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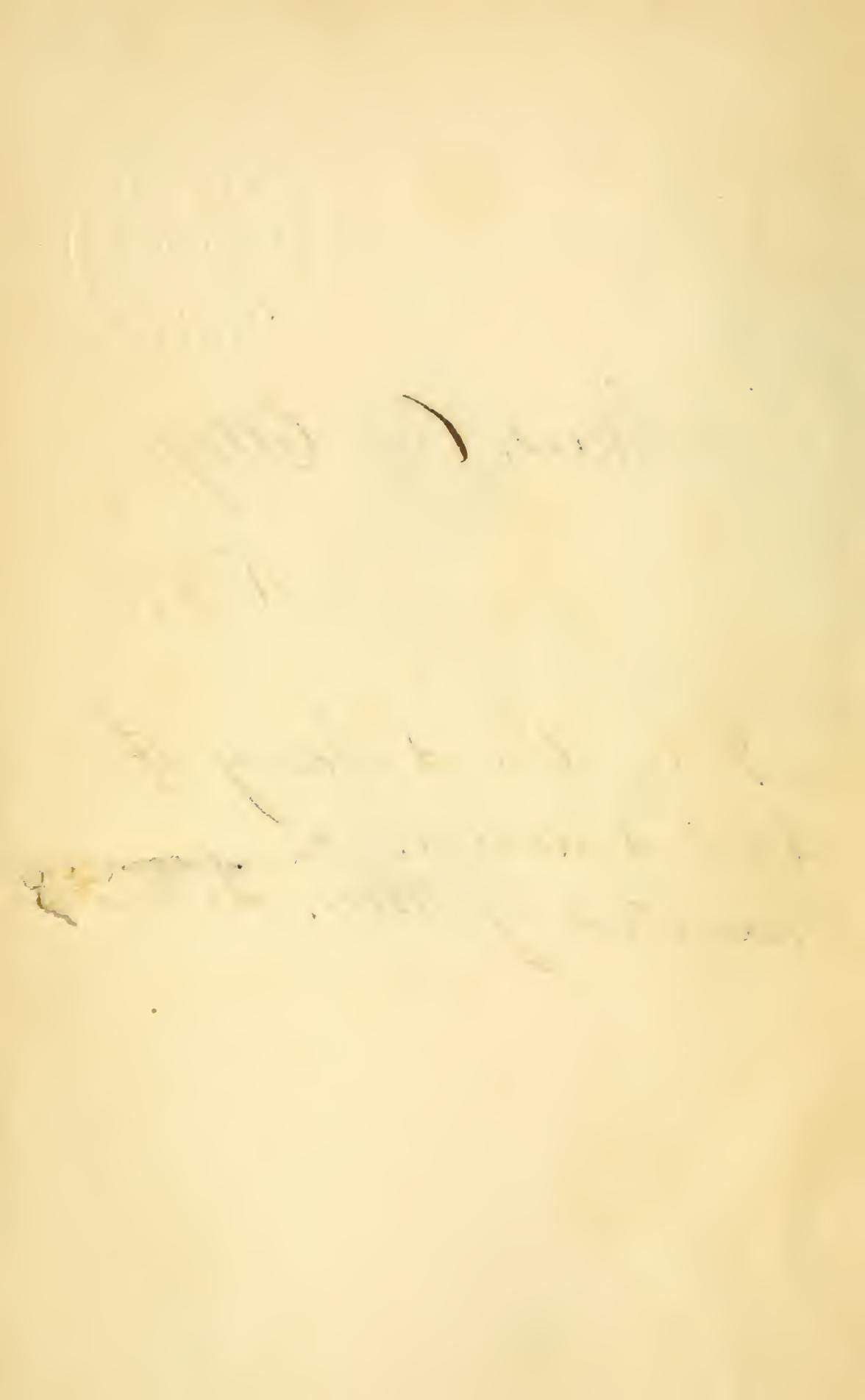
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THE MAGAZINE
OF
HORTICULTURE,

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 la jardinomanie à vos enfans.”—*Prince de Ligne.*

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THE
MAGAZINE OF HORTICULTURE.

THE PROGRESS OF HORTICULTURE.

OUR annual retrospect of horticulture, if it has not the merit of presenting anything especially new to our readers, has at least the object of giving at a general glance, without the labor of looking over the entire volume, the general progress of the science during the year, and of bringing together some of the things which demand, or at least should receive, attention in the future. Often a casual communication, detailing some system of cultivation, is overlooked, and however important its farther consideration may be, we lose sight of its importance. Thus the cordon system of training, which was given in our pages a few years ago, but which has not been overlooked, as occasion might offer for bringing it to notice, has, until now, not received that attention which its importance demands. We are but just beginning to appreciate the benefits of this system of culture applied to all fruits, but more particularly the pear and peach.

Other subjects might be named, to which public attention should be given, but this illustrates the value of recalling improvements which, though innovations upon old systems, are no less full of interest to the progressive cultivator, and which will in time supersede by their practical value those which have so long been deemed cardinal points of culture and treatment.

The grape has received, as it deserves, especial attention; and, judging from the discussions upon it in various quarters, and the results of the crop, it would appear we have not arrived at but few undisputed points of management. The systems of training, as well as the aid of manures, have been

called in question, and it will be well for the mass of cultivators, and the success of grape culture, if these undisputed matters can be reconciled, and a certain basis of treatment established.

It is our object to clear up such subjects, and as with the pear and other fruits, upon which there are fewer points of difference, so, we hope, by the aid of well-informed and practical men, to make clear and plain the right mode of culture.

It is gratifying to find renewed assurance of deeper interest in all the ordinary occupations of horticulture, and with the prosperous future, which is now indicated from the general peace and industry of our people, we can only anticipate increased attention to all the departments of rural art.

We give, for comparison, a survey of the weather for the year:—

The month of January, though opening with mild weather, was one of great severity. The 1st day was warm and rainy, changing to snow on the 2d, and warm and fine on the 3d. The 5th was cold, with the thermometer at zero, and the week was a very cold one. On the 8th the mercury fell to 16° below zero, about as low as it has fallen for thirty years since we have kept a record, and it has not fallen as low more than two or three times during that period. The 10th it was warm, and continued so until the 15th, when it was at zero again. A few days of milder weather followed, but the last week was very cold. There was no snow until the 25th, when it fell to the depth of four inches.

February, as usual, was very cold, up to the 8th, when the temperature was 34° , with light rain, and it continued mild, with some rain, until the 15th, when the mercury fell to 5° . The 19th it was 55° , and rain fell on the 20th; it was then warm, with the temperature 60° at noon, on the 24th, the only real warm day of the month. No snow of any consequence fell during the month.

The month of March maintained its character, commencing mild; it became rough, cold and windy, with squalls of snow, until the 12th, when it was warmer, with showers, on the 16th. The remainder of the month was cool, with four to

six inches of snow. The highest temperature was 45° , and this point was reached but three times during the month.

April was more spring like. On the 5th it was very warm, the thermometer 78° . The following week was cooler, with a heavy frost on the 17th, the mercury 28° . It then suddenly changed, and on the 21st the mercury was 86° , a higher temperature than any day, up to the 20th of June. After this it was cool, with the mercury from 34° to 36° , and white frost in exposed localities.

The early part of May was quite cool, and rather dry. On the 13th it was warm again, with the mercury at 84° ; it suddenly changed to cooler weather, with the temperature at 33° , and a heavy white frost. The remainder of the month was cool, from 40° to 45° , with easterly rain.

June opened cool and showery, and the first warm day was the 13th, when the temperature was only 60° . After this it was warm, varying from 70° to 86° , with rain, until the 25th, when it was 96° , and 95° on the 26th and 27th.

July was warmer, and more seasonable, with a succession of hot days, reaching the very high temperature of 90° at sunrise, and 100° at noon, on the 16th. The remainder of the month was cool and showery, the highest being 80° , but usually only 60° to 75° .

August continued cool and showery, the highest temperature being 78° , but averaging scarcely more than 70° ; and the 21st and 23d the temperature was only 46° , with an abundance of rain.

The 2d day of September the temperature was 80° at sunrise, and a week of warm weather succeeded. It then fell to 45° , with cool, cloudy, and rainy days. The 24th the temperature was 36° , with frost in many localities, and the closing week was warmer.

October commenced with warmer weather; but on the 4th the mercury fell suddenly to 32° , with a light frost, and to 28° on the 5th, with a severe frost, which killed all tender vegetation. After this, as is generally the case, it was warmer, and the warmth continued to increase, the week from the 19th to the 26th being the warmest since August 12th, the temperature ranging from 65° to 75° . The last

week was cooler, with light frosts and heavy rains on the 30th.

November commenced rather cool, with frosty mornings, and a temperature of 20° on the 5th. It was then milder again, without much frost. On the 20th the temperature reached 60° , but it was soon cool again, with a light snow on the 23d. On the 26th the mercury was 18° , the coldest morning of the month. The 29th and 30th were warm and showery, and the temperature at 68° .

The month of December continued mild and pleasant. The first cool day was on the 11th, with the temperature at 16° , and the 12th, 13th, and 14th, were about the same. The 15th was the coldest up to the time we write, with the mercury at 10° , and on the 16th snow fell, to the depth of an inch or two, accompanied with a cold rain, which leaves the ground to-day (18th) covered with a thin icy coat, without much frost beneath.

In comparing this with the brief record of other years, it appears that the winter of 1865 and 1866 was one of more than ordinary severity, though the average temperature may not have been so low. The extremes were great. In the winter of 1864 and 1865, 2° below zero was the coldest. Last winter 16° to 21° below zero. The winter was as remarkable for extremes as that of the previous one for its evenness of temperature. Very little snow fell; indeed, the ground was almost bare, the occasional light snows being carried off by sudden changes to rain, and the frost penetrated the ground much deeper than usual. February and March gave us scarcely a warm day, which is rather unusual.

In summing up the characteristics of the year, the record gives us a severe cold winter, a cool and dry spring, a warm and rather wet summer, and a mild and favorable autumn, quite the reverse of the two previous seasons, which were hot and dry, in the extreme. The spring indicated another dry summer; and so it continued, up to the latter part of June. From that time to the end of September an abundance of rain filled the springs, very low for two years, and revived anew the vegetation, which had suffered so much during that period.

The fruit crop was generally good, though there were failures in some localities. Apples were a better crop than usual in the Western and Northern New England States, and even in Massachusetts. In New York not so good. Pears were about the average of last year, though generally not so large, notwithstanding the greater quantity of rain. Peaches were a fair crop in New Jersey and south, but in New York and New England a complete failure. Strawberries, from some cause, were only about a half crop. Currants abundant. Grapes suffered everywhere from the rainy and cool weather of July and August, mildewing badly in some places, but good in others. Concords gave a fine crop, and were plentiful in our markets. The season, viewed as to fruits and vegetables, has been the most favorable for some years; and the farmer, the market gardener and the fruit grower have no cause to complain. The average of crops has been high, and the best evidence of abundance has been the lower price at which every product has been sold, and the welcome boon to all classes of enjoying good fruits and excellent vegetables at more reasonable prices.

