *Amaryllis* and the *Ixia* of Africa. In the West Indies, as well as on the Continent, are three or four splendid species of *Pancreatium*, several species of *Hæmanthus* and *Crinum*, and nearly a dozen magnificent *Alstroemerias*. It is a remarkable trait in the vegetation of South America, to be wanting in the habit of growing in masses. Most individuals of any species are widely scattered and separate from one another. This circumstance prevents the country from being so distinctly characterized by the form of any particular genus or species.

“During the rainy season in Africa, its wide plains are adorned with thousands of gay liliaceous plants. But when the moisture has disappeared, when the sun has beat for months during summer on the plain, all this splendor is gone—not a trace of these beautiful lilies is seen, and the bushes even seem dead. Their leaves lie in heaps around the stem, and in the leaf buds only we perceive the dormant life of these plants.”

Along the banks of the Jordan, in Palestine, the *Amaryllis lutea* is conspicuous; and from the golden splendor with which it adorns the fields in the early part of autumn, it is supposed to be the plant to which Jesus of Nazareth alluded in his parable of the “Lilies of the Field.” They are said to be the most remarkable flower of that region, adorning the fields like the daisies and cowslips of England. But the true habitat of the *Amaryllis* is the Cape of Good Hope. All

the species of this genus bear splendid flowers, and the great art of cultivating them is to imitate the conditions to which they are exposed in their native climate, by giving them alternately a period of rest and of excitement.

The different species of *Iris* in Europe and America are the natural representatives of the *Ixias* and *Gladioli* of the Cape. They are not so splendid as the *Amaryllis*, but are more various in their forms and colors. Some of them are quite hardy, especially of the *Gladioli*. Loudon states, that "at Spofforth, Yorkshire, where the soil is a rich yellow loam, there are clumps of *Gladioli* which have been left undisturbed in the open ground for more than twenty years, and which flower magnificently every summer."

In the temperate zones of the northern hemisphere, both in Europe and America, the true lilies find a home; and they do not require that periodical rest and excitement which is needful to the perfect growth of the African bulbs. The same may be said of all the northern genera of this natural order. The lilies of the temperate zones, however, are not sufficiently abundant to characterize their vegetation. The lily form constitutes a prominent feature of the landscape only in South Africa. The northern lilies are found in small and scattered groups, very delightful to sentient minds, but not attracting general attention, like the luxuriant and conspicuous assemblages of liliaceous flowers at the Cape of Good Hope.

There is not indeed so much to gratify the mind in tropical as in Northern vegetation. In the former there is a splendid luxuriance, which captivates the uneducated, and its novelty presents charms to all who have never before beheld it. But nature, while she exhibits more redundance in the regions of continual summer, presents more in a northern landscape that appeals to the intellect and the imagination. The botanist finds more material in a hot climate, but the themes of the poet and the moralist, and the scenes that most delight a painter are found in the temperate zones. At the South the *Paneratiums* and the *Bananas* float their magnificent pennons to the breeze, decked with equally magnificent flowers, and symbolize the character of the climate: at the North, the

Snowdrop and the Lily of the Valley, in a shady glen, near the shelter of a forest of oaks, without luxuriance or splendor, captivate the mind, by suggesting some pleasing thoughts and by their association with the opening of the year.

THE VANILLA FORM.

There is one form of vegetation which is almost exclusively tropical: this is the vanilla form, including the air-plants, or the Orchideous Epiphytes. This form "is distinguished by its light-green succulent leaves, and by its variegated and singularly shaped blossoms. Some of the orchideous plants resemble winged insects, while others look like birds, attracted by the fragrance of the honey vessels. An entire life (says Humboldt) would not suffice to enable an artist, though limiting himself to the specimens afforded by one circumscribed region, to depict the splendid orchideæ which embellish the deep Alpine valleys of the Peruvian Andes." There are damp, hot valleys, embraced within immense mountain ridges, where a perpetual summer heat is combined with a state of the atmosphere always saturated with moisture.

The terrestrial orchids are the only branch of this family which are found in the temperate zone—so called because they grow upon the ground, and are thereby distinguished from the Epiphytes, which grow upon trees with their roots exposed to the air. The terrestrial orchids are found in all parts of the temperate zone, and also in the tropics. But the vanilla form includes only the Epiphytes, which, in their native regions, are suspended from the branches of trees, and do not seem to be strictly parasitical, as their roots are exposed to the air, and not embedded in the plant that supports them. In some countries, species of orchis closely resembling Epiphytes, grow in moss on the level ground. Such, indeed, is the White orchis of our own woods, whose roots are always inserted in the damp foliage of the *sphagnum*, or bog-moss.

The orchideæ which bear flowers resembling insects, are mostly included in the genus *Ophrys*. One of these looks as though a bee was buried in the flower; another has the lip in the form of a spider; in a third the flower resembles a fly; in a fourth a mosquito. These resemblances are so exact

as to be altogether unaccountable. Such forms are seldom accidental. When flowers assume a certain shape, nature intends thereby to accomplish a particular purpose for the benefit of the species. It is difficult, in the case of the Ophrys, to determine how any advantage could accrue from these insect forms, except it be to attract insects to their cup, to serve some purpose connected with the fertilization of the flower.

FLORICULTURAL NOTICES.

NEW BEGONIAS.—Since the introduction of the *Begonia Rex*, and other remarkable kinds from Assam, the cultivators in that region have been active in searching for other new species, and have not only been successful in finding such, but being readily raised from seed, foreign cultivators have produced some beautiful hybrids in this way. For the best of the importations the public are indebted to the indefatigable exertions of M. Linden of Brussels, who stands at the head of importers of new plants in Europe. Through his collectors in various parts of the world he is constantly adding specimens of great interest. The late acquisitions include among other things four *Begonias*, three of them from Assam, and a seedling, all distinct and very fine, particularly the latter. The following are brief descriptions of these plants:—

B. HYPARGYREA.—Something in the way of *B. Victoria*, with the same habit, but far more distinct and beautiful. The upper surface of the leaf is covered with large flakes of bright silver, and the intervening spaces powdered with silver upon an obscure green. The underside is of a vinous purple. Recommended as of the first order. It was received from Assam at the same time as the *B. Rex*.

B. MARGARITACEA.—A very distinct species, from the same locality as the above. It approaches—but is more beautiful—the *B. picta*. The leaf is of a beautiful emerald green, upon which are scattered a profusion of pearls of all sizes and of the purest water, admirably detached upon the fresh green of the limb. It is a very unique species.

B. NIVOSA.—Another species from the inexhaustable mine of Begonias in Assam. From the aspect of the plant it would seem to belong to the region of eternal frost; the leaves appearing, as indicated by its name, as if covered with snow.

B. DUCHESS DE BRABANT.—“We have heard a great deal,” says M. Linden, “recently, of the adulterated products of our *B. Rex* of triumphant memory; but we think we do not speak too highly when we proclaim this new hybrid as superior to all the numerous varieties raised from the *B. Rex*, and recently offered for sale.”

“Its beauty is of such great effect that we have dedicated it to our gracious Duchess. It is thus described: Centre of the leaf occupied by a star of very dark green, surrounded with a large band of light silver; this band is followed by a zone of equal size of a beautiful emerald green, scattered with silver spangles; and the border is margined with a circle of intensely dark green. This reunion of colors is highly striking, and makes this Begonia one of the most exquisite ornamental foliaged plants that have enriched our collections.”

The above are translations from M. Linden’s descriptions of new plants, which we have given in preference to our own, that amateurs may compare them with the living specimens. We have them in fine growth in our collection, and can freely say they are fully up to all that M. Linden has said of them. The Duchess de Brabant surpasses any that we have yet seen.

NEW PLANTS.—M. Linden has also introduced several other new plants of great beauty, among which are a new climber, allied to the *Passifloras*, called *Poggendorfea rosea*; a new *Columnnea*, *C. Erythiophæa*, with flowers as brilliant as an *Eschynanthus*; *Cyanophyllum assamicum*, a good companion to the superb *C. magnificum*, with immensely large light green leaves; a new *Salvia*, with azure blue flowers; and the remarkable three colored fern *Pteris tricolor*, which is acknowledged as one of the most wonderful introductions of late years. We shall describe all of them at length, after having seen them in good condition.

NEW GLADIOLI.—No tribe of plants has ever been so much improved in so short a space of time as the Gladioli. But a few years ago we had only the well-known hardy *natalensis*,

described and figured in the first volume of the Magazine (1835) as new and rare. More recently M. Van Houtte produced from it the *gandavensis*, a brilliant variety but of similar colors, red and yellow. But now we have nearly two hundred varieties of every conceivable shade, white, blush, fawn, aurora, straw, yellow, orange, red, crimson, scarlet, purple, violet, and several of them in beautiful combination, exquisitely blended, and often distinctly striped. The present season has given us an opportunity to witness some of the new kinds in great perfection, and we have marvelled at the astonishing improvement that has been made within three years. Not only have new colors been obtained, but the form of the flowers and their arrangement upon the stem greatly improved, so that in the former respect they vie with some of the rare orchids, while in the latter they have an additional value in the eye of the florist. The following are some of the latest acquisitions:—

LA POUISSIN.—Bright cherry scarlet, with a distinct white or straw-colored throat, very beautiful and an admirably arranged spike.

ACHILLES.—Fine currant red, with a white line in the middle of each petal.

CERES.—Pure white, stained with violet rose, flowers large, and a fine spike.

ERATO.—Soft rose, pencilled with darker rose, and deep carmine stains.

MARIE.—Pure white, stained with deep carmine, like *Berthé Rabourdin*, but finer.

MAD. BASSEVILLE.—Large cherry-colored flower, with a conspicuous straw-colored throat and crimson blotch, with a white line in the centre.

MADAME LESEBLE.—White, with large purplish rose stains.

PRINCESS CLOTILDE.—Blush, with a shade of fawn in the lower petals, and rich purple stripe.

PRINCESS MATHILDE.—Beautiful soft rose, striped with darker rose and rich carmine stains in the lower petals.

No doubt other combinations of colors will be obtained, and varieties be produced which will greatly excel the older kinds.

PHLOX TRIUMPH DE TWICKEL.—Complaints are often made that the newer varieties of various plants are not distinct enough from the older kinds, apparently forgetting that all improvements must, with some exceptions, proceed in a somewhat regular gradation, first overcoming one defect, and then another, till at last all the good properties are combined in one production. This should satisfy the most enthusiastic lover of plants, and we feel confident it would do so had he ever attempted the growth of new varieties. Still, occasionally there are exceptions, and a leap is made, wonderful, indeed, closing up a gap which, ordinarily, it takes years to effect. Such has been the case in the production of a new Phlox. The Parisian amateurs have sent us many exquisite varieties, among them some very handsome striped or variegated kinds; still, they were, except in their variegation, of no great merit. A better flower was wanted. This the Belgian growers have supplied in the remarkable variety now under notice, which is, in truth, a very great advance upon anything of the kind already obtained. It has not only the most superbly striped flowers, but the habit of the plant, and the form of the bloom are remarkable. It belongs to the *decussata* group, grows three feet high, producing magnificent, compactly branched heads of flowers of the richest crimson, distinctly lined on each edge of the petal with white. It is an invaluable addition to the choicest collection of this very showy and popular flower.

524. SPIRÆA FORTUNII *Planch.* FORTUNE'S SPIRÆA. (*Rosa-cæ.*) China.

A hardy shrub; growing 4 feet high; with rose-colored flowers; appearing in July; increased by layers; grown in good garden soil. *Bot. Mag.*, 1850, pl. 5163.

This is the well-known *S. callōsa* of our gardens, now so generally introduced, but which, Dr. Hooker remarks, "flowered this year (1859) in the Royal Gardens, Kew." Probably it does not flower so freely in the cooler climate of Great Britain as in our own, more nearly allied to that of its native country. It is a very fine shrub, and deserves to have a place in every garden, where its neat growth, and large flat clusters of rosy blossoms in July form a splendid object. (*Bot. Mag.*, Feb.)

525. *STATICE BRASSICÆFOLIA* *Webb.* CABBAGE-LEAVED STATICE. (*Plumbagineæ.*) Canaries.

A greenhouse plant; growing one and a half feet high; with pale blue flowers; appearing in summer; increased by cuttings; grown in loam, peat, and sand. *Bot. Mag.*, 1860, pl. 5162.

“A very pretty” new *Statice*, introduced from the Canaries, and flourishing well in a cool greenhouse. In our climate it would succeed well plunged out in the open border, where it blooms freely in August. It throws up a broad panicle of pale blue flowers, very ornamental. (*Bot. Mag.*, Feb.)

526. *HETEROCENTRON MEXICANUM* *Hook.* MEXICAN HETEROCENTRON. (*Melastomaceæ.*) Mexico.

A greenhouse plant; growing one foot high; with purplish flowers; appearing in winter; increased by cuttings; grown in rich, light soil. *Bot. Mag.*, 1860, pl. 5166.

A beautiful *Melastomaceous* plant, with small ovate leaves, and large terminal panicles of small, purplish red flowers, appearing in the autumn and early winter months. For greenhouse decoration at that season it will be a valuable addition to every collection of plants. (*Bot. Mag.*, Feb.)

527. *TORENIA HIRSUTA* *Lamb.* HAIRY *TORENIA*. (*Scrophulariaceæ.*)

A greenhouse plant; growing six inches high; with white and violet flowers; appearing in the autumn; increased by cuttings; grown in light peaty soil. *Bot. Mag.*, 1860, pl. 5167.

A new species, more beautiful than the well-known *T. asiatica*, the flowers being equally as large, as well as more highly colored. The plant is not so straggling, but more compact, with shorter leaves, and the whole plant covered with short, canescent hairs. It flowers, also, at different seasons. Introduced by Messrs. Low & Co., and will undoubtedly prove a very fine plant. (*Bot. Mag.*, Feb.)

528. *VANDA SAUVIS* *Lindl.* FRAGRANT *VANDA*. (*Orchidaceæ.*) Java.

An orchid plant; with white spotted flowers. *Bot. Mag.*, 1860, pl. 5174.

One of the loveliest of orchids, the flowers richly blotched and spotted with blood purple on a pure white ground, so clear and distinct that they look as if they were made of porcelain. It is yet a rare species, and highly valued in English collections. (*Bot. Mag.*, April.)

529. *ASTELIA CUNNINGHAMII* *J. Hooker*. ALLAN CUNNINGHAM'S *ASTELIA*. (Junceæ.) New Zealand.

A half-hardy plant; growing 3 feet high; with greenish flowers; appearing in summer; increased by division. *Bot. Mag.*, 1860, pl. 5175.

Another of the highly ornamental plants, which "though boasting of no brilliancy of flower, forms a beautiful object from the copious, long, bright silvery hairs with which its parts are clothed." It is a tufted silky perennial, with long linear-subulate, acuminate leaves, and large, almost woolly panicles of greenish flowers. As a half-hardy plant for summer decoration of the lawn or flower garden it is a fine companion to the Pampas grass, Bamboo, &c. (*Bot. Mag.*, April.)

530. *RICHARDIA HASTATA* *Hook*. HALBERT-LEAVED *RICHARDIA*. (Aroideæ.) Cape of Good Hope.

A half-hardy plant; growing 3 feet high; with greenish white flowers; appearing in summer; increased by offsets; grown in peaty soil. *Bot. Mag.*, 1860, pl. 5176.

A species of the well-known *Calla*, as the *Richardia* is often called, having similar leaves, but with smaller and less showy flowers, of a greenish yellow tinge, pretty to make a variety, but by no means as showy; it has proved hardy in England, and with us requires the same culture as the *Calla* (or *Richardia*) *æthiopica*. (*Bot. Mag.*, April.)

531. *CEANOTHUS OREGANUS* *Nutt. MSS.* OREGON *CEANOTHUS*. (Rhamnææ.) Oregon.

A half-hardy (or hardy) shrub; growing 6 to 8 feet high; with white flowers; appearing in spring; increased by layers; grown in good garden soil. *Bot. Mag.*, 1860, pl. 5177.

Another Oregon *Ceanothus*, first seen by Douglas, afterwards by Nuttall, and finally introduced by Mr. Lobb. It grows as far north as the Blue Mountains, and will undoubtedly prove quite hardy. It has roundish, oval leaves, and branches tinged with red on one side. The flowers are white, and appear in axillary panicles along the stem. It will be a fine acquisition to our hardy shrubs. (*Bot. Mag.*, April.)

532. *AGAVE GILLIESII* *Hook*. DR. GILLIE'S *AGAVE*. (Bixineæ.) Chili.

A greenhouse plant; growing 4 to 6 feet high; with orange colored flowers; appearing in winter; increased by cuttings; grown in light rich soil. *Bot. Mag.*, 1860, pl. 5178.

A very handsome plant, with leaves of the color and texture

of the holly, and like them evergreen. The flowers are minute, but are collected into oblong or elliptical heads, resembling golden catkins, from the numerous orange-colored stamens; these appear at the axils of the leaves, all along the branches, which are deeply tinged with red, and give the whole plant a brilliant aspect. It grows freely in a cool greenhouse, and flowers in the winter months. (*Bot. Mag.*, April.)

533. WITHERINGIA POGONANDRA *Nob.* MR. WITHERING'S
BARBED STEMMED WITHERINGIA. (Solanaceæ.) Mexico.

A greenhouse plant; growing two feet high; with yellow flowers; appearing in summer; increased by cuttings; grown in rich soil. *Illustrative Horticole*, 1860, pl. 242.

A handsome foliaged plant, with a suffruticose habit, forming a tufted mass of foliage, everywhere covered, with the exception of the flowers, with soft, shaggy, white hairs. The stem is robust, succulent, and much branched. The leaves are large, eight inches long and four in diameter, alternate, dark green, the spaces between the nerves spotted with silver. The petioles are red. At the Exhibition of the Horticultural Society of Ghent last fall, it was considered as one of the most beautiful plants, and obtained the first of the two prizes offered for such specimens. It will be a fine companion to the showy Farfugium. It requires the protection of the greenhouse in winter, but in summer may be turned out into the border, where it forms a conspicuous object. (*Illustration Hort.*, May.)

534. AGAVE FILIFERA *Salm Dick.* WIRE-LEAVED AGAVE.
(Amaryllidaceæ.) Mexico.

A greenhouse plant; growing ten feet high; with purplish flowers; appearing in summer; increased by offsets; grown in rich, light sandy soil. *Illustrative Horticole*, 1860, pl. 243.

A remarkable species of the Agave, with narrow leaves, of compact growth, and throwing up a stem six feet high, terminated with a dense spike of pink flowers. The growth of the leaves does not much exceed two feet high. They are very narrow, with red filaments. On account of the pretty color of its corols, and dwarf habit of growth, this is one of the finest of the species, and will form a grand plant for the decoration of Italian gardens, or for the lawn. It may be

treated in the same way as the common Agave, or century plant. (*Ill. Hort.*, May.)

535. RHODODENDRON OMNI-GUTTATUM *Hort.* SPOTTED-FLOW-
ERED RHODENDRON. Garden Hybrid.

This is a handsome and distinct variety, raised by M. Verschaffelt of Ghent. The flowers are pale rose, and thickly covered on all the petals with deep rose or purple spots. Unfortunately it is descended from *R. ponticum*, and consequently a greenhouse or half-hardy variety. But its distinct character will render it a favorite. (*Ill. Hort.*, May.)

536. FOURCROYA FLAVO-VIRIDIS *Hook.* YELLOW-GREEN FOUR-
CROYA. (Amaryllidaceæ.) Mexico.

A greenhouse plant; growing twelve feet high; with greenish-white flowers; appearing in summer; increased by offsets; grown in light rich soil. *Bot. Mag.*, 1860, pl. 5163.

A showy plant, with broad-spreading, somewhat tortuose leaves, two feet long, throwing up a flower-stem twelve to fourteen feet high, terminating in a panicle of green and white flowers, with somewhat the appearance of a *Yucca*. As it is of easy culture, it is well adapted for ornamenting the lawn in summer, where its gigantic spikes of flowers have a striking appearance. (*Bot. Mag.*, Feb.)

537. CEANOTHUS VELUTINUS *Douglas.* VELVETY CEANOTHUS,
(Rhamneæ.) Oregon.

A half-hardy (or hardy) evergreen shrub; growing 8 feet high; with whitish flowers; appearing in summer; increased by layers; grown in good soil. *Bot. Mag.*, 1850, pl. 5165.

“A very handsome evergreen ornamental shrub, received from the Oregon Territory, with leaves, whose upper surface is dark green, rendered glossy by apparently an aromatic resin, which the plant exudes in hot weather, the under side velvety with whitish down.” First detected by Douglas, and recently raised from seeds by Messrs. Veitch, in whose collection it flowered. As it is found so far north among the Rocky Mountains, and at a considerable elevation above the sea, it may prove hardy in our climate. The branches are covered with dense panicles of white plumose flowers.—(*Bot. Mag.*, Feb.)

538. CALLISTEMON AMGENUS *Nob.* GRACEFUL CALLISTEMON.
(Myrtaceæ.)

A greenhouse plant; growing two feet high; with yellowish green flowers, appearing in spring; increased by cuttings or layers; grown in loam, peat and sand. *Illustrative Horticole*, 1860, pl. 247.

A very beautiful plant, with narrow evergreen leaves, and handsome myrtle-like flowers, which clothe all the terminal shoots. The stamens, to which the plant owes all its beauty, are very numerous, dispersed in circular rays, very long, and of a peculiar yellowish green or whitish tint. It flowers abundantly. (*Ill. Hort.*, June.)

O X A L I S B O W I E I.

BY THE EDITOR.

THOUGH an old and favorite plant in many collections, this beautiful *Oxalis* is far too little cultivated. As a decorative object for the greenhouse or parlor window, in September and October, it can scarcely be dispensed with, at that season of the year, when the frost has despoiled our gardens, and the winter-blooming plants have not commenced their gay season. Throughout September and October, its large bright rosy blossoms, in spreading clusters, elevated on long slender stems, from a tuft of soft green clover-like foliage, continue to expand, and form one of the most attractive ornaments of the greenhouse.

As an autumnal feature of the flower garden *Oxalis Bowiei* will be a favorite when properly managed: for making an edging to beds or groups of various tinted flowers, or to form a carpet from whence tall and stately plants may rear their flower-stems, or for planting in masses, it is a most valuable addition to every garden.

Oxalis Bowiei (FIG. 19) is a native of the Cape of Good Hope, where it was first discovered by Mr. Bowie, who sent home living plants. It is the finest of the whole group. It is of the easiest cultivation, requiring simply to have the bulbs potted in a light rich soil, composed of loam, leaf mould, and a small quantity of sand. This should be done

in July, or early in August; after which the leaves and flowers soon make their appearance. After potting they may remain in the open air until the roots are established, when the pots may be removed to the greenhouse, giving them a sunny situation, where they will bloom till winter. The

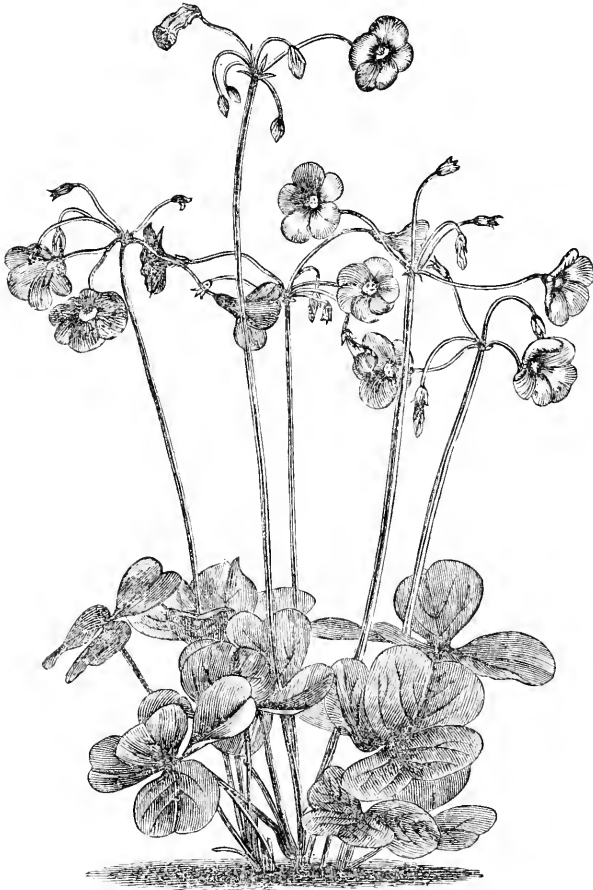


FIG. 19. OXALIS BOWIEI.

bulbs should be planted about an inch deep. After the plants have done blooming they should be gradually dried off, and then placed away in a dry place under the stage, till the return of their growing season in July.

For the decoration of the open garden the bulbs should be

potted in the same way, and as soon as the leaves make their appearance the pots should be plunged in the ground, where they are wanted to produce an effect. A sunny place, in a rather warm well-drained border or bed, is the best situation. Here they will grow rapidly, and make a conspicuous display until frost, when they may be removed to the house till out of bloom. When there is a good stock of bulbs they may be planted directly in the ground, but as the first frost destroys their foliage, they do not perfect their growth, and the weak, half-matured bulbs will not bloom the following season. On this account it is best to keep them in pots, which will render their removal safe, and assure a stock of roots.

General Notices.

NATIONAL ROSE EXHIBITION OF GREAT BRITAIN.—The following is the Report of the Great Rose Show in London, July 10, and as it affords all the information which the rose amateur may require, we copy it in full.

“As was stated last week, this was one of the best displays of the kind that have yet taken place under the auspices of this Association. Not only were the exhibitions unusually numerous; but the blooms were for the most part large and fine. In the Nurserymen’s Class the best collection of 100 trusses each, consisting of three blooms, came from Mr. Mitchell, of Pilt-down, Maresfield, Sussex, who sent beautiful examples of—

Hybrid Perpetuals.—Abbé Feytal, deep rose, fine form; Alexandrine Bachmeteff, bright red, large and fine; Anathalie Chautrier, pale rose, very beautiful; Altesse Impériale, crimson shaded and beautifully cupped; Armide, rosy salmon, distinct and good; Anna Alexieff, bright rose, large and beautiful; Ardoisée de Lyon, shaded large crimson; Berceau Impérial, delicate pink, large and full; Baronne Larray, rich pink, large and double; Baronne Prévost, bright rose, very large; Belle de Bourg-la-Reine, a new and promising kind; Caroline de Sansal, large pale flesh; Cardinal Patrizzi, dark and very beautiful; Col. de Rougement, very large but coarse; Comte de Nanteuil, pale rose; Comtesse Cécile de Chabrillan, pink, beautifully cupped, a really fine rose; Comtesse d’Orléans, blush, large and full; Docteur Ruschpler, rosy pink; Duc d’Ossuna, bright rosy carmine; Duchess of Norfolk, by no means a bad rose; Duchess of Sutherland, Duchesse d’Orleans, fine lavender blush; Duchesse de Polignac, rosy lilac, very large; Ernest Bergemann, pale rose, large and beautiful; Evêque de Nimes, bright purplish red, compact, and very beautiful; Géant des Batailles; General Jacqueminot, in very fine condition; General Pélissier, lilac rose, cupped, and distinct; Gustave Coraux, shaded crimson; Impératrice des

Français, pale flesh; Jacques Lafitte, shaded crimson; Jules Margottin, large and full, a magnificent rose; Lord Raglan, glowing scarlet; La Reine; Leon des Combats, dark crimson, beautiful; Louis Chaix, bright red, shaded with crimson, but not in first-rate condition; Louise Odier, fine bright rose; L'Enfant du Mont Carmel, shaded crimson; Mignard, shaded rose, very beautiful; Madame Rivers, blush, a splendid variety; Madame Ducher, rosy pink, very compact; Madame Domage, very beautiful, glossy rose; Madame Place, bright pink; Madame Vidot, a fine variety, very like M. Rivers; Madame Masson, deep crimson; Madame Schmidt, rosy pink, large and beautiful; Madame Hector Jacquin, deep rose; Madame Knorr, rosy pink, a fine variety; Madame Van Houtte, beautiful rosy pink; Mathurin Regnier, lilac rose, fine in form; Monsieur de Montigny, rosy carmine; Noémi, glossy pink; Nouvel Etendard du grand Homme, a salmon-colored promising kind; Paul Dupuy; Pauline Lansezeur, crimson shaded with violet, a fine variety; Prince Léon, cherry red, fine form; Queen Victoria, white, shaded with peach, very beautiful; Stephanie Beuharnais, delicate flesh; Souvenir de la Reine d'Angleterre, bright rose; Souvenir de Leveson Gower, dark red, large and full; Thomas Rivers, bright rose; Triomphe de l'Exposition, beautiful crimson; Tower Malakoff, dark crimson; William Griffith, bright lilac rose, fine in form; William Jesse.

Bourbons:—Adelaide Bougère, dark velvety crimson; Dupetit Thours, beautiful bright crimson, still a useful rose; La Quintinie, bright shaded crimson; Réveil, rich velvety crimson; Souvenir de Malmaison, blush, a magnificent variety.

Noisettes:—Lamarque, white; Narcisse, primrose yellow, very beautiful; Triomphe de Rennes, yellow.

Tea-Scented Chinns:—Auguste Vacher, yellow, shaded with copper color; Anabilis, rosy blush, large; Bougère, bronze; Comte de Paris, a fine old variety; Devoniensis; Gloire de Dijon, yellow, shaded with salmon, magnificent; Goubalt, rosy buff, large and fine; Duc de Magenta, a new kind which we hope to see again; Joséphine Malton, creamy white, large; Louise de Savoie, sulphur; Madame Lartay, yellow, shaded with salmon; Niphotos, pale lemon, very large and beautiful; Souvenir d'un Ami, salmon and rose shaded, large and fine; Souvenir d'Elise, a splendid rose; Silène, rosy salmon; Vicomtesse Decazes, bright yellow.

Moss:—Baron de Wassenaer, rose; Crested, rose with crested buds; Gloire des Mousseuses, pale rose, large.

Provins:—White, still a good old rose.

Hybrid Chinns:—Chenêdolé, vivid crimson, large and fine; Charles Lawson, bright rose, large and full; Paul Ricaut, bright crimson, fine in form.

French:—Boule de Nanteuil, violet purple, a good old rose; Duchess of Buccleugh, dark rose, shaded with blush; Latour d'Auvergne, shaded rosy crimson; and Napoléon, brilliant crimson.

Other collections of 100 trusses came from Messrs. Paul, Hollamby, and Cranston. Among these were fine blooms of Louis Odier, Madame Boll, rosy pink and fine in form; Transon Goubalt, Mathurin Regnier, La Ville

de Bruxelles, Moss Lanei, Crested Moss, Latour de Auvergne, large and showy; Madame de Cambacères, Prince Regent, General Jacqueminot, Madame Knorr, one of the best autumn roses we possess; Duchess of Orleans, Alexandrine Bachmeteff, Madame Vidot, La Ville de St. Denis, large and fine; White Bath Moss, Duchess of Norfolk, Anna Alexieff, Evêque de Nimes, Jules Margottin, Wm. Griffiths, Madame Domage, large, but loose; Cardinal Patrizzi, a very dark kind; General Castellane, Lord Raglan, Prince Leon, Coupe d'Hébé, Souvenir de Malmaison, Duke of Cambridge, Chénédole, Pauline Lansezeur, a fine lilac variety; Charles Lawson, Comtesse Chabrilan, a compact fine rose, beautiful in the bud; Princess Royal, a good Moss; Col. de Rougement, in the way of Baronne Prevost, but coarser; Gloire de Dijon, bronzy yellow, rich and good; Common Moss, Robin Hood, still a good rose; Madame Willermoz, in beautiful condition; Louis Chaix, not near so fine as we have seen it; Triomphe de Beaux Arts, a very dark velvety rose; General Simpson, Acidalie, an old but fine variety; Prince Imperial, large, but coarse; Géant des Batailles, Louis Peyronny, the yellow Vicomtesse Decazes, Alice Leroy, Souvenir d'Elise, Paul Perras, Baronne Prevost, Pauline Labonté, salmon; Laura Raymond, Niphotos, large and fine; and Auguste Vacher, fine yellow.

In the class of 50 varieties, Messrs. Cant, Hollamby, Tiley, and Turner had the best collections. Among these we remarked beautiful blooms of Anna de Diesbach, Bacchus, glowing crimson, scarlet; M. Hector Jacquin, fine in the bud state; Madame Rivers, a charming variety; Charles Lawson, a fine large useful rose, and General Castellane; the last is perhaps one of the most fragrant of roses.

Collections of 24 varieties were numerous. By far the best came from Mr. Keynes of Salisbury, whose blooms were large, fine in color, and universally admitted to constitute one of the most important features of the whole exhibition. The varieties were Juno, Madame Phelip, Boule de Nanteuil, Charles Lawson, Comtesse de Chabrilan, Duchesse d'Orleans, Evêque de Nimes, General Jacqueminot, Géant des Batailles, Gloire de Vitry, Lord Raglan, La Ville de St. Denis, Madame Knorr, Madame Rivers, Madame Vidot, Mathurin Regnier, Pauline Lansezeur, Prince Léon, Stephanie Beauharnais, William Griffith, Léon des Combats, Souvenir de Malmaison, *Enfant du Mont Carmel*. Mr. Laing, of Twickenham, Messrs. Paul and Mr. Clarke, of Brixton Hill, also showed well in this class. From these came glorious blooms of General Jacqueminot, the most showy of roses, and one which appeared in every stand; Gloire de Vitry, a bright rosy kind, Lady Stuart, a variety in the way of Madame Rivers, La Reine, Duchess of Orleans, large pale lilac, and one of the best late roses we possess; Lord Raglan, one of the most brilliant of comparatively recent introductions, Comte de Nanteuil, Caroline de Sansal, a fine variety, but this year small in size; Narcisse, Sulphur, one of the very hardiest of Tea Roses; and Souvenir de Malmaison, the last very large and fine.

In the class for amateurs who kept a gardener, the best collections of 48 varieties came from J. T. Hedge, Esq., of Colchester, the Rev. S. R. Hole,

of Caunton Manor, Notts; C. M. Worthington, Esq., of Caversham Priory, Reading, and C. J. Newdigate, Esq., Arbury, Nuneaton, Warwickshire. Among these we observed magnificent blooms of most of the leading kinds, whose names are recorded above; and we may also mention that those from Mr. Hedge especially were staged with unusual care and taste, the moss employed to surface the boxes being beautifully green and short, a point which did not fail to attract attention.

Of 24 varieties shown by the class of exhibitors last named the best again came from Mr. Hedge, whose blooms were Charles Lawson, Paul's Queen Victoria, a fine large light kind; Shakspeare, Madame Bravy, Gloire de Vitry, Caroline de Sansal, Queen, Madame Knorr, M. Cambacères, Gloire de Dijon, Alexandrine Bachmeteff, Cloth of Gold, Souvenir d'un Ami, Paul Ricaut, Louise Magnan, Adèle Prevost, Auguste Mie, Aurora, Devoniensis, Lord Raglan, William Griffith, and Niphotos. Among other groups the best came from C. J. Newdigate, Esq.; F. Barchard, Esq., Uckfield; and W. Mercer, Esq., of Hunton, Staplehurst.

Of 12 varieties shown by amateurs keeping gardeners, the best were furnished by the Rev. T. M. Wetherall, Newnham, Gloucestershire, C. M. Worthington, Esq., Rev. S. R. Hole, and C. G. Puller, Esq., M. P., Youngsbury, Herts. Among these we noticed some very fine blooms of General Jacqueminot, Gloire de Dijon, Anna Alexief, a very good variety; Smith's yellow Noisette, a charming variety when caught in good condition, as this was; Duke of Cambridge, bright rose; Jules Margottin, which is universally admitted to be one of the very best of its class; and Léon des Combats, also a good rose. We also observed Emperor Napoleon, a very dark kind; but it was small, thin, and bad in shape. Empereur de Maroc also belongs to the same class, but is perhaps a trifle better in form.

In the class for amateurs not keeping a gardener, the best boxes of 24 sorts were contributed by Mr. T. Mallet, St. Mary's Gate, Notts; Mr. Fryer, Chatteris; Mr. Walker, Oxford; and Mr. Laxton, Stamford. Among these the most conspicuous varieties were Lord Raglan, General Jacqueminot, Gloire de Dijon, Safranot, Souvenir de Malmaison, Souvenir de Leveson Gower, a beautiful rose; and one or two other well-known sorts.

Of 12 varieties in the class last named, the best came from Mr. Fryer, who sent grandissima, Caroline de Sansal, Lord Raglan, Baronne Prevost, Vandal, M. Vidot, one of the best of the light varieties; Emperor Napoleon, La Reine, General Pelissier, Julie d'Etanges, Boule de Nanteuil, still a good old rose; and Prince Regent. Among other exhibitors the most successful were Mr. Morris, Caunton, Notts; Mr. Mallet, and Mr. Laxton. From these came fine blooms in beautiful condition, clean and fresh in appearance and neatly staged. In these and other collections, for the names of the flowers in which we cannot spare room, we observed very fine trusses of the following varieties, viz., *Hybrid Perpetuals*:—Madame Vidot, Duchess of Norfolk, Madame Heraud, Madame Hector Jacquin, Victor Trouillard, Madame Masson, Duchesse d'Orleans, Comte de Nanteuil, Cardinal Patrizzi, Madame Place, Lady Stuart, Gloire de Vitry, Madame Knorr, General Simpson, General Castellane, Gloire de Parthenay, Panachée

d'Orleans, Madame de Cambacères, Prince Leon, Géant des Batailles, Mathurin Regnier, Lord Raglan, Caroline de Sansal, William Griffiths, Noëmi, Jules Margottin, Madame Rivers, Triomphe de l'Exposition, Louis Peyronny, Auguste Mie, Baronne Prevost, Léon des Combats, General Pelissier, General Jacqueminot, and Joan of Arc. *Gallica*:—Transon Goubault, Cynthie, Boule de Nanteuil, Colonel Coombes, Latour d'Auvergne, Prince Regent, Dido, Ohl, Kean. *Bourbon*:—Acidalie, Souvenir de Malmaison, Coupe d'Hébé. *Hybrid China*:—Brennus, Chénédalé, Victor Hugo, Madeleine, Paul Perras, Madame Rameau. *Tea*:—Souvenir d'un Ami, Narcisse, Gloire de Dijon, Madame Willermoz, Bougère, Devoniensis.

The following list contains some of the very finest varieties selected from the whole exhibition. *Blush*:—Madame Vidot, Madame Rivers, Duchess of Orleans, Auguste Mie (deep blush,) Caroline de Sansal, and Mathurin Regnier. *Scarlet or Dark Crimson*:—Lord Raglan, General Jacqueminot, Léon des Combats, General Castellane, Prince Léon, Paul Ricaut, and Sir J. Franklin. *Rose*:—Col. Rougemont, Madame Hector Jacquin, Jules Margottin, William Griffith, Gloire de Vitry, Prince Imperial, coarse, but showy; Coupe d'Hébé, and Paul Perras. *Yellows*:—Cloth of Gold, some extremely fine blooms of which were exhibited; Decazes, and Persian Yellow. Of *Whites* there is still a deficiency. The best are Dr. Henon, Princess Clementine, the old white Provins, Louise Magnan, and Beauté de Melan. *Stripes* were not good. Among them we noticed Panacheée d'Orleans and Œillet Parfait. Among Moss Roses we have little to recommend beyond the usual well-known kinds. There were, however, some good blooms of the white Bath.

Of New Roses, Messrs. Fraser, of Lea Bridge, showed Louis the XIV., shaded deep velvety crimson; Mademoiselle Bonnaire, French white; Armide, Anna de Diesbach, large showy rose; Victor Verdier, a large rosy lilac, but coarse; Triomphe de Lyon, a kind in the way of Léon des Combats, and Admiral Nelson. From Mr. Standish, of Bagshot, also came a box of new varieties, the best of which were Noisette Celine Forestier, bright yellow, a very promising rose, and so hardy that it stood the frosts of last winter without injury; Comte de Falloux, bright crimson, and stated to be an excellent sort for pot culture; Madame Standish, rose; and François Arago. The last is a very dark kind, belonging to the class of Eugène Appert, of which a boxful of beautiful blooms was also shown by Mr. Standish. This fine rose has proved itself to be a vigorous grower, a free bloomer, and very hardy.

Among miscellaneous exhibitions was a boxful of magnificent blooms of Cloth of Gold from Mr. Cant, of Colchester. These were, as they deserved to be, the admiration of all who saw them. Of roses in pots several collections were shown; but they wanted the freshness and beauty which characterize such exhibitions earlier in the season. They however served to give variety to the tables, which were also tastefully decorated with other plants —(*Gard. Chron.*)

FORTUNE'S NEW ROSE.—Among the good things sent by Mr. Fortune, were several new roses with entirely new features, the value of which, in gardening, is hardly yet sufficiently appreciated. Among them was a kind, which, since it wanted the fanciful properties that rose amateurs are pleased to insist on, has to this day remained almost unknown. It was deficient in color and size, and would "do no good" in an exhibition tent; so said those who had the care of it. Its merits, indeed, were of but an humble nature; it was merely hardy, very early, evergreen, pretty, and a prodigious Rambler,—ready to contend in a race with any Ayrshire or Musk rose in creation. As for its flowers, they were white it is true, tinged with pink on the outside, sweet-scented, and grew in endless profusion in small clusters; but then the petals would not stand well up, and the flowers were no bigger than some Noisette—smaller, even, than those of Joan of Arc. So, after the Horticultural Society had given away a few plants, the original was nailed to a wall, left there, and forgotten.

At last, on the 20th of July, 1859, we received from Mr. Rogers, of River Hall, near Seven Oaks,—one of the most enthusiastic, as he is one of the most skilful amateur gardeners in the United Kingdom,—the following letter, referring to an answer to his inquiry as to what a rose was of which he had forwarded specimens for examination:—

"Thanks for your memorandum about the rose. Although it may not please *rose fanciers*, it is a very fine and remarkable climbing rose, growing 10 to 12 feet in a season, flowering *earlier* than any other I know, and continuing longer in bloom. Those I sent you were late and imperfect blooms, for it had been in flower nearly a month. It is both good in form and sweet-scented, and a profuse flowerer—flowering both in clusters at the ends and all along its shoots, thus partaking both of the habit of a Noisette and of a Hybrid China. It is perfectly hardy, and I should say was worth distributing by the Horticultural Society as a very *distinct and hardy climbing rose*. It is by far the most hardy of all those Mr. Fortune sent over, and I know no rose which has much resemblance to it. If hybridized, it would give rise to a distinct class of climbing roses."

Upon receipt of this, Mr. Fortune was asked for the history of his importation, when he replied as follows:—

"The white climbing rose to which your correspondent, Mr. Rogers, alludes, is well known to me. It is cultivated in gardens about Ningpo and Shanghai, and is held in high esteem by the Chinese; indeed, it is one of the best white kinds which I have met with in China. It is frequently seen of a large size, covering trellis work formed into alcoves or built over garden walks. For this purpose it is well suited, as it is a luxuriant grower, and it blooms profusely and early. This rose was amongst my first importations to the Horticultural Society, and is no doubt well worth cultivation in English gardens. It may not please, in every respect, rose fanciers, but it is very beautiful, nevertheless, and it has some advantages peculiar to itself, which are pointed out by your correspondent."

We now hope that this beautiful thing will meet with the favor it eminently deserves. As a pillar rose it is invaluable.

We call it the Spring rose, or Shanghai. It seems to be a mule between the common China and *Rosa multiflora*, but whether the result of one intermixture or some third or fourth cross, is probably as unknown to the Chinese as it is to us. The fringed stipules reveal its relation to *Rosa multiflora*, as its scent and the peculiar gloss and texture of its leaves disclose its kindred with *Rosa indica*.—(*Gard. Chron.*)

HARDINESS OF THE ISABELLA GRAY ROSE.—And now that we are upon the subject of roses, one word may be said about Isabella Gray, that “worthless American cross-bred, which will only flower under glass.” It is known to our readers that we have never placed our faith in the fair lady’s detractors, her first ancestor, *Rosa rubifolia*. [?] having nothing tender in his nature. All that it appeared to us to demand was good soil, a roasting south wall, and exemption from the favors of the pruning knife. This evil spring has confirmed our opinion, such a rose in such a place having bloomed in the greatest profusion during the whole month of June. The flowers were perfect in size and color, and many opened well. Others, indeed, rotted on their stalks before they were half expanded; but the same fate befel such hardy roses as the Queen and Coupe d’Hébé. Had Isabella Gray been screened by a pent-house, or had the weather been better, the plant would have been a rose grower’s envy—for the half-expanded flowers are most beautiful.

We may add, that a Cloth of Gold, in a similar situation, equally warm and sheltered, was so damaged by October’s frost that its main branches died back, and there is no sign at present of roses for this year, although it is now pushing most vigorously, and will soon recover its lost ground.—(*Gard. Chron.*)

MAY QUEEN STRAWBERRY.—I have purposely avoided expressing any further opinion on the merits of this strawberry, till other persons interested in the culture of this delightful fruit have had time and opportunity to record their experience. My silence, however, must not be construed into an admission of its inferiority; on the contrary, I am enabled to speak with increased confidence of its valuable properties. The question of earliness, indeed, may now be considered as settled. The orchard house and open ground culture of the present season both testify to this fact, and I can echo with truth every word advanced by the Rev. W. A. Leighton, some three or four weeks ago, as to its behavior under glass, and its greater freedom from aphid blight than any other variety. I do not wish to make any invidious comparisons, but I may simply state that I grew the May Queen in the orchard house, side by side with all the well known earliest varieties, and it ripened its fruit fully a week before the earliest of them, and a fortnight before most of them; and in the open ground the difference is quite as evident. This most remarkable late season I had ripe fruit in an orchard house, with a west exposure without fire heat, by the 4th of June, in good quantity, and I have no doubt, that, although it has lost its name this year, it will, in an ordinary season, ripen its fruit by the middle

of May in an orchard house without fire heat. The size this year is, with me, larger than I have seen it, most of the berries being as large as the usual size of Keens' Seedling, and in flavor it is decidedly superior to any very early variety with which I am acquainted.—(*Gard. Chron.*)

“NOT ONE DROP OF WATER SHOULD BE ALLOWED TO TOUCH THE FOLIAGE.”—So says “J. W. L.” teaching the way of keeping *Begonia grandis* in fine condition. Excellent advice, seldom given, more seldom taken. Applicable to hundreds of plants with the soft skin and plump but tender organization of a *Begonia*. Did the reader ever place a drop of ether on his hand in a bright, warm sun? If he has done so, let him call to mind the sharp cold that attended the experiment. A bit of ice would not have been more sensibly felt. The cold that affected him was owing to the rapid evaporation of the spirit; but he disregarded it, partly because there was so little of it, and partly because the skin of his hand has no great sensibility. Had he plunged the whole arm in ether, under a hot sun, he would not have forgotten the effect.

But the skin of plants like *Begonias* is very thin and very sensitive. Small differences in temperature affect it greatly. Whether this is owing to the low vitality of vegetable bodies, or to their excessive excitability, or to any other unsuspected cause, the fact remains unquestionable. Animals of high organization are indifferent to a reduction of temperature that kills a plant. A negro fresh from the gold coast is no great sufferer on a frosty day; Lascars, as we see, lie on the London pavements and in the London docks in midwinter, looking for charity, and little harm comes of it. But the palm tree of his native country, which yields the oil that lubricates his greasy skin, is in the throes of death when the thermometer marks 40°. It is only excessive cold that seriously affects men who are natives of the tropics; anything less acts but locally, producing frost-bites and similar injuries. In plants a small matter will rapidly cause local injury. Water—a drop perhaps—falls on a tender leaf, and rapidly evaporates in the highly heated atmosphere of a plant stove. Cold is immediately produced at the spot where water rested; then dies the tissue acted on; or perhaps the vital fluid of the plant, more sensitive than the skin, receives a serious shock; its action is paralyzed, and although death may not ensue at the time, all the functions of the plant become torpid, with the inevitable accompaniment of ruined health, if death itself does not ensue. Ask vines rapidly forced early in a damp house if this is so. Their leaves may furnish a reply. If blotches disfigure them, they are the mute witnesses of what the gardener has done.

Such a matter as this is for all to think upon. The facts are indisputable. Is the inference wrong? Let gardeners judge.—(*Gard. Chron.*)

CAPE BULBS.—As an old cultivator of Cape bulbs I venture to answer your correspondent's question in detail; in principle it has been answered in your leader of Saturday. The plants generally known as Cape bulbs are either *Iridæ* or *Amaryllidacæ*. The *Iridæ* require abundance of light

and air, and just before they flower of water also; when they go out of flower shut them up in a pot or frame, letting the temperature rise to 120° or upwards, taking care that the plants are eighteen inches or two feet from the glass. Repot in August, and get as much foliage as you can before winter, and keep it, by light and air, with a temperature not below 38°. The Amaryllidaceæ require slightly different treatment; pot them, except Nerine, rather deep in their pots. (*Brunsvigia falcata*, for instance, almost buried); grow them in winter as Iridæ, with abundance of light. When the leaves die off in spring, put them into the same place as the Iridæ, but place under each pot a pan two thirds full of sand, and never let that sand get quite dry, but do not cover it with water. Treated thus, soon after the middle of August they will throw up their flowers, and I have flowered four bulbs out of six of *Brunsvigia Josephinæ*, and made them flower in successive years. Nor is there any difficulty in making Nerine flower regularly every year, but they do not require quite so much moisture as the *Brunsvigias* and other large bulbs. *Lachenalias* and *Oxalis* require nearly the same treatment, but no water when at rest, as they flower after they have made their growth, not before, as the Amaryllidicæ. In short, the treatment of all Cape bulbs is very similar, only that the large ones require more water in proportion than the small ones to their size. In their native country they are buried much deeper and root much deeper than the small ones, and consequently enjoy more permanent moisture.

In conclusion I would add, do not think bulbs dead because they do not grow. Several of the *Ferrarias*, and some of the rarer *Lachenalias*, often will not grow or make any leaves for four or five years together; and then, under precisely the same treatment, will come up and flower strongly. The impatient gardeners of modern days have small chance of seeing their flowers; but those who will wait patiently are generally gratified at last. The terrestrial orchidæ of the Cape are more troublesome and quite as capricious; but I have cultivated several of them with success, when I could watch them individually myself. I can hardly recommend their cultivation except to an amateur, who will ascertain the precise habits of each individual species and act accordingly.—(*Gard. Chron.*)

NEW MODE OF DISTINGUISHING THE DIFFERENT VARIETIES OF THE PLUM.—Although the art of distinguishing the cultivated varieties of plum the one from the other is not so difficult as to know at sight the sorts of pears and apples, or peaches and nectarines, yet, especially to the inexperienced, every aid which renders their distinction more easy is useful. A method of effecting this object, proposed by a Monsieur Liegel, in the Transactions of the Horticultural Society of Paris, seems to deserve publication here. This gentleman insists upon the great importance of attending to the form, &c., of the stone in judging plums. And when we consider how extremely dissimilar are the stones of the Bullace, the Damson, the Orleans plum, and the Quetches,—all varieties, apparently, descended from the Sloe, and in one way or another the parents more or less remote of our cultivated varieties, the suggestion deserves attention.

According to Monsieur Liegel, the following points are to be attended to in pursuing this kind of examination:—

1. The upper and lower edge of the stone is to be observed for the purpose of ascertaining whether the point is placed in the middle or one side, is long or short, blunt or pointed, prominent, and so on.

2. On the dorsal side are three angles, one medium, two lateral. Sometimes they are clearly separated, sometimes slightly elevated; in some varieties close together, in others as prominent and wide apart as in an apricot. The median angle is generally prominent, blunt or sharp, often broader towards the base. By the side of the two outer angles are two furrows of varying depth, which are sometimes characteristic.

3. On the opposite, or ventral edge, are two salient angles, sometimes open, sometimes half closed, forming between them a furrow, in some instances narrow, in others broad, and of variable depth. The dorsal and ventral angles sometimes bend away near the top, or the bottom, or the middle.

4. The sides of the stone are either smooth or rough, convex or plane, or irregular in various ways; they often have several projecting angles at their base.

5. As to its general form, the stone may be round, oval, ovate, or lanceolate, nearly straight or much curved, or often widened. Its longest diameter may be next the top, the middle, or the base.

6. Finally, its size must be compared with that of the fruit, for we often find large plums with small stones and the contrary. Hence the relative portions of the two become important.

Such are Monsieur Liegel's instructions. A few weeks will enable us to begin to test their value. The Jaune hâtive, or White Primordian, ought to be ripe in July.—(*Gard. Chron.*)

Gossip of the Month.

STRAWBERRIES IN WASHINGTON, D. C.—I notice in Prince's Catalogue, Austin's Seedling Strawberry, at "\$3.50 per 100," "very sour." Can this be the same as advertised in your Journal, and elsewhere? The reigning strawberries here are Alice Maud, (earliest in market,) Hovey's Seedling, and Trollope's Victoria. Wilson's Albany is on the increase, but all good judges consider its merits to rest upon its firmness and productiveness, and that its great acidity will consign it to the confectioners and housewives for preserves. The price of selected Victorias this morning is 50 cts. per quart. Average picking, 25 cents. Hovey's Seedling, 12½ to 10 cents, the market being fairly loaded with them. Scarlets, Cones, and other common sorts, from 3 to 6 cents per quart. I have fruited the Fillmore, and am pleased with it. The best fruit I have seen this season are my own seedlings, of three, four, and five years of trial, which have been taken in hand by the largest growers in this vicinity, and will be out in due time. c. g. p.

NURSERY CATALOGUES, &c., RECEIVED.—Trade Catalogue of Fruit and Ornamental Trees, &c., for the autumn of 1860, and spring of 1861. Central Nurseries, York, Pa., Edmund J. Evans & Co.

Descriptive Catalogue of Fruit and Ornamental Trees, Shrubs, Roses, &c., &c., cultivated and for sale at the Fruitland Nurseries, Augusta, Ga., by P. J. Berckmans, 1861. One of the best collections of the pear in the south.

Prince's Descriptive Catalogue of Select Varieties of Strawberries, Flushing, L. I., New York, for 1860 and 1861. A Complete List of 158 Varieties of the Strawberry, with a List of the rejected sorts.

T. C. Maxwell & Co.'s Descriptive Catalogue of Fruit and Ornamental Trees, Shrubs, Roses, &c., for sale at the Old Castle Nurseries, Geneva, Ontario Co., N. Y.

Premium List of the Twelfth Annual Fair of the Michigan State Agricultural Society, to be held in Detroit, October 2, 3, 4, and 5, 1860.

Second Circular of the Maryland Agricultural College, 1860.

Premium List of the Philadelphia Society for Promoting Agriculture, to be held in Philadelphia, September 25, 26, 27, and 28, 1860.

AMERICAN INSTITUTE.—The Thirty-Second Annual Fair of this Society will be held at the Palace Garden, 14th Street, near the 6th Avenue, New York, commencing on Tuesday, the 25th September, and be continued for two weeks. Liberal premiums are offered, a few of the more important of which we annex.

APPLES.—Best collection of 40 named kinds, 6 specimens of each, silver plate, \$20.

PEARS.—Best collection of 50 named varieties, 5 specimens of each, silver plate, \$30.

PEACHES.—Best collection of 8 named varieties, \$10.

PLUMS.—Best collection of 20 named varieties, silver plate, \$15.

NATIVE GRAPES.—Best collection of not less than 12 named varieties, 4 bunches each, silver plate, \$25.

FOREIGN GRAPES.—Best collection of not less than 8 named varieties, 2 bunches each, silver plate, \$25.

With numerous other liberal premiums, to the amount of several hundred dollars, for fruits, flowers, plants, vegetables, &c.

Massachusetts Horticultural Society.

Saturday, August 4, 1860. An adjourned meeting of the Society was held to-day,—the President in the chair.

Mr. S. Walker, from the committee appointed for that purpose, reported resolutions on the death of the late E. Bartlett, which were ordered to be recorded, and a copy sent to the family of the deceased.

Geo. W. Pratt presented a set of Carter's Floral Illustrations, and the thanks of the Society were voted for the same.

The following delegates were appointed to attend the meeting of the American Pomological Society, in Philadelphia:

Joseph Breck,	C. O. Whitmore,
M. P. Wilder,	J. F. C. Hyde,
C. M. Hovey,	Dr. Wight,
S. Walker,	D. T. Curtis,
Josiah Stickney,	Ang. Parker,
W. C. Strong,	Geo. W. Pratt,
W. R. Austin,	W. H. Spooner,
Chever Newhall,	A. D. Williams.

The President appointed a committee of five to nominate a list of officers for the ensuing year, and J. F. C. Hyde, Dr. Wight, P. B. Hovey, W. C. Strong, and F. Winship were elected.

A. McDermot and Ed. Flynn were elected members.

Adjourned one month, to September.

Exhibited.—**FLOWERS:** From the President, a very fine display of phloxes, gladiolus, &c. Among the phloxes several new varieties, and a fine yellow gladiolus, called Lord Campbell. From Hovey & Co., a large and superb display of flowers, among which were many new gladioli, Dianthus Hedewigi, Japan lilies, callas, roses, new phloxes, and a great number of new annuals and perennials. From Barnes & Washburn, a fine collection of gladioli, phloxes, and other flowers. Beautiful collections were also contributed by F. Winship, Evers & Comely, E. A. Story, Thomas Walsh, G. G. Hubbard, A. Apple, A. Bowditch, Samuel Walker, M. Trautman, J. Mc-Tear, Barnes & Washburn, W. H. Spooner, Jr., J. Nugent. Several fine pot plants by Evers & Comely, and a Cattleya from E. S. Rand. J. W. Manning exhibited a climbing rose—high colored, fragrant, and hardy. E. Stone and F. Parkman also had collections of various roses.

FRUIT: The display of fruit was one of the best ever made at this early season. The apples were remarkably handsome, and quantities of Red Astrachan, Early Harvest, Bough, and Williams were exhibited, together with many other sorts, among which was the Primate from Messrs. Hovey, beautiful specimens. The pears included the Supreme de Quimper, Beurré Giffard, Madeleine, and Jargonelle. Splendid Dorchester blackberries, from G. Merriam, J. Nugent, and others; and handsome Syrian grapes from O. Bennett. Good strawberries—the second crop—from Dr. E. G. Kelly, Newburyport, were quite a rarity.

The Fruit Committee made the following

AWARD OF PREMIUMS FOR FRUITS.

CHERRIES.—For the best, to Wm. Bacon, for Black Tartarean, \$4.

For the next, to G. B. Cordwell, for Black Tartarean, \$3.

For the next, to C. E. Grant, for Napoleon Bigarreau, \$2.

GRAPES.—For the best specimens, grown under glass, on or before the third Saturday in July, to Mrs. F. B. Durfee, \$8.

For the next, to M. H. Simpson, \$6.

For the next, to Oliver Bennett, \$4.

PEACHES.—For the best twelve specimens, grown under glass, on or before the third Saturday in July, to Oliver Bennett, \$6.

For the next, to C. S. Holbrook, \$5.

For the next, to J. F. Allen, \$4.

STRAWBERRIES.—For the best display, during the season, to Hovey & Co., \$8.

For the best collection, shown at one time, to Hovey & Co., \$6.

For the best specimens, not less than two boxes, to J. W. Foster, for Brighton Pine, \$5.

For the next, to W. H. Barnes, for Brighton Pine, \$4.

For the next, to Thomas Walsh, for Jenny Lind, \$3.

For the next, to Isaac Fay, for Jenny Lind, \$2.

Aug. 15th.—Exhibited. **FLOWERS:** The display of cut flowers was exceedingly fine, and embraced many new and beautiful things. Among the phloxes were several striking kinds, particularly the *Triomphe de Twickel*, a rare striped variety. The gladioli were produced in great perfection, and included some of the latest acquisitions. Roses, asters, dahlias, and particularly petunias, were very fine, combining, as they did, all the latest varieties and best double flowers.

From the President of the Society, a fine show of phloxes, among which were several distinct varieties; beautiful Gladioli, among which we noticed a fine yellow, called *Lord Campbell*. From Barnes & Washburn, a fine display of *Gladiolus*, Phloxes, and other flowers. From A. Apple, Roses, Phloxes, Gladioli, &c.

Hovey & Co. contributed a very large collection of more than thirty varieties of Gladioli, Japan Lilies, Phloxes, thirty varieties of Petunias, Asters, *Tritoma Burchelli*, *Tritonia aurea*, *Humea elegans*, Hollyhocks, Roses, *Delphinium formosum*, Japan Pinks, and Annuals, also several fine plants. Other collections were furnished by E. Stone, E. A. Story, Evers & Comely, M. Trautman, W. C. Strong, J. McTear, and others.

AWARD OF PRIZES FOR FLOWERS.

GLADIOLI.—For the best ten flowers, to Hovey & Co., \$5, for the following varieties: *La Pouissin*, *Duc de Malakoff*, *Hebe*, *Bertha Roubourdin*, *Mad. Haquin*, *Vesta*, *Brenchleyensis*, *Le Chamois*, *Janire*, and *Penelope*.

For the next best, to W. H. Spooner, Jr., \$4.

For the next best, to Barnes & Washburn, \$3.

PHLOXES.—For the best ten varieties, to Hovey & Co., \$5, for *Triumph de Twickel*, *Mad. Berthé*, *Mad. Clerget*, *M. Hardy*, *Gem*, *Comtesse de Radepont*, *Jeane Rouillard*, *La Candeur*, *Mad. Aguilhere*, and a bluish colored seedling, very distinct.

For the next best, to Barnes & Washburn, \$4.

For the next best, to M. Trautman, \$3.

PETUNIAS.—For the best collection, to Hovey & Co., \$3.

For the next best, to M. Trautman, \$2.

CUT FLOWERS.—For the best collection, to Hovey & Co., \$4.

For the next best, to Barnes & Washburn, \$3.

For the next best, to A. Apple, \$2.

FRUIT.—The show of fruit was large, E. Clapp had the Bough; G. B. Cutter, the Williams; B. Harrington, the Williams; A. Clements, the Bough; R. B. Stickney, the Red Astrachan; N. A. White, the Bough; J. Breck, the Red Astrachan; Hovey & Co., the Primate, new and very fine, the best early apple, as tender as a melting pear; H. Vandine, the Red Astrachan; J. Monroe, the River, all very fine, with other varieties from some of the above cultivators. Very large Dorchester Blackberries from J. Nugent, and Lawton from S. A. Brittan; German Prunes from F. Dana, and Peach and other plums from H. Vandine. Hovey & Co. sent the Boston, Supreme de Quimper, Bloodgood, Rostiezer, and other pears.

Aug. 25.—*Exhibited.* FLOWERS: The show to-day, though not as extensive as usual, was very good. Mr. E. Stone made a rich display of Hybrid Perpetual Roses, filling an entire stand with good blooms of several of the finest varieties. The President, as usual, had a fine collection, comprising principally Phloxes and German Asters of different kinds. Messrs. Hovey & Co. had some beautiful Gladioli, their new Seedling Lilies, Mel-pomené, Terpsichore, Thalia, Urania, and Euterpe, and other flowers. Messrs. Evers, McTear, Strong, Apple, and others, contributed handsome collections.

FRUIT.—The show of fruit was excellent, particularly of apples, finer specimens of which we never saw upon the tables, at this season of the year. The Williams and Astrachans were large and beautiful. We name a few of the principal collections.

From Hovey & Co., Sterling, Watson, Manning's Elizabeth, Muskingum, Summer Francreal, Supreme de Quimper, Passans du Portugal, Summer St. Germain, Rostiezer, and Ott pears. J. F. Allen sent Manning's Elizabeth pears, and large lemons. H. Vandine, Muskingum, Dearborn's Seedling, and Rostiezer pears, Bough apples, and several varieties of plums. F. Dana, Jefferson plums. R. W. Ames, Rostiezer pears. B. Harrington, Williams, Foundling, and Gravenstein apples, very fine. G. B. Cutter, fine Red Astrachan apples. James Eustis, Gravenstein apples. G. R. Sampson, beautiful Coolidge Favorite peaches. J. Nugent, extra fine Dorchester blackberries. S. A. Brittan, fine Lawton blackberries, and Rostiezer pears.

Horticultural Operations

FOR SEPTEMBER.

FRUIT DEPARTMENT.

THE weather during the last month has been moderately warm, with an abundance of rain, falling in repeated showers, giving vegetation of all kinds a healthy and vigorous appearance. We do not think three more favorable months than June, July, and August were ever experienced in our climate.

With the advent of September we are reminded of operations which require attention at this time, the first of which is the preparation for fall planting, so as to be in readiness when the proper season arrives. Low

land should be thoroughly drained, and all ground intended for choice fruits should be trenched and manured. Forcing houses should be looked after and put in order for the winter, making all repairs that are needed. Collect and prepare manures.

GRAPE VINES in very early houses should be pruned immediately, if not done already, so as to be in readiness for forcing next month. Wash and clean the vines. Grapes in vineries will now be ripening their wood, and should have an abundance of air. Cold houses will still require attention. Stop the laterals as they require it; and give air at all times, to ensure a good color and rich flavor to the fruit. Discontinue watering as the fruit approaches maturity. Vines newly planted should have a good temperature and plenty of moisture, shutting up the house early to maintain a good heat.

STRAWBERRY BEDS may be set out this month; the earlier the better. Old beds should be kept clear of weeds. Vines for forcing should be repotted, and plunged in a warm border, to ensure a stocky growth.

PEACHES should be budded.

PEAR TREES will yet need pruning, stopping the late shoots at the second or third eye. Superfluous wood, of this year's growth, may also be cut out.

FRUIT TREES in pots should be rather sparingly watered, in order to check the growth, and thoroughly ripen the wood.

FRUIT should be gathered in good season, particularly the September pears, all of which require house ripening for ten or fifteen days. Late fruit will be benefited by taking off any small or illshaped specimens.

FLOWER DEPARTMENT.

September is a busy month. But a few weeks elapse before frost will again overtake us; and to be in readiness for this requires active exertions on the part of the gardener, where there is a varied collection of plants. Besides all this work the houses are to be put in order. Flues repaired and painting done, as well as frames to be got in readiness for many things, preparatory to their removal to the house. Soils should be secured for winter and spring use, and housed or protected on the approach of severe weather.

CAMELIAS should now be looked over carefully before removal to the house. See that the drainage is good, and top-dress all that require it. Wash the leaves, stake the plants, and prune out dead wood. Remove to the house about the 25th of the month.

AZALEAS should now be removed to the open air to ripen their wood, on which their vigorous flowering depends. Place in an open sunny situation, and water rather sparingly.

CHRYSANTHEMUMS should be abundantly supplied with water and liquid manure two or three times a week. Tie up to stakes as they require it. Remove to the house before frost.

CALLAS should be repotted, and freely watered.

PELARGONIUMS should be repotted immediately, and have the protection

of a frame until well rooted. Cuttings should be potted off, and treated in the same manner.

CYCLAMENS should be repotted.

MONTHLY CARNATIONS should be potted.

CUTTINGS of all kinds of bedding plants, such as Verbenas, Heliotropes, &c., should be put in for a spring stock.

NEAPOLITAN VIOLETS, for blooming in pots, should now be potted.

CHINESE PRIMROSES should be repotted, and placed in a frame.

CINERARIAS should be kept in a frame till frosty weather, repotting, if they require it. Fumigate, to keep off the green fly.

CALCEOLARIAS should be potted off.

HEATHS, planted in the open ground, should be potted.

BOUVARDIAS should be potted.

SALVIAS, for winter blooming, should be repotted.

ACHIMENES AND GLOXINIAS, as soon as done flowering, should be placed away on a dry shelf for the winter.

LANTANAS should be taken up and potted.

ORANGE TREES should be removed to the house in good season.

PLANTS of all kinds, for winter blooming, should be looked over, repotting such as require it, top dressing others, staking and training all into good shape.

BEGONIAS should be allowed to dry off a little, when they may be wintered without any trouble in the greenhouse.

IXIAS AND SPARAXIS may be potted and placed in a frame.

ROSES, in the open ground, should be taken up early and potted, placing them in a frame, if convenient.

FLOWER GARDEN AND SHRUBBERY.

Owing to the timely and abundant rains the lawns are now in admirable order; as nothing is more pleasing during autumn than a verdant turf, care should be taken to keep it in order. Roll often, and continue to mow as long as there is any growth. Clean, rake and roll the walks. September is the best month to remove evergreens. Prepare ground for bulbs, and frames for wintering the half-hardy stuff.

WHITE LILIES may be planted.

TIGER FLOWERS, and other tender bulbs, should be taken up before frost.

HOLLYHOCKS may be propagated by dividing the roots. Protect in a frame during winter.

NEAPOLITAN VIOLETS should be planted in frames.

DAHLIAS should be pruned of superfluous shoots, and carefully tied up as they advance in growth. Water in dry weather.

PÆONIES may be transplanted this month.

PERENNIAL AND BIENNIAL PLANTS, raised from seeds, should be removed to the flower border.

HERBACEOUS PLANTS, done flowering, may be divided and reset.

DAISIES should be planted in frames.

HINTS UPON GRAPE CULTURE.

THE general complaint of mildew and rot upon grapes this year, and the rather defective character of the crop, induce us to make some brief remarks upon the subject, not so much to offer any advice of our own, as to introduce some excellent hints bearing upon it by Dr. Lindley. A general complaint is made by the cultivators of Great Britain that the grape crop, from some cause, is a partial failure this season, and that cause the editor of the *Gardeners' Chronicle* endeavors to point out. In Great Britain, however, these complaints are made by those who cultivate the grape under glass, and will therefore perhaps not so much apply to our out-door treatment of the vine; yet a discussion of the subject, whether in reference to hardy or foreign grapes, cannot be otherwise than instructive, and enable us to guard against these failures, so far as we can, of which so many complaints are made at home as well as abroad.

There is a great variation in the quality of our grape crop in different years; one season it will be large and excellent; another, small, imperfect and immature, disfigured with mildew and rot, and the vines severely damaged in foliage and growth. This we naturally and perhaps correctly attribute to the climate, and there leave the matter; never reflecting carefully upon these failures, or endeavoring to ascertain whether much of this may not be caused by an unsuitable location, an improper soil, or other means within the control of the cultivator; so that though a season may be unfavorable, a fair crop may be depended upon. Such, it appears to us, may be the case, and an instance of it may be referred to in the *Rebecca* grape. At Hudson, where it originated, it is one of the most vigorous and hardy vines, producing enormous crops of the most beautiful and luscious berries *every year*, apparently in no way affected by climate. When we examined it in 1856, it surpassed anything of the kind we ever had

the pleasure of seeing. Yet it has the reputation generally of being a bad grower, and subject to mildew. This year we are pleased to learn, for the first time, it is doing well in several places, and we doubt not it will in due time become everywhere the same incomparable grape it is in its native locality. But to do this it must have better, or at least different, treatment than some other varieties. What that treatment shall be we are yet to learn. But we note it as an instance of variation which cultivation will do as much as climate to overcome; and we may remark that a strong, rich, *well drained* soil is one of the important requisites in accomplishing this. A *soil* which will grow it quickly, that the wood, naturally slender, may be strong; and a *subsoil* that will take off superfluous moisture that it may ripen its wood before frost overtakes it, and keep the roots dry during winter.

How is it with the Concord, which Mr. Bull, in unfavorable seasons, has had quite mature by the 10th of September, when, in our own soil, it is not ripe till the 25th of the month? Why, Mr. Bull's soil is a sandy loam, not fit to grow a good pear. It is a barren side hill, with a foot or less of very sandy earth upon a dry, leaching, hungry sand; yet by preparing a rich surface compost and the use of liquid manure, he secures a very rampant growth and magnificent crops. As soon as the bunches are well formed, by withholding water the grapes begin to ripen, and, from the dry, warm nature of the subsoil, soon attain maturity. Under ordinary conditions, in deep rich soils, the vines continue growing till late in autumn, and the energies of the vine are directed to the vigor of the wood rather than the maturity of the crop.

These facts point out the proper course of culture, and substantiate the position taken by Dr. Lindley, that a soil too rich in *humus*, impermeable to air, and naturally damp, is unfit for the vine, and is the remote cause of most of the complaints which are made in reference to the failure of the crop. We might enlarge upon this subject, but as it would in a degree be a repetition of the following, we need only advise grape cultivators to read it carefully and treasure up its advice:—

Letters from correspondents all over the country furnish abundant proofs that in this season many kinds of crops are not succeeding well. Grapes rot; seeds will not grow; gourds cast their fruit; cucumbers gum and curl up; the earlier flowers of tomatoes, which usually yield the best, drop off without setting; French beans make but little progress, and show a yellow, sickly foliage; the more tender strawberries set imperfectly; peach and nectarine trees in many instances died after blossoming, and the survivors seem inclined to follow them. Trees that never before dropped their fruit have done so almost entirely. To crown all, grapes are shanking. Ills like these can only be owing to the condition of the soil as regards temperature, or to that of the atmosphere, or to both combined. The vine, no doubt, is liable to be affected under conditions wholly unconnected with the soil; but it more frequently than otherwise is found that when every precaution has been taken inside a house to secure a healthy growth, failure nevertheless occurs from without. The best managed vinery in the world will do nothing when the soil for the roots is cooled down too low.

Not being on the spot it is impossible for us to say with certainty what ails the grapes of which English, Welsh, Scotch and Irish correspondents complain. But we may point out some of the causes which are likely to affect vines injuriously, especially in a season like the present.

The vine is naturally a very long-lived plant; under favorable conditions it exists for hundreds of years. Taking all things into consideration, few exotic plants, if any, are more enduring under vicissitudes of climate; and in addition, the vine has too often to suffer great injuries from unskilful pruning. It requires plenty of moisture whilst growing, but it dislikes soil that is at any time saturated with water. A morass does not suit it. We do not mean to say that it was ever planted in a natural one, yet artificial compositions have been formed and placed in a position to acquire the nature of a morass, the principal character of which is water combined with humus. Instead of good turfy maiden loam, the soil for vine borders has been composed of rich humus earth, with a large proportion of manure, which ultimately turns to hu-

mus. This is very like the substance of a morass; one essential element only being wanting, namely, water. Dig a pit, three feet deep, and throw such a composition into it. Water will naturally find its way into the hole, and then we have a very tolerable imitation of a morass. In the same composition freed from stagnant moisture the roots of vines would exist, if it had been raised, for instance, above the general level of the surrounding surface; but when sunk below this, the roots perish. Vines will thrive in almost any soil if it be raised in form of a terrace, and, by so doing, much expense in making vine borders might be saved, with more successful results than is obtained by the excavating system. Some may urge that although their borders are deep, yet they have drainage still deeper, and therefore saturation cannot take place. This may be true; but if water do not lodge, cold air will do so more than in a terrace. It might not, however, be possible to raise a border in front of vineries already erected. But something like an area could be formed in many cases, like that round dwelling-houses, and it should be quite as low as the bottom of the border. Into this area the cold air, owing to its greater density, would descend from amongst the particles of soil in the terrace, and would be replaced by warmer. The adoption of the terrace principle will doubtless become general, and it will tend greatly to diminish the numerous complaints about the shanking and shrivelling of grapes.

Vines, however, may be well conditioned at the root and yet rendered weak by unskilful pruning, performed in ignorance of the functions of the leaves. On these not only the formation of wood, but even that of roots depend. A vine may produce a good crop of fruit with rather a limited amount of foliage for one season, but it will be weakened in consequence, for the growth of fresh roots will be prevented in proportion to the undue privation of foliage. Sometimes grapes are sour, and this may be owing to the foliage being removed in order that the grapes may be better exposed to the light. We have seen gooseberry bushes entirely stripped of their foliage by caterpillars; the fruit was large; but although exposed to the sun's rays without being shaded by a single leaf, it never ripened, and the berries were as sour as

vinegar. The same thing occurs if a vine is entirely deprived of its foliage, which is therefore essential to the ripening of the fruit. Success or the contrary depends on its healthy or unhealthy state. Its extent should be encouraged as far as it can be properly exposed to light; and on the extent of healthy foliage in one year, the crop of the next greatly depends.

It will however be found that during the present uncongenial season the vine has been suffering, in common with other plants, from a circumstance to which it is impossible to draw attention too frequently: we mean the temperature of the soil. Look for an instant at the following comparison:

TEMPERATURE OF THE SOIL AT ONE FOOT DEEP IN

	January.	Feb'ary.	March.	April.	May.	June.	July.
	Deg.	Deg.	Deg.	Deg.	Deg.	Deg.	Deg.
1859, - - -	44.09	45.21	48.57	49.67	53.95	63.95	67.22
1860, - - -	43.69	40.36	43.41	46.95	54.46	58.45	59.99
Difference, -	0.40	4.85	5.16	3.72	+0.51	5.50	7.23

From this it appears that the ground has been much colder than last year, except in May, when we had a heavy fall of rain from the southwest. But newly raised plants in the open ground, or others having their roots near the surface, must have had them often affected by a much greater degree of cold than that indicated at a foot deep, for in May the temperature on sixteen nights was below 40° ; on five nights it was at or below freezing; and on the 9th it was as low as 27° . In June the temperature at night was frequently below 40° ; on the 14th it was 34° . Even so lately as the 25th of July it was also 34° ; the radiating thermometer at the same time indicating 2° below freezing, a most unusual occurrence in the dog-days. Rain did not fall in gentle showers or heat-bearing storms; on the contrary it has been for the most part associated with violent currents of cold air, so that the ground has been saturated with moisture from newly melted hail and sleet. Owing to this, and the frosty air at nights, the roots of plants near the surface must have been frequently cooled almost down to freezing. The unthriving condition of such plants as are not very hardy, is therefore not to be wondered at. Under such circumstances no exotic seeds could be expected to germinate freely, if at all.

ENGLISH STYLE OF LANDSCAPE.

BY WILSON FLAGG.

“FAIR PLAY” means well; he endeavors to be just; he thinks he is reasonable; he writes in good temper, and he deserves an answer. It is not necessary to assign “a logical reason” for a fact. If I accuse “the authors and advocates of the English style of landscape” of destroying simplicity, I must prove my words by appealing to their works, not by any syllogistic course of reasoning. I alluded, however, to those English writers whose works have been republished in this country, and to the practice among our people which has resulted from the study and perusal of them. I do not condemn the practice of Englishmen in their own country, which I have not seen. I condemn only the effects, visible in our own land, produced, as I believe, by a general endeavor to carry out the principles of English gardening into our own practice.

If this practice be “the counterfeit” of the true English style, it is this counterfeit I condemn. It is, nevertheless, what the majority of our American practitioners, both amateur and professional, have believed to be the true English style, after a careful study of the works of Repton, Smith, Kemp, and others of the same class. If, therefore, I have mistaken the counterfeit for the real, the community in general, including the most noted American writers and artists, have made the same mistake. I have seen only one exception in practice; this is Mr. Lee’s estate in Jamaica Plain. He considers his grounds laid out in the true English style; but it is not the style of Repton, nor of Smith, nor of “capability Brown.” If Mr. Lee derived his ideas from any English author on the treatment of landscape, he obtained them from Uvedale Price, the most noted and the most bitter opponent of Brown, who taught the system of English gardening, of Repton and of others who followed him, and of their practice.

I do not consider it incumbent upon me, if I condemn certain principles and practices, that, as “Fair Play” contends, I should “be able to adduce some startling and distinct theory, capable alike of practical illustration, and of cast-

ing existing systems in the shade." If I advise a female friend to cast off her jewelry and other luxurious ornaments, I may not be unreasonable, though I refuse to explain what other gewgaws she might be allowed to substitute in the place of them. I should be satisfied if she cast them off, and afterwards appeared in neat and simple attire. If we displace an error or a superfluity, neither reason nor common sense requires that we should furnish a substitute.

Nature exhibits superfluities no less than art. These superfluities must be removed, both for the improvement of landscape and for the purposes of agriculture, and to serve other wants of society. This is all that needs to be done. Let there be no ornamentation of the face of nature. Let us, if we choose, construct flower gardens and pleasure grounds, and make them highly ornamental. But so far as general landscape is concerned, let nature, when it is practicable, be her own artist; and when we are clearing the field or the road-side, let us be careful how we displace her spontaneous growths of trees and shrubbery to accommodate something "far fetched and dear bought."

The discussion of this question we hope may awaken attention to the beauties of true landscape art, as well as to a knowledge of the defects in its practice. Both our correspondents are right in some respects, though apparently differing. Mr. Flagg certainly cannot say that Price gave us anything more than ideas—some of which it would be difficult to carry into practice; and "Fair Play" is right in referring to illustrious examples of true landscape art in Great Britain. Yet it must be admitted that in this country we have mostly the "counterfeit," to which Mr. Flagg undoubtedly refers—certainly if the New York Central Park is called an example of landscape gardening, we never knew what it was. Since the communication of Fair Play appeared, we have had the opportunity of examining this celebrated Park, and must confess that it is not only undeserving the name, but a libel upon it. But as we shall refer to it soon more at length, we defer remarks at this time. We have seen too many examples of landscape gardening in England to admit that Mr.