HORTICULTURE.

As the grape has occupied a prominent position among our popular and hardy fruits, we have endeavored to supply all the information in regard to it, and the pages of our last volume contain many articles upon grape growing, and particularly its culture in widely different localities—in Massachusetts—in New York—in Iowa—both for the garden and the vineyard, for market and for wine. A careful perusal of this information will show that, as widely separated as these localities are, though occupying a nearly parallel line of latitude, the grape flourishes successfully in all, and that there is no doubt that the grape, when the proper varieties are obtained, will give results as satisfactory as any of our fruits.

We have endeavored to show that the current idea of a well trenched and deep soil is not an essential to grape culture, but on the contrary is prejudicial to general success, tending as it does to carry the roots beyond the reach of air and

warmth, and exciting to mildew by a too vigorous growth; even with the foreign grape we years ago contended that shallow and wide borders were far better than deep and narrow ones. Many have been deterred from planting grapes, by the rules laid down in books, that the soil should be trenched three feet deep, who, having but a shallow earth, could not possibly deepen it without turning up the subsoil, and making the ground a bed of sand, gravel, or clay.

Manure in excessive quantity and of crude materials we long ago condemned. Dead horses, hogs, dogs, and all such trash we contended were not only far from essential, but positively injurious. The discussion of this subject many of our readers may remember. One of our grape growers took the opposite side, and endeavored to show that we were entirely mistaken. Since then little has been said, but we cannot omit here to give the following extract from a letter received a few months ago, from an amateur cultivator, who, having plenty of material at hand, wished to satisfy himself, and tried the dead horse system:—

“My old vinery is a perfect failure, the border being prepared after Mr. J. Fiske Allen’s mode, only a little more so, that is, the proportion of manure and carrion at the bottom, I think, is larger than he recommends. It did very well for the first two or three years, but now no vine can be grown in it; the old vines have nothing but long clean roots, which throw out no small rootlets or feeders until they reach the outside, for which place they travelled as fast as possible after being planted; it is a greasy mass, almost impervious to either air or water. I do not know but I shall now go to the other extreme, as I propose to use nothing but one-third sharp sand, one-third good sandy loam, and one-third muck. What do you say to that? My idea is to feed from the top, perhaps it would do to mix in a *little* of the old border.”

But dead horses and an excess of enriching material is one thing, and judicious manuring another. A ton of guano to an acre, or 100 lbs., are quite different. We are, therefore, unqualifiedly the advocates of manure for the grape, just as we are for the apple, the pear, or any other fruit, and refer to our article (p. 289) for our views on this subject.

New grapes continue to be brought forward, and, as we stated a year ago, the demand has been made, and the supply will be forthcoming. We have seen the results of a batch of hybrid seedlings, which shows the success of the experiment in the great variety of foliage quite as distinctly as it would in the fruit. There may be some desirable varieties among them, or they may all be worthless. We only name this to show the deep interest manifested in grape culture. The new or noticeable grapes of the year are the Walter, exhibited at the Lake Shore Grape Growers' Association, from Mr. Caywood of Poughkeepsie, the same variety noticed by us last year, then unnamed, and more fully described in our Pomological Gossip. It promises well. The Ives's Seedling, valuable only as a wine grape, but just now very popular among the Ohio vine growers.

Other varieties are named in various quarters, but nothing reliable can be stated regarding them. We shall give a survey of grape culture for 1866, in another number.

The year has added but little to our information upon pear culture. The blight and its causes have been discussed by the western pomological societies, but no practical results obtained. Some writers have suggested salt as a remedy, because pears flourish so well on the Atlantic coast, and in the salt regions of New York; we will only say to our cultivators that salt and iron are dangerous substances to introduce into the fruit-garden. We have had actual experience with the former, and refer to our last volume (p. 43) for an account of the injurious effects of the latter.

Many new American seedlings have been introduced the last three or four years, most of which we have figured and described; they have not yet been fully tested. The latest additions are the Hebe, Margaret, Dorson, and Wharton's Early.

The strawberry continues to demand general attention, and the introduction of new sorts has been largely in excess of previous years. The advent of the Agriculturist, "the largest strawberry in America," seemed to revive the love for novelties, whether good or bad, and it has been spread far and wide; but every story has an end; and the end of the

Agriculturist we hope has been fatal to any similar money-making scheme. Such a complete failure has an injurious effect; for new sorts may be introduced really worthy of fair trial; but the ardor of cultivators has been so thoroughly cooled, it will be difficult to induce them to try new candidates for public favor. The Rippawam and Durand's Seedling stand highest on the new list.

Our Pomological Gossip contains notices or descriptions of all the fruits of the year.

FLORICULTURE.

The prominence which has been given to ornamental foliaged plants, continues with increased interest. The success of the French in the decoration of the public grounds at Paris, is awakening a fresh desire to see the objects which are there so conspicuous, introduced into our collections, and the Cannas, Yuccas, Calocasias, Bocconias, Wigandias, &c., will be more generally planted than they have been heretofore. The new Japanese maize, and the grasses, particularly Erianthus Ravennæ, which grows almost, or quite, to the size of the Pampas, are unique and admirable ornaments to any garden. We have several articles in preparation upon this showy group, which we shall present to our readers soon.

The culture of the Rose is, we trust, to receive more attention. Mr. Hunnewell's timely and liberal donation to the Massachusetts Horticultural Society for the furtherance of this object, merits, as we have no doubt it will receive, the thanks of every admirer—and who is not?—of this queen of flowers. We have labored to effect this object, and the material aid of Mr. Hunnewell is a most opportune aid to our desires. Progress goes on. The introduction of a new Noisette Rose, of the general habit of Gloire de Dijon, is a great advance in this fine class, promising the brilliancy of the old Yellow Tea, with the size and vigor of the Dijon. Many of the newer Perpetuals are truly superb, and go as much beyond those old favorites, Lord Raglan and Geant des Batailles, as they did beyond those which preceded them. Chas. Lefebre and Maurice Bernardin are truly regal in their contour and coloring.

It is gratifying to record many new acquisitions to the popular class of annuals, which are the "flowers of the million." The new colors of the Double Zinnia, the Double Sanvitalia, *Palafoxia texana*, and several others, are really great treasures, which can claim a place in every garden.

The Rhododendron has not been neglected, and our recent article (p. 321) will, we hope, remove any doubts about the successful growth of these plants. Only let the varieties be quite hardy, and these must soon be almost exclusively American seedlings, and there will be no complaints regarding their culture. It is the loss from imported plants, which has done much to prejudice planters against their introduction into their grounds. A collection of fifty varieties of the very hardiest imported varieties were all more or less injured or destroyed by our severe winter.

Of new plants, which have already been described in our pages, but now first introduced, we name the following as highly ornamental:—*Abutilon vexillarium*, beautiful, the Double Pelargoniums, *Lilium Nielgerricum*, the Czar, and Queen of Violets, *Saxifraga tricolor*, *Trycirtis hirta*, a half hardy herbaceous plant. The new Clematises, *Jackmanii* and *violacea*, which are considered among the most free flowering hardy bedding plants; *Sedum fabarium*, and many new varieties of Fuchsia, Phlox, and Chrysanthemum, the latter with new and brilliant colors. A reference to our volumes will supply information regarding most of these, and others, which we have not space to enumerate.

THE KITCHEN GARDEN.

Lovers of superior culinary vegetables must appreciate the endeavors of cultivators in their efforts to improve the varieties which have so long been favorites. Not only is there more attention given to the growth and introduction of the best vegetables, but far greater attention to their superior growth. Our markets are no longer filled with long, scraggly, dry, woody looking roots; in their place we have round, plump, fair, smooth, and succulent products, as if some skill and culture were exerted in their growth. Cabbages are large and solid, and weigh thirty to forty pounds. Celery is not

the coarse, stringy, tasteless product of former years, but fine, crisp, and full of flavor. Tomatoes, in place of the scalloped, ill-shaped, and hollow fruits, heretofore raised, are now round, smooth, and solid to the centre. Cauliflowers vie in beauty with the best flowers of the garden, and resemble masses of frosted silver, in the uniformity and development of their snowy heads. The French have given us a better carrot, the English a better parsnip, the Japanese a better Egg Plant, and the Yankee acquisitions of Hubbard squashes, Sebec and Goodrich potatoes, Old Colony corn, and Drew's Dwarf peas, show that our countrymen are interested alike in the products of the garden and orchard.

Of these numerous acquisitions the Tilden tomato deserves especial notice, because its merits are more than would naturally appear. Regarded simply as to quality it may be no better than the Cook's Favorite, or Tree tomato; but it possesses other valuable properties, the greatest of which is its carriage and handling for market; in this respect being remarkable for its firmness and fresh appearance, long after gathering.

The Pekin Black Egg Plant promises to be a great acquisition, for, in addition to its size and dark color, the flesh is very white and tender, and it has less of that strong taste which often renders the common kind almost uneatable.

For much of the improvement in the growth of our vegetables we are no doubt in some degree indebted to Mr. Burr, who has brought the subject prominently before the public, in his excellent volume, which, from its real merit, has already commanded, and will continue to claim an attention that works, compiled from foreign authors, without practical knowledge,—as most of our horticultural literature is,—can never receive.

LANDSCAPE GARDENING.

We have very little to remark on this subject. The four years of earnest battling with wrong, left little time to devote to an art, which of all others requires repose, quiet and thoughtful attention. But we cannot believe it will henceforth be neglected, at least that it shall cease to interest

gentlemen of taste, who have leisure and wealth to devote to planting and develop its attractions. Fortunately we have an incentive to renewed labors, in the liberal prizes now offered by the Massachusetts Horticultural Society, through the zeal and liberality of H. Hollis Hunnewell, Esq., whose desire it is to see villa grounds and enclosures of two or three acres laid out with more taste, and judiciously planted with the finest trees and shrubs.

HORTICULTURAL LITERATURE.

The most gratifying evidence of renewed interest in horticultural pursuits, is the publication of several works devoted to the numerous departments of gardening. Of these, most of which have already been noticed, we briefly enumerate the following:—BRECK'S BOOK OF FLOWERS, a new and almost rewritten edition; THE BOOK OF ROSES; PEAT AND ITS USES; THE FOREST TREE CULTURIST, practical and valuable; WOODWARD'S ARCHITECTURE, No. I., an account of Architectural and Rural Art; HUSMAN'S CULTIVATION OF THE GRAPE VINE, and a new edition of Bridgman's GARDENER'S ASSISTANT, which we hope has not been injured by the revision. Other new works are in progress, but we are not enabled to give their titles, or the scope of the volumes. The periodical press continues to improve, and is rendering valuable service in the dissemination of useful information.

HYBRIDIZING FRUITS.

BY JOHN STANDISH.

THE hybridization of fruit has, until within a few years, received but little attention. Though practised to some extent by the late Sir T. A. Knight, its great importance seems to have been overlooked; occupying the attention of cultivators just at a time when the numerous seedling pears of Van Mons were becoming celebrated, Mr. Knight's experiments seem to have been overshadowed by the reproductive system of Van Mons. Unfortunately Mr. Knight's trial with the pear did not amount to much more than to

establish the certainty of the process of hybridization, as the parents of his seedlings were so poor that no progeny of any value would be likely to result.