Price alone possessed a knowledge of what it was. We regret Mr. Flagg should cast any slur upon a noted English landscape gardener, who, though called "capability Brown," not only laid out many beautiful parks and improved others, but was in reality a talented man, who laid the foundation of the true English style, as advocated by Price, and carried out by Repton and others. If his practice had faults, as we know it had, it must be recollected that he had to contend against the prevailing method of his day, of planting in the geometric or artificial style, and hence so complete a departure from it as Mr. Price and others advocated would have precluded him from doing the good he could otherwise accomplish. A true natural style, as now understood, would have been rejected by many who employed him to carry out his ideas.

In conclusion we may add, that a discussion of the true character of landscape gardening, that men of taste may understand its principles, cannot but be of the highest interest to our readers.—Ed.

NOTES OF A EUROPEAN TOUR.

BY THE HON. J. S. CABOT.

DEAR II.—I returned to Paris about the middle of August, after an absence of more than seven months, the last two months of that period having been spent in Germany, Holland, Belgium, in going up the Rhine, and in Switzerland. The extent of the country passed over forbids an attempt at other than a very general description, or to any detailed accounts of its agricultural products, within the limits of a letter, had I time therefor, which I have not, even with the certainty of success. In what I have to tell you then I must confine myself to an exceedingly general statement of the face of the country, and some account of those of its products in which I suppose you will most probably feel an interest.

Much of Germany, including Holland and Belgium, consists of broad plains devoted to the raising of the common

agricultural products, grass and grain, together with some tobacco, hemp and flax. The soil of these plains is generally light,—a sandy loam,—becoming in some places sandy, as in the vicinity of Berlin, and in others low and wet, as in Holland, but yet furnishing some of the best corn land in Europe, as in Hanover and Brunswick. Most of these plains, though of different degrees of fertility, under good cultivation produce apparently satisfactory crops; in northern Germany large quantities of the land is devoted to the raising of rye; but of grain, wheat is generally the predominating crop. In Holland, the attention of the farmers is principally given to the dairy and to cattle husbandry; in that part of it through which I passed the soil was devoted to the raising of grass for hay, or for pasturing, and the fields were literally swarming with cattle. These were generally large, fine looking animals, and the cows, so far as I could judge, exhibited good milking properties. As it seemed to me, much of the country above referred to possesses great agricultural capabilities, and these appear to be carefully and judiciously improved.

A by no means unimportant branch of rural industry in many parts of Germany, and even Switzerland, is the raising of fruit, at all events if one can judge by the number of trees that one sees. This is especially true of portions at least of the valley of the Elbe and the Rhine, that, so far as the appearances of the trees afford a reliable indication, are particularly well adapted to the purpose. In the upper part of its course the Elbe flows through a mountainous region, designated as Saxon Switzerland, and among these mountains are numerous fertile valleys, that, with the level land along its banks, are so covered with fruit trees that you ride for miles on miles through a continuous orchard. These trees are apples and pears, the pears predominating, together with cherries, plums, &c. The trees were thrifty and vigorous, though not much pains seemed to have been bestowed on their cultivation, for they were not unfrequently growing in grass ground, neither did much care seem to have been taken in their pruning or training, but, on the contrary, they appeared to have been left to grow as nature might choose. In the lower part of the valley grapes are cultivated, and these,

together with other fruits produced in excess of the wants of the country, find a foreign outlet from the port of Hamburgh. It is as I suppose that they are shipped from that city that the name of Black Hamburgh has been applied to one variety of grapes, and not because they are there produced, for I do not think that grapes are grown in its vicinity.

As in the valley of the Elbe, so along the course of the Rhine, are vast numbers of fruit trees covering the slopes of the lower hills and the bottom lands along the river when the former, as is the case where the exposure is suitable, are not occupied by vineyards. Some of these hill sides are peculiarly well adapted to the grape, and here is at least one of the most celebrated vineyards in Europe—that of Johannisburg—occupying a tract of limited extent on one of these slopes exposed to the full influence of the midday sun. Grapes, upon a soil suited to them, with a proper exposure, are an exceedingly valuable crop, and such land commands a very high price.

In Switzerland, I was surprised at the number and quality of fruit trees. I met with them in great quantities in all the valleys through which I passed. There was a few apples and pears up even in the valley of Chamouni, under the very shadow of Mont Blanc. I think I have never before seen as large or finer pear trees than I observed in Switzerland, many well filled with fruit. In some of the upper valleys plum trees were very abundant, bearing a small oval plum, apparently a native or wild variety. Here too, walnut trees, I mean what is known with us as the English walnut or Madeira nut, were very numerous, frequently of great size; some of four or five feet in diameter; this tree, too, being very common in parts of Germany.

If I was astonished at the quantity of fruit trees in Switzerland, I was disappointed at not seeing more of them, especially of pears, in Belgium, for I had been accustomed to consider Belgium as the paradise of that fruit. Yet though I saw many trees as I passed along, still they were in much fewer numbers than in parts of Germany; it may be that I did not visit the part of it where most attention is given to this species of cultivation. I can merely state as a fact, what was presented to my observation, and that may be very erroneous.

Notwithstanding a very unpropitious season, the crop of fruit in Europe is large, yet it sadly needs sun and warmth to bring it to maturity. Cherries have been very abundant and of great size and beauty; so abundant as in some places to be not worth picking. I have never before seen such cherries as I saw this year in large quantities in Germany and Switzerland. They could be bought in the market any day by the bushel, of a quality that could, without selection, contest probably with success, for the prizes of the Massachusetts Horticultural Society. Plums are in the market in large supply. Reine Claudes, apricots, and other varieties, though the crop is not in equal abundance with that of cherries; the quality is however very good. Apricots too, a fruit not much cultivated with us, are plenty in all the markets, of different sorts, the kind mostly raised being a large yellow variety, with a red cheek, very handsome and attractive in appearance. These varieties of fruits are in most respects, I think, decidedly superior in Europe to what they are with us. They are finer, sounder, apparently less liable to decay, and the first larger than with us; possibly the flavor is not as rich and delicate as in New England; but even in this particular their want of superiority may be exceptional, this year, owing to the peculiarly bad weather and want of sunshine. The trees too, of the two first named sorts are, I think, more healthy and vigorous here; the plum is free from the black warts with which they are so infested in the United States; at least I have never seen an instance of it, though I have looked for it carefully, and cannot learn that such disease is known here. Indeed, I do not feel sure but that others of the finer fruits find, in some respects, a more congenial soil or climate, or both, in Europe, than that of Massachusetts. Pears for instance, I think, are fairer, smoother, more free from spots and cracks than with us. I have certainly seen as fine specimens of some varieties of pears in Boston as I have ever seen anywhere; but taking all the varieties together, as seen in the fruit stores and markets, I think they are better here. Perhaps you may say that I only see here such as have been selected, instead as in the United States seeing them as they grow promiscuously both good and bad. This may be so; I can only give my impres-

sions from what I do see, without intending to express a settled conviction. For these impressions I do not rely so much upon the evidence afforded by the Beurré Gris, Doyenné Blanc and St. Germain, varieties except under exceptional circumstances worthless with us, while here in their season they are abundant in the market and very fine—because such may have been grown on walls or in some peculiarly favorable position, though this would tend to prove the milder climate of Europe to be the more congenial to the fruit—but rather upon the fact that I have seen here the Van Mons Leon le Clerc, the Burgomaster, and the B. Tougard, varieties generally so cankered with us as to be worthless, growing upon trees in an open exposure, perfectly smooth and fair—though the trees of the two first named, even here, show marks of the disease—and also upon the appearance of pears that I see daily in the markets. Supposing me to be correct, it perhaps accounts for the fact that so frequently new pears, with a high reputation in Europe, prove indifferent or worthless when introduced among us, without rendering it necessary to impute it to fraud or deception; and it goes to prove the necessity, in making selections of varieties, of relying upon the experience of our own cultivators rather than that of European; that of the former happily being sufficiently extended to afford a wide range for such selection.

The market of Paris is now abundantly supplied with fruit of all kinds, the whole empire and even the African colonies contributing to this supply of the capital, railroad and steamers affording great facilities for this purpose, so that there is to be found in the market not only the fruit grown in the vicinity of the city, but that grown in distant parts of France, as well as melons and grapes from Algeria. Peaches are very abundant, of both the yellow and white fleshed varieties, the latter being the kind mostly grown in the vicinity, and from which the supply now comes. The best specimens are very large, high colored and beautiful, but they evidence strongly in their want of sweetness the want of sun and heat. They sell by the single peach at from 3 to 5 sous each, and even higher. Pears too, are plenty, of different varieties; the Bartlett, called here the Williams, being the most common, the

specimens very good in quality, and size about equal to those of the same variety with us ; yet, taking them altogether, I think rather fairer and handsomer. Earlier in the season, the Jargonelles, or as here called, Cuisse Madames, were abundant, and these were much finer than I have been accustomed to see this variety. Latterly I have seen a few Louise Bonnes in the fruit stores, brought, no doubt, from the south. The price of pears is high, about the same as that of the best peaches. Good grapes are plentiful at from three-quarters of a franc to one franc per pound ; the very handsomest, however, sell much higher,—from three to five francs (75 cts. to \$1) per pound. The varieties are of both the white and purple sorts, the former much the best. I presume the white to be the Chasselas, the purple varieties I cannot positively identify. One is a large berry, and may be the Black Hamburgh, though I think not ; the other purple variety is a small round grape. Besides these fruits, the market is well supplied with apples, currants very fine, raspberries and figs ; these last being of two varieties, one green, the other purple, both quite large. Cherries and strawberries too, are yet to be found in the market. The cherries are the Reine Hortense, a bright red rather acid fruit ; the strawberries resemble strongly the Wood strawberry, but must be I suppose of the Alpine or some ever bearing sort. The best are very large, as large as good sized Hovey's, and very handsome. The plums are mostly Reine Claudes ; they sell for from six to twelve sous a dozen. I do not see any blackberries in the Paris market, though I have seen the fruit growing wild. Early in the season I frequently saw whortleberries for sale in Germany. I saw in Paris what at first I supposed must be a new variety of mulberry, but have since been told that it was the common black mulberry. They were very large, as large as the Dorchester blackberries raised by Mr. Nugent or Mr. Merriam, and rich and juicy ; I thought them a fine fruit. If this is the small black mulberry common with us, grown under different conditions as to soil and climate, it serves to prove the effect of these agents upon the qualities of fruit. The present season has been the most unfavorable one known in Europe for a long series of years. Most of it has been very cold, and with the exception

of one or two short intervals of fine-weather, it has been a constant succession of rain. How the fruit has ripened at all under such circumstances it is difficult for me to conceive, but it appears to have done so; though in a want of sweetness it shows the want of heat. The harvest promised well, but it was gathered in in such bad weather that it must be more or less injured. The grapes, so far as I have seen them in both France and Germany, look finely, with no appearance of disease, yet the crop must I think be in a very precarious condition.

I went, while in Ghent, to see the nursery grounds of M. Van Houtte, the largest establishment in Belgium. It is devoted principally to the raising of bulbs and ornamental plants and shrubs, but M. V. H. is commencing the cultivation of trees on an extended scale. The nursery grounds occupy a tract of about 56 acres; upon it are 30 greenhouses, one of 260 feet in length, the others of about 100 each. They are low houses, with span roofs, and are all warmed from one furnace. Each species of plant has a particular house devoted to it. Upon the grounds are 100 small wells, for the purposes of watering, all connected by pipes, and filled from the river by a hydraulic machine. M. V. H. has also here the necessary buildings for the work connected with his horticultural publications, all of which, the printing, drawings, and engraving of the plates, is executed upon his own premises. M. V. H. cultivates hyacinths largely, that flower being a favorite with him, and his soil well adapted to its growth, equal to that of Haerlem. He has a great quantity of bulbs for sale, in appearance equal to any that I have ever seen; great pains are being taken to keep the different sorts distinct. Gladioli and lilies are also largely cultivated, and of these there are many new hybrid varieties from seed. M. V. H. has many new Siberian plants not yet on sale, and is also the possessor of all Siebold's plants. He has, too, a great collection of roses.

The nursery of the late M. Papeleu is now conducted by Madame P., his widow. The trees are principally grown at Wetteren, but as it was at some distance from the railroad, I had not time to visit the grounds. At the garden in Ghent I

saw some beds of fine pear trees and of trained peach trees, and a large quantity of grape vines of numerous varieties.

The largest nursery on the continent, if not in Europe, is the one so generally known in America, that of M. Leroy of Angers. It occupies, as he told me, about 400 acres of ground, and gives employment to from 200 to 300 workmen under the direction of 24 overseers. Here was a vast quantity of pear and other kinds of fruit trees on sale, all looking thrifty and vigorous. Most of the pears are on quince stocks, which are generally most approved in Europe, though there were some upon pear for such as might prefer. The trees are raised in beds divided by walks, along which are planted rows of specimen trees of every variety to prove and test them. Great care seemed to be taken to keep the varieties distinct and true. The specimen peach trees, that were in great variety, were trained on a wall, and both these and the pears as well as the plums show a fine crop of fruit that also looked very well. Besides trees, M. L. has also a large collection of magnolias, roses, and other ornamental plants and shrubs. I have never seen any collection of magnolias to compare in extent with that of M. L.'s. To show the favorable character of the climate of Angers, I saw in M. Leroy's garden a bed of large camellias, fine healthy shrubs growing in the open ground, without other protection than that afforded by a wall in the rear. M. L. takes great pains to procure all new fruits as soon as produced, and almost any variety can be obtained of him. He told me that he had this year received two large boxes of scions of American varieties from the United States. The nursery grounds were in good order, though the complaint was made that the wet weather had seriously impeded the necessary operations. The fruit department of M. L.'s nursery is under the direction of M. Desportes, a very skilful pomologist and intelligent man, who is interested in the establishment.

MM. Jamin and Durand, very reliable nurserymen, have an establishment near Paris, where they cultivate fruit trees and some ornamental trees and shrubs. The grounds immediately round their house is devoted to the raising of trained trees, principally pears, of which they have a large stock of

fine trees. Here too were numerous specimen trees of pears set along the alleys and walks, mostly well filled with fruit looking very well. M. J. has also many seedling pears, several of which were in fruit. He has succeeded in producing one, of which he entertains a high opinion, and of which he has a stock. As the nursery trees were at some distance, I did not have time to visit them; they are mostly budded on quince, which as a stock M. J. highly approves.

I have been to see other nurseries, of which there are some near this city, and a great many at Angers, but have not time now to speak of them. Those above named are among the most prominent. I leave here in a day or two for the west of France, and from there to England, and before the lapse of many months, hope to see you.

Paris, September 1, 1860.

TREATMENT OF THE ORCHARD HOUSE.

BY JAMES WALSH, GARDENER TO G. G. HUBBARD, ESQ., CAMBRIDGE.

PUBLIC attention having been directed to the Orchard House of G. G. Hubbard, Esq., of Cambridge, through an able editorial in a previous number of this journal, a brief account of the treatment adopted in the management thereof, and the results to which such treatment has led, may not be uninteresting to its numerous readers.

The trees were imported in the Spring of '59 from the nurseries of M. Leroy, Angers, France, and tubbed immediately on their arrival, kept in the open air the summer and autumn following, well syringed and regularly watered, and at the close of the season removed to the house, the young wood being then thoroughly matured.

When the winter had fairly set in, the trees were covered with seaweed, (*Zostera marina*), as fresh as could be procured, over the branches and on the surface of the tubs, with a view to shading them from the influence of the solar rays, as well as of overcoming in some degree the action of frost.

In this condition they were kept until March, the house being well ventilated in the interim during clear sunny weather, and shut up close at night, and in cloudy or inclement periods. Thus treated, keeping the temperature as equable as possible, and studiously avoiding, as far as practicable, all extremes, they wintered in a state more nearly approaching that which Nature assigned them than if they had been consigned to the cimmerician darkness of a cellar, (as hitherto practiced wherever pot or tub culture has been attempted,) and subjected to the deleterious influences of damp and mildew—the never-failing concomitants of a confined and stagnant atmosphere.

The consequence was, that when uncovered last March the buds were as plump and vigorous as if they had wintered in their natural *habitats* and been exposed to the invigorating influences of a genial and more favored clime.

The only difficulty experienced in their management occurred at this stage, which difficulty attends all hibernatories of whatever kind, though, perhaps, less so in an orchard house than in any other, that is, sufficiently retarding the trees, in order to secure them from the injurious effects of the high day-temperature and cold nights which frequently happen in the month of April, and which call forth all the vigilance of the cultivator. Here, as before, these extremes of temperature were made to approximate as much as possible, aiming at a minimum rather than a maximum degree, which was effected by shade during bright sunshine, so as not to excite the sap in the branches, and, at the same time, by keeping the trees perfectly dry the action of the root system was not stimulated.

At first, when water was applied, it was given rather slightly, increasing in quantity as the trees advanced into bloom, with occasional waterings of liquid manure while the fruit was setting. When it had set, the quantity was diminished until the trees were covered with foliage, and, after the full development of the stone, again plentifully supplied; giving liquid manure for every third watering, or, perhaps, twice a week; gradually lessening these applications as the crop approached maturity, in order to inspissate its juices and thereby increase the flavor of the fruit. Of course it is needless to observe that syringing

overhead was also given, sometimes twice a day when the air was hot and dry, to check the green fly and the red spider.

The trees were in bloom the latter half of April, and the fruit had set before bloom of the same kinds in the open ground expanded. Cherries, pears, and plums were a fortnight in advance of those out-doors, and peaches three weeks earlier, besides apricots, figs, and nectarines, which, it may be safely said, are useless unless cultivated under glass.

So far the Orchard House is a decided success, presenting, as it does, a gain of time not to be overlooked in a pecuniary point of view, and taken in connection with the certainty of obtaining a crop in any season however unfavorable, when it is utterly impossible to have one out-doors, the orchard house, glass-roofed shed, or whatever other name such structure may be designated by, offers advantages to the cultivator which warrant the conclusion that a decennary hence shall see it established as a necessary adjunct to the horticulture of New England.

To Mr. Hubbard, then, is justly due that great name which Swift accords to the man who makes two blades of grass grow where one had grown before; for his liberality and enterprise have given to this branch of the science an impetus that, like Virgil's fame, will acquire strength as it goes along.

STRAWBERRIES AND STRAWBERRY CULTURE.

BY R. R. SCOTT, PHILADELPHIA.

THE following is a portion of an Essay upon "Small Fruits," read before the Progressive Gardeners Society of Philadelphia, very recently, by Mr. R. R. Scott, and as it contains some information not generally known, in reference to the original species of the Strawberry, and is likewise instructive as regards their culture, we copy it entire, with the remarks elicited upon it from some of the members. The other portion of the essay relating to other small fruits, we may give at another opportunity:—

In proposing the subject of small fruits for consideration, it was not with the view of attempting to add materially to the knowledge already possessed by the members of this Society on the subject of the cultivation and management of the fruits embraced. My object was to point out their importance as a remunerative crop to the careful farmer, and their influence on the health of the community. Little new, in my opinion, can now be added to our knowledge of the principles which regulate their cultivation, and few physiological facts can be adduced in support of any new theory. We should always be willing, however, to lend an attentive ear to any reasonable proposition, though differing essentially from our preconceived ideas, and exhibit a due amount of deference to the conscientious opinions of others, as well as forbearance. In no branch is this forbearance and deference of so much importance as in that of fruit culture. The soils, climates, circumstances, treatment, and indeed all the conditions that tend to create variations in size, color, quality and productiveness, are there to be weighed and taken into account. And then there is such a variety in the fruits themselves. Nature has rendered the reproducing agency so versatile, that under certain conditions, now pretty well understood, the varieties which may be produced are innumerable, and their lines of separation and variation often wholly undefinable, yet apparent.

To those who study these subjects, and to those who are in daily contact and close relationship to these varying forms, and supposed invariable species or distinct individuals, little need be said on the subject of the difficulty of defining the characteristics which are held to constitute species or varieties. We have now pretty nearly arrived at the conclusion that the lines which have been laid down, as separating species of plants, are little else than arbitrary distinctions, which have occurred to the eye or apprehension of one botanist, but which another fails to appreciate, and that truly, there is no such thing as distinct invariable forms of plants or animals. We cannot yet safely adopt this view of the value of classification, which would cast us on the wide ocean of organic nature without compass or chart, though we cannot hope to come to any definite conclusion as to the actual identity of any two forms

of plants or fruits presented to us. We may compare, define, describe, analyze and test, yet the impressions obtained differ with each observer more or less. This topic of similarity or identity in varieties is of much importance in the investigation of fruits, and is indeed a fruitful source of disagreement and error. It is important as affecting the honesty or motives of originators of new varieties, and also important to the planter or purchaser of professedly new sorts. We should gladly dispense with the present consideration of this part of the subject, but we fear we cannot, so long as our fruit-growers present us with so many highly extolled varieties of fruits, so many of them as like each other as two beans. We shall, however, endeavor to be conscientious in our opinions and conclusions.

The term "small fruits," being somewhat indefinite, I shall endeavor to explain what we propose to consider under that head. We should not employ such a term, but that it has come into use among commercial gardeners recently, and is now generally understood to apply to such fruits as the strawberry, raspberry, blackberry, currant, gooseberry, mulberry, and many others. My own impression is that the term should be restricted to all fruits borne on herbaceous plants or undershrubs—this would exclude the mulberry. The term does not evidently refer to the size of the fruits, as cherries would, in that case, be included, as well as grapes, both of which I regard as not embraced in the term "small fruits," though by some the grape is included. In addition to those named, there are many small indigenous fruits which I do not now propose to discuss, such as the cranberry, huckleberry, whortleberry, berberry, and others. Only one of these has been introduced to cultivation to any extent. The cranberry is not, however, adapted to general cultivation, and though remunerative in certain localities, is not likely to become a very prominent culture. The berberry is cultivated more as an ornamental shrub; its fruit borne profusely on healthy bushes is used for preserving, and highly esteemed by those who have used it.

We have then several important fruits remaining for consideration, of which the strawberry is among the most popular.

THE STRAWBERRY.—To enter minutely and in detail into the classification, history and cultivation of this fruit, would extend this essay much beyond its defined limits. A glance at the probable origin of our numerous varieties of the strawberry appears necessary to a proper understanding of their several characteristics.

Cultivated varieties of fruits are either indigenous or exotic—indigenous if obtained growing spontaneously in the locality where cultivated, and transferred to the garden, or obtained from indigenous species of sowing seeds. Exotic if introduced from a different locality, district or latitude, marked by difference of climate and vegetation. In defining the terms *indigenous* and *exotic*, a question arises, already raised in this Society, but which we shall not, at present, consider more fully than to remark, that geographical distribution has little, if any relation to political divisions of the earth's surface, and that within the territory embraced by the United States there are several distinct vegetable kingdoms. A plant introduced from Florida or California is as truly an exotic as if introduced from British America or Canada, unless it be a form common to the flora of the entire continent. While the question as to the locality of origin is of little or no value as regards man himself, it is certainly important in reference to the plants which he may attempt to cultivate, hence the introduction of the topic here.

Our strawberries, of which there are probably three hundred sorts now known to American cultivators, one-half of which have already been rejected as unfit or unprofitable for cultivation, are divisible into several distinct sections following their origin. There are six species regarded by botanists as distinct, from which all have probably originated. In the Northern States we have but two species described in Gray's Manual, *Fragaria virginiana* and *vesca*. From the former, *virginiana*, are supposed to have been procured the scarlet varieties, of which, what is called the Large Early Scarlet, or Virginia, is an illustration. A very prominent characteristic is that of the seeds or *achenia*, being imbedded in the receptacle, or rather situated in pits on the same, while in the other species (*vesca*) it is found on the surface. *Vesca* is also indigenous

in Britain, and is there called the Wood Strawberry. Many of our American varieties are evidently of the Virginia section, as well as a few of the British sorts; for example, Black Prince and Aberdeen Seedling. Britain claims but two indigenous species, *Elateor* or Hautbois, and *vesca*. It will thus be observed that while one species is indigenous to both countries, one is exotic.

From the British *elateor* comes the Hautbois Strawberries, of which we have now several, said to be improved varieties, among them the celebrated Peabody Hermaphrodite, and Myatt's Prolific. It may be worthy of remark here that the fact of the strawberry having male and female flowers, was stated in 1817, by Michael Keens, the well known strawberry cultivator of England, in a paper read before the London Horticultural Society. Yet it has been repeatedly asserted that this discovery was due to an old market woman of Cincinnati. It seems, however, that Keens was equally observant to Mr. Longworth's old market woman, and that this discovery did not originate with her. Keens says: "I learned the necessity of mixing the male plants with the others, by experience in 1809. I had before that period selected female plants only, for my beds, and was entirely disappointed in my hopes of a crop." He does not, however, state that he discovered this peculiarity in any species but the Hautbois. The size of the Hautbois, as cultivated with us is small, but the flavor peculiarly rich, too much so to be agreeable to many.

From two exotic species, the *F. grandiflora*, indigenous to Surinam, and the Chili Strawberry, *F. chilensis*, have the pine flavored varieties been obtained. These constitute by far the greater proportion of the much esteemed foreign varieties, such as Keens' Seedling, British Queen, Trollop's Victoria, Vicomtesse Hericart de Thury, and others. These, though of confessedly superior flavor to those produced from the American species, are not so well adapted to this climate, and fail to withstand its extremes of heat and cold.

Another species of Europe, *collina* or Alpine, produces the Alpine sorts; and our small wood strawberries are from *vesca*; there is also the Green Strawberry.

The Alpine strawberries are called perpetual, as they pro-

duce fruit continuously, if properly treated. There is also a variety called the Bush Alpine, which emits no runners, of which there are red and white sorts.

It is not my wish to enter into the question of staminates and pistillates, now so thoroughly distasteful to all intelligent plant cultivators. This is a mere abstraction, and its continued discussion did not result in shedding a single additional ray of light on the principles of culture or physiology. It was, in the first place, entered into without the true motives of inquiry after truth, and every successive phase only tended to increase the acrimonious spirit that characterized it. We can now look back with complacency on that bitter discussion, which claimed to have brought to light new facts, and to have overturned the philosophy of such men as Linnæus, setting up as his instructors men who have yet to learn the rudiments of vegetable physiology and classification. But the definitions of Linnæus have not been proved in this instance, at all incorrect, and the question is to-day just where it was when that famous supposed Hovey's Seedling, which could be changed at will, was presented to the Fruit Committee of the Pennsylvania Horticultural Society.

The generative organs of all the plants of the order to which the strawberry belongs are, as it is well known, subject to variation and abortion, and to this must be attributed the entire difference of opinion among cultivators.

As to the methods of cultivation, I will be very brief, as the members present will, I hope, discuss this branch of the subject freely.

The soil best adapted to the strawberry appears to be a sandy loam, that is, a soil with sufficient strength to mature the plants and fruit, with enough of sand to give it porosity, permitting the free progress of the roots. While such a soil may suit the greatest number of varieties, it has been clearly proved that the strawberry may be grown on almost any fertile soil, from stiff clay to almost pure sand, provided sufficient fertilizing matter is supplied to the plants. Some varieties succeed better on heavy, others on light soils, which causes very different opinions as to the relative value of sorts in different soils and localities.

As to manures, much has been written on special manures for the strawberry, but I have found no manure better than a rich compost, made from barn-yard or stable manure, decayed leaves or wood mould, and properly prepared muck; this should be composted long enough to render it incorporated, so that it will crumble readily when spread. A mulch of long litter, spread just before frost, is very useful to break its severity.

The methods of planting are various. Some prefer beds about four feet wide, in which two rows of plants may be planted, the plants 18 inches apart in the row. For market purposes, this is, perhaps, the most profitable method; but for amateur culture, I would prefer single rows three feet apart, with two feet from plant to plant in the row; for the first season this would seem a waste of space, but would prove more satisfactory in the end. I would cultivate them in hills, removing all runners. Indeed I question if it would not be the best practice to leave space enough to run the horse hoe between the rows in both directions, as the cost of destroying the weeds by hand labor is the most considerable item in the expenses of cultivation.

In selecting the plants for a new plantation, if in summer, at which season many prefer to plant, the first plant should be secured by laying a little stone on it, as soon as it begins to emit roots and soon after pinch off the runner. This plant will be ready for transplanting by the first week in August, if the weather proves favorable. The prevalence of drought at this season often renders summer planting impracticable. The runners, however, can be stopped, so as to secure the plants for spring. In summer planting the soil should be in the very best condition, loose and friable, and well enriched; a deep rut may be drawn with the hoe, and the plant set therein, taking care to spread the roots. A little shading is sometimes necessary if practicable, but as this cannot be secured on an extensive scale, large plantations are generally deferred till spring. On these details I hope the members will enlarge.

VARIETIES.—I do not consider it my province to enter into a comparison of the various sorts now presented to the planter, each of them said to be the best by its hopeful originator. It

is not, by any means, a pleasant duty to point out the defects in new varieties, which, to their introducers, are perfection itself. And then tastes are so various that some prefer a fruit as sour as vinegar, while others prefer the small but rich Hautbois.

There are also various interests to be satisfied. The nurseryman extols the variety he can propagate most readily, regardless of its quality; while the amateur desires a large fruit, of good quality, regardless of its tendency to produce many runners, or none. For instance, a cultivator, at the late Fruit Growers' meeting, at West Chester, extolled the Albany above all others, even to eloquence, and after forcing it on the Society, quotes their decision to recommend his stock of 100,000 plants. This is but a specimen of the eager commercial tendency of the present day. Another grower bribes a portion of the horticultural press, and influences the patent office to extol his seedling, and he obtains a thousand subscribers at \$5 per dozen. Only five thousand dollars for a strawberry, now generally rejected, though only a few years since it brought him this round sum. Other similar schemes are daily set on foot, with which we have no right to interfere. And then the number of spurious plants sent out by careless growers, is another fruitful source of disappointment, causing difference of opinion and misleading careful amateurs, entailing loss of time and money. Against all these evils, we have no remedy but prudence and vigilance. I hope the quality of several of the leading sorts will be discussed by members.

As to the duration of plantations, my own practice is, to renew them after the third year when in beds, but if cultivated in hills they might bear well, for ten or twelve years, if properly managed. The cost of picking the crop constitutes quite an item; two cents per quart is the price paid in the vicinity of Philadelphia and in New Jersey. At this rate a female can earn \$2 per day, picking 100 quarts. The average is about \$1.25. This is of itself a public benefit, being a light employment for women and youths.

One other claim that the strawberry has upon the attention of fruit growers on a large scale, is the advantage it offers in planting between rows of fruit trees while coming into bearing,

so as to derive some return from the soil. I am well aware that the idea of raising such a crop, off ground set out with fruit trees, is not in accordance with sound culture, but in the hands of the careful farmer, who manures freely, and cultivates highly, a crop of strawberries standing three years, or what is better, kept in hills, will not be of any material injury, while it will afford an ample return to help reduce the cost chargeable to the larger fruit culture.

The following remarks followed the reading of the Essay :

WALTER ELDER.—The strawberry I plant in rows thirty-six inches apart, and the plants eighteen inches apart in the rows, the large and small fruited kinds, five inches closer each way, allowing them to remain only three years upon the same ground ; keeping them free of runners until I want young plants. New beds are planted a year before the old ones are dug down. I have grown many varieties, and consider Hovey's Seedling the best, all things considered ; I have grown it since 1835, when it first came out ; for the past six years I have priced it, and all the other large fruited kinds in our markets, and it was always five or ten cents per box dearer than any of the others, and commanded a quicker sale at that. The Albany is a very thrifty grower and great bearer, and those who prefer quantity to quality may choose it ; but to me it is like a pithy turnip to an apple of first quality, when compared to Hovey's Seedling. I think that its race will soon be run. The late decision of the Society of Fruit Growers of Eastern Pennsylvania, upon strawberries, giving the preference to the Albany, has excited much surprise in the pomological world, which will be long before it is forgotten, and has stamped them as prejudiced in their opinions, and blasted all the fond anticipations of the good the society was expected to do. It is to be hoped that public opinion will soon convince them of their error, and cause them ere long to reverse their judgment.

HUGH PETTIGREW—Felt like the man whose neighbor brought his speech in his pocket, it contained everything that he intended to say and nothing was left for him. This was the case with the Essay—it embraced every thing of importance.

As to strawberries, he concurred in the opinion expressed respecting the Albany, it was not fit for table use; Hovey's Seedling he considered about the most satisfactory variety. The British varieties had been generally discarded, as they were said to be too tender; but he found that it was deemed necessary to protect all sorts more or less with litter in winter, and he might as well protect the berry of high quality as the poor one. He had seen as fine fruit on Hovey's Seedling as on any other variety. Had purchased the variety called Germantown, for curiosity, but he must acknowledge that the vender did not state, that it was distinct from Hovey's Seedling at the time of sale.

Mr. SANDERS said he had cultivated strawberries on a limited scale for three years. The sorts most suitable were Hovey's Seedling and May Queen. May Queen is a British variety, a very handsome fruit and very productive, answered well for forcing; preferred it to Hovey's. When removed out of the forcing house and neglected for a time, as soon as water was supplied they again bore fruit in the pots. Indeed they might be rendered ever-bearing, if there is such a thing.

PLANTS AND PLANT HOUSES.

FROM THE GARDENERS' CHRONICLE.

No subject connected with plant or fruit culture under glass is less understood than proper ventilation. Few houses are ventilated properly, and fewer still are ventilated sufficiently for the health, vigor and beauty of the plants. Especially in our climate, where so much more fire heat is requisite in winter to counteract the effects of frost, is this less understood and more neglected. There is not one house in ten, but what the plants are half ruined for want of air; when spring arrives they are so lean, long-legged and weak, as to require sticks for their support, and when transferred to the open air so much injured from exposure as to nearly destroy what little of beauty may remain. Careful and complete ventilation at all times is of the utmost importance, in

plant culture or fruit growing, and when neglected, neither handsome specimens of the former, nor high flavored specimens of the latter can be expected. If there is any one thing in plant growing requiring a radical change, it is the proper ventilation of plant houses. May the following advice of a good cultivator be remembered.—ED.

The time is now approaching when cultivators will be making preparations for getting their tender plants into winter quarters; and as, even among practical men, much diversity of opinion exists as to what constitutes good practice in the management of plant-houses, I suspect a few remarks at this season on the subject will not prove unacceptable. As has been remarked of flower garden plants, most of the plant collections throughout the country require a severe weeding, whereby they would be cleared of many hundreds of plants which now encumber them, much to the advantage of those which might be left. Fortunately, however, all plant lovers begin to see the advantage of growing selections as distinguished from collections, and the recognition of the principle that good things well managed are capable of affording more real pleasure than great quantities of ill-managed, ugly, gawky plants, is now becoming pretty general. This of itself will do much good, as the more both gardeners and amateurs enter into the spirit of specimen-plant growing, the more will they see the necessity of giving house-room to such plants only as are really worthy of it, while the thousands of comparatively worthless plants which now crowd the lists of nurserymen will be thrown on the rubbish heap. I do not say that all these plants are unworthy of cultivation, as many persons may consider them very beautiful; but when it is known that, without either greater trouble or expense, better and far more beautiful things can be grown, why not grow them?

Of what use can it be to grow two or three hundred varieties of camellia which some of the continental nurserymen profess to sell, when we know there are not fifty really first-rate kinds among them? Would it not bespeak better taste to grow the good kinds only, and, if a number of plants are

required, duplicate with two or three of the best variety. Again, of ericas, though in plant catalogues upwards of five hundred species are enumerated, and the nurserymen have almost as many varieties, who would think of growing that quantity for the sake of saying, "I have every known kind," when we are aware that one hundred kinds would take the cream of the whole collection, and that with fifty more there would be very few left that a cultivator would care about giving pot-room to. If, however, selection is so much required among hard-wooded plants, still more is it needed among soft-wooded ones, such as pelargoniums, fuchsias, calceolarias, cinerarias, and the like. The varieties of these plants are almost innumerable, and except to those who are always among them, almost undistinguishable.

Let us however hope the time is coming when the importance of growing good plants only will be generally acted upon, and then we have no doubt the importance of growing specimens, as distinguished from the poor miserable wretches we too often see, will be generally recognized, and not be confined almost to a few localities as at the present time. These remarks are offered in connection with the management of plants and plant-houses, for the purpose of directing attention to the indispensable necessity of giving ample room to every plant; for, without this, success in plant cultivation is impossible. We all know that if we plant a crop of cabbages too thick, or sow peas without allowing sufficient room between the rows to admit the sun and air freely among them, that we neither get fine cabbages nor yet good peas, because the plants being crowded together, do not get sufficient light and air to elaborate the juices properly, and consequently they are not only deficient in flavor but also in those nutritive and life-sustaining qualities for which these vegetables are so much admired. Now, plants cultivated in pots or under glass, though they may not produce edible fruits, obey the same laws of nature, and to bring them to perfection they must have an abundant supply of both light and air, and that not by fits and starts, but, if first-class cultivation is aimed at, regularly day by day. Hence, specimen plants, whether indoor or out, should never be allowed to touch each other; neither should

they be so placed, especially during the winter months, that they do not get a good share of light on all sides.

With reference to the influence of light as connected with plant cultivation, it would appear that the theory of its importance is not borne out by practice, inasmuch as no decided improvement has resulted from its use; but, on the contrary, we know some of the best practical gardeners in the country are decidedly opposed to the use of sheet glass. So far as our own experience enables us to judge we have no great affection for it; and except for its superior appearance and economy in repairs we should not care much about using it. Singular as it may appear, it is not more singular than true, that nearly all the best specimens of both fruits and plants sent to the London exhibitions are grown under common glass and very frequently in heavy houses, seemingly ill-adapted for first class cultivation. We have been growing plants under sheet glass of the best quality for some time past, and we find that houses so glazed require much closer attention in changeable weather, and are very liable to scorch the plants if neglected.

Where houses are glazed with sheet glass in large squares they should be freely ventilated very early in the morning, especially in the early part of the season. And they should not be shut up too early in the afternoon as is customary with the common greenhouses. The ventilation of horticultural buildings is a subject of great interest at the present time, and promises to occupy a good share of public attention. Those who have gleaned their information on this subject from their daily practice, know as their fathers knew before them how necessary it is to the well-being of plants that there should be a constant interchange or renewal of the air in plant and forcing structures, not only during the day but also during the night, and good gardeners take care to have a thorough circulation of it at all times, and at all seasons when it is possible to admit it. The disciples of the theory promulgated by Mr. Ward, in whose air-tight glass cases plants such as cacti, orchids, ferns, and other cryptogams, managed to drag out an enfeebled existence for many months, ran away with the idea some years back that because these

plants lived other plants must grow, and consequently ventilation became a very secondary consideration among scientific men ; indeed, we recollect a range of houses the top sashes of which were all screwed down, and the result was the Black Hamburgh grapes became red ones in succeeding years, and the gardener lost his situation. To these houses air was admitted by holes cut midway between the glass and the footpath of the back wall ; but these holes were never opened except to lower the temperature of the house. Horticultural architects, who too frequently know nothing of practical gardening, soon took up the idea because it was fashionable ; and hence it would be easy to point to iron-roofed houses built about that time, which were so badly ventilated as to render it impossible, without shading in sunny weather, to prevent the plants being scorched to death. This was one of the reasons why metallic-roofed houses became so unpopular, and were so much dreaded by gardeners.

We have always laid it down as a rule that plant and forcing houses should never be closed during either night or day except in the most severe weather, but that "from night to morn, from morn to dewy eve," there should be a constant and perpetual interchange of the external and internal atmospheres. While, however, we would do everything in our power to secure this interchange, there are one or two things which must be carefully guarded against. We all know how very injurious it is to the animal frame to be placed in a current or draught, and that a current of air admitted through a broken window will lay the foundation of diseases which will quickly gather a strong man to his fathers. Scarcely less injurious are currents of air to plants, no matter whether they be warm or cold ; and there are certain greenhouse plants, as, for illustration, *Boronia serrulata* and *pinnata*, *Crowea saligna*, the whole tribe of *gompholobiums*, and many other Swan River and New Holland plants, which, if placed in a current, will not only refuse to grow but will positively die. Even heaths hate a draught, such as is admitted by the small opening of a sash, but they delight in a free circulation of air admitted in a volume so as to act upon the whole plant at the same time. No greater proof can be given of the injurious

tendency of currents of air to plants, than the fact that a draught of frosty air admitted through a broken square will kill a plant in a greenhouse, the temperature of which shall never be below the freezing point, while the same plant, though frozen quite hard but protected from a current, would be uninjured. This fact we proved several times during the last severe winter, and so satisfactory was it to us, that while we admit all the air we can to our plant-houses, we always take care to guard against strong currents.