In fact we know of but few recorded attempts to produce new fruits by hybridization, from the time of Mr. Knight up to the year 1833, when our experiments in the hybridization of the strawberry were made. Most of the new fruits of the previous half century, besides those of Van Mons and Knight, were of accidental growth, or the result of seedlings raised from seeds of the best fruits, without any attempt at hybridization.

But within the last fifty years hybridization has made great progress, even in fruits. Mr. Rivers in England, and the late M. Vibert in France, have produced many seedlings, the latter operating principally with the grape, and he was the first to cross the foreign grape with the Isabella, twenty-five years ago, the result of which was to produce numerous seedlings, one of which, called the Prunella, is figured in the *Revue Horticole*, and so nearly resembles Rogers's No. 4, that it would be impossible to detect the difference in the two by the representation.

It is not, however, our purpose now to write the history of the hybridization of fruits, but merely to note the progress of the science, as we proceed to give the results of some experiments with the grape, made by Mr. John Standish of London, printed in the *Proceedings of the Royal Horticultural Society*. Nothing could be more interesting to our cultivators of the vine, as it shows with what certainty important results are attained if the hybridization has been thoroughly made, and the parents judiciously selected. In fact, as it has been said by an old raiser of birds, that he could "breed to a feather," so it is about as true that we can produce just such a fruit as we want. That this is true we shall at some future opportunity detail some experiments of our own, to produce a certain color in a certain tribe of flowers, which, after ten years' labor we have accomplished. The following is Mr. Standish's paper:—

Having been occupied for many years in hybridizing plants,

and being very fond of it, I at length turned my attention to fruits.

I commenced with grapes. My object was to make the Muscat easier to cultivate, and increase the size of the Frontignan; also to make the large coarse kinds of a better flavor, and to improve the early ones. I began, in the first instance, with the Muscat of Alexandria (one of the most difficult grapes to cultivate) and the Trovéren Muscat (a remarkably free grower, but a long time in coming to maturity.) It is a most delicious grape, though not so highly musked as the former. I expected to obtain grapes less difficult to cultivate, and was partly right; but I was rather astonished at the final results. It should be premised that the Trovéren is a round grape; the Muscat of Alexandria an oval one. The latter I made the female parent, and out of thirty seedlings no two were alike. The first three that fruited were black, one being a large early grape, in shape an oval, with a fruit-stalk like a piece of wire; it was of a very fine flavor, with the slightest possible taste of Muscat, and hung well. This was a great success, and well worth all my trouble. The other two were late ones, with large round berries, but nothing else remarkable about them.

In the following year I fruited ten or twelve more from the same lot. One of these was of a beautiful white or golden color, and ripened quite as soon as the Hamburg; its fine vinous flavor was exquisite, mingled as it was with a Muscat taste about half as strong as that of its parents. This also had very stiff fruit-stalks, and kept a very long time. Another—and this astonished me more than anything else—was a perfect miniature of the Muscat of Alexandria, perfectly oval, and with the strongest Muscat flavor that I ever tasted, but it was no larger than a red currant! I have not as yet discovered anything very remarkable among the others.

The next experiment I tried was with General Marmora (no doubt a white seedling variety of the Hamburg) crossed by Burchardt's Amber Cluster. My object was to obtain a very early grape, and in this I succeeded beyond my expectations, as I got a very fine white transparent grape, like the Amber Cluster, but as large as the Hamburg, and fully five

weeks earlier than that kind. This of course is a great gain, and what has been much wanted, as the Sweetwater grapes are very bad setters, and the Muscadine is too small for table use.

The next crosses were between Blanc de Saumur and Chasselas Musqué, and Chasselas Musqué and the Citronelle. From these two crosses I have obtained the most delicious kinds that ever came under my notice, more so even than the old Frontignan and Chasselas Musqué. Two of them are sweet-scented, smelling, when the sun shines on them, like Orange-blossom. Nothing I have ever seen can compare with them in flavor and productiveness; their size, too, is very large, some of them being as large again as the Frontignan. Two other most remarkable crosses are Chasselas Musqué fertilized by the Long Noir Durant, a large oval black grape, on a very large bunch, but of an inferior flavor. This cross produced grapes of various colors, black, pink, and grizzly, but all quite round. The next time I made Long Noir Durant the female parent; and, curiously enough, the result was almost identical with the former, there not being an oval berry obtained. A very slight Muscat taste is observable in a few; but in the greater number it is not observable at all. These are the results from about 500 seedlings that I have raised, and 400 sorts that I have fruited.

I next directed my attention to peaches. My object was to obtain peaches with nectarine flavor, and I am glad to say I have succeeded. The nectarines I made the female plants were the Violette Hâtive, Pitmaston Orange, and the Stanwick, crossed with the Noblesse and Barrington peaches. Although the Violette Hâtive Nectarine had a small flower, still, when crossed with the large-flowering peaches, eight out of twelve were large-flowered; and out of fifteen kinds fruited this summer, only one was a nectarine, the others were all peaches, most of them with the nectarine-flavor. Two of them were especially delicious, having a beautiful nectarine-flavor, melting like a peach, but full-colored like the former fruit. The stones that produced the seedlings were sown in the beginning of February, 1863; the greater part of them flowered in February, 1864; but the fruit fell off. I now

have one planted out in my peach-house that had in June ten or twelve dozen peaches on it. It is ten feet high, about the same width, and covered with fine-blooming wood.

POMOLOGICAL GOSSIP.

THE HIGH STATE OF GRAPE CULTURE in England, which we have from time to time noticed, may be better understood from the following notice of the grapes at Coombe Abbey, which we copy from the Gardeners' Chronicle:—

“More remarkable grapes than those at Coombe Abbey, taking everything into account, it would be difficult to find; and Mr. Miller, the gardener there, may well be proud of his success in grape growing. His vineries are all lean-to houses, in one long handsome range, which was built about five years ago by Mr. Gray of Chelsea; they are about ten feet high at back, five feet high in front, and about fifteen feet wide. The front wall rests on piers, the borders being made both outside and inside. The first and greatest care in making these borders was to have them well drained. Along the front of the border outside runs a large main drain, into which transverse drains are led; then there is a bottoming of some two feet in thickness of brick rubbish, and on the top is placed the soil, which was put in with but little preparation, in the shape of large fresh turfs, rough and unbroken almost, just as they were dug from the fields.

The vines are planted inside, but their roots are at liberty to travel outside if they choose, and which they doubtless do. The Hamburgs, Muscats, and other white kinds are planted, three feet apart; the Lady Downes' and other late black kinds, 4½ feet apart, Mr. Miller being of opinion that black grapes require more room to bring them to perfection than white kinds. In early houses the grapes were all cut, but the vines themselves were in capital condition. The first houseful of fruit entered was one of Muscat of Alexandria and Canon Hall Muscat, with which were associated a few White Tokays. The Alexandrian Muscats were a splendid

crop; regular, both in bunch and berry, the former averaging about 2 lbs. each, and exhibiting that fine amber color which can only be obtained under first-class cultivation.

The next house to which we came is considered the pride of the place, and wonderful indeed it is. It is filled principally with Lady Downes' Seedling in fine condition, the crop being heavy, and the bunches about fifteen inches in length, well shouldered, and averaging about two pounds in weight per bunch; some even exceeded three pounds, (a very heavy weight for Lady Downes.) The berries were large, bluish black, and covered with a fine bloom. Grown in this style, what a splendid late grape this is! Oldaker's West's St. Peter's, although good, looked a dwarf beside it. Trentham Black was very good; and when it is well-grown, few grapes can equal it in flavor. Barbarossa was also grand. Gros Guillaume is, however, the proper name of this grape, the true Barbarossa being red and grizzly. One vine of this was bearing eleven noble bunches, each averaging seven pounds and upwards, finishing off well. Mr. Miller prunes it somewhat on the long rod system, observing it to bear best on young canes. There are, moreover, two Frankenthals, young plants, bearing enormous crops. It is an event worthy of notice to get one bunch of Frankenthal to weigh anything like six pounds; here hung, bunch after bunch, each averaging from five to six pounds; the berries were large, and almost black, but not quite perfect in that respect, which was not surprising, the vines being too heavily cropped; but who could have the heart to destroy a bunch like one of these?

The next house is principally filled with Black Hamburgs and Frankenthals, also bearing heavy crops, averaging about three pounds per bunch. The Golden Hamburg was doing very well here, being large, both in bunch and berry, and very beautiful. Foster's White Seedling was also very fine, and it is a variety much esteemed by Mr. Miller. It is a fine grape, and well flavored, and, when grafted on the Hamburg, as Mr. Hill of Keele Hall has it, it is magnificent, equalled only in point of beauty by a Muscat of Alexandria. Several other sorts are grown by Mr. Miller, but these are the most important. Black Alicante, which is the best late black

grape of all, appeared to be absent. Fine examples of this kind were grown last summer by Mr. Rawbone, gr. to J. Campbell, Woodseat, near Rochester; they were really magnificent, and did Mr. Rawbone much credit.

AMELIE LE CLERC PEAR.—This is the name of a new, fine, and very handsome pear, raised by the late Leon le Clerc of Laval, who named that remarkable variety Van Mons Leon le Clerc, intending, by unity of names, to immortalize himself and his brother pomologist and friend Van Mons. Amelie le Clerc is said to be a first class pear, as to size and quality; the skin, when ripe, is pale yellow, dotted with small russet spots; it is perfectly melting, juicy and very good, ripening in November. It is a hardy variety, and very fertile, growing freely on the quince stock. A drawing is given of the fruit in the Gardeners' Chronicle, (November 17) taken from a specimen from the garden at Laval.

FLORICULTURAL NOTICES.

NOSEGAY AND ZONAL PELARGONIUMS.—Mr. Paul's collection of the new varieties, including the late Mr. Beaton's seedlings, is described as follows, by a writer who has examined his large collection:—

Of nosegays, hybrid nosegays and zonals, we noticed glorious masses of the following:—M. Rebecca, bright cherry, dwarf and compact in habit; St. George, crimson scarlet, trusses very large and compact, and well elevated above the foliage,—leaves plain,—one of the very best for out door decoration; Phoenix, in the way of Punch, and a variety which withstands bad weather unusually well; Tiara, crimson, with purplish shade, leaves plain,—a beautiful autumnal bloomer; Salmon Nosegay, salmon, trusses and flowers large, smooth and abundant, leaves plain, dwarf and compact, and one of the most effective amongst numerous associates; Sir Joseph Paxton, bright orange scarlet, trusses large, and produced in great profusion, leaves zonate, a very showy kind; Cardinal, another orange shaded scarlet, trusses large,

leaves plain; Prince of Orange, also belonging to the same class, dwarf, compact, and a fine bloomer; Waltham lilac, a true nosegay, with plain leaves, and fine trusses, of a lilac hue, shaded with rose; Peach nosegay, nearly similar in color, but not so effective as the kind last named; Nimrod, orange scarlet, and of fine form, trusses large, and produced in great profusion, leaves conspicuously zonate, one of the best, either in or out of doors; Village Maid, rich deep rose, with a large white blotch on the upper petals, habit dwarf and compact, leaves zonate, a charming variety, the two colors in the flowers contrasting well with each other, and it stands wind and weather well. The kinds just named may now be considered established.