From the preceding remarks it will be seen that the ventilation of plant-houses is an operation which requires careful management, and is a point in cultivation which it is necessary should be well studied. In congenial weather, of course, air can be admitted at any and every part of the house, but in severe weather it is necessary to exercise great caution. Of all the plans which have come under our observation for winter ventilation, that of admitting cold air by means of drains passing from the outside of the back wall under the house to the heating apparatus, and escaping upwards among the hotwater pipes, is the best, and if some wire gauze or perforated zinc be placed along every alternate light at the top of the house, the ventilation can be regulated with very great nicety, and without any fear of doing injury so long as the heating apparatus is kept warm. The cold air drains under the house should be of considerable size, not less than nine inches square, so that, in the case of ripening forced fruits a large volume of fresh air can be constantly rushing in, and as the quantity of air admitted will be governed by the escape at the top of the house, no fear need be entertained of cold currents, so long as the back ventilators are properly regulated. Of houses thus arranged we have never closed the cold air drains at any time during the last three years, and by strangers the atmosphere has always been admired for its fresh and wholesome feel. In these houses the lower pipe of the heating apparatus is laid in a tank, so that the air receives a necessary supply of moisture, before it passes among the plants; and when we require a very moist atmosphere, it also passes through a coarse, moist woollen net which makes it all that can be desired for plant cultivation. Of course this sys-

tem of ventilation causes a waste of heat and an increased consumption of fuel ; but that we do not care for so long as we are sure we are benefiting our plants by the additional expense.

Some modification of this plan we should recommend to every one who is desirous of excelling as a plant cultivator, and we would particularly impress upon amateurs the importance of guarding against currents in their plant-houses, especially during the winter season. Taking the precautions previously pointed out and guarding against over excitement as to temperature, with due attention to watering and allowing each plant plenty of room and thorough cleanliness both in the plants, pots, stages, and houses, success is certain ; but neglect one of these points and you will most assuredly and deservedly pay the penalty of your indiscretion before another summer dawns upon us.

THE PAMPAS GRASS.

BY THE EDITOR.

No hardy plant introduced for many years into English gardens has attracted more attention than the Pampas Grass, (*Gynerum argenteum*.) It was at first thought to be tender, coming as it did from our southern hemisphere, but a trial of it proved it to be quite hardy, and those who were fortunate in possessing plants were gratified with a floral display rarely enjoyed from any new acquisition. Large quantities of seeds were distributed by the London Horticultural Society in 1856, and in the autumn of 1858 from numerous cultivators in various parts of the kingdom came reports of the huge proportions and magnificent appearance of this famous grass, which covers the vast Pampas or level plains in Brazil for hundreds of miles.

Coming from a tropical country it could scarcely be expected to prove hardy in our climate, and this has proved to be the case thus far ; a splendid specimen in our own collection grown with much care, and planted out the second year, and well protected, having been killed in the winter of 1858.

Disappointed in this experiment, another plant was carefully potted, shifted from time to time, and finally placed in a large tub about eighteen inches in diameter. During winter it had the protection of a cool greenhouse. Last spring it



20. PAMPAS GRASS.

was placed out in the open air with other plants, and soon began to make a vigorous growth, forming a splendid tuft of long slender rush-like leaves, gracefully drooping to the ground. The latter part of August it began to throw up its stout reed-like stems, from which sprang two flower-spikes

that attained the height of eight feet, terminated with plumes of feathery flowers fifteen inches long, of a light or silvery color, which actually glistened under our bright sun. It has been justly described as a "fountain of foliage, acquiring more and more force from day to day, till at last the gushing fluid sprung up into jets of living silver."

Such is the Pampas grass (FIG. 20) as grown under unfavorable circumstances; when allowed to acquire strength in a deep rich soil, it attains the height of twelve feet and throws up forty or fifty of its magnificent plumes, as represented in our engraving. South of Washington, where it will prove hardy, and attain these or larger dimensions, what a treasure it must be!

In our gardens it is doubtful whether any protection will make it safe to leave it out in the open ground: but no matter; though we may not have the pleasure of witnessing such grand specimens, smaller plants possess beauty enough to pay for all the winter room they require. We doubt not it could be kept in a dry cellar with perfect safety, and transferred to the open ground in spring, lifting it after blooming in autumn, as we do many other plants.

When growing it requires an abundance of water. The soil should be rich and light, and the aspect warm. As soon as the weather becomes severe it should be removed to the greenhouse, where, placed in a good position, its mass of gracefully recurved leaves render it a conspicuous and very ornamental object. By increasing from time to time the size of the tub, large and very fine specimens could undoubtedly be obtained. It is well worth all the labor that may be bestowed upon it. It is readily propagated by dividing the roots.

FLORICULTURAL NOTICES.

SPIRÆA NOBLEANA.—In a recent number we gave a full account of this new *Spiræa*, from the plate in the Botanical Magazine. This year the plants have flowered again, and in such perfection as to elicit the following praise from Dr. Lindley:—

At a late meeting of the Floral Committee of the Horticultural Society, Mr. Noble of Bagshot produced three of the handsomest HARDY FLOWERING SHRUBS in cultivation, namely, *Spiræa callosa*, *Douglasii*, and *Nobleana*, each loaded with masses of deep rose-colored blossoms. To the first we drew attention some time ago. The second is well known as a plant very near the old *Spiræa tomentosa*. It is of the third that we would now say a word or two.

The first that we learned of *Spiræa Nobleana* was from a colored figure and description published last year in the "Botanical Magazine," t. 5169, from which the following is an extract:—"In the summer of 1859, Mr. Chas. Noble sent us numerous fine specimens of three *Spiræas*, *S. callosa*, *S. Douglasii*, and the present, with the following remarks:—'The third must, I believe, be a hybrid between the two above named. The history of it is this. I had *callosa* and *Douglasii* growing side by side. I raised young plants from the seed of *S. Douglasii*, supposing them to be true; but their growth and flower appear to be exactly intermediate between the two; and what appears remarkable is that the whole of the bed, containing several hundreds, are quite the same.' A careful examination of the specimens seemed in many respects to confirm Mr. Noble's view, the supposed hybrid having the leaves precisely intermediate, approaching *Douglasii* in shape and pubescence, but *callosa* in tothing and green under surface; the inflorescence is intermediate between the long thyrsus of *Douglasii*, and broad cyme of *callosa*. The calyx has the patent lobes of *callosa* and glabrous tube inside of *Douglasii*; and the flowers have the evident ring of glands of *callosa*, but the color and stamens of *Douglasii*. On referring to our herbarium, however, we find the wild specimens from William Lobb of the supposed hybrid from the mountains of California, where *S. callosa* (a native of Japan) has never been found; and what is more remarkable, the specimens bear the same number (391) as Lobb has attached to *S. Douglasii*. The question hence arises, may not the seeds of both have arrived in one packet, and been sown, and their differences not having been observed, those of the present alone may have been collected and raised."

We understand, however, that Mr. Noble reports his crop to have been raised from English seed of *Douglasii*, and therefore it could not have had a Californian origin; and that a correspondent who also had *S. Douglasii* and *callosa* growing near each other also obtained from *Douglasii* three or four plants of the *Nobleana* form, while the rest of his crop was true to the parent.

Under these circumstances it is difficult to doubt that *Nobleana* is really the hybrid it is said to be. And most assuredly its appearance is so exactly intermediate between its two alleged parents as to lead to that conclusion. One circumstance we have remarked in the specimens sent us, which deserves to be mentioned. The *Nobleana* sent to Kew had the calyx hairless inside its tube as is the case in *S. Douglasii*; but in that examined by ourselves the calyx-cup was in precisely the same state as that of *callosa*, that is to say clothed with silky hairs. It therefore seems that in minute characters *Nobleana* points first one way and then another, a more likely thing to happen in a new production with characters still unstable than in an old species, the minutest peculiarities of which have been fixed by time.

At all events this *S. Nobleana*, whether natural or non-natural, is a most beautiful acquisition for the flower-garden in autumn.

539. *PTERIS ASPERICAULIS*, VAR. *TRICOLOR* Linden. TRICOLORED PTERIS. (Polypodiaceæ.) India.

A hothouse fern; growing two feet high; with tricolored foliage; increased by division of the roots; grown in moss, leaf mould and sand. (Illustration Horticole, pl. 250.)

This brilliant rival to the charming Silver Fern (*P. argyræa*) has been introduced by that indefatigable botanist, M. Linden, from India. In habit it is less robust than the *P. argyræa*, but in its varied coloring is far more attractive. The upper surface of the fronds, when fully grown, is of a shining metallic green. The nerves or veins are of a carmine purple, covered with hairs of the same color, while two bands of silver extend the whole length of the fronds and pinnules. The fronds while young are of a bright rose, and as they attain maturity change to a reddish hue, and finally to an olive green. These combinations of color and the varied changes

give it a unique and charming character which place it first among all the plants of recent introduction. A beautiful specimen in our collection fully equals the description given of this fern. It will be an indispensable addition to every rare collection of plants. Not even the remarkable *Caladiums*, the *Begonias*, or the *Cyanophyllums*, says M. Lemaire, rival this in the variety of coloring, or diversity of its deeply cut and graceful foliage.

As it is from India, it will require a rather warm house to bring out its rich tints. It loves the shade and copious waterings when in full growth. (*Ill. Hort.*, July.)

540. FUCHSIA SOLFERINO. Garden hybrid. Illustration Horticole, pl. 251.

The Fuchsia has been greatly improved within a few years. The coarse habit, which followed upon the introduction of the large-flowered varieties, has now been reduced, so that we have the graceful aspect and neat foliage of the small flowered sorts. The double flowered varieties, at first not very beautiful, have been greatly improved, and they now are, in fact, double enough. The present variety, Solferino, is one of these, raised by M. Lemoine, of Nancy, France, and is considered one of the most remarkable that has been produced. The habit is good, the foliage beautiful, and the flowers (which contain thirty or more petals) very large, and so double as to almost conceal the sepals when trained up. It will be a fine acquisition. (*Ill. Hort.*, July.)

Gossip of the Month.

AUSTIN SHAKER STRAWBERRY.—We have noticed, at page 426 of your September number, a remark in regard to Austin's Seedling strawberry, as announced in our Catalogue of 1859, and some explanation seems called for. When this strawberry was exhibited by Mr. Richardson to the Farmers' Club (American Institute) in 1859, the berries were very large, but they were so very acid that no person ate a second berry, and from sheer delicacy no opinion was pronounced, as the members did not like to wound the feelings of the Shaker Society of Watervleit, who had sent the fruit for exhibition. The berries were hollow, light, soft, and possessed but little flavor, and there seemed nothing remarkable but their size. We obtained

some plants, and also planted seeds of berries obtained at the time the fruit was exhibited, and now have above thirty seedlings from them. As it was to be offered for sale, we also offered it, in our Catalogue of 1859, at \$1 per dozen and \$3.50 per 100, which we deemed its full value.

The present year this berry has again been exhibited at the Farmers' Club. They were much smaller than last year, but had less acidity, owing to the drought, and were also soft and deficient in flavor. When these plants were advertised last spring at \$4 per doz., we were utterly amazed and wrote to Mr. Carpenter, (one of the advertisers), who stated that he had not yet seen the fruit. In our Catalogue for this year, we altered the price to \$3 per dozen and \$20 per 100, in order not to appear as opponents of the Watervleit Shaker Society. We know this variety to be much inferior to full fifty varieties offered in our Catalogue at \$2 to \$2.50 per 100, but of course so long as the public desire to buy it, we are perfectly willing to sell—business being business.—*Respectfully*, WM. R. PRINCE & Co.

Massachusetts Horticultural Society.

Saturday, September 1, 1860.—An adjourned meeting of the Society was held to-day,—the President in the chair.

No business of importance was transacted, and the meeting adjourned for one month, to October 6.

The exhibition of fruits and flowers was exceeding fine, particularly the asters.

The Fruit Committee made the following awards:—

AWARD OF PREMIUMS FOR FRUITS.

SUMMER APPLES.—For the best, to B. Harrington, for the Williams, \$6.

For the next, to Thaddeus Clapp, for Sweet Bough, \$4.

For the next, to G. B. Cordwell, for Early Harvest, \$3.

BLACKBERRIES.—For the best, to J. Nugent, for the Dorchester, \$5.

For the next, to G. Merriam, for the same, \$4.

For the next, to J. W. Foster, for the same, \$3.

CURRENTS.—For the best two boxes, to J. W. Foster, for Red Dutch, \$3.

For the next, to James Nugent, for the same, \$2.

For the next, to M. P. Wilder, for Versailles, \$1.

GOOSEBERRIES.—For the best two boxes, to A. D. Webber, \$3.

For the next, to James Mitchell, \$2.

For the next, to G. G. Hubbard, \$1.

SUMMER PEARS.—For the best, to P. R. L. Stone, for Bloodgood, \$5.

For the next, to Hovey & Co., for the same, \$3.

For the next, to H. Vandine, for Beurré Giffard, \$2.

RASPBERRIES.—For the best two boxes, to J. W. Foster, for Knevetts Giant, \$4.

For the next, to Wm. R. Austin, for the same, \$3.

For the next, to Wm. R. Austin, for Franconia, \$2.

For the next, to George Davenport, for Brinckle's Orange, \$1.

THE THIRTY-SECOND ANNUAL EXHIBITION, SEPTEMBER 18, 19, 20, 21, was held in the Music Hall, Winter Street, Boston, as in former years, and was one of the most beautiful as well as most successful which the Society ever made. Fears were entertained that the public were satiated with the Society's exhibitions, held as they are every Saturday throughout the summer season; but these fears have been unfounded, as all must admit, who witnessed the throng of visitors with which the Hall was crowded the entire four days. It fully proves that the exhibition need only to be made attractive with rich and rare plants, fine fruits, and choice vegetables, through the only true medium of *liberal* premiums, to encourage cultivators, to attract the attention of the public, whose taste has become too well cultivated to rest satisfied with mediocre productions. The day has passed when a meagre show of common plants and fruits will draw together such a crowd as witnessed this exhibition.

The arrangements of the Hall were somewhat different from previous designs. Five long tables covered the main floor. The centre one being broader than the others, only a foot high, and intersected in the centre by a beautiful fountain, which threw its spray high in the air, and gave a refreshing coolness to the atmosphere. On this table were arranged the fine collections of plants furnished by the various contributors. On the stage, where heretofore the plants were arranged, stages were erected for cut flowers, one above the other, which were completely filled. In front of this the rare specimen plants were placed. Viewed from this position the effect was magnificent, and almost oriental. From among the plants, the silvery plumes of the Pampas grass towered up, and on either side splendid Caladiums and Asiatic Begonias formed a combination of verdure and rare coloring, of which no description can convey an adequate idea. Silver, and emerald, and bronze, and gold were mingled in the singular markings of the elegant variegated plants with which our collections now abound.

Our space is limited, but we cannot avoid the notice of a few of the more rare, some of them shown for the first time in this country. Conspicuous above all were the *Pteris tricolor*, or three-colored fern, the most unique plant yet introduced, with its bronze, silver and emerald fronds; also the Silver fern (*Pteris argyræa*) of larger growth, and but little less attractive; the grand *Cyanophyllum magnificum*, with its massive foliage, nearly two feet long, of a velvety green above, and rich purple beneath; and Chantin's *Caladium* (*C. Chantini*) with broad, grass green, ovate heart-shaped leaves, with a brilliant carmine centre, and curiously shaped white blotches, with carmine spots. In addition to these were also the new *Begonias* of M. Linder, Duchess de Brabant, *harpygyrea* and *margaritacea*; and the noble *Cyanophyllum assamicum*, a fitting companion to *C. magnificum*; these and many others, all from the collection of Messrs. Hovey, were the admiration of visitors.

If the plants and flowers were magnificent, the fruits were equally splendid. Such pears and apples were never before seen in this country, and,

we think we might safely say, any other. Peaches were also good; but grapes were not up to the usual standard. The vegetables were unusually perfect. We should be glad to enter more fully into the details of the Exhibition, but our space will not admit.

PLANTS IN POTS.—From Hovey & Co. upwards of seventy fine plants, comprising, in addition to those already enumerated, *Begonia Marshallii*, *Rollisoni*, *Rex*, *Leopoldii*, &c., *Caladium atropurpureum*, *argyrites*, and *pictum*, *Cissus discolor*, *Pampas grass*, *Yucca aloefolia variegata*, *Pandanus javanicus variegatas*, *Maranta fasciata*, *Warcewiczii*, and *metallica*, *Dracæna terminàlis* and *cærulea*, *Fuchsia Daminiàna*, *Rhopalas*, *Crotons*, ten ferns, five orchids, and a fine collection of *Coniferæ* in pots, including the beautiful *Cupressus Lawsoniana*, 4 feet, *Thujuopsis borealis*, 4 feet, *Cryptomeria Lobbii*, *Thuja Craigiana*, 4 ft., *Lobbi*; *Thuja Hoveyi*, *Abies Nordmaniana*, and several others. Messrs. Evers & Comely had *Begonias* in variety, *Cissus*, *Grevillea robusta*, *Ferns* in variety, and other plants. M. Trautman sent a pretty collection, containing some fine variegated plants. W. F. Merryfield of Worcester contributed a very fine display of variegated plants, including *Caladium Chantini*, *Begonias*, *Dracænas*, *Marantæ*, &c., &c. From G. G. Hubbard a large *Maranta zebrina*, *Erica Willmoreana*, &c.

BOUQUETS, &c.—Messrs. Hovey & Co. contributed two very large bouquets for the Bradlee vases, and Messrs. Evers & Comely two for the Jones vases. J. McTear two parlor bouquets. M. P. Wilder, two bouquets. Thos. Walsh, Mrs. W. Whiting and others also sent bouquets. Mrs. W. Kenrick had a pretty floral harp. Miss Anna Story, wreath of preserved flowers, and Mrs. A. C. Bowditch a beautiful basket of flowers in perfect preservation. Misses Story of Brighton, Statue of Flora, and pretty design of a *Sylvan Retreat*. Mrs. J. A. Kenrick a cone *Cornucopia*.

CUT FLOWERS.—These were made a prominent feature of the Exhibition, occupying as they did the entire stage. The principal contributors were the President, C. Copeland, Hovey & Co., Barnes & Washburn, G. G. Hubbard, E. Stone, J. McTear, W. H. Spooner, Jr., Ed. Flynn, with others, whose names we did not obtain. Messrs. Hovey & Co. had a very varied collection of nearly one hundred sorts of annuals, *Japan Lilies*, *Gladiolus*, *Roses*, *Asters*, *Dahlias*, *Phloxes*, &c.; Mr. Copeland, fine *Roses*, &c.; and Messrs. Barnes & Washburn, *Roses*, *Gladiolus*, *Asters*, *Dahlias*, &c. Mr. D. Murray contributed a quantity of indigenous plants. *Dahlias* from E. Flynn. The *Dahlias* were exceedingly fine, and the *Gladiolus* formed a conspicuous feature among the cut flowers.

The award of premiums was as follows:—

PREMIUMS AND GRATUITIES FOR PLANTS AND FLOWERS.

PLANTS IN POTS.—For the best twenty plants, to Hovey & Co., \$25.

For the next, to Evers & Comely, \$20.

VARIEGATED PLANTS.—For the best ten, to Hovey & Co., \$8.

For the next, to Evers & Comely, \$5.

For the next, to M. Trautman, \$4.

SPECIMEN PLANT.—For the best, to G. G. Hubbard, \$8.

VARIEGATED PLANT.—For the best specimen, to Hovey & Co., \$5.

For the next, to G. G. Hubbard, \$3.

FERNS.—For the best, to Hovey & Co., \$5.

For the next, to Evers & Comely, \$3.

DAHLIAS.—For the best 50 blooms, to Barnes & Washburn, \$5.

For the next, to C. Copeland, \$3.

For the next, to Hovey & Co., \$2.

VASE BOUQUETS.—For the best, for the Bradlee Vases, to Hovey & Co., \$10.

For the next, for Jones Vases, to Evers & Comely, \$10.

PARLOR BOUQUETS.—For the best, to J. Nugent, \$7.

For the next, to M. P. Wilder, \$6.

For the next, to M. Trautman, \$5.

For the next, to J. McTear, \$2.

MANTEL BOUQUETS.—For the best, to W. E. Carter, \$3.

HAND BOUQUETS.—For the best four, to M. Trautman, \$5.

CUT FLOWERS.—For the best display, to Hovey & Co., \$15.

For the next, to Barnes & Washburn, \$12.

For the next, to C. Copeland, \$10.

For the next, to G. G. Hubbard, \$8.

For the next, to F. Winship, \$6.

GRATUITIES.—M. Trautman, E. Stone, J. McTear, W. Heustis, A.

Bowditch, for cut flowers, \$4 each; M. Trautman, for Passifloras, \$3;

Mrs. A. C. Bowditch, preserved flowers, \$3; Mrs. E. E. Bowditch,

floral basket, \$2; Mrs. A. A. Munroe, wreath, \$2; W. H. Spooner,

gladiolus, \$2.

SPECIAL PRIZES, offered by a friend of the Society.—To J. Nugent,

for the best table bouquet, \$5; to M. Trautman, for hand bouquet, \$5.

FRUIT.—The display of fruit was, without any doubt, the finest ever made by the Society, and probably never equalled in the country. There were in all nearly two thousand dishes, containing, with the exception of one collection, about a dozen specimens each,—in all, upwards of *twenty thousand* pears, apples, plums, peaches, and grapes. The pears were truly remarkable, and so generally fine that we should fail of space to enumerate such as really deserve mention; a few of unusual merit were the Seckel of A. D. Williams, the Flemish Beauty of J. Eaton, the Sheldon and Moore's Pound of Messrs. Hovey, the Easter Beurrés of Capt. Austin and Mr. Chase, the Glout Morceau of Mr. Crafts, the Beurré Bachelier of Mr. Vandine, and particularly the Bartlett of Mr. Dickinson, which took the Stanwood cup. Beurré Clairgeaus were all fine, as were the Flemish Beauty and Swan's Orange. Among apples the Gravenstein was everywhere conspicuous: never before have we seen this grand apple so large and handsome. Messrs. Hovey's collection of eighty varieties contained several kinds not before exhibited here, such as the Broadwell, Ohio Seedling, Magnum Bonum, Belmont, Pryor's Pearmain, Wetherell's White Sweet, &c. The show of grapes was rather small, and of only fair quality. Scarcely any of the few sorts of native grapes were ripe. Mr. Davenport

had the Rebecca, very good. But few plums were shown. Peaches were very good, and in tolerable quantity, sixty dishes in all. Mr. Walsh, gardener to G. G. Hubbard, made a very interesting display of fruits of orchard house culture. We can only name a few of the principal contributors.

From the President, Mr. Breck, 14 varieties of pears, 12 var. of apples, 7 var. of grapes, and peaches and plums.

From Hovey & Co. upwards of 300 var. pears, of a dozen specimens each; also, 80 var. apples. Among the pears were the Huntington, Augustus Dana, America, Hovey, Niles, Willermoz, Triumph de la Pomologie, Doyenné Samur, Barry, Doyenné Downing, Beurré Bachelier, Tea, Hampton, Moore's Pound, &c.

From M. P. Wilder, 300 varieties of pears, including the Philadelphia, Lieut. Potievin, Alex. Bivort.

From H. Vandine, 70 varieties of pears and 4 of plums. From Josiah Stickney, 60 var. pears, and 20 var. of apples. From S. Walker, 100 var. of pears. From T. Clapp, 20 var. apples. Wm. Bacon, J. Eaton, H. Davis, J. Gordon, J. H. Chadwick, Capt. Austin, J. Haley, F. Dana, R. W. Ames, S. Sweetser, and others, sent collections of 15 to 25 var. pears each. Asa Clement, Dracut, W. W. Wheildon, A. D. Weld, A. D. Williams, Jos. Newhall, E. Wight, Jas. Eustis, Geo. Newhall, J. W. Foster, and others, sent collections of 15 or 20 var. of apples each.

Grapes came from Mrs. F. B. Durfee, E. S. Rand, H. S. Mansfield and others, and hardy kinds from E. Davenport, C. E. Grant, J. J. Morneburg, and others.

There were 55 competitors for the Stanwood cup. The 12 prize specimens weighed $8\frac{1}{2}$ lbs., and 6 other lots, from 7 lbs. 10 oz. to $8\frac{1}{4}$ lbs. each twelve. The whole number of contributors of fruit was upwards of 100.

The award of the Committee was as follows:—

PREMIUMS AND GRATUITIES FOR FRUITS.

STANWOOD SILVER CUP.—For the best 12 Bartlett pears, to Alex. Dickin-
son, Cambridgeport, valued at \$25.

APPLES.—For the best twenty varieties, of twelve specimens each, to
T. Clapp, the Lyman Plate, valued at \$20.

For the next, to A. D. Williams, \$15.

For the next, to A. Clement, \$12.

For the best fifteen varieties, of twelve specimens each, to Hovey &
Co., \$12.

For the next, to J. W. Foster, \$10.

For the next, to J. Stickney, \$8.

For the best ten varieties, of twelve specimens each, to J. Gordon, \$8.

For the next, to B. Bruce, \$6.

For the next, to E. S. Rand, \$5.

For the best five varieties, of twelve specimens each, to J. Gammell, \$6.

For the next, to T. Walsh, \$5.

For the next, to B. Harrington, \$4.

- For the best dish of Apples, twelve specimens of one variety, to W. Heustis, for Porter, \$5.
- For the next, to T. Clapp, for Gravenstein, \$4.
- For the next, to T. Marsh, for Cogswell.(?) \$3.
- For the next, to W. Bachelder, for Alexander, \$2.
- PEARS.**—For the best twenty varieties, of twelve specimens each, to Hovey & Co., \$25.
- For the next, to W. Bacon, \$20.
- For the next, to J. Gordon, \$16.
- For the best fifteen varieties, of twelve specimens each, to J. Eaton, \$15.
- For the next, to H. Davis, \$12.
- For the next, to W. R. Austin, \$10.
- For the best ten varieties, of twelve specimens each, to J. Haley, \$10.
- For the next, to F. Dana, \$8.
- For the next, to W. H. Barnes, \$6.
- For the best five varieties, of twelve specimens each, to W. P. Butterfield, \$6.
- For the next, to S. W. Fowle, \$5.
- For the best dish of Pears, twelve specimens of one variety, to A. D. Williams, for Seckel, \$5.
- For the next, to J. Gordon, for Beurré Bosc, \$4.
- For the next, to J. Eaton, for Flemish Beauty, \$3.
- For the next, to W. R. Austin, for Easter Beurré, \$2.
- PEACHES.**—For the best collection, of not less than eight varieties, to T. Clapp, \$10.
- For the next, to F. Dana, \$6.
- For the best collection, of not more than four varieties, to J. Breck, \$5.
- For the next, to S. Walker, \$4.
- PLUMS.**—For the best collection, of not more than four varieties, to W. Bacon, \$5.
- For the next, to H. Vandine, \$4.
- GRAPES, FOREIGN.**—For the best five varieties, two bunches each, to E. S. Rand, \$10.
- For the next, to J. Breck, \$8.
- For the best two varieties, two bunches each, to C. E. Grant, \$5.
- For the next, to G. G. Hubbard, \$4.
- For the best collection, not less than six varieties, to Mrs. F. B. Durfee, \$10.
- For the next, to H. S. Mansfield, \$8.
- GRAPES, NATIVE.**—For the best specimens, to C. E. Grant, \$5.
- For the next, to G. Davenport, \$4.
- For the next, to G. B. Cutter, \$3.
- For the next, to I. P. Clark, \$2.
- GRATUITIES.**—**APPLES:** For collections, to G. G. Hubbard, Joseph Breck, S. B. Blagge, George Newhall, E. M. Richards, E. Wight, S. M. Weld, and W. W. Wheildon, \$3 each. J. A. Stetson, W. T. Andrews, J. Munroe, and E. C. Sparhawk, \$2 each.

S. Walker, for Gravensteins, \$1; Isaac Fay, E. Spalding, Mrs. S. W. Cole, J. H. Chadwick, W. P. Baker, J. B. Judkins, Nathl. White, J. W. Manning, E. Stone, and E. Luke, \$1 each, for collections. Seth W. Fowle, W. J. Breed, J. B. Moore, and Mrs. Lydia Dodge, \$1 each, for single dish. E. A. Story, \$1 for dish of Orange Sweets.

PEARS: For collections of pears, to Hovey & Co., Marshall P. Wilder, \$10 each; Samuel Walker & Co., \$8; to Aaron D. Weld and Wm. H. Spooner, Jr., \$5 each; to N. R. Child and W. T. Andrews, \$4 each; to J. F. Allen, Geo. Newhall, Ch. Newhall, J. S. Sleeper, J. B. Smith, H. Vandine, J. R. Poor, \$3 each; to N. White, J. B. Loomis, J. C. Chase, R. S. Frost, Aug. Parker, C. D. Swain, S. Downer, J. W. Merrill, J. A. Kenrick, Wm. Aiken, E. A. Story, \$2; to Isaac Fay, W. R. Sampson, R. Lamson, G. Gilbert, N. Harris, Jas. Munroe, J. Parker, Mrs. S. C. Cole, \$1; the Silver Medal, to G. G. Hubbard, for orchard house fruit, and to Smith & Hanchett, Syracuse, N. Y., for collection of apples and pears.

PLUMS: J. Breck, A. F. Dean, J. B. Loomis, John Mulley, C. Hill, Jr., \$2 each; H. Homer, F. Dana, R. W. Ames, A. R. Roberts, \$1 each.

PEACHES: J. F. Allen, Asa Clement, S. Sweetser, Wm. Page, A. H. Ramsay, \$2 each; E. Paige, S. Howard, G. E. Howard, G. E. Ridler, Chas. Williams, Benj. J. Bruce, Mrs. S. Pratt, G. Stedman, J. B. Loomis, W. P. Lamson, N. Harris, T. J. Elliot, H. Winship, J. W. Merrill, \$3 each.

NECTARINES: G. W. Willis, \$2; W. Delano, \$1.

GRAPES: To A. Davenport, for native grapes; to J. Fiske Allen, for a display of greenhouse grapes, \$2 each.

VEGETABLES.—We have seen larger quantities at previous exhibitions, but never of such excellent quality. Squashes were exhibited in quantity, among them the Hubbard, in great perfection. A collection of 50 varieties of potatoes attracted, deservedly, much attention. Cauliflowers were rather poor; but the Drumhead cabbages were marvels of size. The new Tomato "Pomo Lesteriano" was shown, of handsome appearance, solid and very heavy. Huge purple eggs, mammoth beets, and parsnips a yard long, contributed to fill the two long tables devoted to this important department of horticultural skill.

The prizes were as follows:—

PREMIUMS AND GRATUITIES FOR VEGETABLES.

BEETS.—For the best, to G. W. Pierce, \$4.

For the next, to Josiah Crosby, \$3.

For the next, to S. A. Merrill, \$2.

CARROTS.—For the best, to J. Crosby, \$4.

For the next, to Augustus Parker, \$3.

For the next, to George W. Pierce, \$2.

CORN.—For the best, to A. Bowditch, \$4.

For the next, to J. B. Moore, \$3.

For the next, to S. A. Merrill, \$2.

- POTATOES.**—For the best, to E. A. Story, \$5.
 For the next, to S. A. Merrill, \$4.
 For the next, to J. B. Moore, \$3.
 For the next, to Augustus Parker, \$2.
- PARSNIPS.**—For the best, to J. Crosby, \$4.
 For the next, to A. Pierce, \$3.
 For the next, to A. Parker, \$2.
- SQUASHES.**—For the best, to I. P. Rand, \$5.
 For the next, to J. Stickney, \$4.
 For the next, to J. Crosby, \$3.
 For the next, to D. and G. F. Stone, \$2.
- TURNIPS.**—For the best, to A. Pierce, \$4.
 For the next, to G. R. Sampson, \$3.
 For the next, to D. and G. F. Stone, \$2.
- TOMATOES.**—For the best, to W. T. Andrews, \$3.
 For the next, to S. A. Merrill, \$2.
- CABBAGES.**—For the best, to Anthony Hatch, \$4.
 For the next, to S. A. Merrill, \$3.
 For the next, to A. Pierce, \$2.
 For the best single specimen, to Seth W. Hathaway, \$2.
- MELONS.**—For the best, to E. M. Richards, \$4.
 For the next, to J. Crosby, \$3.
 For the next, to J. Stickney, \$2.
- WATERMELONS.**—For the best, to Thomas Walsh, \$4.
- MAMMOTH SQUASH.**—For the best, (138 lbs.) to Anthony Hatch, silver medal.
 For the next, (117 lbs.) to W. H. Barnes, \$3.
- GRATUITIES.**—J. A. Kenrick, onions, \$2; Geo. Newhall, perfected tomatoes, new, \$2; J. Nugent, beets, \$1; A. Pierce, collection, \$3; S. A. Merrill, collection, \$6; J. Stickney, muskmelon, \$2; D. & G. F. Stone, collection, \$8; J. B. Moore, collection, \$5; Howes Nourse, collection pulverized herbs, silver medal; A. Hatch, beets, \$1; S. W. Hathaway, cabbages, \$1; J. Wright, collection, \$2; J. Gammell, squashes and corn, \$2; T. Walsh, collection, \$3; Hovey & Co., squashes, \$2; A. D. Weld, squashes, \$1; D. Lane, egg plants, \$2; J. W. Foster, squashes, \$1; S. B. Blagg, squashes, \$2; E. Stone, corn, \$1; H. J. Hill & Co., Hubbard and Marrow squash, \$3; B. Harrington, collection, \$2; Jas. J. H. Gregory, Hubbard squash, Hovey's Magazine, one year; Jas. Cartwright, 3 mammoth squashes, \$3; G. R. Sampson, \$10; Samuel Kneeland, 3d, 9 years old, silver medal, as an appreciation of a young student in agriculture; G. W. Pierce, special gratuity for green curled endive, \$2; A. Parker, collection, \$3; G. B. Cordwell, collection, \$2; C. W. Gleason, 50 varieties potatoes, \$10; D. Faulkner, Gardener's Monthly; J. P. Clarke, tomatoes, same; J. T. Bradlee, same; Wm. Butterfield, same; J. T. Andrews, squashes, \$1.

Horticultural Operations

FOR OCTOBER.

FRUIT DEPARTMENT.

SEPTEMBER has been rather warmer than the average, and up to this period (28th) without frost. High winds have prevailed to some extent, but not so much as to severely damage the fruit crop. Frequent rains have continued to give vigor to vegetation, and trees, shrubs and plants have made an unusually fine growth.

GRAPE VINES in the very early houses will now begin to break, and will require much attention; as the nights become cooler stronger fires will be needed. Shelter the border from heavy rains, and protect it with a covering of manure before its natural warmth is exhausted: syringe the vines freely till the flowers begin to open. Vines in greenhouses and grape-ries may be pruned next month. Vines in cold houses should have careful attention in order to get the wood well ripened. Air liberally in good weather.

FRUIT TREES in pots should be rather sparingly watered, and have a more sunny situation to thoroughly ripen the wood.

FRUIT TREES of all kinds may be transplanted.

CURRENTS AND GOOSEBERRIES may be transplanted.

STRAWBERRY BEDS should have attention. Clear away all large weeds, as the plants will continue to grow if the weather is fine.

FRUIT of all kinds should be gathered immediately. It is rather injured than improved by hanging upon the trees after the leaves begin to fall. Pack the winter kinds in close boxes or barrels, and keep in a cool rather dry room.

TRENCH AND PREPARE GROUND for transplanting either this or next month.

FLOWER DEPARTMENT.

Frosty and cool nights will soon destroy the principal beauty of the garden, and beyond some little attention to autumn planted stock, care should be directed to the houses, which should now be put in good order for the winter. What plants cannot be easily put into the house should be placed in frames till room can be made to arrange them properly. See that soils and manures are got together for winter use.

CAMELLIAS should be cautiously watered after housing, and if the weather is warm have occasional syringings. Top dress the plants if not already done.

CHRYSANTHEMUMS will soon begin to bloom. Keep a portion in frames for late blooming, and give the others a good dry situation in the house. Water freely with liquid manure.

PELARGONIUMS should have attention. Place in a good situation near the glass, and water rather sparingly for a while. Give an abundance of air.

HEATHS should have the coolest part of the house, in an airy place.

CINERARIAS, for early blooming, should be repotted. Keep the plants cool.

AZALEAS should be rather sparingly watered now, in order to ripen off the wood and mature the buds. Keep them in the coolest part of the house.

HYACINTHS, for early flowering, should be potted.

BEDDING PLANTS, of all kinds, should be propagated for a spring stock.

ROSES, in the open ground, should be lifted and potted immediately. Hard frosts materially injure their free flowering.

IXIAS, and other winter bulbs, should be potted,

MIGNONETTE AND ALYSSUM in pots should be sheltered in a frame.

ACHIMENES AND GLOXINIAS may be placed away on a dry shelf under the stage.

VERBENAS, for winter blooming, should be placed on a warm shelf, near the glass.

MONTHLY CARNATIONS should be potted.

CALLAS should be repotted.

BEGONIAS should be allowed to dry off somewhat, where there is not the convenience of a hothouse to winter them.

FLOWER GARDEN AND SHRUBBERY.

Attend immediately to the removal of all the half-hardy stock, either into frames or to pits, when they can be removed to the house. Repeated frosts materially injure them and lessen their vitality for standing the winter well. The lawn and walks should yet have attention. Mow the former, if required, and clean and roll the walks. Sweep up and collect the falling leaves, that an air of neatness may prevail around the house.

DAHLIAS should be taken up immediately.

GLADIOLUS, and other bulbs, should be taken up.

LILIES of all kinds may be planted.

HYACINTHS AND TULIPS may be planted this month.

CARNATIONS should be removed to a frame, where they can have a slight protection.

NEAPOLITAN VIOLETS should be removed to a frame.

ERYTHRINAS should be taken up and placed in boxes of earth, and removed to the house or cellar.

HOLLYHOCKS should be potted or removed to a frame. Now is the time to put in cuttings for a spring stock.

MADEIRA VINES should be taken up.

ROSES AND SHRUBS of all kinds may be transplanted now.

DAISIES should be reset, and have the protection of a frame.

HERBACEOUS PLANTS of all kinds may be divided and reset.

PÆONIES may be transplanted.

A U T U M N P L A N T I N G .

So general is the impression that spring is the most favorable time for planting trees, that we have thought some hints in regard to it might not be out of place, as the season has arrived when such work can be accomplished with so much advantage and with such good results. We, of course, do not mean to infer that many trees are not set out at this season, for there are many genuine lovers of trees who have considered this subject, and know too well the success which has attended all their labors at this period of the year: yet the greater portion of all the trees that are annually set out, are removed in the spring, because the prevalent idea is that is the best time to do the work. Is this so? We propose to briefly examine the question, though a reference to our back volumes will find our record already made.

First, then, as regards the welfare of the tree: Is the autumn or spring best? for though the latter period may be selected for various reasons, aside from whether it is best or not, our object is to show that when such reasons do not stand in the way, the future growth and well doing of the tree are best promoted by autumn transplanting. There may be exceptions to this rule, as there are to all rules, but they hold good in but few cases, and should not be continually held up as bugbears to prevent planters from entering into the work without fear, and accomplishing double what they would under such erroneous views.

How the impression could obtain so generally that spring is the most favorable time, we are at a loss to conceive. It must have been the remnant of some remote custom prevailing in the early history of our country, when the autumn was devoted to the harvest, the season being quite short enough for its completion; and that all planting was deferred to the spring, when trees as well as seeds came under the same general rule: our long and severe frosts precluding any outdoor work, as in warmer latitudes like those of Europe. That

the prejudice is deeply rooted, we need not say; and in defence of the opposite practice, we shall endeavor to give satisfactory evidence of the soundness of our views, and that they are based upon something more than dogmatical opinion. In what way, then, it may be asked, is the autumn preferable to the spring? Let us examine the question.

The first consideration in a work of this kind is to look at the climate. Few persons would think of moving a deciduous tree in summer, and yet under certain circumstances of climate it might be done then with a certain degree of success. We are therefore to consider the climate. In Great Britain planting is continued from autumn until spring, the weather usually being sufficiently mild to permit of this; besides this the latter season is dull and moist compared with our own, and there is no heat of summer to disorganize and set at naught all that has been accomplished. No cloudless skies, and torrid blasts, of weeks duration, disturb the fears of the planter or blight his hopes. Whether done at one season or the other, though there may be some preference even in that climate, there is little or no danger that any fatality worthy of consideration will attend the labors of the cultivator, and he may await contentedly the result.

But all is changed here. Spring arrives with its cold storms, leaving the ground as the frost leaves it, a cold, clammy, sodden earth, too wet to dig or plant, until so late in the season that the trees have already begun to swell their buds, and put forth their blossoms. Yet, so rapid is vegetation, that the work must proceed with haste, or the opportunity be lost till another year. Even under these disadvantages all would be well enough, but for the summer heat and drought. These set in at once, before the tree has had time to recover, and following so close exhaust the sap, shrivel the wood, and if they do not kill the tree, enfeeble it more or less, so that at least one year is lost in the work of recovery. If these are the effects that follow in our climate, which we think will not be denied, then, at least, it must be acknowledged that climate must be taken into consideration, in transplanting; for however so advantageous may the operation be performed in a cool, damp climate like that of Great Britain, it will not do here.

A second, and important matter to be considered—and one too often overlooked—is the condition of the soil. The slightest observation must convince every one, that there are but few springs, unless late in May, when the soil is in such a loose, dry and friable condition, as it is in the latter part of October and November. Besides, it has not yet parted with its warmth, which is of more importance than is generally supposed; for the roots, yet active, continue their growth, when not checked by cold and wet. Experiments have been accurately made by careful planters, who have found fresh roots from trees transplanted in October, in a very few days after removal, a convincing proof of the philosophy of the operation, and especially of doing it as early as the condition of the trees will admit.

All these circumstances combined, viz., the opportunity to prepare the soil, its better condition at the time of removal, and its greater warmth, operate in favor of the work, and, other things being equal, add increased certainty to a successful result.

A third, and also important object, is the application of manure. No tree, in our opinion, should, as a general rule, have manure, unless perfectly decayed, applied in immediate connection with the roots, particularly in spring planting, for it acts as a stimulus when the delicate fibres are not in any condition to absorb it, and the effect is to cause their decay rather than their growth and extension. Especially is this the case when the summer is dry and hot. But in autumn planting, even with fresh manure, there is no danger of injury. The soil, cooling down as winter approaches, prevents any heating effects from the manure, while its mechanical operation is to lighten the earth when it would too rapidly become compact by winter rains. Autumn planting does away with all these dangers, for then there is no need of any manure near the roots, it being best applied upon the surface of the soil. Before winter sets in each tree should be thoroughly enriched by the application of a bushel or two of manure, immediately around the tree. This not only protects the earth from deep and penetrating frosts, but all the entire strength and virtue of the manure is carried into the soil, and down to the remotest

roots before spring, when with the first dawning vitality, long ere the buds may show it, it furnishes food in just the right state for the young rootlets to take it up, diluted by the winter and spring rains—in homœopathic doses—and giving an activity to the sap which no spring planting can accomplish.

Manure, therefore, the important element in successful cultivation is in autumn planting, not only applied without any danger of injury, but in its mechanical action, and its protective quality, adds to the future health and vigor of the tree.

Lastly, the time that autumn allows for performing transplanting. This is no inconsiderable matter. Everything in the spring is pushed forward with accelerated speed. There is a constant fear that the season is too late; even before it arrives, we often hear the inquiry if it is not "too late." Consequently everything is done hurriedly. Trees are bought in a hurry; selected in a hurry; taken up in a hurry; set out in a hurry, and—die in a hurry. Now in autumn all this is reversed. There is no need of haste. There is the whole season to prepare the ground, plenty of time to purchase the trees, time to set them out carefully, and time to wait and see them grow; for with the "April showers," come the healthy swelling buds, and, as the season advances, vigorous shoots, crowned it may be, if the trees are large, with a few—very few it must be—rich fruits, which gladden the eye, regale the taste, and give a sense of satisfaction for the care and labor so freely and pleasantly bestowed upon the trees.

If we have failed to convince our readers that autumn planting is not to be preferred, it will be because we know not how to relate our own experience for twenty-five years.

SPONTANEITY.

BY WILSON FLAGG.

WE are seldom aware of the true sources of our pleasures, more especially of those agreeable sensations awakened by a view of certain kinds of landscape. I believe the expression

of spontaneity to be one of them, and that, while it most agreeably affects individuals of a peculiar temperament and education, all, not excepting those who profess to despise it, are more or less under its influence. Spontaneity is the expression of entire freedom on the part of nature, during the growth of vegetation, how much soever her free course may have been modified by circumstances previously affecting the soil and situation. Thus no less spontaneity may be seen in the wild growths that cover an old fortification, or the deserted grounds of an ancient garden, than in those of a hill or a valley which was never touched by the implements of art. We all admire the freedom of these growths, like drifted wreaths of snow ; but we are not fully aware how much they transcend in beauty the fairest productions of a planter's hand. Then our love of nature is more nearly identical with our love of freedom than many would readily believe ; and our preference of the country, compared with the town, is a result of the same instinct of freedom.

The connoisseur of art may object to this analysis of what may be called the beauty of landscape, because it is based on a feeling of the mind which is opposed to the employment of ornamental art, or the manifestation of what is plainly artistic in a rural scene. A painter, however, if he possess the soul of his art, understands, that in a truly picturesque landscape, every building that forms a part of it, must either be unartistic, or it must be antiquated. The antiquity of an artistic object effaces the expression of ambition or pretence which the same would manifest, if it were new and elegant. But the landscape gardener's art has been, from its origin, so exclusively an affair of the wealthy and noble, that the ideas which are the foundation of the painter's art are almost unintelligible to him. He is a purveyor to the wants of a kind of modern epicurism, and of certain classes, whose love of nature would never for a moment cause them so far to forget their own dignity, as to allow her, within their grounds, to wear anything but the livery of their own pride.

The purpose of my present series of essays is to explain those principles, upon which our general ideas of the beauty of landscape are founded, and to show that it is entirely inde-

pendent of ornament in the artist's acceptance of the term. I believe, if we clearly understand these principles, we need no arbitrary rules of practice. What is chiefly desirable for the improvement of general landscape, in most cases, is a wholesome neglect. The *art of omitting to do* certain things comprises more that is positive than we are aware; and few would be ready to believe how great an amount of destruction is constantly committed by people of all degrees of taste while employed in carrying out their ideas of rural ornamentation, for the reason that they are governed by certain rules of professional practice, and not by their own unbiassed feelings. Many a person, after having destroyed the natural beauties that clustered about his old homestead, graded the picturesque inequalities of its surface, and finished the work by planting it with ornamental trees and shrubs, of *approved* sorts, and in the *approved* style of art, must have felt, intermingled with his regrets, a secret consciousness that he had ruined it forever.

One of the prominent qualities of an interesting landscape is spontaneity, consisting not only in a natural irregularity of growth, but also in a natural aggregation of kinds and species of plants, indigenous to the soil and situation. Plants may be trained by art to grow in places entirely unadapted to their wants and habits; and under these circumstances, no irregularity of grouping would give them the appearance of unrestrained freedom. Exotics, with the exception of those which, like the Privet and the Eglantine, have become entirely naturalized, though grouped with consummate ingenuity, would at once betray the artist, as certainly as if they were arranged in geometrical figures.

The great pattern of spontaneity is the unbroken and tangled wilderness: but this is not what we desire in landscape. Nature is greatly deficient in interest, when she exhibits no connection with human wants. We wish to see the full play of her original features, except as they are modified by the necessary operations of agriculture and other requirements of the useful arts. We are less displeased with those injurious modifications of landscape which are required by human necessities, than with those which are manifestly

designed for embellishment. We would see the hills and valleys clothed, but not ornamented. Nature should wear her own ringlets without the jewels of architecture, or tresses borrowed from another clime. We must bear in mind that the landscape is a picture, and not a garden, and that in proportion as the traces of culture are concealed by the spontaneous embroidery of nature, does landscape scenery affect us with pleasure.

Spontaneity is exhibited in a variety of aspects. In the wilderness, vegetation is mostly uniform in its growth; but in tracts which have been once partially or entirely reduced to tillage, and then left in considerable portions to nature, vegetation always exhibits a tendency to become grouped. We will suppose that an irregular surface, consisting of hill and dale, rolling plains and level meadows, gentle slopes and steep declivities, has been completely subdued by tillage, and reduced to that artificial state which is most favorable to the purposes of agriculture. Let this tract be deserted, and remain fallow twenty-five or thirty years. At the end of this time, it would present a fair example of spontaneity, under circumstances calculated to render it peculiarly interesting. On account of the previous subjugation of the soil, the plants that spring up there would be beautifully grouped, by tendencies which I will soon explain.

As the seeds of all plants, with which it was originally sown, were destroyed by many seasons of tillage, it must depend, for the renewal of its vegetation, on such as might afterwards be deposited there by birds and quadrupeds, winds and running waters. Hence, wheresoever a cluster of vines or shrubs should obtain root, there would be a centre or nucleus, around which other seeds would become lodged and sown, and the plants derived from them would find sustenance and protection during their earlier growth. Large portions of this tract, however, must remain for indefinite periods, unoccupied by anything except herbaceous plants. In a sufficient length of time, to allow a forest to spring up and attain a medium size, we should behold a charming admixture of trees, shrubbery and pasture, in a style of spontaneous grouping, which is entirely inimitable; but such as may be frequently seen in many neglected fields and pastures.

If a similar tract of land, after being cleared of its original forest growth, should be left to nature, the course of vegetation would be very different. Its renewal would be more rapid and more miscellaneous; the plants would come up more densely, and in greater numbers of species, but they would not be arranged in groups, except to a certain extent in a botanical sense. The soil being full of the seeds and roots of many species of plants, there would hardly be a square rood in any part of the tract which would not be crowded with trees and shrubs in a very few years. Every stump of a tree would form a nucleus for an assemblage of plants, and the new growth would be dense in proportion to the frequency of these stumps. I have thus brought forward two examples of spontaneity, each accompanied with very different results; but I feel assured, that at the end of thirty years, the tract, which had been completely subdued by agriculture, would present by far the most picturesque and delightful appearance. These remarks will also explain the cause of the superior beauty of the landscape in old settlements, which have been left in great measure to nature.

But if grazing animals were kept in considerable numbers, in the wild tract above described, from the time of its clearing, they would by constant feeding and browsing, cause the new growth of vegetation to approximate in its grouping to the style of the other tract. There would be many spaces which would be kept open by the browsing of the cattle. The woody plants, in this case, would grow only where they had got a start, before the cattle entered the field. The grouping, therefore, would be similar to that of the subjugated tract. This is the kind of spontaneity seen in half-wooded pastures, where accident has produced some of the most exquisite scenes of pasture beauty, combined with the delightful appurtenances of a simple agriculture.

There is another example of spontaneity, exhibited in the growth of trees and shrubs along the sides of fences, on barren knolls, in deep hollows, in little sequestered nooks, and rocky declivities; islets surrounded by morass, and the borders of ponds. Trees and shrubs coming up in these places of their own accord, are more attractive than any which have

been planted. The beauty of a thing in landscape is sometimes enhanced by being in a *wrong* place. Human hands will usually plant trees in their *right* places; and this propriety discovers the artist. It is also for this reason that the results of the rude operations of rustic laborers are more picturesque than those of men of taste and skill. This remark may offer poor encouragement to art; but it shows there are certain graces beyond the reach of art, which are nevertheless producible by untutored hands. There is a certain absence of congruity that constitutes one of the peculiar charms of a spontaneous scene, compared with one artificially produced. There is in the human heart a yearning after freedom and unrestraint, and though the sensual eye may be delighted by the sight of smooth shaven levels, kaleidoscopic figures cut out in lawn, and the harmonic representation of colors in a flower-bed,—we derive more passionate delight from the mossy turfs, the bramble-covered knolls, the half-obstructed foot-paths, and the wild vines and shrubs that surround the homes of laboring men in the country.

In all spontaneous groups of trees, there is an undergrowth of shrubbery, that remains until the trees, by their expansion, check its growth and destroy it. In young and small collections of trees, we observe a great quantity and variety of undergrowth, closely interwoven with their stems. As these groups expand into a forest, the shrubs die out and disappear, except on the outside, where they form a beautiful edging or border. Natural groups, therefore, do not permit us to look freely from the outside, under the trees into the interior, though the latter be clear. The interesting appearance of these embroidered woods, embosomed in shrubbery, is in great measure due to this expression of spontaneity, and to our ideas of freedom associated with it. Its miscellaneous character, its straggling irregularity, the homeliness of most of the species that compose it, and the wild-flowers in the turf beneath it, are proof that it is the entire work of nature and accident. The wild birds acknowledge its character, by adopting it as their home, and singing freely from its retreats, and the odors as well as the sounds that emanate from it breathe freshly of nature and tranquillity.

And why is this expression of spontaneity, when combined with other agreeable features of landscape, so interesting? Why do we prefer an open and accessible country, with a certain degree of wildness, to one which is highly cultivated and embellished? Perhaps it is a feeling peculiar to the lovers of human freedom, of men who are neither lords nor serfs, masters nor slaves; and we love the evidence of this quality, because it is associated with an absence of restraint. In foreign lands the same emotions and the same preferences are felt by some individuals. But the nobility are more or less affected by a prejudice of rank, causing them to look with more pleasure upon artificial landscapes, modified by a great expenditure of wealth, by costly embellishments, dressed grounds, exotics of rare species, artistic structures, and sculptural decorations. With these objects they have been familiar from their youth, and have learned to view them as marks of distinction between the grounds of the nobility, and those which belong to the peasantry. The same objects are equally interesting to their servants and dependants, who identify themselves with their lords, and have always enjoyed the liberty of their grounds.

But there are individuals of the common classes of Europe, who have risen above their hereditary circumstances, not in fortune, but in education and intelligence, men of warm imagination, well informed mechanics and artisans, members of the learned professions who are not assimilated to the nobility, by their wealth or their position, also a large class of females, who possess another sort of feelings and prejudices, that greatly modify the impressions they receive from landscape. These persons are lovers of nature in her wildness and spontaneity, looking upon highly decorated landscapes as places from which they are shut out; and they associate the expression of freedom in nature with their own freedom, and that of general humanity. It is not wise to affix arbitrary significations to terms; but if I were allowed to use this license, I would say that the former classes profess *taste*, and the latter *sentiment*. Of these two qualities, taste is mostly under the control of fashion; sentiment is the natural bias of a poetic and independent mind.

A company, consisting of Wordsworth and some of his literary friends, who were affected by this genial love of simple and homely landscapes, settled on the shore of the Cumberland lakes, where the scenery was comparatively unembellished. They resided in plain dwelling houses, and were greatly annoyed on one occasion, when a trader from a commercial city bought land near them, and built him a splendid villa. This ostentatious building spoiled their scenery by clashing offensively with its artlessness. I have seen a fashionable neighborhood greatly disturbed, because a certain shoemaker would not plant his house out of their sight. The Wordsworthians would have welcomed the shoemaker's cottage, but they wanted no temples erected to Fashion in their little Arcadia—and the Wordsworthians were right. Their views of nature harmonized with their views of human society. They wished to see all around them in sweet accordance with that simplicity of life, which is beautifully inculcated in the works of the great poet of the lakes.

We are pleased with that kind of landscape that indicates the happiest state of society; and would not, therefore, that nature should remain a wilderness, nor be transformed into a garden,—because the one indicates an uncivilized state of society, the other a degree of luxury which is incompatible with the best condition of our race. We would behold in our rural prospects the evidence of a hardy and virtuous population. If Nature herself has become effeminate, what can we expect of her children? If Nature be dressed like a courtesan, will the children of the swains who live upon her bounties be contented with the humble emblems of the reaping hook and the wheaten sheaf? Embellished landscapes indicate luxurious habits, and consequent effeminacy. I prefer those appearances which, by suggesting ideas of simplicity, are tokens of virtuous frugality, temperance, and industry. For this reason, do the moss grown rocks by the hillside, fields of grain and fruits, surrounded by the rude landscape of nature; plain farm-houses, not tricked out by gewgaws, but smiling amidst the golden products of rude and independent labor, affect us with delightful sensations, as evidences of those healthful habits, which have not yet been swept from the land by the besom of progress.

ORCHARD TREES IN BELGIUM.*

BY M. D. JONGHE.

THE following excellent article by M. de Jonghe, on the condition of orchard trees in Belgium on the last of August, is well worthy the attention of our American cultivators. As far as we can judge, from the tenor of his remarks, our own summer and that of Belgium have been similar, and the fine crop of fruit may be attributed to the same causes which have prevailed there, viz: a moderate temperature of the atmosphere, and a "moist medium" for the roots to revel in. Precisely similar has been the result, for many pears did not begin to swell rapidly till Sept. 1, after which time, and before Oct. 8, (little more than a month), many varieties nearly doubled their growth.

One remark of M. de Jonghe, the result alone of large observation, every experienced cultivator will agree to. This is that a tree bearing a full crop is far more profitable than a scanty crop of a different variety. This our fruit growers are beginning to learn; and the shy bearers, no matter how good, are giving way to the productive sorts, though inferior in quality. The old Bell or Windsor pear, one of this class—which has nearly gone out of cultivation in some places—is now sought after as one of the most profitable varieties for market. Such will ever be the case where the object is simply profit; but the amateur and lover of delicious fruit will pursue a different course. To him a few choice specimens are worth a bushel of inferior fruits.

Such a *resumé* of the season is highly interesting, and is suggestive of the treatment which fruit trees require, and to supply which constitutes the difference between skilful and unskilful management.—Ed.

In the gardens of Brussels and its vicinity, as well as in other parts of Belgium which we have just visited, the standard fruit trees are everywhere bearing abundantly. The fruit is generally best in soil which is rather dry than moist or strong, and in situations where the aspect is somewhat west-

erly. From the 10th to the 15th of May the observer might see masses of fruit set on the trees. Since that time the fruit of the hardier varieties has retained its hold on and swelled where the trees have been moderately pruned and kept clean. The less hardy varieties when badly pruned, or in a manner unsuitable to their mode of growth, or when planted without previous preparation in a soil which is cold, stiff, or moist, or lastly, if left a prey to the ravages of insects and caterpillars, have dropped, if not all, at least a great part of the fruit which they had set. The following are the conclusions at which we everywhere arrived on visiting at least thirty more or less extensive collections of fruit trees.

The question may probably be asked—to what causes do you attribute the large crops borne by well-managed trees after a spring and summer of such an unfavorable character as those of the present year?

There are several causes which may have a more or less immediate connection with this result. The continuous drought in the years 1857–1859 having prevented an excessive degree of vigor being developed in full-grown trees, these were in consequence naturally disposed to fruitfulness, and this is generally admitted by practical men as one of the causes of an abundant crop.

When the sap was solidifying toward the end of last September, and from that time till March, the barometer indicated at the wane of each moon, rain, wind, heavy rain, or stormy weather, especially in autumn and winter. The fall of the barometer was succeeded by an abundance of rain, or snow fell, penetrating the soil and subsoil to a great depth, and thoroughly moistening the roots of the trees. This had never taken place to the same extent in the preceding three years, and the consequence was that the cellular tissue having become filled with sap, the partially formed organs of fructification swelled even during the autumn and winter. Thus in the beginning of March, notwithstanding the frost, the appearance of the trees was extremely promising, and the fruit buds were very large. Another and more immediate cause of the excellence of the crop was the unusual duration of the winter, which prevented the flowers from expanding till the occur-

rence, between the 20th of April and 10th of May, of such fine weather as we have not enjoyed since. Further, about the latter period, and subsequently, we have experienced high winds which have prevented insects from going about and depositing their eggs in the flowers and young fruit, and especially the moth of a very destructive caterpillar, to which in 1859 a great portion of the crop fell a prey.

These, then, are in our opinion the different causes to which, taken in combination, we owe the enormous quantity of fruit seen on our trees in the middle of May. The swelling of these must likewise be attributed in some measure to the alternations of rain and wind, with occasionally, though rarely, days of bright sunshine. An observant practical gardener, in watching since the 10th of May the fluctuations of the barometer, which has never remained steady at Fine for the last four months; the thermometer, which sometimes during the night fell as low as 39°, 44°, 46°, 48° Fah., although it might rise to 55°, 59°, 77° in the day; and the direction of the wind, which, with the exception of three days and four nights, has constantly blown for the last four months from the south or south-west, cannot but have felt uneasiness at times as to the perfect swelling of the fruit; indeed, in the case of apples and pears this did not take place till the last fortnight in July.

The roots having a moist medium to grow in, and the supply of sap being consequently plentiful, the fruit of full-grown and young bearing trees has attained a high degree of perfection; and at the present time apples, pears, and plums (and it has been the same with cherries) are in as great abundance as the trees can nourish. If no hail-storms or high winds occur before the end of September, and if we have a few days of bright sunshine, the crops of fruit will be extremely abundant both here and without doubt in similar climates.

As regards the pear, which is generally looked upon here as the king of fruit trees for standard culture, the more I study its numerous varieties the more I am convinced that it is absolutely necessary, when the actual worth of any of these has to be determined, to take into consideration not merely the qualities of the fruit but other properties as well. In my

opinion it is only in trees from fifteen to twenty years old that these properties are sufficiently marked to be determined with certainty. On seeing a tree of this age bearing from 200 to 300 fruit, or more, and another of the same age, but of a different variety, with a crop averaging for five or six years not more than ten, fifteen, or twenty pears, to which of these varieties would the preference be given? Undoubtedly to the more productive one, even should the fruit not come up to the other in point of flavor. In fact, the profit attached to the latter would be like that of Lafitte wine, whilst the return of the former would be like that of Medoc, which is not less remunerative when of good quality. This observation, which is likewise applicable to other species of fruit trees besides the pear, concerns the productiveness of the tree.

The healthiness, hardiness, and the fine but not excessively vigorous habit of growth are the other properties which, we imagine, constitute the real merit of every variety of fruit tree, the fruit being of course possessed of beauty, sufficient size, and other indispensable qualities.

It is at the foot of a full-grown tree in the bearing season, that these properties can alone be finally settled; it is there that the sort of soil in which the tree is planted can be considered, as well as the more or less favorable nature of the situation, and the mode of pruning and training which has been adopted for a succession of years. There, too, it may be seen whether the variety bears its fruit in preference on the spurs with which the principal branches are studded, or on the laterals, which have been subjected to pinching or breaking for two, three, or four successive years. Does the fruit present a uniformity of shape and size? Does the skin remain smooth, or does it crack without any cause existing in the stock, or in the soil being of too cold, close, or moist a nature? Does the fruit in proportion to its size withstand the wind well before ripening? Before all these points can be determined it must be evident to any one that several years of close observation are necessary.

In dry soils, in the present season, pears and apples hang better on the tree than in the preceding three years, because the rain has soaked deeply into the ground, and the roots

have therefore been kept in a moist medium. The fruit which fell without being shaken down by the wind, was, for the most part, previously damaged in some way.

Having observed that in 1857, 1858, and 1859, several fruits of the Bezi Mai were blown down by the wind, I thought I ought to mention that peculiarity in the account of the variety given in the *Gardeners' Chronicle* of February 11, 1860; but this year the number of fruit was reduced in the middle of June to fifty, by thinning out more than 180 of those which had set, and since then not a single one has fallen up to the present time, although the tree has been violently shaken. I have, therefore, thought it my duty to correct, on the first opportunity, my previous statement on this point.

Some degree of doubt may be felt as to whether the crop will ripen, and whether long-keeping winter fruits will acquire their full size and flavor. The solution of these questions will depend on our having ten or a dozen days of bright sunshine, and we trust that we shall enjoy this advantage in the course of this month.

With regard to other descriptions of fruit, strawberries have been very fine, of good flavor, and abundant from the 10th of June to the 20th of July. Out of a collection of more than sixty sorts La Constante has, during the last four years, proved the best on account of the abundance, beauty, and flavor of the berries. It is not only an excellent dessert kind, but also one which is well adapted for the market, and as such a large plantation of it may safely be made.

Raspberries and currants have succeeded extremely well; and so have cherries. Among the varieties of the latter, La Transparente still holds a place in the first rank. It is highly to be recommended on account of its great productiveness both on the wild cherry and Mahaleb stocks, as well as for the beauty and flavor of its fruit.

Some kinds of Gages and other plums crack and decay on the tree, others are uninjured. Early pears and apples, although they have attained their full size, are late in ripening.

Tourists who may visit the markets of Brussels, that of St. Gery, the principal wholesale one, at daybreak, and that of La Madeleine between 9 A. M. and 4 P. M., will be convinced

that the capital of Belgium is a great centre of fruit production, and that its population consumes a large quantity of fruit.

AMERICAN STRAWBERRIES IN FRANCE.

BY FERDINAND GLOEDE, LES SABLONS, FRANCE.

SOMETIME since we announced to our readers that we had had the promise of an article from Mr. Gloede, of Les Sablons, France, an experienced cultivator of the strawberry, (whose collection is one of the most complete in Europe,) upon the character of our American varieties in that country, plants of which we sent to him two years ago. It gives us great pleasure to be able to fulfil that promise, in presenting the following valuable communication from one who is so able to judge of the real merits of a strawberry, and who appears to be so very candid and impartial in his judgment.

Never before since the first growth of our American seedlings, has there been such a trial made, and our pomologists must feel indebted to Mr. Gloede for his experiment, which has established the reputation of several varieties as being equally as valuable in Europe as at home, and comparing favorably with many of the best foreign seedlings. For in spite of the cold and unusually wet season, several kinds were as early as any of the English or French kinds, and continued, as Mr. Gloede says, a "long while in bearing." But we are detaining our readers from his excellent communication, which in fact needs no comment.—ED.

I beg leave to fulfil my promise in handing you herewith a true and detailed account of the result of the various sorts of strawberries, of which you sent me plants early in 1859. Although these plants arrived, generally speaking, in very fair condition, as I had the honor of telling you in a previous letter, still they required a little time to get re-established, and consequently did not produce any fruit last year. They grew fast and became very fine plants before the winter set in, in spite of having been allowed to run freely. You know

what a trying winter we had, still your plants did not even lose a single leaf, and remained as green as in the fine season, which certainly is a great recommendation.

In consequence of total absence of sunshine last spring, which, moreover, was a mere continuation of winter, the plants bloomed very late, and were unusually long in setting their fruit, so that I may fairly consider our strawberry season fully two or three weeks later than in ordinary seasons. This circumstance warrants the belief that such kinds as Jenny Lind, Charles's Favorite, and Monroe Scarlet, are extra early, and will produce ripe fruit, in favorable years and in suitable situations, on or about the 15th of May.

I further believe that in a more sunny season than we had last summer, most of the sorts would be of fine flavor. Jenny Lind ripened its fruit on the same day as our earliest English varieties—May Queen and Princess Frederick William—and continued a long while in bearing.

Monroe Scarlet was the most productive of all, and everybody who saw it was surprised at the mass of berries it ripened at the same time.

Hovey's Seedling is no doubt the noblest fruit of all; but it lacks that richness and luciousness of many of our European varieties, such as Sir Harry, Carolina Superba, La Constante, and others; still I consider it a very useful sort, and worth growing on a large scale, as it is such a sure cropper, and never fails.

I received last spring some of Messrs. Prince's sorts, but alas! they had such a long journey, and were evidently such feeble plants, that most of them perished. I saved out of twenty but the following, viz: Eclipse, Imperial Scarlet, and Champion Montevideo. Owing to the lateness of the season, I could of course not judge their fruit; but since then the plants have grown strong, and I shall be able to test their merits next season, and then duly report on the same.

I now beg to give you the descriptions of your lot:—

JENNY LIND.—Ripe June 3. Fruit of pretty conical shape, very even, middle-sized; color very fine bright scarlet; flesh pale red, solid, juicy, sweet and pleasantly acidulated; seeds very little imbedded. Plant hardy and very prolific; seems to be an excellent sort for preserving.

CHARLES'S FAVORITE.—Ripe June 5. Fruit above the middle size, cone shape, bright scarlet; seeds deeply imbedded; flesh red, solid, juicy, sweet, with a very pleasant flavor. Very handsome plant, hardy, and a good bearer.

MONROE SCARLET.—Ripe June 7. Fruit middle sized, round shaped, bright scarlet; seeds slightly imbedded; flesh pale red, solid, juicy, and sweet. Plant exceedingly vigorous and healthy, and an enormous bearer, the ground round the vines being literally covered with ripe fruit.

WILSON'S ALBANY.—Ripe June 7. Fruit very handsome, rather above the medium size, oval, bright glossy scarlet; seeds slightly imbedded, often prominent; flesh pink, solid, juicy, sweet, and pleasantly acid. Plant very strong, dwarf, and productive.

SCOTT'S SEEDLING.—Ripe June 7. Fruit of the medium size, elongated form, dark red when fully ripe; seeds prominent; flesh pale red, hollow at the core, sweet and fine flavored, but rather pasty. Very hardy and prolific.

HOOKEER.—Ripe June 10. Fruit rather large, heart shaped, bright glossy red; seeds deeply imbedded; flesh red, solid, juicy, slightly acidulated, lacks sugar. Plant very hardy and prolific,

PEABODY'S SEEDLING.—Ripe June 11. Fruit above the medium size, round or elongated, with a neck, sepals reflexed, color dull dark red, seeds slightly imbedded; flesh pale red, solid, sweet, with a pleasant aroma partaking of the Hautbois flavor. Plant of dwarf straggling habit, fertility not in proportion with its vigor.

BRIGHTON PINE.—Ripe June 13. Fruit rather large, mostly round; color bright red; seeds little imbedded; flesh yellowish, solid, sweet, pleasantly flavored; a very good sort. Plant hardy and productive.

HOVEY'S SEEDLING.—Ripe June 18. Very fine fruit, of large size, sometimes very large, round shaped, or blunt cone; color bright scarlet; seeds deeply imbedded; flesh pale red, solid, sweet, and pleasant, but not very highly flavored nor juicy. Plant exceedingly healthy, hardy, and productive, producing a long time. This may be considered a first rate market fruit.

MARYLANDICA.—Ripe June 18. Fruit rather large, round or flattened; color dark crimson; seeds deeply imbedded; flesh very solid, *rather horny* white, the centre red towards the skin; juicy, but flavor only middling. Plants very hardy, but not very productive.

HARLEM ORANGE.—Ripe June 28. Fruit of medium size, round shaped; color pale orange; seeds deeply imbedded; flesh solid, pale red, sweet, but without flavor; rather pasty. Plant hardy, but an exceedingly shy bearer, and for this reason alone scarcely worth growing.

Les Sablons, Aug. 1860.

DESCRIPTIONS OF SELECT VARIETIES OF PEARS.

BY THE EDITOR.

PEARS have been, as is now generally known, unusually fine the present year—better, as a whole, than we have ever yet seen them; which is saying much after the exhibition of so many fine specimens year after year. Yet the favorable season, or superior culture, or older trees, or all combined, have contributed to produce a result never yet attained. Pears which have rarely given a uniform crop, have this year been all that could be desired. Little or no cracking has been observed, and large sized and remarkably fine specimens have been obtained in abundance.

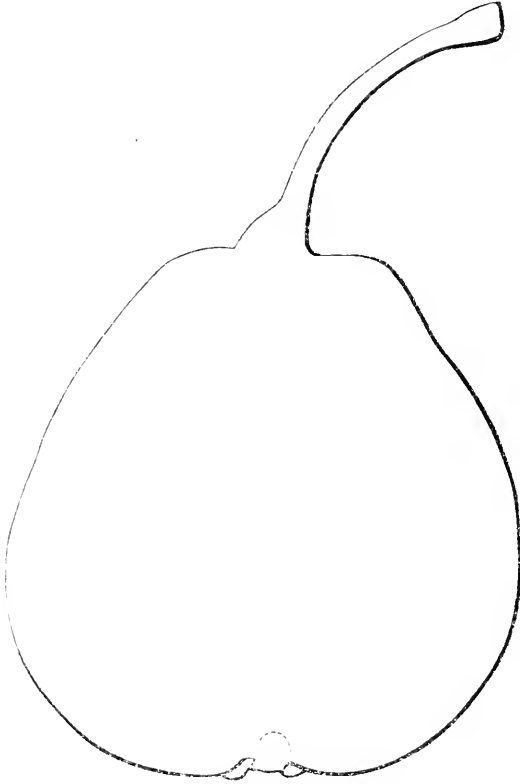
The season has enabled us to judge more correctly of the value of several pears, and to take notes of others, yet new or little known, which may form some guide in estimating their ultimate value. These notes we shall give from time to time as our space will admit, while we shall be enabled to add descriptions and engravings of several of the more recently introduced kinds.

215. AUGUSTUS DANA.

Dana's No. 10.

When we gave an account, in our last volume, of Mr. Dana's seedlings, we omitted this fine pear, because we had not the opportunity to make a good drawing. This we are now enabled to supply.

The Augustus Dana (FIG. 21) is a very delicious pear, well worthy of introduction into every collection. The tree is not so handsome a grower, while young, as either of his other seedlings, yet it eventually makes a fine head. It bears



21. AUGUSTUS DANA PEAR.

moderately young—some of our own trees, only six years old, producing fine specimens, from one of which our drawing was made. In general appearance, as well as in quality, it approaches the Winter Nelis, but is very much larger in size, and ripens in October and November. In fact, from the resemblance of the tree to that of the Winter Nelis, we should think it might be a seedling from the latter. The following is our description :

Size, large, about two and a half inches long, and two and

a half in diameter: *Form*, obovate, regular, large at the crown, obtuse at the stem: *Skin*, little rough, dull green, covered with a russet tracing, marked with dull red in the sun, thickly dotted with conspicuous green and russet specks, acquiring a warm mellow russet hue at maturity: *Stem*, long, about one and a half inches in length, curved, and inserted on the obtuse end, with a slight projection at the base: *Eye*, large, open, and set nearly even with the surface of the fruit; segments of the calyx, large, thick, entire, reflexed: *Flesh*, yellowish white, fine, melting, and very juicy: *Flavor*, rich and sugary, with a delicate and peculiar aroma: *Core*, small: *Seeds*, medium size, sharply pointed. Ripe in October and November.

216. MOORE'S.

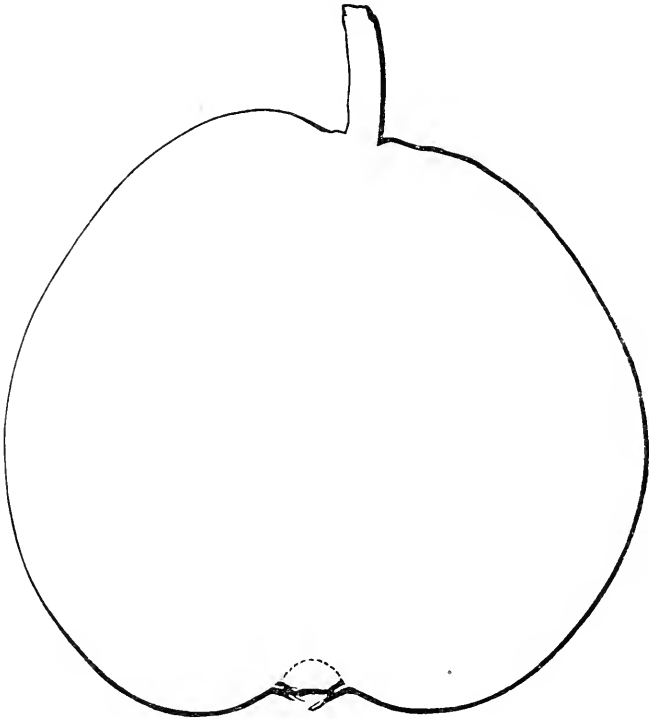
Moore's Pound.

Eshelman?

M. de Jonghe has lately said that the character of a pear tree can only be judged from fifteen or twenty years' experience. The history of this pear proves the truth of the statement. Sixteen years ago, we first saw this variety in the nursery of R. Sinclair & Co., Baltimore, and briefly described it in our Magazine (Vol. XII., p. 248) at that period as Moore's Pound. We also purchased trees, which were planted in our collection, but failed, from some reason, to produce good specimens. This season, for the first time, it has shown what a treasure it really is; for it has not only produced marvellously large specimens, but they have proved to be among the very finest of our September pears, ripening at the same time, or little before, the Bartlett, and keeping four weeks after that pear has gone,—a quality which gives the highest value to all which possess it; for nothing is more vexatious than to find pears, to all appearance sound, yet entirely rotten at the core. The market value of a fruit is especially increased by the absence of such a fault.

Moore's pear (FIG. 22) is destined, we think, to take rank with the Swan's Orange, the Sheldon, and the Merriam, as not only the most valuable of our American varieties, but the most valuable of all varieties, all qualities considered. Pos-

sessing the requisites of size, beauty, long-keeping, and great excellence, with vigorous, hardy, fine-foliaged, and productive trees. We esteem it a real pleasure to introduce to our cultivators such pears as these: one has but to raise, for twenty years, all the five hundred varieties of pears which have been



22. MOORE'S PEAR.

added to our collections, from all sources, and to annually gather and sell the fruit, to appreciate the true value of such pears as the above. They make the culture of the pear to a certainty profitable; for their abundant crops, of large, showy, and delicious fruit, are not only certain in all seasons, but they find a ready sale in our markets.

We have stated that we originally described this pear as Moore's Pound, the name it was cultivated under by Mr. Sinclair, but we see no necessity of the latter part of this name, which was undoubtedly added, as it has been to a score

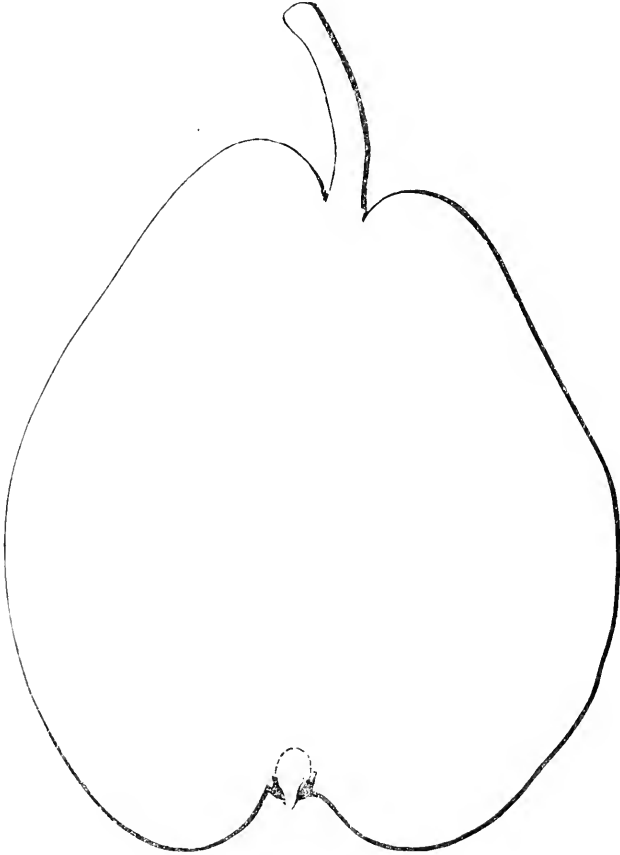
of pears and apples, from the great size of the fruit, often weighing a pound, as this does when well grown. It serves, however, only to confuse, and conveys no other meaning than size. We have, therefore, left off the latter appellation, and henceforth shall call it Moore's pear. Of its history we are ignorant, beyond what we have given, since we first became acquainted with it. Our specimens this year were larger than the largest Doyenné Boussock, and resemble it in shape; were the skin covered with the same conspicuous dots, the resemblance would be complete.

Size, very large, about three and a half inches long, and three and a half in diameter: *Form*, roundish obovate, broad, and somewhat flattened at the crown, narrowing but little to the stem, ending obtusely: *Skin*, very fair, smooth, green, becoming of a rich lemon yellow when mature, with a slight tinge of blush in the sun, and thinly dotted with very minute greenish specks: *Stem*, rather short, about half an inch long, moderately stout, straight, and inserted without any cavity: *Eye*, 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.

217. OSWEGO INCOMPARABLE.

Few cultivators are aware of the long time it requires for any particular fruit to become generally known, or at least cultivated to such an extent as to find its way to the market, without which it can only be familiar to the few who possess the trees. Out of the at least fifty fine varieties of pears that have been introduced from twenty to thirty years, not more than a dozen or so find their way to the market in any quantity. In fact, after the Bartlett, Louise Bonne, Seckel, Duchess, Urbaniste, and a few others, it is difficult to find a barrel of any one variety. Many of the most delicious fruits are entirely unknown only to the appreciating amateur. The fear of possessing accidentally a few inferior sorts is so great with some cultivators, that they lose the benefits which would

result from less fastidious notions; for, should a few among the reputed fine sorts prove poor, the trees would well be worth their value for stocks, while they would have the satisfaction of possessing some of the most luscious pears.