ZONAL PELARGONIUMS IN WINTER.

THERE are but few plants which possess the very valuable and desirable qualities of blooming the whole year through, and at the same time easy of treatment, requiring no extra heat, and adapted to the cottage window, the open garden, the parlor, the greenhouse, or conservatory.

Of these few the Zonal pelargoniums hold the most prominent position. A dozen years ago, before the improvements in this tribe by the late Mr. Beaton and others, they had only plain or two colored foliage, long, lanky shoots, and small trusses of irregular shaped, lean looking flowers. Now the leaves gleam with all the colors of the rainbow,—the plants are dwarf, compact and bushy—and the flowers, which appear in large globular trusses, are round and symmetrical, and of every shade of color, from the purest white to the deepest crimson. The progress of a dozen years has been almost beyond belief, and the “Fish” or “Horseshoe” geranium, as it is often called, has, by its simple merit, been promoted from the lowest position in the garden or greenhouse, until it has attained the highest rank among our favorite plants.

We no longer need to explore the regions of the tropics for ornamental foliaged plants, for Mrs. Pollock, Sunset, and many others, surpass all the begonias and caladiums, in their tricolor tints of emerald and scarlet, upon a shield of silver or gold; and the most brilliant of all brilliant blossoms cannot surpass the glowing or fiery colors of these and other varieties of the Zonal tribe. For foliage and flowers combined they are unsurpassed.

As we survey the rich coloring of these beautiful plants, we are no longer surprised at the zeal and enthusiasm of the English cultivators in their cultivation, and the introduction of so many new varieties. It is another example of how much can be done with one tribe of flowers, where the energies of the cultivator are devoted to its improvement; and what we can do with one, may, to a greater or less extent, be done with another. The pelargonium (or geranium, as formerly called) possessed but few remarkable qualities, until the skill of Messrs. Hoyle, Beck, and others, brought them out by skilful hybridization. The late Mr. Beaton performed an invaluable service when he commenced the improvement of the dwarf free flowering nosegay section, and Messrs. Grieve and others are doing an equally important service in adding to all that he accomplished, a foliage, radiant with sunset hues. To all this the French have given the finishing touch by supplying us with DOUBLE flowers.

Mr. Paul, the well-known nurseryman, who succeeded in securing most of Mr. Beaton's stock, gives the following excellent hints on the growth of the Zonal geraniums for winter decoration, which we commend to every lover of beautiful flowers:—

The rain of a gloomy December day has driven me into my house of Zonal pelargoniums, now in full bloom. I am temporarily a prisoner, but cannot be idle. How beautiful these pelargoniums are! how gorgeous the colors! and what a contrast they present to the leafless trees and sombre evergreens which I have just quitted. Scarlet and other warm-colored flowers which abound here, seem to me particularly cheering in winter. I know of no flower, not even the

varied and gorgeous chrysanthemum, more lovely; and there is none so useful for bouquets at this season of the year. Conspicuous among them for freedom of flowering, and variety and novelty of tint, are Beaton's Hybrids and their successors, which are literally covered with trusses, and seem as if they would go on blooming throughout the winter. Judging from present appearances I think I am right in assuming that these hybrids bear the same relation to the ordinary Zonals that the Perpetual carnations and Perpetual roses do to the common kinds of those flowers. On analyzing them and arranging them as to color what a charming variety they afford! Of pure whites, Madame Vaucher and Virgo Maria are perhaps the best; Bride is white with a crimson eye, and Madame Werle is creamy white laced with crimson; Peach Nosegay, dark lilac, is particularly lovely; and Village Maid, which is of a clear deep pink with a large well-defined white spot on each upper petal, is a very decided advance on Helen Lindsay and Mrs. Whitty; Mrs. Wm. Paul, for size and form, is conspicuous among the light pinks. Alexandra and Dr. Hogg are the best among the bluish purples. Perhaps the greatest gain among Beaton's hybrids and their descendants, is the multiplicity of rose colors of various shades—colors previously unknown among Zonals; Monte Rosa, Naiad, Zephyr, Dryad, Amy Hogg, Celestial (very lovely,) Wood Nymph, and Tiara are beautiful in this class. Indian Yellow is still alone as a yellowish orange, and Salmon Nosegay is a distinct and pleasing color, prolific and showy. Among the various shades of carmine and cherry-color, Duchess, Banneret, Minstrel, Rebecca, and Waltham Nosegay are preëminent. Of orange, Nimrod, Sir Joseph Paxton, Prince of Orange, and Orange Nosegay are the best. Of scarlets, we select Cardinal, Waltham Pet, and Dr. Lindley. And, lastly, of blood-crimsons, remarkable for depth and solidity of color, there are Ossian, Crimson Queen, and St. George. Here are thirty-four varieties selected for perpetuity of flowering, and described as they now are, which it will be readily conceived is not exactly as they appear out of doors in summer. But though different they are equally beautiful, many of them even more beautiful. The rain having ceased, I end my sojourn in this

Pelargonium house by gathering a bouquet of the flowers, adding thereto a few leaves of the plain green, the black zone, the red zone, the gold, and the silver, which the above or others in company with them furnish. While doing so I have been brushing against Shrubland Pet (Beaten's again!), and the house is filled with odor. I add a few leaves of this, and walk off with a bouquet fit for a princess. Meeting a great amateur gardener in my way, he supplies me with a practical deduction from the principles revolving in my mind by saying, "Well, well, this is beautiful; I must add these flowers to my future 'winter list.'"—"Yes, my kind friend, indeed you must; at least, if I mistake not, you are not likely to reject a new idea that will add so much to the beauty of your garden in winter."

But something remains to be said as to the culture and management of these plants, which fortunately involves no new study or complicated arrangement. Buy or strike young plants in May or June. Continue to replot them into larger pots as the roots fill the pots they occupy, till the end of July. Pick off the trusses of flower before expansion during June, July, and August, encouraging a free growth, till by the end of September the plants are covered with new trusses beginning to expand. Now, wherever the plants may have been grown, whether out of doors or in-doors, remove them to a light airy house, continuing to water freely, and using just so much artificial heat as may be necessary to dry up the moisture of the house, which if in excess, damages the flowers. Do not water the leaves nor spill water about the house. Give plenty of air in fine weather. By following this plan certain pelargoniums may be had under glass at mid-winter, as gay and beautiful as in our parterres in summer.

OUR HARDY CONIFEROUS TREES. NO. I.

BY THE EDITOR.

It has been our intention, for some time, to give a detailed description of the best hardy coniferous trees adapted to the

severe climate of the Middle and Eastern States, and, when possible, engravings of the same, illustrative of their general habit and growth. This, however, it has been impossible to do satisfactorily, for, beyond a few of the common and well-known, the hardiness of the new, rare and beautiful kinds has not until now been fully tested. Thanks to the zeal and enthusiasm of such amateurs as our correspondents, H. W. Sargent of Fishkill, N. Y., and H. H. Hunnewell of Wellesley, Mass., from their experience we are enabled to give this desirable information, for in their beautiful grounds have been gathered all the species and varieties likely to prove hardy, but many of which have failed to withstand our severe winters, and already perished, or stand despoiled of their native vigor and symmetry. A large number, however, remain, which possess all the hardihood desired, and which may now be safely classed among our hardy trees, and may be recommended for general cultivation, adding greatly by their variety, as well as real beauty, to the ornamentation of every garden, pleasure ground, or lawn.

We cannot omit this opportunity to once more urge the more extensive introduction of evergreen or coniferous trees into our ornamental grounds. We are surprised at the little interest manifested in their culture. When we consider how much they add to our winter scenery,—after the deciduous trees have dropped their richly tinted autumnal foliage, and stand leafless and bare,—and how much shelter and warmth they afford from the wintry blasts, adding to the comfort of every cottage, villa, or country residence, we are at a loss to account for this neglect. A stroll along the sunny side of an avenue, or belt of evergreens, even in the depth of winter, is pleasant, but during the windy days of March and early part of April, it is one of unusual delight—a harbinger of the coming season, when we no longer need their protection, though their scenic effect is none the less wanted.

Our New England climate is a very few degrees too severe for many of the beautiful species which have been introduced from the mountainous regions of the Northwest Coast and the European Continent. Gordon, in his *Pinetum*, the latest work on the subject, describes upwards of 400 species and

varieties, which are now cultivated in Great Britain. Of this immense number, probably not more than 100 are perfectly hardy, north of New York, and perhaps not so large a number. Yet 100 is a goodly quantity, and though we could wish the Deodar, Cedar of Lebanon, Araucaria, Douglas Fir, and some others were among them, yet for this deprivation we feel a degree of contentment that we have the Hemlock, unexcelled for real grace and beauty by any other coniferous tree, the *Picea Nordmanniana*, the prince of the fir tribe, and the *Cupressus Lawsoniana*, the subject of our present article.

Time may, and undoubtedly will, give us varieties and hybrids of these hardy sorts, and thus the number will be increased, and the variety augmented, till in time our grounds, if not numbering so many kinds as those of English cultivators, will possess collections as rich in their landscape effect.