23. OSWEGO INCOMPARABLE PEAR.

The Oswego Incomparable (FIG. 23) is one of the newer pears, introduced eight or ten years ago, but yet scarcely known beyond a few collections. A Western New York fruit, originated, we believe, at Oswego, it was described to us by a good cultivator, as quite as large, and about as good, as the Bartlett. Such a variety we thought valuable, and we planted

a few trees, which soon came into bearing. The fruit produced a year or two ago was small; last year better; and this season the specimens were quite as large as the Bartlett, similar in appearance, and, in regard to quality, we may add, nearly as good. Such an improvement has been so favorable, that we look for still greater merit now that we have ascertained the time of gathering, &c. We deem it well worthy of attention, as a profitable pear for the market, where size, beauty, and fair quality go further than great excellence without the other requisites.

Its early history we know nothing of. The tree is a very handsome and vigorous grower, and an abundant bearer; requiring, like most of our native sorts, to be gathered while quite green, and ripened in the house.

Size, very large, about four inches long, and three and a half in diameter: *Form*, oblong obovate, or Bon Chrétien shaped, contracted near the middle, rounding off to the crown, obtuse at the stem, with an uneven surface: *Skin*, slightly rough, greenish yellow, becoming lemon yellow at maturity, very nearly covered with pale russet around the crown, and more or less traced with the same tint, intermixed with minute specks: *Stem*, rather long, about an inch in length, somewhat slender, and inserted in a contracted, moderately deep cavity: *Eye*, medium size, open, and deeply sunk in a large open and little furrowed basin; segments of the calyx, narrow, rounded, projecting: *Flesh*, yellowish white, little coarse, melting, and juicy: *Flavor*, slightly vinous and sprightly, with a pleasant musky aroma: *Core*, large: *Seeds*, medium size, ovate, flattened, light brown. Ripe in September.

218. LE BRETON.

Thirteen years ago the late Capt. Lovett presented us with a very handsome and very good pear; this was in the month of January or February. It was entirely new to us, as it was to him,—the specimen having been purchased in the Boston market. So favorable was the impression upon tasting the pear, that we endeavored to trace out its origin and procure scions; but all our efforts, and those of Capt. Lovett, were unsuccessful—no clue could be found to the source from

whence the barrel (for this was the quantity) was obtained, and we thought it useless to make further inquiries.

Eight years later, E. S. Williams, Esq., of Newburyport, sent us scions of a pear which he thought quite as good as many others of foreign origin, which he stated kept till February, and wished us to try. Quite ready to do so under such favorable circumstances, we grafted a few trees, and last year



24. LE BRETON PEAR.

they began to bear, though yet rather young. Of course the specimens were small, rather unprepossessing in appearance, and did not ripen up kindly; but having the impression that it was the same pear we had tasted with Capt. Lovett, we felt quite ready to wait the result. This year we have had a few large specimens, which show unmistakably that they were one and the same, and, with the remembrance of the fruit

still quite fresh, we have no hesitation in recommending the Le Breton (FIG. 24) as a valuable winter fruit. In February there are few better pears. It possesses the merit peculiar to our winter kinds, of ripening up well without any more care than the Baldwin apple; and though not quite equal to the Easter Beurre, yet the certainty of a crop, with its good size and handsome appearance, will give it a place where others will fail to afford a profitable result.

Size, large, about three inches long, and two and a half in diameter: *Form*, oblong obovate, irregular, somewhat angular, with an uneven surface, slightly flattened on one side, swollen on the other, full at the crown, and very obtuse at the stem: *Skin*, fair, smooth, uneven, dull green, becoming of a bright lemon yellow when mature, somewhat traced with russet, often broadly tinged with bright glossy red on the sunny side, and regularly covered with small russet specks: *Stem*, medium length, about one inch long, stout, straight, largest at the end adjoining the branch, and obliquely inserted in a shallow, contracted cavity, under a large swollen lip: *Eye*, large, open, and moderately sunk in a rather shallow, smooth basin; segments of the calyx broad, pointed, connected in the form of a star, very stiff and diverging: *Flesh*, yellowish, coarse, half melting, and juicy: *Flavor*, rich, sugary, sprightly, and delicious: *Core*, large, slightly gritty: *Seeds*, medium, rather short and plump, dark brown, but mostly abortive. Ripe in January and February.

We find this remark appended to our description made in 1847: "At the time our specimen was eaten (January), it was one of the best pears of the season."

POMOLOGICAL GOSSIP.

THE CUMBERLAND PEAR.—Considerable has been said by M. de Jonghe, about the Cumberland pear, which he states is one of Van Mons' seedlings, and a very fine variety. We have heretofore supposed it to be the old Cumberland, a native Rhode Island pear, as the name does not appear to be one

which Van Mons would be likely to give to his seedlings. But not having fruited the variety, or ever had it in our collection, all we knew was mere supposition. This year, however, the Cumberland fruited in Mr. Wilder's collection, and it proves to be the HENKEL, a variety not known in Europe under this name, which was one of the first lot of scions sent to Messrs. Kenrick, Manning & Dearborn, in 1834. From this it would appear very probable that Van Mons or his gardener, who Mr. Berckmans says was a very careless man, when he received scions of the Cumberland among other American pears sent him by the Massachusetts Horticultural Society, put them in, but attached the name to the wrong tree, one of his own seedlings, and after his death this was found in his collection, marked as the Cumberland, and supposed to be a new variety. In this way it was disseminated and described by M. de Jonghe as a large, handsome pear, which it really is, and a very fine one, too. The mistake now discovered, the Cumberland of M. de Jonghe must be called by its true name, the Henkel.

THE DURANDEAU or De Tongres, has fruited this year in several American collections, and proves to be a handsome and very fine pear, more resembling the Beurre Bosc than any other variety. A fine specimen presented to us by Epes Sargent, Esq., from his garden in Roxbury, has enabled us to make a full description and drawing, which we shall give in a future number. Our own trees have failed to produce any specimens, though grafted on strong stocks.

THE VICONTESSE HERICART DE THEURY STRAWBERRY, which was much commended at the late Pomological meeting in Philadelphia by some cultivators of the Middle States as a superior variety, it appears, according to Mr. J. Saul, of Washington City, is only a synonym of the old Marquise La Tour Mauburg, shown some years ago before the Massachusetts Horticultural Society, by Mr. Harris, gardener to H. H. Hunnewell, and possessing no prominent qualities over other foreign kinds.

THE ONTARIO GRAPE.—This new variety, which we noticed in our last volume, was recently exhibited at the Fair of the New York State Agricultural Society at Elmira, and attracted

considerable attention. The specimens came from Dr. Presbury, of Buffalo, and met with general admiration. It is a Canada seedling, the fruit of which is larger and finer than the Isabella, and ripened perfectly at Port Dalhousie. If the fruit from the original prove equally good, it will become a great favorite in all northern regions. As our information is from a correspondent of the New York *Tribune*, we doubt not it should be received with considerable caution.

FINE PEARS AT THE LAST ANNUAL EXHIBITION OF THE MASSACHUSETTS HORTICULTURAL SOCIETY.—Best twenty varieties. From Messrs. Hovey & Co.:—Sheldon, Flemish Beauty, Beurré Clairgeau, B. d'Anjou, B. Hardy, B. Superfin, Duchess, Howell, Seckel, Bartlett, Belle Lucrative, B. Langelier, Moore's Pound (a superb and delicious variety), Louise Bonne of Jersey, Swan's Orange, Doyenné Boussock, Adams, Doyenné du Comice, Lawrence.

Second best variety. From W. Bacon:—Swan's Orange, B. Diel, B. d'Anjou, Flemish Beauty, Sterling, Napoleon, Van Mons Leon le Clerc, Graslin, Urbaniste, Bartlett, Pie IX., Siculle, Merriam, Howell, Gansell's Bergamot, Andrews, Louise Bonne of Jersey, Lawrence, Glout Moreceau, Duchess.

BLOOM GRAPE.—A new variety, "very fine, showy bunches, nearly equal to the Union Village. We think it well worthy of trial, as locality, after all, determines flavor." So says the Gard. Monthly.

MILES'S GRAPE.—Still another, from West Chester County, Pa. Said to be nearly ripe Aug. 30, and the earliest grape in that vicinity. Of its quality nothing is said. The Gard. Monthly is our authority.

NEW SEEDLING GRAPE.—Mr. Charles Carpenter, of Kelley's Island, was awarded the first premium at the Cleveland (O.) Horticultural Society's show, for a new variety produced by him not yet named,—a reddish purple fruit, of medium size, and fine flavor, giving promise of excellence.

REBECCA GRAPE.—This fine variety appears to be gaining in public estimation rapidly, as we supposed it would. The Genesee Farmer states that "the Rebecca fully matured at Rochester in one situation this season, Sept. 1. This was in an open garden, and without any means having been taken to

hasten its time. The Rebecca must be considered the *earliest* ripening grape yet introduced."

THE GOLDEN SWEET APPLE TRADE AT HARTFORD, CONN.—Col. Dewey, of Hartford, sends us the following account of the apple crop in Hartford County.—ED.

Hartford County is somewhat noted for its apples; particularly for its Golden Sweets. The traffic in this particular article—so far as shipping is concerned—commenced about thirty years since. The surplus crop was collected and barreled by an enterprising individual, and taken, in small oyster sloops "down east," principally to Newburyport, in Massachusetts. This trade has been gradually increasing every year; the demand coming, principally, from Boston, for re-shipment to Maine and Canada; and this year, for the first time, an additional market has been found in New York, and even in Philadelphia.

For the current season, the amount exported has been somewhat over *five thousand barrels*, or about *fourteen thousand bushels*.

The price which the farmers and fruit-growers of the county have realized, in cash, the present season, has been about fifty cents per bushel;—the average price for the past five years has been about sixty cents.

If, to the amount received for these apples which have been sent abroad, be added the amount received for all which have been disposed of for consumption in all the towns and cities in the county, the whole may be reasonably reckoned at nearly *ten thousand dollars*; a snug little sum distributed among a few enterprising fruit-raisers, in return for the product of a single variety of a particular kind of fruit.—D. S. DEWEY.

AMERICAN POMOLOGICAL SOCIETY.—This society held its eighth session in Philadelphia, on the 11th, 12th, and 13th of September. There was a very good attendance of members and a very fine display of fruit, particularly of pears and apples. Grapes were not numerous. With the exception of a few kinds, which were hardly ripe, this part of the exhibition was a failure. Members were rather disappointed, for after all that has been said about grapes, and the great num-

ber of kinds which have been brought to notice, it was expected that handsome specimens would have been exhibited. The season, it is true, has been unfavorable; but yet the Middle States should have sent some good specimens.

The meeting was opened with a very interesting address from the President, on the culture of trees, the best stocks, new native fruits, grape culture, and a brief notice of the late Messrs. Ernst and French, deceased members. At another time we may give some extracts from it.

After the usual preliminary business and the choice of officers, the meeting proceeded to the discussion of fruits, taking up the apples first, following in course with the small fruits, reserving grapes and pears till the last. This was done to give our Southern and Western friends an opportunity to bring forward all they had to offer in regard to the apple.

It was decided by general consent not to add any varieties to the list for general cultivation, but simply to add to the list of good promise, leaving it to another session, when more experience will be gained, to add to the first list.

The discussion continued three days, and considerable information was elicited in regard to some fruits. The Society's report will probably appear in a month or two, when we shall review it as heretofore. Already brief reports have appeared in some papers, from which we might glean the substance of the remarks; but want of space at the closing of our volume, renders it necessary to defer it for the present.

THE CULTIVATION OF HYACINTHS.

FROM THE ILLUSTRATED BOUQUET.

HYACINTHS are among the most beautiful of winter or early spring flowering bulbs, adorning alike the parlor and garden with their delightfully fragrant blossoms, at a season when few other plants are in flower. They are also among the easiest cultivated, requiring only the right kind of treatment, which is simple enough to insure an abundant bloom. Our

several volumes, from the first to the last, contain various articles upon their culture, which any reader need but refer to for all the information upon their management; but the following, by Messrs. Henderson & Co., of London, who grow the Hyacinth extensively, is so brief, and at the same time so thorough an exposition of their culture, that we make no apology for its insertion at this time when the planting season has again arrived:—

The most suitable compost for the cultivation of Hyacinths in pots, consists of the following ingredients, intimately blended: two parts of leaf-mould, or, what is better, rotted manure and leaves, and one part silver or river sand. As in all other cases, the materials should be in the intermediate condition between wet and dry, when mixed for use, so that the compost may admit of being firmly pressed without being made adhesive.

The season for planting is from September onwards. When planted in pots, two-thirds of the bulb should be left above the surface of the soil. The size of the pots used may be regulated by the purposes for which the plants are required, as the quantity of soil supplied to the roots is of less importance than a regular and sufficient supply of moisture, so that if very small pots are required for particular purposes, they may be used, care being taken during the growth of the plant that the roots do not want water; five-inch pots (forty-eights) for one bulb, and six-inch pots (thirty-twos) for two or three bulbs are suitable sizes for general use. We may remark that the effect of planting two or three bulbs together, is so much superior to that produced by single bulbs, that except for special purposes, few persons, having once adopted the former, would be satisfied with the latter plan. When small pots are used, they should be kept plunged to the rim in a bed of decayed tan, or similar material, as a constant protection to the roots.

In the process of potting, the soil should be pressed moderately firm, but should not be too much consolidated. After planting, the pots are best set out of doors, and well watered, so as to ensure that the soil becomes thoroughly moistened, for unless this is attended to, the roots as they commence

growing do not readily penetrate, and the bulbs become thrown on one side, so that the after-growth is disfigured. This is especially liable to occur when the soil, besides being dry, is also very firmly pressed down. When the water has passed away, the bulbs are to be covered over to a depth of six inches, with old rotted tan or leaves, under which they are to remain until the pots become filled with roots, and the young leaves have shot out an inch or so in height. Then, after clearing away all the particles of earth from the crowns, and young leaves, so that they may be fully exposed to light, the pots are to be removed to a cold house or frame, where they remain till they are required for forcing. Such plants introduced to a warm atmosphere in succession, will furnish a supply of bloom for the decoration of the conservatory or the window, from December till May. The actual period when they reach the blooming condition, will depend, of course, very much on the time when they are removed to a warm temperature, and the amount of forcing to which they are subjected. Gentle excitement, be it remembered, is in all cases preferable to hard forcing. Those bulbs which are potted by the beginning of September, may be had in bloom about Christmas; while others potted about the end of September or beginning of October, will bloom about March, if assisted with a slight increase of temperature. They are best grown as near as possible to the glass, and with all the ventilation that can be afforded them; these two agencies acting on the plants so as to secure short, stiff, healthy foliage. The pots should be examined from time to time after potting, in order that when they become tolerably filled with roots, the bulbs may be removed from beneath the plunging material before their leaves and young stems have much grown. In any case, the leaves should not be suffered to grow more than an inch or two in length, while they remain in this position. Those plants which grow on slowly without the agency of artificial heat, may be expected to produce the most vigorous, perfect, and highly-colored trusses of bloom.

When the bulbs are planted in glasses, their base only should touch the water. The glasses should, for a time, be placed in a dark, cool place, until the roots have attained a

considerable length, so that when brought out and exposed to the light, the roots may be capable of affording a good supply of nourishment to the young leaves and stems. From time to time the bulbs should be examined, and all superfluous or decaying matters, which occasionally form about their base, should be carefully cleared away. No other attention is required beyond an occasional supply of fresh water, which will be oftener needed as the plants attain full growth, and approach the flowering condition. It will be hardly necessary to mention that neither glasses or pots should be kept on the mantel-piece, as the heat from the fire is inimical to the vigorous development and duration of the flowers. They should, when grown in the dwelling-house, be kept all day at the window, where they may enjoy the full light, and a cool room is preferable; but it is proper to remove them from the window at night, during severe frosty periods. Rain or soft water should always be employed.

In making a selection of varieties from the dealers' lists, it is always the better plan to include those only which, having been previously grown, have been proved to produce good flowers; not allowing other kinds to be substituted to suit the vendor's convenience. This should more than ever be insisted on, as many inferior varieties are now offered by the Dutch wholesale growers, at a cheap rate. Some of the old favorite kinds are beginning to degenerate; and as it occupies many years to acquire a large stock of any new variety, so when once a variety is brought into cultivation in the Dutch gardens, it is many years before the growers can be induced to discard it, though it may be known to be worthless in comparison with other varieties of the same class. This, perhaps, is not surprising, so long as there are to be found in England purchasers of large quantities of these cheap inferior bulbs.

The single-flowered varieties, though by many supposed to be inferior to double ones, are in reality not so. Indeed it is a question whether for vigor of constitution, and fulness of truss, the single kinds are not superior to the double; for though there are fewer segments to each individual flower in the former, yet the truss or spike consists of two or three times the number of pips or flowers, and in most instances the

trusses produced are much larger. The single-flowered kinds all succeed well in glasses.

Few flowers are more effective for beds in the flower garden during the latter part of April and the beginning of May, than the distinct colored varieties of Hyacinth. For this purpose, a few only of distinct and decided colors should be chosen. These should be planted in masses or in distinct beds of the same color and kind. They require a light, rich, thoroughly drained soil, and it may be necessary to provide this to a depth of one foot or more, by removing the natural soil and substituting a proper compost. One of the most suitable composts for beds would be formed by mixed equal parts of (1) the soil of turves of sandy loam, cut very thin, and perfectly rotted; (2) thoroughly decayed cow-manure, or, in default of this, hot-bed manure and leaves well decayed; and (3) river or sea sand. The beds should be prepared in September or early in October, in fine dry weather, and the bulbs planted about six inches beneath the surface. During the winter and early spring devices may be resorted to to prevent the soil becoming saturated by rains, or seriously disturbed by frosts, for which purpose a water-proof covering cloth may be found the most effective, though a thick mulching of any of the ordinary protecting materials should be sufficient. Any covering of these kinds must of course be removed as soon as the leaves begin to burst through the soil, after which a slight shelter against early spring frosts afforded to the foliage, and against dashing rains afforded to the flowers, will be repaid by the results. The bulbs are to be removed when the leaves have decayed, previously to which, in a well-ordered garden, a succession of flowers will have been introduced.

FLORICULTURAL NOTICES.

CALADIUMS.—These beautiful plants, which, since the introduction of several new species by M. Chantin, of Paris, have been so much sought after, and become such favorites, are attracting much attention abroad, and many still more elegant

kinds have been introduced. An English writer having doubted the distinctness and value of some of these new kinds, M. Van Houtte has given a brief account of them, with a complete list of nearly all the sorts worth growing, which may be very useful to our American cultivators. It is translated from Van Houtte's *Flore* in the *Gardeners' Chronicle*:—

Some time ago a correspondent signing himself "Ebor" questioned the value of certain *Caladiums* sent into the trade by M. Chantin. To the criticism of this gentleman M. Van Houtte has replied in the last number of his *Flore des Serres*, and it is only just to so distinguished a cultivator to let him be heard.

"Ebor" said that *Caladium Barraquinii* is nothing but bicolor or some other variety of that old species decorated with a new name. This M. V. Houtte peremptorily denies. He affirms that it has nothing to do with bicolor, the leaf-stalks of which are green, while they are almost black in *Barraquinii*. The veins of the leaves in the latter are also quite different; and then what a beautiful rose color it has, set as it were in a rich deep green frame. Neither is the *Caladium* called *splendens* a variety of *C. bicolor*, but a perfectly distinct sort. If these plants must be combined then *C. splendens* should be compared to *C. Barraquinii*, and yet how different they are. As to *C. thripedestrum* ("a name spoiled by the English who have converted it into *tripedestrum*," with the meaning of which name we are unacquainted), it is admitted that it is the same as *C. marmoratum*.

M. Van Houtte also complains of no notice having been taken of *C. Belleymeii*, a magnificent sort with leaves marvelously powdered and spotted with pure white. Nor of *C. Troubetskoyi*, a sort that will grow larger after some cultivation, whose leaves are all marked with pure white hieroglyphics. As to *C. Perrierii*, M. Van Houtte inquires what sort that is like? *Neumannii* which agrees in nothing except the fantastic markings of rose? The leaves of *C. Perrierii* are of a clear dead green with a dark blackish stock, while those of *C. Neumannii* are deep shining green with green stalks. "There is nothing in common between them."

Now that the subject of *Caladiums* is before us, we borrow

from a description of these modern fashionables by M. Van Houtte the following statement of their comparative heights, a piece of information that will doubtless be welcome to their cultivators whether *in esse* or *in posse*.

		Inches.			Inches.
Caladium	argyrites,	. . . . 10	Caladium	Chantinii,	} 32
"	hastatum,	} 16	"	discolor,	
"	antiquorum,		"	Houlietii,	} 34
"	picturatum,	} 20	"	Belleymei,	
"	" Troubetskoyi,		"	Perrierii,	} 36
"	argyrosylon,	"	Neumannii,		
"	bicolor,	. . . . 24	"	Brongniartii,	} 39
"	splendens,	. . . . 28	"	Verschaffeltii,	
"	marmoratum,	(thripe-	"	pictum,	. . . . 47
"	destrum),	} 30	"	metallicum,	. . . . 49
"	Barraquinii,		"	esculentum,	. . . . 69
"	pæcile,				

To this let us add, that all these *Caladiums* are marsh plants, which, to be seen in their whole beauty, require to be grown in the shade.

NEW DOUBLE ZINNIAS.—Nothing is impossible with the French cultivators. Not only are we indebted to them for the many variegated and striped flowers which our gardens possess, but almost every double flower has come earlier or later through their skill. A writer in the *Florist* truly says, "What a curious thing it is that the odd bizarre colored things seem all to be French. Fancy dahlias, striped verbenas, spotted and odd colored pelargoniums, are all of French extraction. They are a very bizarre people, but this cannot effect hybridizing; but we suppose they are fond of such things, and try to obtain, by a system of crossing likely to produce it, these odd, striking things. Be the reason what it may, the fact is there, and when in any class of flowers you see something peculiar in its markings, you may give a tolerably shrewd guess that it is French." So it is with the double, as well as the "bizarre" flowers. They are mostly of French extraction, and to the double chrysanthemums, double asters, double roses, and other double things, we have now to add the double zinnias, which are so highly praised by the editor of the *Gardeners' Chronicle*. That they must be fine, any one can imagine who has seen the brilliant colored single sorts, rich as they are, and only wanting additional petals to elevate them to

the florist's standard. We welcome these valuable additions to the flower garden of the million, raised from seeds as they readily are. Their brilliant colors will form a rich contrast throughout the autumn with the lilac and purple hues of the aster.

“Whatever may be the success which is destined to attend the attempts at producing green roses, we can at least congratulate our friends upon the appearance of an entirely new and extremely beautiful race of florist's flowers, not likely to yield to either dahlias or China asters, and certain to become rivals of the best of the latter, even when brought up at Erfurth.

It is well known that the common purple zinnia does occasionally produce flower-heads larger than ordinary, and even semi-double; but that no permanence has been secured to such sports. Growers have in vain attempted to fix the changing habit, and a purple zinnia remains a purple zinnia still; all that has proved noticeable being a greater disposition than formerly to break into other colors. This greater disposition than formerly has, however, proved in zinnia precisely what it has proved in so many other cases—the turning point between wild nature and domestication. By degrees a greater and greater tendency to vary has come over the constitution of zinnia, till at last she has broken out in an entirely new array.

A box from Paris reached us the other day, filled with what at first sight appeared to be a new race of double dahlias. Upon being unpacked, however, the box displayed a collection of double zinnias of the most beautiful form and color. Four-and-twenty flower-heads were there, some nearly double, the greater part as completely so as the best Pomponne chrysanthemums; mostly three inches in diameter, some two and one half inches, a few but two inches. Purple, deep rose, light rose, rose striped, red, orange red, orange, buff, and various shades of these colors formed a bouquet of singular beauty, especially when illuminated by a ray of that sunshine which has been so rare this week. The metallic surface of the zinnia then displayed a brilliancy which none of our autumn flowers can equal.

The specimens were forwarded by MESSRS. VILMORIN & Co., of Paris, who, by patient watching for several years, have succeeded in so far fixing the new condition of zinnia that it comes as true from seed as China asters, the different colors separate, and the double forms still double.

That the florist is thus provided with an entirely new field in which to exhibit his skill in transmutation is certain. The first step has been taken by MESSRS. VILMORIN.

General Notices.

ABELIA TRIFLORA.—Mr. Moore, the able Curator of the Glasnevin Botanic Garden, has brought to our notice the singular beauty of a little known hardy shrub, called **ABELIA TRIFLORA**.

“I consider it,” he writes, “one of the very finest of our hardy free flowering shrubs, and coming in at this late period, when most of the others are past, enhances its value. The plant I cut the branches from, which I herewith inclose, is nearly twelve feet high, with a proportionate diameter, and is covered with blossoms from the base to the apex, At first, when the plant was young, the flowers were rather sparsely produced, but last year and this they are in great abundance, and very sweet. It was raised here about ten years ago, from seeds sent by the late Major Madden, who collected them near Simla.”

No one who saw branches of this shrub, as sent by Mr. Moore, completely loaded with clusters of fragrant—most fragrant—tubular flowers, white, tinged with rose color, could entertain any other opinion than this. Undoubtedly it is without a rival, at this season, except among roses and honeysuckles; the latter its first cousins, from which indeed it may be thought to have borrowed its sweetness. What a pity that it should be so little known! As we usually see it, stunted and tortured in a garden pot, it is passed by with little notice; but in the state described by our correspondent it is glorious. Let it not, however, be thought to demand the climate of Dublin. On the contrary, we have received it this year from several correspondents, who have wondered what unexpected treasure they have found among the rejected of the gardener. All that it seems to want is age, which it now has gained, a tolerable climate, and plenty of room in which to grow. In the West of England it would be as handsome as the handsomest pale *Ixora*, the manner of its flowering being much the same.

The plant was first made known by Dr. Wallich, in his *Plantæ Asiaticæ rariores*, when to a very poor figure he added the statement that it had been found by his plant collector, Blinkwarth, “on the highest mountains of

northern and western Kumaon, towards the Himalaya," where it "grows to a middling-sized tree, with flowers delightfully fragrant, like those of *Jasminum revolutum*."

There is many another stranger plant in our gardens, "now neglected and forlorn," which would most richly repay the intelligent gardener who would expend upon it the care that is given to a Rose. Look, for example, at *Lonicera fragrantissima*, *Viburnum macrocephalum*, *Spiræ callosa*, and *canescens*, *Exochorda racemosa*, all as hardy as a furze bush, but scarcely thought about. If gardeners would only turn out of their pots the hardy novelties that the country is yearly receiving; instead of starving them in circles of baked clay; if they would but give them plenty of good soil, plenty of free air, shelter from N. E. winds, and full sunlight for a few years after their arrival, they would be much surprised at the result.

Surely this should be a horticultural axiom; if you grow a plant at all apply to it all the care and skill which you possess. When a man buys a plant and neglects it, he throws away not only his money but his reputation.—(*Gard. Chron.*)

SPERGULA PILIFERA.—From eighteen months' constant observation, and having taken the care of my piece into my own hands, prohibiting any other hand from touching it, I can safely say that in one season it will prove itself to be a right good thing; and after that it will begin to assume its high character, as it does at Forest Hill, after a growth of six or seven years. July is just the proper time to plant or sow. Self-sown plants of last July in my piece are now good tufts, therefore seed sown now, pricked out, and left in the kitchen garden on a reserve plat will be fine for the making of a lawn next spring. It grows quickest in a loose soil; but to make a lasting turf is best on clay, and the more rolling and trampling the better. Tufts put in now, and kept safe in case of drought, will have the benefit of all the autumn rains, and get their roots deep before the winter comes. But let no one imagine that a perfect lawn can be obtained the first season. Like good claret or Scotch ale, it acquires nobility with age, and if I stay here till I am gray-headed I suppose I may sleep in the summer time on my sample of emerald swan's-down. Let those who doubt all this go first to Forest Hill, and see what has been done by the master of Spergula, Mr. Summers. Then let them get a pinch of seed, or a single tuft of plant and grow it in a nook of a rookery, and wait. Its continuous lateral growth and exquisite freshness of color will convince them that here is a plant that may be put to fifty different uses, and be good and profitable in all.

If I were laying out a geometric garden, and especially if in sunk panels, the groundwork should be Spergula. If I wanted a close verge to run away in soft lines, neat and close, and easily kept to its proper boundary, I would not have Grass if Spergula cost a shilling an inch. To surface the ground in a rookery or a rockery, or on a turf terrace, Spergula and patience, and then no fear of summer drought to spoil the greenness, for it

sends its roots down as if it knew the shortest route to New Zealand through the centre of the earth, and if you take up a year-old tuft you may dig deep to find the lowest of its spongioles. Where the roots of Mr. Mongredien's piece are gone to might help us to some conclusions respecting the internal heat of the earth.—(*Gard. Chron.*)

Societies.

AMERICAN INSTITUTE.

THE THIRTY-SECOND ANNUAL FAIR of this Association was held at the Palace Garden, 16th Street, and Third Avenue, on Tuesday the 25th of September, and continued two weeks, to October. It was wholly devoted to horticultural productions, for which liberal premiums were offered, and was an experiment to test the interest felt in this department of cultivation without the aid of the vast show of manufactures, and works of industrial art. The experiment, an influential member of the board of managers informs us "has been a great success. We think the exhibition the best ever given in the United States. We had more than three thousand plates of fruit, averaging from six to eight specimens each, making about twenty-two thousand specimens on exhibition. The plants and flowers, too, were very fine, and very extensive—the most so of any show in this city before. The hardy grapes were the best and most extensive probably ever seen. We feel it a great triumph for New York city to stand in the foremost rank in horticulture. The result has been so satisfactory to the managers that I think horticulture will hereafter be made a leading feature of the American Institute."

The show of plants was very fine, a miscellaneous collection of over 200 was contributed by Mr. Buchanan, New York, amongst which were *Cyanophyllum magnificum*, and twelve varieties variegated *Begonias*, with a host of small greenhouse plants.

L. Menand, Albany, had a collection, which contained some fine examples of neat and skilful management. Those most conspicuous were *Dracæna Dræco*, *Theophrasta glauca*, fine broad foliage; *Littæa gemmifera*, *Dammara Bröwnii*, *Philodendron pertusum*, *Lomatia ferruginea*, *Araucaria excelsa*, *A. braziliensis*, *A. elegans*, *A. Cunninghamii*, *Washingtonia gigantea*, *Chamædorea grammifolia*, *Thuja Donniæna*, *Thuja aurea*, with many other fine things.

Mr. Menand's six variegated plants, contained neat specimens of *Yucca aloefolia*, three feet high; *Hoya variegata*, *Ananassa variegata*, *Maranta regalis*, *Croton variegata*, 2½ to 3 feet high, and *Pandanus Javanicus variegatus*.

Mr. Buchanan had, in the same class, amongst others, small plants of the two new Ferns, *Pteris tricolor* and *argyræa*.

Ferns and mosses came from Messrs. Buchanan and Menand. Mr. Buchanan's collection, though large, did not contain anything beyond small healthy saleable plants; but Mr. Menand's were all well grown, and some rare and large plants, amongst which were *Blechnum Corcovadense*, *Lycopodium Lyallii*, *Gymnogramma Chrysophylla* true, *Lygodium scandens*, *Adiantum trapeziforme*, *Adiantum macrophyllum*, *Cheliánthes landigora*, *Dicksonia antarctica*, the Bird's Nest Fern, with many others.

Orchids came from Mr. Buchanan, whose collection contained *Mormodes parvina unicolor*, *Epidendrum vitellinum*, *Oncidium carthaginense*, *Lycaste aurantiaca*, and others. In the centre of the exhibition room was a large temporary tank, containing some huge leaves of the *Victoria Regia*. In the centre of the tank was something similar to a clothes drying machine, which was thickly studded with Orchids and other Epiphytous plants, which somewhat relieved the monotonous outline of the tables.

Amongst single specimens was a magnificent Tree of *Acacia dealbata*, 10 feet by 10. Also, a standard Heliotrope, six feet high, with a well bloomed head, three feet through. Designs were few; which, perhaps, was best, for they are, generally, either as architectural or classical models, egregious failures. In this class the first prize was awarded to Mr. Fitzpatrick, florist, New York. Dr. Knight exhibited a very nice Fern Case, two and a half feet high, two feet wide, and four feet long, containing a choice selection of Ferns, Mosses, and *Anætochilus*. From the same gentleman came a small plant of the Clove of commerce, and a Nutmeg Tree from Mr. Buchanan.

There were some fine masses of H. P. Roses from Messrs. Dailledoze & Pellee, as well as some others. Dahlias were pretty good and abundant. The prizes were awarded on the opening day. A fine collection came the second day from Hovey & Co., Boston, who received the silver medal as a special award. Verbenas were generally poor. Messrs. Henderson, Jersey City, had a collection which contained some unheard of names, such as Novelty, Hunters, &c.

AWARD OF PREMIUMS.

PLANTS IN POTS.—For the best collection of miscellaneous plants, to I. Buchanan, New York, silver plate, \$25.

For the next, to L. Menand, Albany, silver plate, \$10.

For the best four specimens in bloom, to L. Menand, silver plate, \$10.

For the next, to W. C. Langley, silver medal.

For the best single specimen in bloom, to L. Menand, silver medal.

For the best six varieties of variegated plants, to L. Menand, silver plate, \$8.

For the next, to Geo. Hamlyn, Bay Ridge, L. I., silver medal.

For the best collection of ferns and lycopods, to I. Buchanan, silver plate, \$10.

For the next, to L. Menand, silver medal.

ORCHIDS.—For the best show of plants, to I. Buchanan, silver plate, \$20.

For the best single specimen, to J. Knight, Second Avenue, silver medal.

For the next, to I. Buchanan, bronze medal.

CUT FLOWERS.—For the best display of Roses, to Dailedouze & Pellee, Brooklyn, silver medal.

For the best 12 varieties of Roses, to Dailedouze & Pellee, bronze medal.

For the best display of Dahlias, to C. S. Pell, Broadway, silver plate, \$15.

For the best 12 named varieties, to M. Donadi, silver medal.

VERBENAS.—For the best collection of, to Peter Henderson, Jersey City, silver medal.

For the best collection of Petunias, to I. Buchanan, silver medal.

FRUITS.—The Exhibition, as above stated, was very fine. Messrs. Hovey & Co., Boston, sent 160 varieties of pears, and 82 varieties of apples. Ellwanger & Barry, Rochester, 300 varieties of pears, apples, plums and grapes. Smith & Hanchett, Syracuse, 350 varieties of apples, pears, plums, &c. Other contributors were Dr. Ward of Newark, N. J.; I. Buchanan, New York; Prof. Mapes, W. S. Carpenter, New York; Isaac Hicks, Long Island, F. Brill, Newark, N. J., &c. W. Brocksbank sent a collection of 12 or more varieties of hardy grapes, including the Rebecca. Messrs. Perry & Sons, Connecticut, very fine Delaware; Isaac Merritt, Hart's Village, N. Y., six varieties, with other contributions of one or more kinds. The best collection of foreign grapes came from Morgan G. Cobb, Paterson, N. J.

AWARD OF PREMIUMS.

FRUIT.—For the best collection of named fruits, not less than 100 varieties, to Hovey & Co., Boston, Mass., silver plate, \$50

For the next best, to Ellwanger & Barry, Rochester, N. Y., silver plate, \$20.

APPLES.—For the best collection of 40 named varieties of apples, not less than 6 specimens of each, to Smith & Hanchett, Syracuse, N. Y., silver plate, \$20.

For the next, to Isaac Hicks, New Hempstead, L. I., silver plate, \$8.

For the best 12 named varieties of table apples, 6 of each, to Smith & Hanchett, Syracuse, silver plate, \$8.

For the next, to Dr. J. M. Ward, Newark, N. J., silver medal.

For the best 6 named varieties of table apples, 6 of each, to Joseph Parker, West Rupert, Vt., silver medal.

For the best 12 table apples, one variety, to Francis Brill, Newark, N. J., bronze medal, or \$2.

PEARS.—For the best collection of 50 named varieties, not less than 5 specimens of each, to Smith & Hanchett, Syracuse, silver plate, \$30.

For the next, to Hovey & Co., Boston, silver plate, \$15.

For the best 12 named varieties, 6 of each, to Smith & Hanchett, silver plate, \$8.

For the next, to J. M. Ward, silver medal.

For the best 6 named varieties, 6 of each, to A. Gordon, Astoria, L. I., silver medal.

For the next, to Isaac Buchanan, New York City, bronze medal, or \$2.

For the best 12 table pears, one variety, to P. T. Quin, (Supt. Prof. Mapes,) Newark, N. J., bronze medal, or \$2.

NATIVE GRAPES.—For the best collection, 12 named varieties, 4 bunches of each, to Wm. Brocksbank, Hudson, N. Y., silver plate, \$25.

For the best 4 named varieties, 6 bunches each, to Isaac Merritt, Hart's Village, N. Y., silver plate, \$8.

For the best dish, one variety, 6 bunches, to Rufus R. Skeel, Newburgh, N. Y., silver medal.

For the next, to Henry Ball, Newburgh, N. Y., bronze medal, or \$2.

FOREIGN GRAPES.—For the best collection, not less than 8 named varieties, 2 bunches each, to Morgan G. Cobb, (Jno. Scanlon, Esq.), Paterson, N. J., silver plate, \$25.

We avail ourselves of the present opportunity to return our thanks to the Board of Managers for the compliment of making us an Honorary Manager for the 32d Fair, and regret that circumstances beyond our control prevented us from being present. We also regret that want of time between the closing of the Exhibition of the Massachusetts Horticultural Society, on Saturday, the 22d of September, prevented us from contributing upwards of 200 varieties of pears, and 50 varieties of apples, in addition to the collection we forwarded the Monday following.

Massachusetts Horticultural Society.

Saturday, October 6, 1860.—The Annual Meeting of the Society was held to-day,—the President in the chair.

The following officers were elected for the year:—

President—JOSEPH BRECK.

Vice Presidents—Edward S. Rand, J. F. C. Hyde, Eben. Wight, W. C. Strong.

Treasurer—William R. Austin.

Corresponding Secretary—Eben. Wight.

Recording Secretary—F. Lyman Winship.

Professor of Botany and Vegetable Physiology—Asa Gray.

Professor of Zoölogy—J. W. P. Jenks.

Professor of Horticultural Chemistry—A. A. Hayes.

Executive Committee—The President, Chairman; The Treasurer, J. S. Cabot, Samuel Walker, M. P. Wilder.

For Establishing Premiums—Chairmen of Committee on Fruits, Chairman; Chairman of Committees on Flowers, Vegetables, and Gardens; F. Lyman Winship.

On Finance—Josiah Stickney, Chairman; Samuel Walker, Marshall P. Wilder.

On the Library—E. S. Rand, Jr., Chairman; Wm. H. Spooner, Jr., W. A. Harris, J. O. Williams, R. McCleary Copeland, Librarian.

On Ornamental Gardening—Samuel Walker, Chairman; A. Bowditch, W. R. Austin, W. C. Strong, and Chairmen of the Committees on Fruits, Flowers, and Vegetables.

On Fruits—J. S. Cabot, Chairman; W. C. Strong, J. F. C. Hyde, E. A. Story, W. A. Harris, A. C. Bowditch, P. B. Hovey.

On Flowers—E. S. Rand, Jr., Chairman; G. W. Pratt, James McTear, C. H. B. Breck, A. Apple, E. W. Buswell, Wm. H. Spooner.

On Vegetables—D. T. Curtis, Chairman; Levi Whitcomb, James Nugent, I. P. Rand, Franklin Winship, Augustus Parker, B. Harrington.

On Synonyms of Fruit—M. P. Wilder, Chairman; Samuel Walker, C. M. Hovey, Eben. Wight, and Chairman of the Committee on Fruits.

On Publication—Corresponding Secretary, Chairman; Recording Secretary, G. W. Pratt, and Chairmen of Committees on Flowers, Fruits, Vegetables, and Gardens.

Messrs. Copeland and Curtis were appointed a Committee to sort and count the votes, who reported the whole number 48; necessary to a choice, 25; and that the above ticket had 26 votes.

It was voted to have the Library insured for its full value.

The Library Committee were authorized to purchase Bonafon's Natural History of Maize.