We commence our list, with the following:—

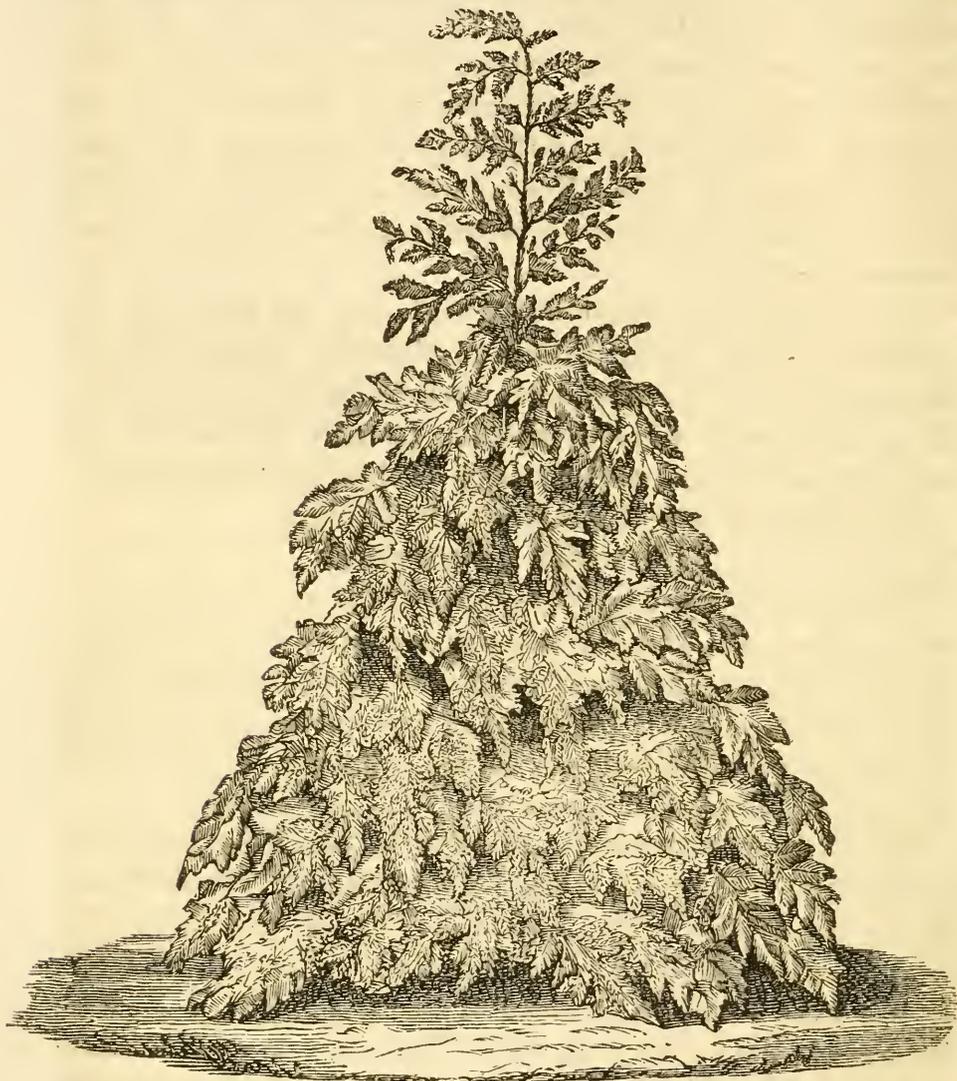
CUPRESSUS LAWSONIANA.

This graceful and beautiful species of the cypress, (FIG. 1) a native of our own country, was discovered by Mr. W. Murray, about twelve years ago, in Northern California, and was named in compliment to Mr. Lawson, the well-known seedman and nurseryman of Edinburgh, who was instrumental in sending an expedition to California, in search of new trees.

The *C. Lawsoniana* is described by Mr. A. Murray as “the handsomest tree seen in the whole expedition.” It was found on the banks of a stream, in a valley on the mountains, the trees about one hundred feet high, and two feet in diameter. It was also found in the Shasta and Scots Valleys, and as far north as latitude 40° to 42°. The foliage is most delicate and graceful, with the branches first curved upwards, like those of the common spruce, but towards the ends hanging down like an ostrich’s feather, with the leading shoots drooping in the same manner as the Deodar Cedar. The color of the foliage is of the deepest green, which it retains throughout the year.

It is yet but a few years since it was introduced into our gardens, and the largest specimens are yet not more than eight or ten feet high. The largest and finest are, we believe, in

the Hon. R. S. Field's fine collection at Princeton, N. J., where it appears to thrive with all the vigor of our hemlock, proving perfectly hardy, growing quite rapidly, and retaining its deep rich green even in the winter.



1. CUPRESSUS LAWSONIANA.

Upon its first introduction it was supposed to be too tender for our New England winters, and H. W. Sargent, Esq., in his Supplement to Downing's Landscape Gardening, remarks that "he has strong hopes this charming evergreen may be acclimated." Our own trees were kept in pots until we had one or two specimens out. But fortunately it withstood, without the least injury, the severe winter of 1865 and 1866,

(17° to 22° below zero) which has dispelled all doubts as to its hardihood in this locality, or probably in any part of New England. Rows of young trees, three to four feet high, stand side by side with the Siberian arbor vitæ, with every branch entire, and the foliage fresh.

The *C. Lawsoniana* resembles somewhat the *Thujopsis borealis*, (called by Gordon, *Cupressus nootkaensis*) but the foliage is smaller, the branches more slender, the terminal shoots drooping, and the whole aspect of the tree far more graceful, and, if we may use the term, finished in all its parts. It can, undoubtedly, claim the place given it by Mr. Murray, as the handsomest of all the Californian evergreens.

It possesses the valuable property of transplanting almost as readily as the arbor vitæ, and we may therefore anticipate that it will become a favorite tree, especially adapted to lawns and pleasure grounds, planted as single specimens, or in groups, with other hardy evergreen trees. In either situation it will form one of the finest of all the hardy conifers.

General Notices.

AMARYLLISES FOR AUTUMNAL BLOOMING.—The great scarcity of flowers during the months of October, November, and the early part of December, for decorating the conservatory and drawing-room, induced me to try the experiment of so far altering the habit of some of the varieties of the genus *Amaryllis*, as to enable me to depend on their blooming in those months as strongly and regularly as they usually do in the spring. Success attended my practice. The opinion of the late Mr. Knight on the growth of bulbous plants in general, furnished me with an admirable groundwork for cultivation. "Bulbous roots increase in size, and proceed in acquiring powers to produce blossoms only during the periods in which they have leaves, and in which such leaves are exposed to light; and these organs always operate most efficiently when they are young, and have just attained their full growth." Bearing these important facts in mind, we will suppose a moderate collection is in hand, and the object is to induce the bulbs to bloom in autumn. In the first place they should be potted in December, using pots in proportion to the size of the bulbs. The soil I have found best suited for their growth is two-thirds light turfy loam, and one-third of half-rotten leaves and coarse river sand, draining the pots well, and using

the compost in as rough a state as possible. If additional stimulus is required, it may be supplied, when the leaves are fully formed, in the shape of manure-water every second or third watering. In potting them, keep two-thirds of the bulb above the earth in the pot. They should now be plunged in a pit or frame near the glass, and where there is a moderate bottom heat to encourage the bulbs to root freely before they commence growing by the leaf; and to accomplish this, the bottom heat should be considerably in advance of the top. When the roots have made considerable progress towards filling the pots, they should be removed to a light house, and be placed near the glass. The temperature should be kept between 60° and 75°. The increase of both light and heat will cause the bulbs to grow rapidly, and great care should be taken not to injure the foliage; if any blooms appear they must be removed, and water supplied when requisite. By this treatment the plants will in a short time possess a strong and healthy foliage, at which time manure-water may safely be applied with the best effects. Whenever the appearance of the leaves indicates suspension of growth, water should be gradually withheld; but they must still be exposed to the utmost amount of light and heat, until the leaves become of a partially brown or yellow color, when they may be removed to a dry cool place until wanted for blooming. By the above treatment they will generally be in a perfectly ripened state by the end of April or early in May. I do not agree with those who advise that, during the period of the plants' rest, they may be shaken completely out of their pots, for I find they bloom much stronger by being allowed to remain in the pots in which they grew. It is not material where they are kept during their repose, provided they are kept dry. Towards the end of August preparations may be made by commencing with all or part of the stock; the pots should be well soaked with water, and then plunged in a mild bottom heat in any pit or frame that may be at work. When the flower stems have advanced six or seven inches in height they may be removed to a stove to open their flowers, and afterwards placed either as ornaments for the conservatory or turned out into vases or ornamental pots for decorating the drawing-room. By the above management I have found those varieties enumerated below bloom quite as strong as they usually do in the spring; Johnsoni, reginæ, vittata, reticulata, and their allies, frequently have three or four spikes of bloom, and attain the height of from three to five feet. Immediately after they have done blooming they should be partially shaken out, disturbing the roots as little as possible, and repotted as before advised; placing them in a bottom heat until the roots have taken hold of the soil. List of varieties grown to bloom in the autumn:—Johnsoni, Johnsoni reginæ, reginæ, reticulata, vittata, Ackermannii, concinna, grandis, insignis, picta, Solandriflora, vittata, Sweetii, marginata conspicua, nobilis, marginata venusta, anlica, and others.—(*Gard. Chron.*)

SCILLAS.—For the embellishment of the select spring garden, squills are gems of the purest water. Hardy, and easily grown as the crocus,

indeed, often much more so, they are capable of producing an astonishing amount of beauty in the flower garden, the shrubbery or rockwork, or the mixed border. What can equal the wide and well-established tufts of *S. sibirica*, looking as if it had derived its color, not from the root or the earth, but from the brightest and bluest of skies? Nothing in the way of a spring flower touches it, except its unaccountably neglected brother, *S. bifolia*, which when seen in bloom in some quantity, is one of the very best of all beautiful hardy bulbs. It is much freer to grow and flower than *sibirica*, and propagates with rapidity. Then there is the diminutive starry looking *S. præcox*, both white and blue, too scarce, however, for general adoption; the pretty little *S. rosea*, which must prove effective when used in quantity; the rather loose looking *S. anæna*, though fine; and, as good as any, the several varieties of *S. campanulata*, the white being a charming plant, and also the major variety. *S. hyacanthoides*, too, is a good, free and strong kind, in the way of *Campanulata*; and *patula* is good in the same direction, as are the several varieties of the common blue bell, pink and white. Of course there are many other kinds, and doubtless some of them of great merit; but they are too scarce to be talked of yet. Mr. R. Farmer has a surprising number of species or so called species in his garden at Hornsey, to which they have been gathered from all sources, both British and Continental; and I am not without hope of having to record that some of them are worthy of culture, but at present our tried kinds are comparatively few. However, even those enumerated, and notably, *S. bifolia*, are often difficult to obtain, because nurserymen do not grow them. Even some of the Dutch growers do not keep *bifolia*, for I once remember having given M. Byvoil a handful of it, he never having heard of its merits. Therefore it may be useful to state that Mr. J. B. Mackay of Tottenridge Herts, has a large stock of this plant, and also of others of the squills named. Beginning originally with a few bulbs of each, and being five of the family, he has given them room to grow as they liked, and the result is, that every spring a considerable portion of his garden is sheeted with various shades of blue, and also with white and pink from the varieties of *nutans* and *Campanulata*. He has so large a stock of some (many large beds of *bifolia* for instance) that he is ready to exchange them for other plants.—(*Gard. Chron.*)

CHRYSANTHEMUM SENSATION.—Having bedded out this chrysanthemum extensively, both this season and the last, I may venture to offer an opinion as to its merits. I think it will prove to be one of the most distinct and useful plants for the ornamentation of the flower garden, that has been introduced for some time. In constitution it does not differ from other kinds of pompons. As regards height it averages from twelve to eighteen inches, and by keeping it topped down, which it will bear to any extent, it soon assumes the shape of more sturdy plants, the leaves of which are beautifully variegated, and look well even when the plants are out of flower. This variety is also easily managed. Plants of it taken up in autumn and potted, will be found valuable for the decoration of the green-

house or conservatory. It has been greatly admired here, and has, in short, become quite a favorite in this part of the country.—(*Gard. Chron.*)

WINDOW BOXES FOR BULBS, &c.—Window boxes can be made very gay indeed, in the early part of the year, provided the bulbs are planted in the boxes at the outset, and so become inured to all the vicissitudes of the uncertain spring time. Hyacinths, narcissus, tulips, crocus, snowdrops, scillas and aconites, can be grouped together, and a long succession of bloom succeed. I have always found pieces of turf, used to the depth of three inches, a capital drainage for window boxes, and on these should be placed a soil well enriched with rotted manure, and rendered friable by the use of sand. Common road sand is easily got, and the plants delight in it.

Plenty of bulbs should be used; they require but little room, and will make growth, however thickly they may be planted together. Hyacinths and polyanthus narcissus can be planted lower down, almost in the turf drainage. Tulips should form a stratum above these, planted in the angles of the larger bulbs. A higher formation can be formed of crocuses, scillas, snowdrops, and aconites. These last should be about an inch beneath the surface of the soil, and that again one inch beneath the level of the edge of the box. Water freely, and finally cover the whole with a coating of coal ashes, forming a kind of sloping roof to throw off rain, and to serve as a protection from frost. As soon as the shoots begin to penetrate the coal ashes, they can be removed, no rigor of weather will prevent their giving forth the beautiful flowers looked for.—(*Gard. Chron.*)

HYACINTHS IN WATER.—Your correspondent "Quo" is in error when he says that some hyacinths, and particularly the high-colored or dark-red varieties, are difficult to manage if cultivated in water; and that single Blue Argus is in the same category. The only good reason that can be given for this mismanagement is, that some varieties of hyacinths are extremely scarce, on account of the demand every year being greater than the supply. The bulbs sometimes furnished also want the age required to give full satisfaction.

The fact is, that all hyacinths, old as well as new, with the exception of extra late-flowering double sorts, can be grown very easily in water in glasses, and do admirably in it under proper treatment. In September or October let the bulbs be placed in glasses filled with rain-water, keep the glasses filled up, if, by means of evaporation, the water should subside in them, and change the water if it becomes foul, which seldom occurs. The glasses should be placed in a window or Wardian case, the cover of which should be open as much as possible, only closing it at night and in time of frost. Give air, and allow them to have as much sunshine as possible.

All the single and double-flowered early varieties can be grown, without exception, extremely well in this manner.

For miniature hyacinths I would recommend not half grown bulbs, which are now used for that purpose, but full grown hyacinths with small bulbs. Among double-flowered kinds especially are some marvellously fine things

in all colors, well worth attention. It would be something new to see at exhibitions small bulbs, some of which are scarcely larger than a nut, bearing great spikes of beautiful blossoms; and as far as price is concerned, with a few exceptions, they are within the reach of everybody.

I recommend also, as something extremely beautiful, the following association: place seven bulbs of the single white *La Candeur* in water, in a china dish or bowl, covering the bulbs with green moss as the flowers appear. When fully developed, the latter standing up above the moss have a fine effect, scarcely surpassed by anything in the way of flowers.

Scilla sibirica, treated in the same manner, does well in water in a dish; also the earliest *Duc van Thol* tulips, such as the red, the rose, the yellow, and the gold-striped varieties, together with *Vermillon Brilliant*, as well as all the varieties of *Crocus versicolor*.

Sprekelia formosissima placed in water in a glass, as soon as the flower buds appear, does likewise exceedingly well. *Narcissi*, too, can be grown very dwarf if they are placed in a window near the glass, and kept cool; too much warmth makes them become tall.—(*Gard. Chron.*)

YUCCAS.—I am induced to remind your readers what valuable and noble aids they have towards varying and adding grace and distinction to the flower-garden by the judicious use of yuccas. We talk about subtropical plants, but it would be desirable to know which of them surpasses in any way well-developed specimens of *Yucca recurva*, a plant that gives as distinct and graceful a feature to the flower-garden as anything that could be carried out of the stove or greenhouse during summer, and yet which is as hardy as a British willow, and handsome at all seasons. I need not describe the majesty of its habit and the grace of its vines, as so many must have seen those fine specimens in Mr. Veitch's flower-garden at Chelsea. And those who have not seen them may soon develop others equally good by planting clean young suckers or plants in good fine soil. I have seen people stewing ragged *Solanums* and ghastly rubbish of the stove all the winter, and running with clouts to keep them from the cold blasts of autumn, or the hailstorms of early summer when in the open garden, while none of these noble yuccas could be seen in the place, though one of them is worth a hundred of the subtropical plants I have alluded to. They are equally well adapted to the geometrical and English style of laying out gardens, or, in other words, they are suited for every kind of pleasure-garden under the sun. *Y. recurva* is, perhaps, the most valuable of all from its noble habit, and the size to which it attains; but *gloriosa* is equally useful, and one called *glaucescens*, which has its flower buds of a pinkish tinge, looking striking among the white flowers, and with leaves of a pleasing glaucous color, is a handsome kind. *Y. canaliculata* or *concava* is also hardy enough, and fine, though slow in growth; and doubtless there are others of the same family, and even others of widely different families, though like in habit, much hardier, and better for out-door gardening than we suppose, yet none of them, so far as I know, surpass or equal the first named three. They are so prominently distinct, hardy and

beautiful, that no garden should be without them. Let them not be stuck in out-of-the-way by-places, where sun and air cannot get at them, as is usually the case, but let them be planted well, and in the open ground. In the picturesque garden a small irregular mound, planted irregularly but tastefully with the various species, would look very well, indeed, particularly if the groundwork were of the fine variegated ivies, that are now being so freely propagated in many nurseries.—(*Gard. Chron.*) [We have, in our past volumes, described and figured several of the yuccas, and in the present volume shall add others to the list. Their merits are well stated by the writer, and we have been astonished at the neglect they have received. *Y. gloriosa* is not perfectly hardy in our climate, but it can be protected in a pit. There are, however, four or five hardy, free growing or beautiful species or varieties.—Ed.]

Massachusetts Horticultural Society.

Saturday, December 1, 1866.—An adjourned meeting of the Society was held to day,—the President in the chair.

The Flower Committee presented their Report on 1866, which was read and accepted.

The Committee for Establishing Prizes made their Report, which was placed in the hands of the Executive Committee.

F. Parkman, Chairman of the Library Committee, presented his Report for the year, which was read and accepted.

L. Wetherell, from the Committee on Statues, submitted a Report, which was read and accepted.

Adjourned two weeks, to December 15.

December 15, 1866.—An adjourned meeting of the Society was held to day,—the President in the chair.

The Fruit Committee submitted their Report for 1866, which was read and accepted.

The Vegetable Committee presented their Report for 1866, which was read and accepted.

The Executive Committee recommended \$100, as an additional appropriation for Premiums for 1867, for the Vegetable Committee.

The Committee, appointed to consider the subject of changing the day of the Weekly Exhibitions from Wednesday to Saturday, made a Report, recommending Saturday as the best day.

R. M. Copeland, the Librarian, tendered his resignation. A vote of thanks was tendered to Mr. Copeland for his long and faithful services.

The Finance Committee presented a resolution, authorizing the Treasurer to pay R. M. Copeland \$1000 for his services the present year. Unanimously accepted.

O. Codman, E. J. Sumner, and W. S. Barnum were elected members.

Adjourned two weeks, to December 29.

December 29, 1866.—An adjourned meeting of the Society was held to-day,—the President in the chair.

M. P. Wilder submitted resolutions, which the Society unanimously adopted, authorizing the Finance Committee not to lease the basement store to any railroad company, as contemplated by the occupant of the same.

The President submitted resolutions of thanks to Messrs. B. P. Cheney, H. H. Hunnewell, and C. O. Whitmore, for the munificent gift of the three statues, Ceres, Flora, and Pomona, and requesting the President to transmit a copy of the same to each of the gentlemen named.

Mr. H. W. Wiswell was elected a member.

Meeting dissolved.

Horticultural Operations

FOR JANUARY.

FRUIT DEPARTMENT.

DECEMBER, with the exception of one or two days, was more than ordinarily mild, and work could be forwarded up to the last week. The 21st was very cold, the temperature falling to 3° below zero, and in many localities to 10°.

GRAPE VINES, in the early-forced houses will advance more rapidly, as the days increase in length, and the sun acquires more force. Thinning should now be commenced, but it should be recollected that the early crop requires less thinning than the later one. Top the laterals as they require it; and put on additional manure upon the border, if the cold should be severe. Grape-vines, in the grapery and greenhouse, should be pruned this month, if not already done. Clean and wash the vines, as they will begin to grow in February. Grapes in pots may now be placed in a good position, where they will soon grow, and produce an early crop.

ORCHARD-HOUSES should be kept well aired, except in very severe cold, or rainy or stormy weather.

STRAWBERRIES, in pots, now brought into the house, from frames, and placed on a shelf, near the glass, will produce a fine crop.

PEACH, PEAR, AND FIG-TREES, kept in a cool cellar, may now be brought into the house, and forwarded for an early crop.

FLOWER DEPARTMENT.

With the opening of the new year all plants seem as sensibly to recognize the season as the cultivator. They immediately show signs of

renewed vigor, and recover from the inactive condition of the early winter months. This is the time when the conservatory should present a fine display of flowers. Camellias and azaleas will be in full bloom. Acacias, which are among the most showy, laden with their golden blossoms, will begin to flower, and these, with the usual variety, ought to present a rich array of colors. This is the season to commence the propagation of the various showy bedding plants, before work accumulates, and the hot sun renders it more uncertain.

CAMELLIAS AND AZALEAS will now be in full bloom, and will require a more liberal supply of water, and occasional watering with liquid manure, in order to strengthen the plants, and give them a more vigorous start when about to grow. Syringe occasionally in good weather. Plants that have done blooming may now be pruned into shape. Young stock may be repotted.

PELARGONIUMS should still be kept cool, and nearly stationary in their growth. Water sparingly, and give an abundance of air. Repot the plants, when not already done, and tie the shoots out, so as to form large handsome specimens. Turn the plants round once a week. Young stock should be repotted.

CINERARIAS AND CALCEOLARIAS should have their last shift into flowering pots. Keep near the glass, and fumigate often.

CALADIUMS should be started this month. Pot in light sandy soil, and plunge in bottom heat, if convenient.

PANSY SEEDS may be sown for early spring flowering.

HYACINTHS should now be brought into the house, and have liberal waterings.

VERBENAS, SUMMER PELARGONIUMS, HELIOTROPES, &c., may be propagated this month.

DRACÆNAS, MARANTAS, and similar growing stove plants, should now be divided and repotted.

AMARYLLISES, now potted, and placed on a warm shelf, will soon come into flower.

BEGONIAS should be divided and repotted.

FERNS may be repotted this month.

ORCHIDS will need more water as the season advances.

PALMS should be repotted, and more freely watered.

POINSETTIAS, done blooming, should be sparingly watered.

CISSUS DISCOLOR should now be shaken out of the old soil, and potted in fresh compost.

ORANGE TREES should be kept cool, and moderately watered.

MONTHLY CARNATIONS should be propagated for next winter blooming.

BOUVEDIAS should be propagated now, if more stock is wanted.

SEEDS of various kinds may be sown now, such as Stocks, Petunias, Verbenas, &c.

GLADIOLUS, for very early flowering, may be potted now.

G A R D E N W A L K S .