Messrs. Austin, Pratt and Copeland were appointed a Committee to lease the Hall.

The following members were elected: L. Wetherell, William L. Wainwright, James Gray, John Hogan, S. Bradstreet, S. Robinson, Jas. Bean, J. W. Walcott, R. Briggs.

Dr. A. A. Hays was elected a Corresponding member.

Adjourned one month, to November 4.

Horticultural Operations

FOR NOVEMBER.

FRUIT DEPARTMENT.

THE month of October has been unusually mild, with scarcely any frosts, except the severe one of the 1st, when the thermometer fell to 26°, and in many places as low as 20°, killing all tender vegetation, and actually freezing the fruit on the trees. Such a severe early frost, it is said, has not occurred for thirty years. Since then nothing has been injured, and many trees still retain their foliage.

GRAPE VINES in the early forced houses will soon be in bloom, and will require care to protect them from sudden changes which often occur

at this season. Light fires in good season, but do not keep up too high a night temperature. Renew the covering on the border of manure, before December sets in, and protect from cold rains. Vines in the greenhouse or grapery may be pruned as soon as the leaves fall. Protect the border with manure before the temperature is exhausted by cold. Vines in the open air may be laid down and covered if there is any danger from severe frost. Manure well.

FRUIT TREES, in pots, intended for early forcing, should be removed to a cool shed or cellar, where the roots will be protected from frost. Hard freezing is very injurious. Water sparingly.

FRUIT TREES, of all kinds, may be transplanted, it is the best season for this work. Protect with manure before cold weather.

STRAWBERRY BEDS, if recently made, should be cleared of weeds before covering up the plants, which should be done as soon as the ground begins to freeze.

TRENCH and prepare ground for spring planting, where it cannot be done this autumn.

FRUIT ROOMS should have attention. Look over the specimens often, and remove every decayed fruit which will create damp. Keep the temperature as even as possible.

FLOWER DEPARTMENT.

The houses should now be in fine order. The favorable month, though the early frost injured some things, has been so fine that there has been no need of delay in arranging the plants. Give the Chrysanthemums and other early blooming plants a good place, until their beauty is over, when they may be removed to give room to other things. Keep the houses as cool as possible, lighting fires only to keep out frost or dry up damp. Prune and tie up climbing plants.

CHRYSANTHEMUMS will now be prominent objects, and if there is a good collection will form the most attractive feature of the conservatory or parlor till Christmas. Keep the plants in the driest and coolest part of the house, as they are impatient of damp, and soon lose their beauty. Give an abundance of air, and water freely with liquid manure.

PELARGONIUMS should have attention. Soil should be in readiness to repot the earliest blooming plants next month. Keep them as near the glass as possible, quite cool, and rather dry. Fumigate, if the green fly appears.

CINERARIAS should be repotted. Keep them as cool as possible, and on a shelf near the glass. Look out for the green fly.

CALCEOLARIAS should be potted off, and treated in the same manner as Cinerarias.

AZALEAS will now be at rest, and should have the coolest situation in the house; water rather sparingly. Now is the time to tie into shape specimen plants, before the wood is hard. The pyramidal form is the most beautiful; but, whatever shape may be preferred, the plants should be immediately attended to, in order that they may look more natural.

CYCLAMENS should be repotted, and placed on a cool shelf, near the glass; water rather sparingly till the blossoms appear.

MONTHLY CARNATIONS should be neatly tied up to stakes, and have a good situation near the light, to prevent them from drying up. Water carefully.

ROSES in pots, removed to the house, should not be forced into growth too rapidly. Keep rather cool till the buds are well broken.

CACTUSES should be sparingly watered.

BEDDING PLANTS, of all kinds, raised from cuttings, should be potted off and placed on a cool shelf, near the glass.

HYACINTHS, and other spring flowering bulbs, should be potted.

FUCHSIAS, intended for large specimens, should now be repotted, and have a good situation, where they can be kept growing all winter.

HEATHS should be kept as cool as possible, without frost.

TROPEOLUMS, now beginning to grow, may be repotted and have a good situation on the stage, where they can be trained over a neat trellis, or, what is better, a little erect branch of a tree, over which they can run readily. Water carefully.

MIGNONETTE AND ALLYSUM, in pots, should be placed on a shelf near the glass.

LOOK AFTER INSECTS. The green fly is troublesome, and frequent fumigations will effectually destroy them.

FLOWER GARDEN AND SHRUBBERY.

The beauty of the flower garden has departed, and preparations should be made for renewing its beauty in spring. Replant and put the beds in order; set out bulbs of all kinds; and fill all vacancies immediately. The walks should still be kept clean, but the cool weather will save any further cutting of the lawn. Protect any slightly tender shrubs or evergreens that stand in conspicuous places. Trench and prepare ground for spring.

LILIES, and other bulbs, should be planted.

CARNATIONS, in frames, should be covered with a few leaves, and have the protection of sashes or shutters to keep off the rains.

ROSES AND SHRUBS may be transplanted.

HERBACEOUS PLANTS, of all kinds, may be transplanted.

PÆONIES may be transplanted.

HOLLYHOCKS should be protected in a frame.

EVERGREENS, not entirely hardy, if taken up and placed in a frame, will winter safely, and may be removed to the open ground in May.

GLADIOLUS should be taken up before hard frosts.

SALVIA PATENS, DATURA WIGHTII, and similar tender roots, should be taken up and potted, or put into a box of earth and placed in the cellar.

TRITOMAS should be taken up and potted.

PERPETUAL AND HARDY ROSES succeed admirably, if taken up and bedded in a frame, where they can have a good covering of leaves or strong manure.

NEW YORK CENTRAL PARK.

ONE of the most pleasing features in the progress of rural art in America is the formation of extensive parks in many of our principal cities, particularly in New York and Baltimore,—the latter very recent, and but yet in its incipient state. That the intelligent citizens of our thickly populated cities should be induced to move in this matter, and the authorities carry out their wishes, is a matter of general congratulation; for not only are such extensive breathing-places of the greatest importance in a sanitary view, but they afford the means of rural enjoyment to the pent-up masses of our industrial people, whose means do not permit them to receive the benefits of the country; and not the least advantages of such parks are their influence in fostering a taste for rural art, and a more genuine love of natural scenery and the pleasures of rural life.

We have, therefore, from the first inception of the plan of the New York Central Park, looked forward to its establishment and completion with the greatest satisfaction. A city of such magnitude might well afford to do something on a fitting scale. No city in America had done anything in proportion to this before, and the example of New York would be, as it has already been, followed by the establishment of parks on a scale, if not of commensurate magnitude, at least more nearly approaching the wants of the people. Boston has but forty-eight acres in her beautiful common, but then she is so immediately surrounded by suburban cities and towns, with spacious avenues, broad fields, and elegant gardens, that she has less need of more extensive grounds; in fact, in proportion to the square miles of territory,—which can never be much increased only by the absorption of sister cities,—the common holds nearly the same relation to the city as the Central Park does to New York.

A park of six hundred acres, in the centre of a populous city, where land is so valuable, seems to many persons, who

estimate it with a dollar-and-cent view, a large space to devote to that object. Yet what is this compared with London? with little more than three times the population of New York, with five large parks, numbering in all more than six thousand acres! In fact, these parks are, like spots of the open country, set down among the piles of brick and mortar, which constitute the city. Richmond Great Park is eight miles round, and contains 2,250 acres; and Hyde Park and Kensington about 800 acres. These are truly parks,—not gardens,—with broad reaches of grass, meadows and fields, and lakes and streams, beautified with plantations of trees, which give them all the aspect of the country, and make the beholder forget that he is in the heart of one of the largest cities in Europe. How insignificant does even the Central Park appear, with its six hundred acres, in comparison with those of London. Every citizen of New York must feel indebted to the authorities whose foresight secured even so many acres to be dedicated to their future use and enjoyment.

Baltimore, with a much smaller population, has, with commendable zeal and forethought, just officially and publicly dedicated a park of seven hundred acres, embracing the Druid Hill estate of L. N. Rogers, Esq., beautifully located, and already highly embellished with trees and shrubbery, possessing natural capacities so much superior to New York, that the laying out and completion of the same will be done without one cent of tax to the people,—the whole sum for this purpose being raised by a new and just tax upon the horse railroads which have been established in this as in other cities. So that, while New York has already expended upwards of *eleven millions* of dollars, Baltimore secures grounds of greater extent and natural beauty without any tax upon the people. “It is,” says the author of the address at its dedication, “no small part of the proud satisfaction with which I stand before you here to-day, that in delivering into the hands of the people this princely acquisition, this noble patrimony for those who may come after us, we bring no bill of costs, and ask no provision for its support and maintenance in the future.” Deeply indebted, indeed, must the Baltimoreans be to the authorities who have secured such a spot in such an acceptable manner.

But our object, in our remarks at this time, was not to give an historical account of the New York Central Park, but to note some of the defects in its arrangement which materially diminish its value, mar its beauty, and entail a loss of millions to the city. Eleven millions of dollars, already expended, is a large sum for any city to contribute to such an object, financially considered; and millions more will be needed, for it is not half done, and thousands upon thousands for its annual keeping. Yet even this enormous sum is nothing in comparison with the benefits it will confer upon the people. But if it could have been far more beautifully furnished for half the amount that will now be required, and kept in the best condition for half what it will now cost, would not this have been an item worth considering? Herculean as the task will be to convert a rocky surface into a beautiful park, it might have been greatly lightened by making it what it was intended to be, and not a gigantic garden or pleasure ground, to employ thousands of laborers to keep it in order.

We conceive it a great error of the designers in cutting up the ground into a series of little gardens, so thickly planted with trees as already to appear, in spots, like country hedges, choked with underbrush and weeds, neither to be taken as natural growth or as artificial, but a kind of nondescript species of ornament, with the bad taste displayed of planting two trees in one hole, to imitate natural effects, and so near the narrow walks as to completely cover them in a few years. An episode in this way occasionally might be well enough, but to make it, as it now appears to be, a main feature, is the error.

Real park scenery appears to have been entirely ignored. The published plan shows nothing approaching the character of a park,—the whole number of acres devoted to this object being less than one hundred, and divided into such small patches as to render it impossible to produce magnificent effects. This defect has been noticed by English landscape gardeners; and in a review of the original plan in the *Gardeners' Chronicle*, it was not only shown to be a great mistake, but would add immensely to the cost of maintaining the

park. We copy the writer's remarks, as they coincide so nearly with our own:—

“In a park of such ample dimensions, it will naturally be expected that there should be several broad and noble stretches of grass, besides various minor glades. In the part south of the reservoir, for example, one great and bold area of two hundred or two hundred and fifty acres, with a very broken outline, might have been arranged; and this would have imparted a grandeur and dignity of character commensurate with the actual proportions of the park, while enough of variety might have been secured by the introduction of suitably disposed plantations and groups. In this respect the design under notice is strikingly deficient. By the peculiar multiplication of the roads, the creation of a southern or lower lake, the adoption of an oblique promenade avenue, and the general redundancy of the plantations, everything like adequate breadth of effect is annihilated. The parade ground, which is of twenty-five acres, and the southern play-ground, which contains about ten acres,—being severed only by one of the south cross roads,—constitute the largest grass space in the entire design, and this does not comprise more than thirty-five acres. The open area again to the north of the great reservoir, including the northern play-ground, is certainly not more than twenty acres; and there is another small play-ground on the west side of the old reservoir. Even apart from the question of effect, the absence of great continuous sweeps of pasture will enter seriously into the cost of subsequent maintenance; for, as no kind of interior fencing is mentioned in the report on the estimates, and fencing, if attempted in such a plan, would be almost interminable, the keeping of five or six hundred acres of ground in order, without grazing, would be a task so herculean as to become Quixotic. Indeed, the whole would resolve itself into a gigantic pleasure garden, and demand a regular army of laborers to preserve it from ruin.”

An inspection of the park, as it appeared in September last, fully justifies the above remarks. Beyond the short, oblique promenade avenue, planted with cropped elms, which look anything but ornamental, and the few acres devoted to the

parade ground to the left, of what is completed or under completion, there is no expanse of lawn worth naming. That there can be but little, appears from the report of the commissioners, who state that seven and a half miles of *paths* have been made, and these in a space of less than 150 acres! The Ramble, as we believe it is to be called, a spot of ground comprising apparently ten acres, appears just now the leading attraction. This covers an uneven slope descending towards the lake, and is cut up into paths and densely planted with shrubbery, mixed up without regard to the future growth or character of the plants. This, however, except the grouping, is well enough in its way. Too irregular and rocky to be easily worked into grass, and situated on the extreme edge of the park, a feature of this kind, skilfully executed, would be an undoubted attraction to the place.

It is the entire absence of grandeur and magnificence in the place that we feel to be a real loss, not only to the citizens of New York but to all who visit the park. A broad drive through 700 acres of such a diversified surface of lawn, enriched with plantations of noble trees, with broad openings and lengthened vistas, would be something worth expending millions of dollars for, and seem something characteristic of the name. But a series of gardens, rocky dells, and little artificial lakes occupying such a vast extent annihilates not only all breadth of surface, but fritters away the entire ground. "A park," Repton says, "has a character distinct from a *forest*, for, while we admire and even imitate the romantic wildness of nature, we ought never to forget that a park is the habitation of men, and not solely devoted to beasts of the forest. * * * Park scenery, compared with forest scenery, is like an historical picture compared with a landscape; nature must alike prevail in both; but that which relates to man should have a higher place in the scale of art."

This is the true character of a park. The London parks are grand examples of park scenery; with few broad roads, extensive reaches of grass, and noble groups of trees. Here, in the heart of London, we enjoyed the scenery of the banks of the Connecticut. Mr. Downing, in his account of a visit to these parks, remarks that "they are laid out and treated

with a broad and noble feeling of natural beauty, quite the reverse of what you see in the public parks of the Continental cities." The Central Park should have been treated in the same way. It is the realization of the country and not the suburban garden that we seek in a grand city park: the latter individuals may easily enjoy, but the former is beyond the means of the wealthiest citizen.

In conclusion then of our rather extended remarks, let us hope that there will be such a departure from the original design in what remains to be done, as will secure, as far as possible, the grandeur of park scenery, broad reaches of grass, open meadows, and magnificent plantations of trees.

THE OLD AND THE NEW.

BY WILSON FLAGG.

IN America the few remains of antiquity which have been discovered belong to so remote an age, and are so insignificant, compared with those of Europe and Asia, that they do not characterize the land, nor affect its claim to be considered a new country. Even nature, outside of its geological structure, seems less ancient here than in the Old World, where we find a larger number of trees which are the survivors of a remote period of the past. Trees do not attain their greatest age in a forest, where their crowded condition is unfavorable to longevity; and if any have become very ancient, they do not wear the sturdy and venerable appearance that marks old standard trees. Hence, with respect both to the productions of nature and of art, America is new, in comparison with the eastern continent; for though its mountains and valleys, its rocks, meadows and river-beds are as old as those of Europe and Asia, it is not like those countries hoary with the ruins of ancient grandeur, nor shaded by trees that for centuries have spread their umbrage over the same field or roadside.

Though the European looks, perhaps, in vain for those features that charm the beholder in some of our half-cultivated landscapes, he is not so often offended by those disa-

greeable contrasts presented in opposition to them in the works of a flashing architecture. In an old country, except those places which have been revolutionized by recent improvements, the most of its artificial works are sobered and mellowed by time. They have no glitter: structures that were originally showy have lost their glare, and all things wear a look of comfortable repose and sobriety. If false taste were manifested in their style and decorations when they were built, this expression is so obscured by age that it does not offend us. A magnificent building, which was at first too highly bedecked with the trappings of vanity to be justly appreciated for its intrinsic merits, often in the course of time becomes sobered into an expression of grandeur. Many such edifices exist in Europe, and yield to its artificial landscapes an appearance which is entirely wanting in America.

Individuals of a studious and thoughtful turn of mind are generally more attached to the old than the new; and the improvements they would welcome are such as are not destructive of the venerable features of a past century. People of this character among our inhabitants are lovers of nature, who presents to them many of the semblances of antiquity; for the objects of nature are old to us compared with the works of art; and a wood, with which we have always been familiar, is perhaps the only object in our own village that wears an ancient look, except the rocks and hills. I am aware that very little of this poetic sentiment pervades the enterprising classes of American society, who are, by a kind of necessity, so entirely absorbed in the thought of improving their fortune by new enterprises that every change seems delightful to them, if it be connected with a new commercial undertaking. I have seen men in raptures over the demolition of some of the most charming scenes of their boyhood, on beholding them laid out into streets and house-lots, and advertised for auction. They are so deeply interested in the advancement of real estate, consequent upon these undertakings, that they do not consider the regret with which they may at some future time witness the desolation that has followed. Such improvements and changes are not a proper subject of satire, inasmuch as they are necessary to the wants

of an increasing population: but I am persuaded that if our people were imbued with this sentiment of antiquity, many interesting objects would be preserved, without any damage to commercial enterprise.

These points lead me to the consideration of a fact that seems to indicate the intellectual superiority of the female sex. It has been the subject of frequent remark that the best productions of American literature, except in the department of professional science, find readers in this country chiefly among the female members of society. They alone read works of reflection, while the majority of the other sex disdain everything in the department of letters, except a narrative or a work of fiction. Poetry is entirely a matter of fashion, and is read equally by both sexes, without reference to their likes or dislikes; but prose works, of a purely ethical and descriptive character, are chiefly sought by female readers. In like manner, if there be a dozen persons in a village, who regret the supposed necessity of taking down an old edifice, to put up a new one in its place,—or the removal of a venerable grove to make room for new streets and house-lots, these few persons are mostly of the fair sex. It seems, indeed, as if the better half were the only members of the community, when these things are regarded, who possess either heart or intellect. This superiority of the fair sex is attributable to the different sort of training received by the two sexes. While boys are learning a mechanical art, or are confined to a shop or a counting room, girls are pupils of a normal school; and at a later period of their lives, when young men are attending political meetings or odd fellows' clubs, young women are taking part in some moral or benevolent enterprise, and are cultivating certain tastes and talents which lie almost dormant in the minds of the other sex. Hence nothing is more common, in an intercourse with American society, than to enter a house in which the mother and daughters are the only members of the family, who are capable of taking part in any conversation that turns upon a purely moral or intellectual topic.

If the advice and remonstrances of the fair sex, when the preliminaries of a new enterprise are considered, were al-

lowed to produce a reasonable share of influence upon the minds of its projectors, who are prone to despise a sentiment that lies too deep for their sensibilities,—the growth and improvement of a place might be witnessed with unmixed satisfaction by all, because a just regard would then be paid to the preservation of whatever is truly valuable in the natural and artificial objects of the old village. The wanton sacrifice of trees is often censured in connection with the building of new roads: but trees are not the only valuable things in landscape; and the spade and the pickaxe often do more injury than the woodman's axe to the face of nature. Collections of shrubbery upon certain picturesque eminences; moss-grown rocks projecting from the brows of a hill, and knolls that diversify the plain, constitute the natural beauties of a cleared landscape; and by grading all these to one dead level or slope, we commit an act, which, though dignified with the name of improvement, is a genuine piece of vandalism.

It is often said that the scenery to which men have been accustomed from their youth, produces a corresponding influence upon their characters; and the operation of this principle to a certain extent will not be denied. Yet I do not believe that the wild scenes of nature will turn those who have always lived among them into savages, except so far as they deprive them of civilized society and the advantages of education. In connection with these advantages, on the other hand, they would encourage, by their peaceful solitudes, any meditative disposition with which the inhabitants were naturally endowed. A multiplicity of attractive scenes and objects tends to cherish observation rather than reflection. It is where the objects both of nature and art are few and of a decided character that they most deeply affect the mind. Hence the genial influence of an old country, full of venerable ruins. I believe one cause of the peculiarly practical character of the American mind, which is calculating but not philosophical, and artistic but not poetical, is the absence of the remains of past ages to yield it a tinge of melancholy. We are educated to admire only the new; and we have no regard for the old, except perhaps certain relics of ancient art which have been imported for their fashionable and commer-

cial value: so that indeed the passion for antiquities which we sometimes manifest, is after all nothing better than a rage for novelties.

There are other causes of our national love of the new. Our people encounter vast woods, which must be cut down, before they can attain any material prosperity. From their youth they have looked upon every conquest they have obtained over nature as a desirable acquisition. In a new settlement, a row of clean white-painted houses is conspicuous evidence that nature has been partially subdued; and these sights justly affect the pioneer with a great deal of pleasure. We all experience this pleasure, when, weary of travelling in a wilderness, we perceive, through the dusk of evening, the glimmer of an assemblage of white houses, that indicate an approach to a hospitable village.

A writer in the *London Critic* remarks that the Americans must be devout worshippers of nature, notwithstanding many counteracting influences, since "twenty steps will take the meditative man into the wilderness." But this remark is true only in its application to meditative men. The active members of our population have come by habit to regard the natural condition of the country as the great obstacle to their material progress, and they can feel but little affection for objects which must be destroyed to promote their own welfare. We do not love anything that is a hindrance to our success. Thus crows, which are objects of interest to the inhabitant of the town, who associates their cries with the pleasant seclusion of the woods, are despised by the farmer, whose fields are constantly spoiled by their depredations. I believe the most hearty lovers of nature in this country are among those who were brought up in the old settlements, where the primitive forest has been superseded by one of sparser growth, and who feel a necessity of preserving trees rather than of destroying them. The woods in these old places are ornaments of the landscape, and their owner is not tempted to remove them as a nuisance or incumbrance unless he be unreasonably taxed for them. He prizes them also as property increasing in value, and looks upon them

with pleasure as a part of his most valuable possessions, and this pecuniary regard naturally ripens into affection.

One of the intellectual misfortunes of our people is that of having grown up among scenes which are constantly changing. Like the spectators of a moving panorama, their attention is never permanently fixed upon particular views, and their habits of observation have become proportionally superficial. Their minds are crowded with a multitude of ideas, which are but *photographs* of painted houses, dusty streets, fast horses and showy vehicles. Their ideas are numerous, but they are all of one mechanical denomination. In this way may the scenes to which men have been accustomed, materially affect their character. Men who live apart from the town acquire more sobriety. A working farmer will not possess so full a mind, as the active citizen; but the images stamped upon his mind are more picturesque and romantic. While the map of the citizen's mind is cut up into a confused multitude of small parts, interfering with the grandeur of his conceptions, the farmer's mind is a sort of reflection of the pleasant images of the country; and though not imbued with so many ideas of progress he has more rude expansion of intellect, and feels some affection for old things as well as old customs.

A familiarity with the new excites to enterprise, speculation and mechanical invention; a familiarity with the old encourages reflection, feeds the imagination, fosters the poetic sentiment, and causes a desire for intrinsic prosperity rather than progress. Hence those who have a passion for enterprise, and those who are imbued with the sentiment of antiquity, possess but little congeniality of feeling. The former are delighted with art, as it contributes to show and splendor: they love the beautiful, like children. The latter are fond of art, as it contributes to render the scenes of the outer world better subjects of meditation: like painters, they love the sober and picturesque. In this country art is almost entirely new, and has been used rather for the display of art, than for any more deeply interesting effects. In rude landscapes, where the dwelling-houses are plain and simple, and inhabited by people who never trouble themselves about artistic

effects, and in wild scenery only, do we find in this country any appearance that harmonizes with antiquity.

A gentleman who deeply appreciated the influence of time in softening the glitter of ornamental architecture,—in order “to seize time by the forelock,” and anticipate the mellowing effects of a century, built his house of moss-grown stones. He caused them to be hewn in such a manner, and so disposed that their mossy surfaces should form the outside of his walls. By this expedient he produced an imperfect imitation of an ancient edifice; but he would have more fully attained his ends by adopting a rigid simplicity of style in the construction of his house, which supplies a substitute for the mellow shading of antiquity. In proportion to the want of polish and ornament is age less requisite for producing a sober and picturesque expression. Hence while a rich man’s palace must become almost dilapidated with the wear of a century, before it can look venerable or poetical,—a simple, unpainted farm-house, with nothing ornamental about it, acquires this expression as soon as it is weather-stained.

The pleasure which a lover of antiquity derives from the scenery of a new country, must spring chiefly from nature: for art is here disagreeably showy and vapid. But if the wild features of the landscape be destroyed, if the primitive woods are gone, and nothing but a general baldness remains, nature affords but little relief from the glare and insipidity of ornamental art. Yet it must be confessed that antiquity with its venerable buildings, its ancient gardens and patriarchal trees, can never make amends for the absence of the spontaneous scenes of nature. England, therefore, cannot be so attractive as New England, which of all countries in the world probably exhibits the most agreeable intermixture of the wild and the cultivated; and it will never lose these features, so long as the man who tills the soil is the owner of it, and every laboring farmer is an independent yeoman.

BLACK CURRANT CULTURE IN FRANCE.

FROM THE GARDENERS' CHRONICLE.

THE Black Currant has long been extensively cultivated in British gardens, where the fruit is not only occasionally used for the dessert, but is considered invaluable for making jams, jellies, and pies; and especially for the latter purpose is planted in larger or smaller quantities in every garden. In France it is cultivated on a most extensive scale for the manufacture of black currant liqueur. So little, however, is it esteemed with us, that rarely does it find a place in the garden, or at most in but a limited way by those who appreciate its value for making jellies.

According to an account in Decaisne's *Jardin Fruitier* translated in the *Gardeners' Chronicle*, Black currant culture has recently attracted great attention in France, and appears likely to become one of the most important horticultural products, no less than 880,000 bottles of liqueur having been made in 1859. Believing the statement of M. Decaisne will be read with great surprise, as well as deep interest, by American cultivators we copy it entire.

If, as is stated, the "centre of the currant cultivation in France exactly coincides with that of the vine," then the whole middle and northern portions of the United States are adapted to its culture. Indeed we know that under the usual haphazard way in which the few plants are treated in our gardens they bear abundant crops of large and fine fruit, and what is more are not liable to injury from vicissitudes of our climate; what they would do when skilfully managed has not been tried, but we doubt not the product would quite equal the best results of the French cultivators.

The profits of currant culture, according to the estimates in the annexed statement, are flattering and induce the belief that it would prove equally if not more remunerative here: £26 10s., about \$130, being the gross product per acre. But while land in France on which currants are grown is worth \$150 or \$200 an acre, with us it would not amount to more than one-third or one-half that sum on the average, taking the vine culture as a basis of calculation.

The whole subject is worthy of the consideration of American fruit growers and market gardeners. A crop so certain as that of the black currant, and requiring so little attention, could be raised much cheaper than that of the vine, where the cost of trellis, annual pruning, training, &c., are considerable, and where the occasional loss of a crop sensibly reduces the average profit. We should be pleased, at least, to see the experiment tried:—

Among the miscellaneous information contained in Prof. Decaisne's very valuable *Jardin Fruitier* is a statement respecting the Cultivation of Black Currants in France, which is to us quite new. It has been long known indeed that what is called Cassis was a part of their manufacture of syrups and sweet wines, but it has been supposed to be altogether insignificant. An amber colored aromatic *liqueur de Cassis* is also to be sometimes found in wine stores, but is rarely drank in this country. It now however appears from a statement communicated to Prof. Decaisne by Dr. Maillard of Dijon, that making black currant liqueur has become a very considerable branch of industry in the department of the Côte-d'Or. It seems that in the year 1841 the first attempt at preparing black currant liqueur was made, and since that time the manufacture has so rapidly increased that at Dijon alone there are now three first-class houses, producing together 88,000 gallons; six second-class ones producing 66,000 gallons; and at least twenty others manufacturing a like quantity. Establishments also exist at Beaune, Châlon-sur-Saône, and several other small towns in the same district; in all 880,000 bottles.

Up to the present time the production of the article in the Côte-d'Or has depended upon the supply of fruit, which has frequently proved unequal to the demand, and has had to be brought from considerable distances. Even in the neighborhood of Lyons black currants are now cultivated for the Dijon market. For the first few years when the success of the manufacture remained uncertain, the owners of vineyards confined themselves to planting black currants here and there among vines, and by the sides of roads and foot-paths, so as not to risk any considerable outlay of capital or loss of ground.

But the manufacture is now so well established that landowners are cropping their land with black currants alone, the number of plants introduced into vineyards being also on the increase. The rage, indeed, for planting was so great in 1857 that rooted plants sold as high as £3 4s. and even £4 16s. per thousand. Now, however, price has found its usual level, that of 16s. to 24s. per thousand. The exact number of plants cultivated around Dijon does not seem to be ascertainable, the proprietors themselves not knowing how many they have planted. It is, however, probable that to estimate the number near Dijon at 1,500,000 would be greatly below rather than above the mark.

In the department of the Côte-d'Or, the centre of currant cultivation exactly coincides with that of the vine. In fact, it may be said to extend from Chagny to Dijon in a narrow zone skirting the eastern slope of the mountain chain of the Côte-d'Or, eighteen to twenty-five miles in length, and from one to three miles in breadth. Within these narrow limits are to be found all the great growths of Burgundy wine, connected by vineyards only producing *Vin ordinaire*. It is among these, and in land of similar nature, that the black currant is cultivated. Many of the villages producing large quantities of the latter, are noted for the excellence of their wines, as for example—Volnay, Beaune, Aloxe, Savigny, Prémieux, Nuits, Vougeot, Chambolle, Vosne, Morey, Gevrey-Chambertin, Brochon, Fixin, Marsannay, Talant, Fontaine. Leaving this centre the currant follows the vine in the valleys that traverse the mountain range towards the west; there are extensive plantations at Nolay, Plombières, Malain, Laumes, and Montbard, and others occur occasionally in the large and fertile plain which extends from the foot of the Côte-d'Or chain to the Saône, and in which the vine is not cultivated. Finally they are to be found in the department of the Saône-et-Loire, particularly in that part of it which adjoins the Côte-d'Or. Rather considerable plantations also occur near Autun and Châlon-sur-Saône.

Contrary to what might have been expected in fruit with so strong a flavor, there exist great differences in the quality of the currants from different localities. The French liqueur

makers easily distinguish them, and carefully reserve currants of superior quality for first-class liqueur, which sells as high as 2s. 9d. per quart, wholesale. In general, indeed, wherever wine is good the currant is also good. By this is not meant the choice growths but *vins ordinaires*, the vines producing which are frequently grown along with currants.

For example, among the villages which produce the best black currants are Gevery-Chambertin, where about 70,000 plants are grown; Vougeot, Vosne, &c. The currants of Talant, Fontaine, Malain, Les Laumes, Montbard, Plombières, and Nolay, where wine is of low quality, are considered inferior; and those of the plain of Genlis, Auxonne, &c., where the vine is not cultivated at all, are the least esteemed.

The currant is planted in these districts in various ways. At first the plants were put in three feet four inches apart each way. Latterly many growers have made trenches four feet three inches apart and fifteen inches deep, in the bottom of which the currants are planted four feet three inches apart. The after culture is very simple: in spring the ground is deeply hoed, and during the rest of the season two or three more hoeings are given to destroy weeds. Pruning is done in spring, at the same time with the vines. There is no fixed principle in its performance, the shoots being cut more or less short, according to the locality, and the notions of the cultivators. As to soil, chalky land with a little clay in its composition, such as prevails in French wine districts, suits it very well.

An important part of the subject is of course the yield of black currant plantations, and the average price that may with some sort of certainty be counted on. The latter is difficult to determine, because as yet the balance between supply and demand is not established, and it is evident that it will vary according to the number of fresh plantations, the abundance of the crop, &c. The average prices in former years have been as follows:—In 1841, 3s. 3d. per cwt.; 1842 and 1843, 4s.; 1844 and 1845, 8s. 1½d.; from 1844 to 1855 it averaged 12s. 2d.; 1856, 1857, 16s. 3d.; 1858, 30s. 5¼d.; 1859, 20s. 3d. to 28s. 4½d.

These are, however, only approximate estimates; but it is

believed that as soon as a proper supply of fruit shall be secured the price will average about 12s. 2d. per cwt., an estimate probably not too high, since some of the most important houses in Dijon have contracted with growers to take all their crop for ten or twelve years to come at very nearly the above rate. Taking these prices as a basis for calculation, Dr. Maillard makes the following estimate of return, allowance being made for late frosts and other variations of the weather.

It is generally admitted that every bush that has been planted five years in fields containing currants only will yield $3\frac{1}{4}$ lbs. of fruit. The yield of plants growing singly in vineyards is much greater. But to avoid errors, suppose that each plant produces, on an average, $2\frac{1}{5}$ lbs.; then if the acre contain about 2240 plants, and the fruit sells at 12s. 2d. per cwt. the value of the crop per acre would be £26 14s. Land in which the currant is usually grown is worth from £32 to £48 per acre, and deducting from £4 to £4 16s. for the interest on the value of the land, there would remain about £22 per acre as the annual return, without counting the cost of planting and subsequent culture.

Such are the statements made by Dr. Maillard, and they seem to deserve consideration among ourselves, especially by market gardeners whose land no longer pays as it once did. Unlike the vine the black currant acquires all its excellence in England; and it seems more to the purpose to try the experiment of growing it for the distillers than to attempt vineyard making in a climate wholly unsuited to the purpose.

In conclusion let us express a hope that the owners of vineyards in the Côte d'Or, will not take to making Burgundy wine for their new English market out of black currants as well as grapes.

POMOLOGICAL GOSSIP.

CURRANTS.—The *Gardeners' Chronicle* recently noticed the remarks of Messrs. Prince & Co. in relation to currants, which appeared in the *Rural New Yorker*. Mr. Prince stated that

the English knew nothing "about the progress that has been made in improving the breed of currants." That twenty-seven years after, three new sorts, very little better than the Red Dutch, had been raised by the late Mr. Knight, only one new variety, the Victoria, had been produced in England. Mr. Prince stated that this want of progress in obtaining new varieties of the currant, arose from the circumstance that Mr. Knight and the Horticultural Society had remained ignorant of the existence in France of very superior varieties, which Mr. Knight should have availed himself of when commencing his operations. "But Mr. Prince forgets," says Dr. Lindley, "that when Mr. Knight set about improving the breed of currants we had only the Black, Red and White, and Champagne to work upon, with a sort called the *Perlee*, so that we do not see how he is to be blamed for not having availed himself of what had no existence in France or elsewhere." After copying a list of the kinds described in the *Bon Jardinier*, eight in number, he concludes as follows:—

These are all that the French recognize even now; and out of the nine, three are old sorts, and two only of any particular merit occur among the more recent acquisitions, viz., the Victoria, raised in England, and the *Versaillaise* in France, both of which have been for years in the garden of the Horticultural Society. The great stride in currant breeding which Mr. Prince thinks the French have made, amounts in reality to having obtained four new sorts, three of which, the *Goudouins* and *Cherry*, are of doubtful merit.

Mr. Prince mentions, indeed, several others of French origin, viz., the *Chasselas*, *Attwear*, *La Caucase*, *Imperial Rouge*, *Imperial Jaune*, *Fertile de Pallua*, *Blanche Transparente*, *White Provence*, *Red Provence*, *Gloire des Sablons*, *Belle de Fontenay*, *Belle de St. Gilles*, *Cerise à longues Grappes*, and *Fertile d'Angers*.

But we submit that English gardeners may be excused for not knowing anything about their names, seeing that they are unrecognized in the *Bon Jardinier*, the only French authority in the matter. Mr. Prince says they are "estimable." We shall see. A good many varieties called new, have been this

year added to the collection at Chiswick, and will be reported upon in due time. Should any prove to have real merit, Mr. Prince may be assured that we are not so blind to our own interests as to neglect them.

In a subsequent number of the *Chronicle*, Mr. Rivers takes up the subject and gives his experience in the cultivation of currants, in a rather interesting article, which we copy for the benefit of our readers:—

Mr. Prince, Flushing, United States, has quite a talent for cataloguing, if we may judge from his catalogue of strawberries, which contains the names of 158 select varieties besides some fourscore “rejected varieties,” among which are “Myatt’s Eliza and all his other seedlings.” Poor Mr. Myatt! Mr. Prince’s catalogue of grapes rivals his strawberry catalogue in the number of varieties described. I flattered myself that I had been for some years rather energetic in collecting and proving varieties of currants; but if, as you state in Number 36, Mr. Prince enumerates 60 varieties, I am, as compared with him, slow, very slow. The catalogues of the large French nurserymen for the year 1859, enumerate about 20 sorts, exclusive of three or four kinds of Black currants. I am therefore quite at a loss to account for the fact of my transatlantic cousin having got together such a collection of currant names. Some of your readers may not know that although currants do not differ much in their nature—for they are nearly all too sour—they do in their names, and so I will venture to give a list of varieties, all of which have borne fruit here:—

RED CURRANTS.

- | | |
|-----------------------------|---|
| 1. Red Dutch | 13. Fertile de Pallua |
| 2. Long-bunched Red Dutch | 14. Fertile d’Angers |
| 3. Long-bunched Red | 15. Red Gondouin |
| 4. Red Grape | 16. La Hâtive |
| 5. Wilmot’s Red Grape | 17. La Versaillaise |
| 6. Victoria, or Raby Castle | 18. La Fertile |
| 7. Prince Albert | 19. Cerise, or Cherry |
| 8. Knight’s Sweet Red | 20. Imperial Red |
| 9. Knight’s Early Red | 21. Napoleon Red |
| 10. Knight’s Large Red | 22. Cerise à longues Grappes, or
long-bunched Cherry |
| 11. Champagne | 23. Gloire des Sablons |
| 12. Striped-fruited | |

WHITE CURRANTS.

- 24. White Dutch
- 25. White Grape
- 26. Transparent White (Blanche
Transparente)
- 27. Imperial Jaune
- 28. Napoleon White
- 29. Attractor
- 30. Cerise Blanche

31. White Gondouin

BLACK CURRANTS.

- 32. Black Naples
- 33. Ogden's Black
- 34. Black Bang-up
- 35. Yellow Fruited
- 36. Caucasian (La Caucase)*
- 37. Common Black

Mr. Prince beats me by 23 sorts. I should like much to see his list, and I hope you will publish it in your columns so that we may dissect it. I could, I think, make up a list of 60 names, for I have about 250 seedlings, raised from the Transparent White, some of which have produced red fruit, and others white and yellowish fruit of varied characters. I might have named some 20 or 30 of these, and thus have beaten Mr. Prince, but I prefer to be slow.

As we are reproached for having produced so few sorts of currants, it is perhaps quite proper that a few words should be devoted to the above list, to point out the origin and qualities of some of the varieties enumerated, and particularly to show Mr. Prince that he knows but little about English currants.

No. 1 is probably of Dutch origin, as I have received it from Belgium under the name of Rouge de Hollande and Rouge d'Anvers. This is probably the best sort known, as it is (for a currant) very full flavored when cooked, and a most abundant bearer.

Nos. 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, and 12 are all English varieties, more or less remarkable. Nos. 2, 3, 4, and 5, produce large berries and remarkably long bunches; they are very ornamental, but on the whole too acid. It is probable that the bright skies of America may improve them.

No. 6 is now a well-known variety, rather late in ripening, and valuable as succeeding the Red Dutch. No. 7 is a sort with no particular flavor or quality, except being much like No. 6.

No. 8 deserves much more attention than it has ever received. It is not sweet, but its acid is much less powerful

* I have this moment been told by an American friend that the sort known in America as La Caucase is not this kind, but the same as La Versaillese.

than that of other Red currants, and this quality may probably be more fully developed if seedlings are raised from it. A Red currant, sugary and yet piquant, would set our cooks raving.

No. 9 begins to color and become fit for use some eight or ten days before No. 1, and about the same time as No. 16, which is larger in its berries but more acid. No. 10 is a fine large sort, giving bunches and berries nearly equal to No. 17.

About thirty years since the Horticultural Society distributed cuttings of the Striped-fruited currant; this is No. 12, which gives pretty but small worthless fruit. No. 21 is either the same or a seedling from it, and was sent out at rather a high price by Monsieur Gloède, a nurseryman at Sablons, France, three or four years ago, and is also worthless. Nos. 13 and 14 are most abundant bearers, but intolerably sour. No. 15 is a remarkable sort, its leaves are so large and its habit so peculiarly robust; it would serve as a stock on which to graft the more weak-growing sorts, as half standards; it gives abundance of fruit, which are late, and so sour that the thought of eating a bunch forces one to make a wry face.

Nos. 16, 17, and 18 are varieties raised from No. 19 by M. Bertin, of Versailles. No. 17 is a most robust grower, and gives very long bunches and large berries. If it were less acid and like No. 1 in quality, it would be the finest currant known. It is however quite worthy of culture. No. 18 deserves its name, for it is a prodigious bearer, but like its congeners and its parent, No. 19, is too acid. Nos. 19 and 22 are both alike; they give short bunches and very large berries, which are very acid. Nos. 20 and 21 are alike; they give bunches and berries of moderate dimensions, and are not worthy of much notice.