THE real comfort of every country or villa residence, is enhanced or decreased, just in proportion as its surrounding walks are good or bad—soft or hard—wet or dry—broad or narrow—properly curved, or flat. Just as these are one or the other, are they pleasant or uncomfortable, rendering every morning, noonday or evening walk, at all seasons, a source of delight, or one of discontent.

We know of many places, well laid out,—judiciously planted—and generally satisfactory except the roads and walks. These, either from their curves, or width, or want of firmness, or all these combined, destroying the general effect of what would otherwise be agreeable and satisfactory, and quite neutralizing that harmony and finish which should characterize every residence, large or small. Often they are too broad for the size of the grounds; and, again, they are too narrow; either departure from the proper width being highly objectionable. These, however, are more matters of taste than of their mechanical construction, and though to be considered of great importance in the laying out of a new place, do not interfere with their construction, which may at any time be thoroughly made, without changing their course, or removing plantations of valuable trees.

In our severe climate, where the frost often penetrates the ground to the depth of two or three feet, it is more difficult to keep the roads and walks in good order, than in a milder one, where there is but little frost. Still, even with frost and snow, and ice, of four to six months' duration, when due care is exercised in their construction they may be made far better than we usually see them. Drainage is the essential element of success.

The fault is, that country residents of one class consider the expense of good walks too great; another class content themselves with simply covering them with gravel; another class do not spare expense, but fail in their construction; and

a fourth class expending too much upon the erection of a modern palace, have nothing left for the grounds and its surroundings. The result is, that each lose many of the comforts and advantages which render a country home so desirable, and eagerly sought after.

It is a subject to which we have several times intended to invite attention, but which has been too long delayed. We now make amends by supplying some valuable hints on the construction of roads and walks, from the *Gardeners' Chronicle*. Perhaps they are as good, or better than our own advice; at any rate we present them to our readers, believing they will find them valuable, and lead to more attention in such important appendages to every suburban residence. At another time we shall add some hints of our own:—

A carriage-drive may be from ten feet to fifteen feet wide, according to its length and position. If short, and the estate circumscribed, ten feet will be sufficient; if large, and there is much traffic, fifteen feet will not be too much. If the situation is tolerably dry, the earth should be taken out to a depth of fifteen inches at the sides, rounding up in the centre to twelve inches. The road should have a four-inch drain on one side, and gratings should be placed at about fifty feet apart, to take away the surface water. Under these gratings should be made bricked holes or lodges, which should be carried down one foot lower than the drain-pipe, for the purpose of receiving the sediment (which should be occasionally removed,) while allowing the water to pass off by the drain. Rough stones may now be placed over the whole surface of the drive ten inches thick, and over this two inches of stone broken small, three inches of good binding gravel being placed on the surface and well rolled down until it becomes solid. The depth of material will thus be fifteen inches over the whole surface, and the road will be three inches higher in the centre than at the sides, which will admit of the water passing off freely and will thus keep it always dry. Gratings will be required on both sides of the road, but on one side the pipes may be taken across to the drain on the opposite side. Should the locality be very wet, the road may be made upon

the surface of the ground, the same thickness of material being used, and the same shape adopted as before described. In this case the sides should be soiled and turfed up to the height of the drive. This makes a dry road, and in many places is not objectionable.

Garden walks should always be convex ; but not to such an extent as to make them unpleasant to walk upon. Two inches rise in the centre will be sufficient for a walk of four feet width, the surface of which should be half an inch below the verge at the side, and one and a half inch above it at the centre. If the walk be six or eight feet wide, three inches will be quite sufficient rise in the case of straight walks, while those that are curved may be a trifle more, if in very damp situations. Garden walks should be drained as recommended for carriage drives, but the drain-pipes may be smaller, and the gratings more or less frequent, as the walk may be narrow or broad.

We have seen excellent walks in our public parks and elsewhere, made with a layer of brick-rubbish about nine inches thick, broken fine at the top and covered with shell gravel. This material when rolled down, becomes very solid, and makes a good dry walk, from the fact of its being all drainage underneath. This is a good method in all places, but is especially recommendable where gravel cannot be readily obtained.

No plan, however, can be better for making the walks than that described for carriage roads, provided stone and gravel are obtainable. The depth of nine inches, instead of fifteen, will be sufficient for these, viz., six inches of stones and three inches of good binding gravel, well rolled down until it is firmly set.

When there is a quantity of sand in the gravel, and consequently it is deficient in binding properties, it is advisable to mix with it about one-fifth part of loam of the same color. The drier the loam is when mixed the better. This, after repeated rollings, will become very hard, and will make one of the very best and driest of walks. A thin coating of shell gravel will add neatness and finish, and make it very pleasant at all times to walk upon.

Where materials for making walks such as those above described are only obtainable at a high price, resort has been had to cement concrete, and asphalte walks as a substitute. To make the former the earth should be taken out six inches deep at the sides and four inches in the centre, and the bottom should be made very firm with any rough material—stones, brickbats, clinkers, or such-like, broken tolerably small; with these mix one-sixth part of fresh lime, and fill in to the depth of four and one half inches. For the remainder mix one part of good Portland cement to six parts of finely broken stones, and lay this over the surface to the thickness of an inch and a half. This will make a good solid walk, and will be free from weeds. Drains must be provided to carry off the surface water in all cases. The following is a plan recommended by the late Mr. Beaton for making concrete walks, and which is said to answer the purpose perfectly. A layer of stones, brickbats, clinkers, or similar rough materials, six inches deep, is first put in to form a dry bottom; then a layer of chalk or lime, in the proportion of one to ten of the stones, this being well rolled and watered, to the thickness of three inches, with a rise of two inches in the centre; over this half an inch of gravel and lime, or fine chalk, to be watered and well rolled, and finally a thin sprinkling of the best colored gravel, again rolled until quite solid. The walk should be two inches wider than necessary on each side, to check turf or weeds from encroaching, and to prevent rain water from getting to the foundation.

Asphalte walks, as they are called—at least those of a cheap character, for the genuine material is more costly—can be made by adding coal-tar to gravel, or pebbles, or stones broken small. The quantity of tar should be just sufficient to make the hard material adhere, and if the tar is heated before mixing, it will become more solid than if mixed cold. The bottom should be prepared as recommended for cement, and one inch thickness of asphalte will be sufficient for the surface, which should be well rolled down immediately. A walk made after this manner will be quite free from weeds, but the color will be very dark and heavy and no surface mixture will permanently prevent this. The disagreeable smell arising from

the coal-tar, especially in hot weather, is perhaps the greatest objection to their use, and is especially noticeable if there is any excess of tar.

We remember some few years since when at Brighton seeing some men employed on the Marine Parade, making that popular promenade. The materials used were pebbles from the beach, mixed with roughly-pounded chalk, such as was carted out from the foundations of the houses. These ingredients were made up like mortar, and laid on about six inches in thickness, and, judging from the finished portions, some of which had been used for a long time, the result was all that could be desired. As it often happens that where chalk is found in abundance, there is a great scarcity of gravel, this method of using it as a substitute might sometimes be turned to great advantage.

Shell gravel, which makes a very neat finish, may be used to surface all kinds of concrete walks, and if renewed occasionally will to a great extent counteract the hardness of surface which is one of the most objectionable features in walks of this kind.

OUR EVERGREEN TREES AND THEIR CULTIVATION.

BY HON. R. S. FIELD, PRINCETON, N. J.

SOME time ago, you expressed a wish that I should give you for publication, the results of my experience in the cultivation of evergreens. You have a right to make this call upon me; for I have been for many years a diligent reader of your Magazine, and am greatly indebted to the valuable information I have gleaned from its pages for whatever success I may have met with.

Living in the country all the year round, I have long felt how important it was to surround myself with evergreens, both to cheer the gloom of winter, and as a protection against its bleak winds. Upwards of twenty years ago, having selected a spot upon which to build at some future day, I commenced planting. Upon the northwest side of where the

house was to stand, I planted a number of White pines and Norway spruces. These are now fifty feet in height, and are not only highly ornamental, but, as a screen against the fierce winds that blow from that quarter, they are absolutely invaluable. So, on the northwest side of what was designed for the fruit and vegetable gardens, I planted, at a somewhat later day, a row of White pines, and branching as they do from the ground, they are now a verdant wall of forty feet in height, and as beautiful as they are useful.

I began, of course, with the old and well-known varieties of evergreens. They were few in number, but they were perfectly hardy, and in every way adapted to our climate; and upon the whole, I doubt whether they are surpassed in value by any that have been since introduced. I have, like others, been carried away for a time by new varieties, heralded, as they always are, in such sounding terms, and described in such glowing colors; and yet, if I were now called upon to name the four best evergreen trees for general cultivation, I would, without hesitation, say, they were the White pine, the Norway spruce, the European Silver fir, and the White spruce. If I were confined to four, I should certainly select these. So among the new and numberless varieties of the arbor vitæ, introduced of late years, I know of none which, taking everything into consideration, is superior to our old American arbor vitæ. There is none more beautiful as a standard, and for the purpose of a hedge, there is none to compare with it. In England it is now superseding everything else as an ornamental hedge plant. But in saying this, I am far from wishing to discourage the cultivation of new evergreens. On the contrary, I have been for years zealously engaged in procuring every new and hardy variety that I could hear of, and many of them I value very highly. But while I wish the new to be tried, I am not willing that the old should be laid aside.

One of the greatest mistakes I made in the beginning, was in planting the American Silver fir, instead of the European. But I did not then know the immense superiority of the latter. The American, it is true, is extremely beautiful when young; but it is not a long-lived tree, does not improve with age, and soon shows signs of decay. It is always a stiff, and

never a stately tree. The European, on the other hand, is one of the noblest of evergreens, increasing in vigor and luxuriance the older it grows, and when it attains to the height of sixty or seventy feet, becoming a truly majestic tree. The White pine and the Norway spruce, are the only ones that will compare with it. I have planted it somewhat extensively of late, but I have only one large specimen, and that is little more than thirty feet high. The Hemlock spruce is another of those trees, which, as Michaux long ago observed, has an elegant appearance while less than thirty feet high, owing to the symmetrical arrangement of its branches, and its tufted foliage, but which, as it grows older, is always found in a mutilated state, its larger limbs broken off a few feet from the trunk, and presenting, while in full vigor, an image of decrepitude. Were it not for this, it might be placed almost at the head of evergreens. It is, however, the only evergreen tree to be planted in woods, harmonizing as it does in its form with deciduous trees, and not losing all its beauty when it loses some of its branches.