Of the White currants, No. 24 is one of the best; 25 sometimes produces larger berries, which are paler in color; the tree is more horizontal in its growth than No. 24. No. 26 seems to be a seedling raised from No. 24; when highly cultivated it gives bunches and berries of a very large size, but under ordinary culture it cannot be distinguished from it.

Nos. 27 and 28 are the same as No. 24. No. 29 is a curious variety with deeply cut leaves, which I presume are the attraction, for its small bunches and small berries are not so. No. 30, which should rival its red namesake No. 19, is a worthless variety, giving berries of the smallest size, and No. 31 comes under the same category.

Of the Black currants No. 32 is by far the sweetest and best flavored; it is not however a good bearer, and seems to require a warm soil and climate; in this respect No. 33 is greatly its superior. Nos. 35 and 36 are names that tell in a list, for they count for two varieties. No. 35 gives berries of a dull yellowish green scarcely eatable; a man must be in a dry hot hungry place to enjoy them, and those of No. 36 could not be eaten by any "human" even under such circumstances. I have written this (I fear too long) article to disabuse your readers of the impression Mr. Prince might give them, that we English have raised but few varieties of currants, and know but little about them. It will be seen on referring to my list that we have originated as many (or even more) varieties of currants as our neighbors the French, if we reckon, as we should do, Nos. 13 and 14, 19 and 22, 20 and 21, 27 and 28 to be the same kinds under different names.

GLOIRE DES SABLONS CURRANT.—Mr. Rivers, who states that this is an old variety of the Striped-fruited currant described by the London Horticultural Society, or a seedling from it, sent out by M. F. Gloède of Sablons, France, three or four years ago, and worthless, is corrected by M. Gloède, as follows:—"Mr. Rivers publishes a very interesting article on currants, in which, however, I notice a mistake, which I beg to correct. Mr. Rivers, in speaking of my seedling currant, states that it is either the same as No. 12, (Striped-fruited) or a seedling from it, but equally worthless. It is neither the one nor the other, being raised by myself, in the year 1854, from the seeds of the old Champagne or Flesh Colored currant. The seedling tree is still in my garden, and fruits not only abundantly, but is well worth the description at first published of it. If, therefore, Mr. Rivers found it worthless, or identical with another sort, he cannot possess the true one; at any rate he has never been supplied by me direct."

CROCKETT'S LATE WHITE PEACH.—A new variety, which is attracting some attention in New Jersey, where it originated. The Gardeners' Monthly describes it as a late white variety, very productive, and valuable for preserving, and destined to become one of the most popular of all late white peaches for orchard culture. Leaves reniform, without glands[?]; fruit medium to large oblong; skin greenish white, with occasionally some red on the sunny side; flesh pale, sweet, not very juicy. Last of September, and first of October.

EGYPTIAN BELLE APPLE.—Described by Mr. Jno. Smith of Greenville, Ill., in the Gardeners' Monthly, as follows:—Size, large, or above medium; form, roundish, flattened; color, yellowish white, striped, stained, and splashed with brilliant light and deep carmine; stem, short; cavity, deep, regular, and russeted; calyx very small, closed; basin, small, regular; core, large, and somewhat hollow; seeds, medium, dark brown; flesh, juicy, white, fine grained, sprightly sub-acid. Season, from middle to last of August. Originated from a sprout from a root-grafted tree of the Pennock in his father's garden.

NEW SEEDLING PEARS.—We have had the pleasure of tasting several seedling pears the past autumn. Two were raised by Mr. John Richardson of Dorchester; one by Mr. S. Walker of Roxbury, and three others by Mr. T. Clapp of Dorchester. All were very good, though some had faults. Mr. Walker's is a brownish russet pear, ripening in October, of good size, with a very pleasant and rather peculiar aroma. One of Mr. Clapp's very much resembles the Bartlett in size and appearance. One of Mr. Richardson's resembles the Urbaniste. Another year's trial will better decide the value of these new American seedlings, some of which will no doubt be valuable acquisitions.

SCHUYLKILL SEEDLING PEAR.—Described in the Farmer and Gardener as growing on the place of Mr. Harmer, below Gray's Ferry, Philadelphia, and exhibited for the first time in September, 1860. The tree is about twenty-five years old, twenty feet high, not a rapid grower, but of fine form. The pears were picked from the tree September 8th, some of them ripening by the 15th, others much later, and some keeping

till November. When ripe, of a light yellow color; flesh juicy, and of a fair flavor; good bearer, and fine sized fruit, and is considered a pear worthy of cultivation.

ALVEY GRAPE.—This is a new grape, cultivated by Mr. S. Miller of Calmdale, Lebanon Co., Pa., who “considers it of the highest value; he ranks it superior to the Delaware, in all those qualities essential in a popular fruit.” It is a good sized berry, bunches long and tapering, flavor very full and peculiar, skin highly charged with coloring matter, and will probably furnish a must of first quality. The vine evidently belongs to that section of native summer grapes most exempt from mildew, and has been noted as a fine, free grower, keeping its foliage in localities where other varieties have been denuded by mildew. The Farmer and Gardener, from which we copy, pronounces it “one of the best of our newer grapes, if, indeed, it do not prove to be superior to all for certain purposes.”

THE WILLIAMSPORT GRAPE is another new variety, originated on the mountain near Williamsport, Pa., where it is now growing, away from any dwelling, and therefore in no way related to the Isabella, which does not exist in the neighborhood of the vine. It is perfectly hardy, a prolific and most extravagant bearer. A correspondent of the Farmer and Gardener thinks “it promises to be a great acquisition to the list of grapes.”

THE O P O R T O G R A P E.

BY E. WARE SYLVESTER, LYONS, N. Y.

THE annexed cut is a good representation of the Oporto grape. Some of the clusters are not shouldered like this, but many of them are. The grapes are nearly round, black, and covered with bloom. The juice is dark, staining the hands a purple color. N. Longworth, Esq., says—“Must, as black as ink, and thicker than any I have seen.” When fully ripe, the must makes a wine closely resembling in color and flavor the best Port. With good cultivation the vines bear good

annual crops ; some cultivators say more than the Isabella, which is very prolific here ; others think it does not produce



25. OPORTO GRAPE.

quite as many bushels to the vine. It is entirely hardy here, in lat. 43° N., and, after several years of cultivation, has not been known to mildew or rot. The grapes do not fall from

the clusters, but are firmly attached. It is usually well colored by the first of September, and the crop has been gathered by the seventeenth of the month, though they are not injured by slight frosts, and usually are permitted to remain on the vines until October.

The name is a foreign one, but the grape is, without any doubt, an American seedling; and Mr. Longworth thinks that it is not a seedling from a foreign grape. No foreign vines have proved sufficiently healthy and productive to be used for making wine in this country, and even the seedlings from foreign vines have been found quite tender. The Oporto is perfectly hardy, even more so than the Isabella; hence, all good judges have pronounced it beyond doubt a native American. Mr. Longworth says, "If the Oporto is perfectly hardy, I cannot think it a foreign grape."

There is a report that, many years since, the original vine was brought from Oporto by a ship captain, and presented to a lady in this vicinity. There can be no doubt but there is some mistake on this point, as the grape is so productive, even after our coldest winters without ever being laid down, that its native origin is conclusively proved by the vine itself.

The name of the grape will prove a serious obstacle to its rapid introduction, as many have tried foreign vines and found them failures, except in cold houses. But the Oporto will tell its own history in its beautiful clusters and rampant growth, and will surely win its way to favor with those who need a pure wine as a healthful tonic stimulant.

FLORICULTURAL NOTICES.

NEW CHRYSANTHEMUMS.—Some of the newer Chrysanthemums, which are now displaying their beautiful flowers in great profusion, are great improvements upon the older varieties. Among the larger flowered sorts the Golden Queen of England is superb, a golden yellow, finely shaped, and extremely full; so is *Stellata globosa*, a deep claret, edged with white, with fine incurved petals; and *Pio Nono*, a scarlet red

sort ; Trilby, a very fine white, with broad petals ; Marshal Duroc, rose and lilac incurved ; Progne, very deep rich crimson carmine, exceedingly brilliant. Among the Pompones there are some elegant flowers, particularly Kenilworth, a shaded rosy purple, with lemon centre changing to pure white ; Miss Towers, elegant blush white ; Masaniello, beautiful salmon-tinted rosy lilac ; Queen of Beauties, rich rosy purple with white centre ; and Satanella, rich amber, changing to bright yellow. The addition of these and other fine varieties, which form brilliant show flowers, have increased the attractions of the Chrysanthemum, and give it a prominence second only to the Dahlia and Hollyhock. We have already urged the encouragement of its cultivation by the offer of liberal premiums for fine specimens, by our horticultural associations.

EUPHARIS AMAZONICA.—This lovely hothouse bulbous plant we recently saw in fine flower at the nurseries of Messrs. Parsons & Co., Flushing, L. I. One single bloom only was open, but it was enough to show its real beauty. The plants send up a stem like the *Amaryllis*, to which it is allied, terminated with three to five large pure white flowers, two inches in diameter, which are highly fragrant. It flowers at various seasons, according to treatment, and is decidedly a fine acquisition to any collection.

SALVIA CACALEFOLIA, is the name of a new and very beautiful species of the *Salvia*, something in the way of *S. patens*, of the same rich azure blue color. In habit it is more bushy and branched, with broad *Cacalia*-like leaves, and short terminal spikes of deep blue flowers, smaller than *S. patens*, which are abundantly produced. It is one of the acquisitions of M. Lindon, through whom it has been introduced to European collections. It is, we believe, from South America, and will be a very great addition to our bedding plants, forming as it does a more compact and dense bush than the old *patens*, while its color is quite as deep and rich, its blossoms more copiously produced, and its growth as free as the *S. fulgens* or *splendens*.

541. CALADIUMS. 1. C. BELLEYMEI *Hort.*; 2. C. BARAQUINI *Hort.*; and 3. C. PRINCE TROUBETZKOY *Hort.* Illustration Horticole, pl. 252 and 257. 1860.

The beauty of the new Caladiums, Chantini and argyrites, are now familiar to lovers of elegant plants; fine specimens having been exhibited the past summer. They stand conspicuous among ornamental-foliaged plants, and are indispensable in every collection. The extraordinary character of these new sorts has directed attention to the introduction of others, and M. Baraquin has discovered several in the Province of Para, on the borders of the Amazon, which surpass even the brilliant-colored Chantini. Three of these are named above, which may be described as follows:—

C. BELLEYMEI.—Similar to C. argyrites, but a much stronger grower, and larger leaves. The latter are of the deepest green, the whole surface being conspicuously mottled with pure white and transparent rose, varying more or less both in the quantity and peculiar shape of the markings. It is a superb variety.

C. BARAQUINI is a more showy and magnificent plant, the centre of the leaves being of a bright rosy scarlet, terminating towards the border in feathery lines on the dark green ground; having something of the character of the old bicolor, but much richer and higher colored.

C. PRINCE TROUBETZKOY has numerous leaves of a very dark green, the primary nerves being bordered with rosy scarlet, extending in feathery lines on the secondary nerves, the spaces between sprinkled with irregular shaped spots of pure white, with a rosy centre. A very distinct and superb ornamental plant.

These are all cultivated in the same manner as the C. Chantini and bicolor. (*Ill. Hort.*, Aug. and Sept.)

544. PETUNIA INIMITABILIS FLORE PLENO *Hort.* DOUBLE-FLOWERED INIMITABLE PETUNIA. Garden Hybrid. Illustration Horticole, pl. 253, 1860.

Petunia Inimitable is well known as one of the most beautiful of all the numerous varieties which have been added to our collections. This is a double-flowered variety of it, raised

by M. Ingelrest, of the Botanic Garden of Nancy. The flowers are of good size, quite double, and each petal is distinctly edged with white. It is a very showy and highly ornamental variety. (*Ill. Horticole*, Aug.)

545. CLEMATIS PATENS, VAR. ATROPURPUREA AND VIOLACEA.
Hybrid varieties.

Hardy climbing plants; with violet and dark purple flowers; increased by layers; grown in good garden soil. Illustration *Horticole*, pl. 254, 1860.

Two very beautiful varieties of the *C. patens*, raised by M. Spae, who has devoted much time to the production of hybrids of these pretty climbing plants, which are too rarely seen in our gardens. They are similar in habit to *C. Helena* and *Sophia*, raised from the *C. patens*. *C. violacea* is of a light rosy violet color, and *C. atropurpurea* very dark. Both are quite hardy and elegant varieties. (*Ill. Hort.*, Aug.)

546. SCUTELLARIA INCA'RNATA, VAR. TRIANAI *Planch.* FLESH-COLORED SKULL CAP, VAR. TRIANAI. (Labiatae.) Bogota.

A stove plant; growing one foot high; with scarlet flowers; appearing in spring; increased by cuttings; grown in rich light soil. *Bot. Mag.*, pl. 5185, 1860.

A very highly colored variety of the *Scutellaria*, introduced by M. Linden, from Bogota. The leaves are small, and the flowers, which appear in terminal racemes, are as brilliant as the *Salvia fulgens*. As it appears a fine winter or spring flowering plant it will be a decided acquisition. (*Bot. Mag.*, June.)

547. CHYSIS BRACDESCENS *Lindl.* BRACTEATED CHYSIS. (Orchidaceae.) Mexico.

An orchideous plant; growing a foot high; with white and yellow flowers; appearing in summer. *Bot. Mag.*, pl. 5186, 1860.

A splendid orchid, introduced from Mexico, and first flowered in 1840. It is still rare in English Collections. The flowers are very large, white, with a yellow labellum, a noble species. (*Bot. Mag.*, July.)

548. TRADESCANTIA WARSZEWICZIANA *Kunth.* WARSZEWICZ'S SPIDERWORT. (Commelynae.) Gautemala.

A stove plant; growing a foot high; with purple flowers; appearing in spring; increased by cuttings; grown in rich soil. *Bot. Mag.*, pl. 5188, 1860.

A "really handsome stove plant, deserving a place in every

collection," when old having a good deal the appearance of an aloe or *Dracæna*. The flowers, which appear in long curved racemes, are not only numerous, and of a bright purplish rose color, but by the constant succession of them the blossoming is of long duration. (*Bot. Mag.*, July.)

549. *VANDA GIGANTEÆ Lindl.* GIGANTIC VANDA. (Orchideæ.) Burmah.

A stove orchid; growing two feet high; with yellow spotted flowers; appearing in spring. *Bot. Mag.*, pl. 5159, 1860.

One of the most magnificent orchids, which flowered for the first time in April last, in the orchid house of Messrs. Veitch. The spikes of flowers are long, and the blossoms, which are of a deep yellow, are covered with cinnamon brown blotches. The leaves are of a rich deep green, from one to one and a half feet long, and set off the golden flowers to great advantage. (*Bot. Mag.*, July.)

550. *ALOCASIA METALLICA Schott.* BRONZE-LEAVED ALOCASIA. (Aroideæ.) Borneo.

A stove plant; growing two feet high; with ornamental foliage; increased by offsets; grown in leaf mould, peat and loam. *Bot. Mag.*, pl. 5190, 1860.

Among rich foliaged plants the *Alocasia* has been pronounced the most remarkable of all the introductions to this class. It has been exhibited at various metropolitan shows, and commanded the admiration of all spectators. It belongs to the same family as the *Caladiums*, but exhibits a "foliage and hue which nothing of the kind can exceed, if it can equal, and to which the pencil of the artist can scarcely do justice; for there is a degree of metallic lustre of the leaves on the ample foliage, which must be seen, to be understood; and this, too, is accompanied by a rich and very different coloring (rich red) on the scapes that rise copiously beneath the foliage, but never overtop it." It was introduced from Borneo by Messrs. Low & Co., in whose hands the whole stock yet remains. The leaves are from twelve to eighteen inches long, a foot wide, with a firm somewhat succulent texture; the upper surface of a rich bronze color, extremely glossy and metallic, exhibiting a beautiful play of light color, while the under side is a very dark purple, and equally glos-

sy. The veins are curved, and very prominent. It is a most noble plant, and, with the new *Caladiums*, must form an indispensable addition to every collection. (*Bot. Mag.*, July.)

551. *ACA'CIA DRUMMÓNDII Benth.* DRUMMOND'S ACACIA.
(Leguminosæ.) Swan River.

A greenhouse plant; growing four feet high; with yellow flowers; appearing in winter; increased by cuttings; grown in light rich peaty soil. *Bot. Mag.*, pl. 5191, 1860.

All the *Acacias* are beautiful winter-flowering plants, but the *Drummondii* especially so, from the delicacy of its foliage, its dwarfish and pretty habit, and the profusion of its lemon-colored blossoms, which are collected into cylindrical spikes, an inch or more long, entirely unlike the usual globose heads of other species. It flowers in the winter season, and is admirably suited to houses where the taller growing kinds occupy too much room. (*Bot. Mag.*, July.)

552. *CALLIXENE POLYPHYLLA Hook.* MANY-LEAVED CALLIXENE. (Smilacæ.) Chili.

A greenhouse plant; growing two feet high; with white flowers; appearing in spring; increased by cuttings; grown in good light soil. *Bot. Mag.*, pl. 5192, 1860.

One of the *Lily-of-the-Valley* tribe of plants, from the high latitudes of Chili, where it is generally seen running over the trunks of trees near the ground, entwining them with bright green box-like leaves, glaucous beneath, and the gracefully-drooping flowers of the same pure white as the *Lily-of-the-Valley*, but much larger, and instead of one piece, cut into six, eventually spreading petals. The flowers are axillary, pendent, and cover the shoots, which are slender, with a myrtle-like foliage. It thrives well in the greenhouse or cool frame. (*Bot. Mag.*, July.)

553. *PTERIS CRETICA, VAR. ALBO LINEATA Linn.* CRETAN PTERIS. (Felices.) South of Europe.

A tender fern; growing a foot high; with striped fronds; increased by offsets; grown in moss, leaf mould and loam. *Bot. Mag.*, pl. 5194, 1850.

P. cretica is one of the most extensively distributed of all the ferns, being found from Siberia to Himalaya, and in Mexico and Guatemala, the Sandwich Islands, &c. The present is a peculiarly interesting variety, in which the whole centre of the pinnæ is white, with a jagged edge, bordered on

each side by dark green; it is a new and unrecorded plant, forming a pretty companion to the various colored *Pteris* (tricolor) which has attracted so much attention. This variety was received at Kew from Java, where it is a native. (*Bot. Mag.*, July.)

General Notices.

A NEW CHINESE FRUIT—THE YANG-MAI.—We are asked for information concerning a fruit tree called Yang-mai, which Mr. Fortune has introduced from China, and which now appears in the catalogue of Mr. Noble, of Bagshot. Unfortunately all that is known on the subject is what follows: In old Kæmpfer's *Amoenitates exoticæ*, mention is made of a Joobai, or Jainma mómu, a tree allied to the "Arbutus, folio non senato" of Caspar Bahhin, and further described as a wild peach (*Malus persica sylvestris*), with a reddish granulated fruit, a roundish oblong stone, &c. The word Mómu, it further appears, is the Japanese name of the peach itself.

This plant Dr. Wallich rightly identified with a small tree found in the valleys of the north of India. In his Tentamen he gave a figure of it, under the name of *Myrica sapida*, and a long botanical description, from which the following is an extract: "In Nepal, I found it growing wild, and also cultivated in gardens. The fruit ripens in the rains, has a pleasing appearance, and a refreshing, acidulous taste. It is known there only by the name of Kobusi; to the westward it is called Kaephul. Its wood is hard, of a pale brown color. The leaves, on being rubbed, have a pleasantly aromatic, though faint smell."

It is in Fortune's account of his visit to the island of Chusan that we first hear of this Yang-mai, which he describes as "a scarlet fruit not unlike an arbutus or strawberry, but having a stone like a plum in the centre," (*Wanderings in China*, p. 58), adding nothing further, except that from the manner in which he introduces it we are led to believe that he thought it good.

Some years later, being again in Chusan, he once more mentions the Yang-mai. "I must not," he says, "fail to notice a fruit which is cultivated on the sides of the hills here, and in various parts of the province of Chekiang. It is called the Yang-mae (the spelling is now altered), and appears to be a species of *Myrica*, allied to the Himalayan *M. sapida* noticed by Frazer, Royle, and other writers. The Chinese variety is, however, much superior to the Indian. Indeed, I believe the Chinese have both, but use the Indian one as a stock for grafting upon. There is a very large plantation of this tree in Chusan, and the fruit was beginning to be brought to market during my stay there. It was sold at a very cheap rate, and was considered a great luxury by the natives. I had frequently seen the trees

of the Yang-mae, but never when in fruit, so I determined to visit one of the plantations. Starting very early one morning, I crossed over the first range of hills, and found myself in the centre of the island, with my view bounded by hills in all directions. On the sides of these inland hills there were large quantities of the Yang-mae. The trees were bushy, round-headed, and from fifteen to twenty feet in height. They were at this time loaded with dark-red fruit,—not unlike, at first sight, the fruit of our arbutus, although very differently formed, and much larger. I observed two kinds, one with red fruit, and the other with fruit of a yellowish color. The trees formed most striking objects on the hillside. The natives were busily engaged in gathering the fruit and packing it in baskets for the markets. Large quantities are consumed in the city of Ying-hae, the capital of Chusan, and a great deal is taken across to the main land. The streets of Ning-po used to be crowded with it during the season. The gatherers appeared delighted to see a stranger, and offered me liberal supplies of this fine fruit. It looked very beautiful and inviting, both upon the trees and also as it lay crowded in the little baskets." (Tea Districts of China, p. 345.)

It now remains for gardeners to answer the question experimentally by growing the plant; not, however, in the open air, although probably hardy, but in an orchard-house, or a peach-house, or some such place.—(*Gard. Chron.*)

VINE BORDERS.—It is to be doubted whether there is any subject whatever in the gardening world that has been so long debated, to little or no purpose, as the preparation of a border for vines. Forgetful of the first principles of cultivation, men have lost themselves in strange conceits, which are as remote from anything in nature as truth from falsehood. The golden rule in gardening is to follow nature exactly; or at least with no further departure from her guidance than may consist in providing more food for a plant than the savages of vegetation can of themselves procure. Of course, in laying down this broad principle, it is understood that the nature which is to be our guide is nature in her most perfect state. It is not meant, because certain plants may be found wild in jungles and copses, that they are therefore to be compelled to crowd each other in a garden; nor, because some species straggle beyond the great limits of their race, that therefore such extreme cases, however natural they may be, are to be made the subject of slavish imitation.

The great difficulty that occurs in applying this principle, is to determine what *are* the most favorable conditions in nature. It is not everybody who, when he sees an object or observes an event, knows what he is beholding. To observe is an art which few men can exercise with anything approaching accuracy. It demands a long and skilful cultivation of the senses and reasoning faculties. Above all things it requires a strict avoidance of that evil habit called "jumping to a conclusion," which is the foolish parent of horticultural error.

In nothing is the truth more apparent than in the subject of the present remarks. Men imagine that the vine must like a soil which exists in no

place where it naturally grows. They see a cabbage thriving on a dunghill, and straightway they conclude that a vine must love a dunghill also. They see a cucumber drinking up pailsful of water, and luxuriating in warm mist, and down goes in their memorandum book the axiom that a vine must like a heated swamp. Hence two of the grand errors in vine cultivation.

When we look into English gardening books, we find as many ingredients required for a vine border as for a magical incantation.

“ In the poison'd entrails throw :
 Toad, that under a cold stone,
 Days and nights hast thirty-one
 Swelter'd venom sleeping got,
 Boil thou first i' the charmed pot!
 Fillet of a finny snake,
 In the cauldron boil and bake :
 Eye of newt, and toe of frog,
 Wool of bat, and tongue of dog,
 Adder's fork, and blind-worm's sting,
 Lizard's leg, and owlet's wing.
 Scale of dragon, tooth of wolf ;
 Witches' mummy ; maw, and gulf,
 Of the raven'd salt-sea shark ;
 Root of hemlock, digg'd i' the dark ;
 Liver of blaspheming Jew ;
 Gall of goat, and slips of yew, &c., &c.

We beg pardon of our learned friends who patronize vine-border mixtures; we are far from insinuating that they are conjurors, or capable of bewitching anything; but really the witches' prescription is too much like some of theirs to be forgotten. Sweeping of pavements, road scrapings, rotten oak leaves, old tan, bricks, lime rubbish, shell marl, mild lime, gravel, bone dust, pigeons' dung, sheep droppings, bean straw, brown loam, wool, woollen rags, limestone, hoofs, horns, trimmings of hides, hair, the entrails of a sheep, a cow's leg, a hog's head, a dead horse, are all recommended in turn by one ingenious writer or another, to say nothing of other unsavory ingredients. And yet a vine is simple in its tastes, clean in its habits, and abhors garbage. It loves free air, a warm, rocky soil, and in the latter part of its season a fierce sun. Give it that, and it has all that its constitution demands.

If we look around we find examples enough, some record of which is to be found in our own columns. The fine grapes grown by the late John Wilnot, of Isleworth, had their roots in clay, cinders, and hard rubbish. Mr. George Crawshay's vines grew in a gravel walk. Those of Mr. Glendinning, at Turnham Green, had nothing to feed upon except a pathway of stiffish clay and common black garden mould. The great vine at Cumberland Lodge, near Windsor, perhaps the finest now in England, draws its supplies from a bed of hard sand. Nor do we believe that when in its glory the old vine at Hampton Court was better fed, for the notion that its roots were in a sewer is, as far as we have been able to discover, wholly unsupported by evidence. A still more recent example of the error in supposing that the vine requires the amazing mixtures that have been pre-

scribed for it, is afforded by the plants now growing in the great conservatory of the Horticultural Society at Chiswick. We suppose that no one will deny their being in the highest health, or their crop all that can be desired; there are those, indeed, and men of no small authority in such matters, who pronounce it too heavy. And in what have their roots been growing? At first in loam and chopped turf, with a little charred earth and some manure, just to give them a start; and now in a bank of gravel, the pebbles of which are held together by soapy loam mixed with garden mould. To be sure, the bank is warm and dry, and high above the surrounding level: but that is precisely what the vine really does require; and into it the roots have already penetrated for ten feet. The fact is that any naturally good soil affords the vine all the food it wants, provided the other conditions of vigorous growth are carefully ensured and skilfully maintained.—(*Gard. Chron.*)

DAHLIA SHOWS FOR 1860.—The principal dahlia show of the season was held at the Crystal Palace, on Thursday, Sept. 20, when the following stands were awarded the first prizes in their respective classes:—

Best 50 blooms, to Mr. Turner, for Lilac Queen, Pluto, Deutsche, Norah Creina, Dr. Gully, Mr. Stocken, Harlequin, Sir G. Douglas, Duke of Wellington (Turner), Chairman, Warrior, John Dory, Earl of Shaftsbury, Hon. Mrs. Trotter, Lord Palmerston, Jenny Austin, Lord Cardigan, Golden Drop, Commander, Pre-eminent, Miss Pressly, Pioneer, Mrs. Pigott, Lord Tannton, Bravo, Cherub, Sidney Herbert, Miss Watts, Triomphe de Reeq, Mrs. Church, Midnight, Heroine, Grand Master, Lady Popham, Madge Wildfire, George Elliott, Mrs. C. Waters, Village Gem, Princess of Prussia, Etona, Hon. Mrs. Lindsay, Dinorah, and several seedlings.

Best 24 blooms, in the amateur class, to Mr. Dodds, for Marquis of Bowmont, Golden Drop, Mrs. W. Fawcitt, Chairman, Lollipop, Mr. Eckford, George Brown, Mrs. W. Pigott, Lady Popham, Jenny Austen, Rosebud, Mrs. Church, Duke of Roxburgh, Wm. Dodds, Lady Douglas, Penant, Cherub, Royal Lilac, Pioneer, and seedlings.

Best 12 fancies, to Mr. Turner, for Harlequin, Lady Paxton, Emperor de Maroc, Queen Mab, Elizabeth, Nora Creina, Countess of Bective, Pluto, Glorie de Kain, and seedlings.

Best 12 fancies, amateur class, to Mr. Dodds, for Highland Mary, Lady Popham, Cleopatra, Souter Johnny, Mary Lauder, Garibaldi, Leopard, Flirt, and seedlings.

A FEW ROSES that will stand gales of wind, and which, though beaten to shreds, will, upon being cut back, break again and bloom. Triomphe de la Duchere, Jules Margottin, Cambaceres, Triomphe de l'Exposition, Wm. Griffiths, Lafitte, Baronne Prevost (the "Colonel" is best far, but not for a windy corner, much less for a tempest), La Reine, William Jesse, Pie IXth, Bouquet de Flore, Acidalie, Aimee Vibert, Bachemetoff, Caroline de Sansal, Triomphe de Paris, Angleterre, Maximé, Paxton, M. Trudeauux, Mont Carmel, Louis Odier, Duchess of Sutherland, and Duchatel. These stand gales best here; they have a good constitution. I know that better

roses than some of these might be named, but observe the place for which I want them. I for one cannot afford to part with Baronne Prevost, Pie IX, La Reine, and Wm. Jesse. Let what will happen, I get something out of them every year. Four fifths of the trash that comes out every year may well give way to them, and to their fine and lasting constitution. These four were among my first forty, and they are "younger" and better than when I had them eight years ago. Alas! how many deaths of other roses have I witnessed.—(*Florist.*)

Gossip of the Month.

NURSERY ENTERPRISE.—The Gardeners' Monthly says that "American nurserymen are often twitted with a want of enterprise in allowing European tradesmen to 'bring out' their new plants. We have always maintained that in proportion to the patronage they receive, they are second to none in public spirit. English nurseries are well patronized; Mr. John Standish paid one thousand dollars for his first plant of *Myosotidium nobile*, implying an enormous patronage to justify such a risk." This is all very true. As an instance of it, we may add that Messrs. Hovey & Co. paid *three hundred dollars* for the stock of the Old Colony corn; *fifty dollars* for the first seeds of *Gomphrena Hoveyi* (re-named *Haageana* by the parties they sold seeds to in London, and *coccinia* in France), brought from New Mexico by Dr. Baker, who discovered it, and from whom they purchased the seeds; and *seven hundred dollars* for Mr. Dana's seedling pears. We think there are few cases where better prices have been paid by the most noted London nurserymen, though their business is in the proportion of fifty to one to that of American nurserymen generally.

THE CORAL TREE (*Erythrina crista galli*).—My coral trees this year have been the glory of my flower patch, and, I need not say, are great favorites with me. I have three roots, which I manage on what I suppose may be termed the *bedding-out* system. Before winter sets in I lift them out of the ground, and before placing them in the cellar allow them to lie on the surface for a day to dry the soil that may adhere to them. I adopt this precaution, having lost two, some winters ago, from the damp soil which stuck to them when removed, and they rotted before the following spring. The cellar should be dry or they will mould; they will keep along with the potatoes. In the spring I prepare their holes by digging up the soil quite deep, and mixing some rotted manure with it. I watered them two or three times last summer with guano water, and they grew and flourished to the admiration of every one who saw them. That a plant so easily cared for, and so brilliantly beautiful, should so seldom be seen in our gardens, is rather surprising. Few of the florists that I have spoken to seem to know anything about it.—(*Farmer and Gardener.*)

The coral tree is one of the very finest garden plants, easily managed, as

above described, and should find a place in every collection. It is far less known than hundreds of inferior things.—Ed.

ROOT-GRAFTED APPLE TREES.—We have, in our back volumes, given our views about root-grafted apples. The following testimony, from such cultivators as Cassius M. Clay, of Kentucky, and F. R. Elliott, of Cleveland, is pretty confirmatory of our views:—

In last week's Farmer we published a note from our correspondent, Cassius M. Clay, stating that his apple trees were dying in consequence of rotting at the roots, and giving as his opinion that root-grafting is the cause. This dying from root-grafting was nothing new to us, but its relation to root-grafting was overlooked. Since the receipt of Mr. Clay's letter we have looked into the matter, and find that of a limited number of apple trees planted by us fourteen years ago, half of which were root-grafted and the other half worked on seedling stocks, all but one of the former are dead *from this cause alone*, while the remainder, grafted on seedlings, are well and thrifty. All these trees received the same attention, grew in the same soil, and in every respect fared alike. Several of our neighbors have lost trees by this disease, that were believed to be root-grafted.—(*Ohio Farmer.*)

GREAT FRUIT ORCHARD.—It may surprise some of our pomological friends to hear of the immense fruit orchards in California, which so far surpass anything in the Atlantic States as to make our attempts in this way seem exceedingly small. The following, from the California Farmer, is an accurate account of the product of the orchard of Mr. G. C. Briggs, of Marysville:—

“I send you,” says Mr. Briggs to the Editor, “the number of pounds of fruit as kept in my daily record. I have annexed the price. We have sold as follows:—

Fruits.	No.	Pounds.	Price.	Amount.
Cherries,	-	-	3,680	- 60 cents, - \$2,208 00
Apricots,	-	-	58,400	- 20 “ - 11,680 00
Plums,	-	-	22,120	- 30 “ - 6,636 00
Peaches,	-	-	763,600	- 8 “ - 61,088 00
Nectarines,	-	-	93,400	- 8 “ - 7,472 00
Apples,	-	-	225,000	- 13 “ - 29,250 00
Pears,	-	-	11,300	- 15 “ - 1,695 00
Quinces,	-	-	4,720	- 20 “ - 945 00
Figs,	-	-	6,300	- 20 “ - 1,260 00
Grapes,	-	-	34,500	- 8 “ - 2,760 00
			<u>1,223,020</u>	<u>\$124,993 00”</u>

Estimating it in bushels, it amounts to more than twenty thousand bushels. California well may claim the palm for her horticultural products, and though all her fruits may not equal those of our more northern clime, they certainly surpass them in abundance and size.

THE OHIO POMOLOGICAL SOCIETY will hold its next meeting in Cincinnati, at the hall of the Horticultural Society, on the 17th, 18th and 19th of January, 1861. A large attendance of fruit growers of Ohio and other States is expected, and important discussions will no doubt be had.—(*Ohio Farmer.*)

THE TRANSACTIONS OF THE AMERICAN POMOLOGICAL SOCIETY will be published in the course of the month. The volume is to be printed at Rochester, under the superintendence of Mr. Vick, and will make a volume of some 200 pages, printed in the very best style, and bound in cloth. We trust it will be free from the errors of the last volume.

Societies.

NEW YORK STATE AGRICULTURAL.

The 20th Annual Fair of this Society was held at Elmira, N. Y., October 2, 3, 4 and 5. There was a good attendance of visitors, and a very excellent show, especially in the horticultural and floral departments. Liberal premiums were offered, and the following are a few of the principal awards:—

FLOWERS.

- Best display of cut flowers, to J. M. Mattison, Jacksonville, silver cup, \$10.
- Best collection Dahlias, to J. M. Mattison, \$6.
- Best collection of Roses, to J. A. Nichols, Spencer, \$8.
- Best collection of Phloxes, to John Wilson, Albany, \$5.
- Best collection of Plants, to Mrs. W. W. Ballard, Elmira, \$10.

FRUIT.

- APPLES.—Greatest number of good varieties, to Ellwanger & Barry, Rochester, \$15.
- Second best, to J. Donellan & Co., Rochester, \$10.
- PEARS.—Greatest number of good varieties, to Ellwanger & Barry, \$15.
- Best twenty varieties, to Ellwanger & Barry, \$10.
- PEACHES.—Greatest number of varieties, to J. M. Mattison, \$5.
- PLUMS.—Greatest number of varieties, to Ellwanger & Barry, \$5.
- GRAPES.—Greatest number of native varieties, to Ellwanger & Barry, \$5.
- PEARS—out of the State: greatest number of varieties, to Hovey & Co., Boston, cup, \$15.

The committee especially commended some splendid specimens of Tompkins Co. King apple, from Col. E. C. Frost, Schuyler Co. A single twig, about one foot long, was shown, on which was six apples of near one pound weight each, and all of perfect shape and color.

O. F. Presbury, of Buffalo, presented four bunches of the Ontario grape, grown at Port Dalhousie, C. W., which were very large and good, and ap-

peared to be a very early and valuable sort, allied to the Isabella. The committee noticed it specially, and awarded a diploma.—(*Journal of the Society.*)

GENESEE VALLEY HORTICULTURAL.

The Fall Exhibition was held in Rochester on the 13th November. The show of Chrysanthemums was exceedingly fine; several hundred well grown plants in pots were exhibited. C. W. Seelye had over one hundred plants and about thirty varieties, and obtained the premium for the best collection. James Chair, a very skilful plant grower, obtained the premiums for the best six plants and best single specimen. Next year a magnificent display is anticipated. We are glad to record this appreciation of the Chrysanthemum by the Rochester cultivators, and hope it will be imitated by other horticultural societies.

Horticultural Operations

FOR DECEMBER.

FRUIT DEPARTMENT.

NOVEMBER was a continuation of the unusually mild and pleasant weather of October,—with only one or two slight frosts, not sufficient to injure half-hardy vegetation, and many flowers have remained in full bloom up to this time. Trees of all kinds have ripened their wood well, and appear in fine condition for the winter. Such favorable weather has permitted the completion of all autumn work, so much of which often remains until spring.

GRAPE VINES in the first or early houses will now be swelling their fruit rapidly, and under the favorable weather they should look unusually fine; as cold sets in, care should be taken to protect the border well, and maintain as uniform a temperature inside as possible. Stop the laterals as they extend too far, and thin the berries where they require it. Vines in the greenhouse or ordinary grapery should now be pruned, cleaned, and put in order for growing. Cold houses should be immediately pruned, and the vines protected for the winter. Young, hardy vines in the open ground, planted this year, will be benefited by laying down and covering with earth.

FRUIT TREES should be protected by a slight covering of manure.

STRAWBERRY BEDS should have a slight covering of strawy manure, seaweed, or leaves.

RASPBERRIES should be laid down and covered with earth or manure.

CURRENT and GOOSEBERRY bushes may be pruned now.

TRENCH and prepare ground until the work is stopped by hard frost.

FRUIT ROOMS should be looked after. Remove all decayed specimens, and keep as even a temperature as possible.

FLOWER DEPARTMENT.

Everything being in readiness for the winter, when severe weather comes nothing will be necessary but a final protection to frames containing half-hardy plants. Give attention now to the houses, removing the chrysanthemums and other plants going out of bloom, and supply their places with others coming into flower. Bring in such plants as have been taken up for forcing, and forward bulbs planted for the same object.

PELARGONIUMS will now require more attention. Re-pot specimen plants intended for early flowering, and young stock coming forward; keep rather dry, and as near the glass as possible; nip off the tops of strong growing shoots.

AZALEAS intended for very early bloom should be removed to the warmest part of the house, syringing them occasionally, but watering rather sparingly till they begin to show their buds. Continue to tie into shape specimen plants, and keep them cool, unless wanted to flower early. Fumigate if there is any thrip upon the leaves.

CAMELLIAS will now begin to bloom; water rather freely, and syringe occasionally. Prune into shape straggling plants, and tie up to neat stakes if they require it. Cuttings may be put in.

CINERARIAS should be repotted, if not already done. Use a light, rich soil, with plenty of leaf mould. Keep them on a cool, airy shelf, near the glass, and fumigate if the green fly appears.

CALCEOLARIAS may have the same attention as cinerarias.

EPIPHYLLUMS, now in bloom, should be freely watered.

BEGONIAS may be divided and potted this month, keeping them rather dry till they begin to grow.

JAPAN LILIES should be potted this month. Those not wanted for very early bloom should be protected in a frame till April.

HYACINTHS, and other bulbs potted in October, may now be brought into the house.

VERBENAS, PETUNIAS, &c., raised from cuttings, should now be potted off.

FUCHSIAS, intended for large specimens, should be repotted and encouraged in their growth.

ROSES, potted in October, should now be pruned and have a good situation, when they will soon come into bloom.

MONTHLY CARNATIONS, growing vigorously, may be repotted. Tie up the shoots neatly, and keep near the glass to prevent drying up.

CALLAS should be repotted.

RHODODENDRON SEED may be sown this month.

PANSY SEED may be sown for early spring bloom.

TREE PEONIES, in pots, brought into the house, will be very showy when in full bloom.

SCARLET GERANIUMS should be kept rather dry, on a cool shelf near the glass.

OXALISES may be repotted.

INSECTS should be looked after. Fumigate often, and use sulphur for the red spider.