With regard to the distance at which evergreens should be planted from each other, nothing but long experience will teach us effectually. Some twenty years ago, I planted a row of White pines along a public road, running in front of my place. I resolved to put them so far apart that they should not approach each other, at least during my life-time. I therefore made the distance between them forty feet. They are now interlocking their branches; thus shutting out a view, which I wished in part to preserve. The conclusion, therefore, to which I have come is, that a White pine should never be planted within fifty feet of any other tree. It is because this rule is not observed, that we rarely or never see a perfect full grown specimen of this noble tree. I have never seen a single one. I have trees sixty feet high, sweeping the ground, with all their branches unbroken, and with ample room to expand on all sides. They are now striking objects. But what will they be, some twenty years hence, when they will have reached the height of a hundred feet? I am satisfied that, in this climate, there is no tree capable of producing so grand an effect as the White pine. It is a more grace-

ful tree than the Norway spruce, of a more pleasing green, grows more rapidly, and attains to a larger size. And yet, the Norway spruce is a majestic tree, and has a grandeur of its own, scarcely inferior to that of the pine. It has the advantage too of growing in poorer soils; its branches are less liable to be broken by wind and snow; and the older it grows, the more beautiful and picturesque it becomes. When young, the side branches form an acute angle with the trunk, which gives the tree a stiff and formal appearance; but as they extend in length, their weight bends them down, and causes them to assume a more horizontal and graceful position.

One of the greatest mistakes made by young planters, is in planting their trees too near together. This they very naturally do, for the purpose of producing an immediate effect. This may be all very well at first; but the difficulty is, they have not the courage and resolution to thin them out, as soon as they begin to interfere with each other. To cut down a beautiful tree, which one has planted with his own hands, and whose growth he has watched with so much solicitude, does require a painful effort; but he is amply repaid for the sacrifice by the increased beauty of those that remain. How many fine places do we see entirely spoiled by the neglect of this rule? In fact, it may almost be said, that the art of landscape gardening consists, not so much in knowing where to plant trees, as where to cut them down. "Would you not like to have the planting of that place?" said some one to Downing, in passing by grounds of great natural beauty, but where little taste had been shown in the arrangement of the trees. "I would like to have the cutting of it," was the reply.

I now propose to speak more particularly of such of my trees as are worth noticing, either on account of their being fine specimens, or new varieties. Some of them are figured, and most of them described, or alluded to, in Mr. Sargent's valuable "Supplement" to "Downing's Landscape Gardening," which was published in 1859, but they have grown a good deal since that time. I cannot mention Mr. Sargent's name in this connection without acknowledging the very great obligations I am under to him. I have derived from him

more valuable information upon the subject of evergreens, and more useful hints as to their cultivation, than from all other sources put together. He visited my place, for the first time, in 1858, in company with John Jay Smith, of Germantown, the founder, the planter, and the principal proprietor of Laurel Hill Cemetery, near Philadelphia, where there is a larger and a finer collection of evergreens than is to be found in any Cemetery in the United States. Both these gentlemen manifested much interest in my trees, and expressed great surprise at the vigor and rapidity of their growth. In fact, I had not been aware until then, that I had anything in my collection at all remarkable. What seemed to strike Mr. Sargent the most were the Cedars of Lebanon, the *Abies Smithiana*, and a *Juniperus squamata*. Being about to visit Boston, shortly afterwards, he gave me a letter of introduction to Mr. Hunnewell, whose beautiful place I was desirous of seeing. It ran somewhat in this way: "Permit me to introduce to you Mr. R. S. Field, of Princeton, New Jersey, who has a Cedar of Lebanon thirty-eight feet high, Himalaya spruces with cones on them, and a *Juniperus squamata* which takes your breath away." I need not say that such a letter ensured me a most hospitable reception from Mr. Hunnewell, who, as your readers are aware, is a most ardent lover, and a most successful cultivator of evergreens. But to proceed with my list:—

CEDAR OF LEBANON. My largest specimen is now upwards of forty feet high, and has borne cones for several years. It suffers, however, more or less from the cold every winter. It is too tender for our climate, and never can become here what it is in England and France. It is besides very slow in its growth, and cannot be recommended for general cultivation. There are, however, interesting associations connected with it, which will always make it a tree to be desired.

PINUS EXCELSA. My best specimen is twenty feet high, and seventy-eight in circumference, sweeping the ground with its branches. Its graceful habit, and long, soft, drooping foliage, certainly make it the most beautiful of all pines, and it seems to be perfectly hardy. But it sometimes suffers from the sun in summer, is apt to become ruptured in its leading

shoots, and there is considerable doubt whether it is altogether adapted to our climate.

CRYPTOMERIA JAPONICA. This "exquisite tree," as Mr. Sargent terms it, which has been called the "Queen of evergreens," is also a very uncertain tree in this latitude. I have had a good many under cultivation, but have only one really fine specimen. It is eighteen feet high, and sixty in circumference, and is a very unique, as well as a very beautiful and striking object. It formerly suffered a good deal from the cold, and repeatedly lost its leading shoot; but for the last two winters it has escaped without injury.

ABIES SMITHIANA. I have three specimens of this Indian spruce. I procured them under distinct names, and supposed them to be different varieties. One was called the *A. Smithiana*, another the *A. Morinda*, and the third *A. Khutrow*. But they are all the same tree, these different names being but the synonymes of each other. Upon the whole, I have been successful with them, although they have occasionally suffered from the cold, and have not made a very rapid growth. They are from ten to eleven feet high. They have borne cones, and it is an interesting fact, that these cones were at first erect, and afterwards became pendulous, thus accounting for that confusion in the description of this species, which is mentioned by Mr. Loudon, some authorities representing it as an *Abies*, and others as a *Picea*.

JUNIPERUS SQUAMATA. This, Mr. Sargent says, is one of the most extraordinary and striking objects he ever saw among evergreens. It was twenty-nine feet in circumference, when he described it in 1858. It is now fifty-three feet, the leading shoot being about five feet high, and then descending at an acute angle to the ground, and the lower branches radiating from it. It is from the Himalaya Mountains, and perfectly hardy.

THUJA PENDULA. I have two fine specimens of this curious and beautiful weeping arbor vitæ. One of them is eleven feet high and very perfect. It is a native of China, and quite hardy here.

CUNNINGHAMIA SINENSIS. Of this tree, which is also a native of China, I have two very good specimens. One of them

is eleven feet high. I have been in the habit of putting straw around them in the winter, but I mean this year to leave them unprotected. They are, however, in a sheltered situation.

JUNIPERUS COMMUNIS. I have one specimen of this juniper which is quite remarkable. It is eighteen feet high, and fifty-seven in circumference, by far the largest I have ever seen. It has generally a loose and straggling habit, and soon becomes very unsightly; but by putting wires around it, I have succeeded in making it a compact and beautiful bush.

JUNIPERUS PROSTRATA. This prostrate or creeping juniper never rises more than two feet in height, but if allowed room to expand on all sides, will in time cover a large space of ground. On a lawn, it may be made very effective, resembling an immense evergreen bed. I have two specimens noticed by Mr. Sargent; but they have grown very much since, one of them being now upwards of one hundred feet in circumference.

JUNIPERUS PENDULA. This weeping juniper merits all that has been said in its favor. It is very attractive; graceful in its form, of a soft and delicate foliage, and as pendulous as a willow. It is quite hardy here. My best specimen is ten feet high and very perfect.

HOLLY. I have never been able to do anything with the English hollies. I have tried the *Ilex laurifolia*, and the *Ilex scottica*, both of which are represented as being hardy, as well as several other varieties, but I have not been successful. We have, however, a very good substitute for them in our American holly, which is capable of being made one of the most ornamental of all evergreen shrubs. I have one specimen fifteen feet high and sixty-six in circumference. It is a dense compact bush, with its branches resting upon the ground; and profusely covered as it now is, with its bright red berries, it presents a dazzling spectacle. It is a perfect gem, and I prize it very highly.

PINUS AUSTRALIS. This Southern pine proves quite hardy here. I have one specimen fifteen feet high. It is a beautiful tree when young, its bright green leaves being nearly a foot in length.

TAXUS. I have several varieties of the yew, such as *baccata* or common English, *fructu-flava* the yellow-berried, *elegans* the golden, *erecta* the erect, *ericoides* the heath-like, *hibernia* the Irish, and *adpressa*. They are all hardy here, although the Irish occasionally suffers in the winter on the side exposed to the sun. Of the Golden yew, I have a number of fine specimens, some of them seven feet high. They are beautiful objects in the summer, after the new growth has been made. I have also a Golden yew, and an *adpressa*, grafted standard high on the Common Green yew, one of which is eight, and the other nine feet high. All these were imported in 1861, from the Nursery of Messrs. Waterer and Godfrey, in England, from whom I have obtained most of my new evergreens.

PICEA. Of the Silver fir, I have the following varieties, in addition to the American and the European of which I have spoken, viz.: *amabilis*, *cephalonica*, *Frazèrii*, *Hudsonia*, *nobilis*, *Nordmanni*, *grandis*, *pichta*, *pindrow*, and *pinsapo*. They are all hardy, but the *cephalonica* and the *Nordmanniana* are perhaps the finest and most reliable of the new Silver firs. I have specimens of them from ten to twelve feet high. The *pinsapo*, which is a Spanish fir, is a very distinct and beautiful variety, a little more tender than the others, but standing the winters here.

ABIES. Of the Spruce firs, next to the Norway, the very finest is, I think, our native White. I have a number of very good specimens. Of the new varieties, I have *Menzièsii*, *orientalis*, *Smithiana*, *Douglàsii*, *Parsonsiàna*, *cónica* and *inverta*. I have already alluded to the *Smithiana*. The rest are all perfectly hardy here. The *Menzièsii* resembles very much our native White. My largest *Douglàsii* is fourteen feet high.

THUIOPSIS BOREALIS. Three of the greatest acquisitions to our list of hardy evergreens, that have been made of late years, are the *Thuiopsis borealis*, the *Cuprèssus Lawsoniana* and the *Thuja gigantea*. At the head of these I would place the *Thuiopsis borealis*, or Nootka Sound cypress, as it is perhaps more properly called. Until the introduction of this and the *C. Lawsoniana*, we had not a single hardy evergreen

cypress, now we have two noble ones. My best *Thuiopsis borealis* is ten feet high, and thirty-two in circumference, and has a most vigorous and luxuriant growth. Of the *Cuprèssus Lawsoniana*, I have a number of fine specimens, the largest of which is thirteen feet high.

THUJA GIGANTEA. This is indeed, as Mr. Sargent says, the noblest addition ever made to the genus *Thuja*. When he wrote his Supplement, however, it was not known whether it would be hardy. It has proved to be entirely so. I have several specimens from eight to ten feet high, and very beautiful.

PINES. I have had more than twenty varieties of the pine under cultivation, all of which have proved hardy; but with the exception of the White pine and the *Pinus excèlsa*, of which I have already spoken, very few of them are of much value as ornamental trees. The *Pinus Cembra* forms rather a pretty and compact tree, but it is very slow in its growth; and the *Pinus Fremontiana* is curious and beautiful, but it never exceeds twenty feet in height. I have one very good specimen about five feet high. But what shall I say of the long-leaved California pines, such as *Beardsleyi*, *Benthamiana*, *Lambertiana*, *ponderosa*, *Sabiniàna* and *macrocarpa*, which have been described as the grandest of all pines, and which attain to such gigantic size in their native habitats. I can only say, that I have tried them all, and while they are perfectly hardy, yet I am forced to the conclusion, that for some reason or other, they are not adapted to our climate, and are not worth cultivating. There is not one among them to compare with our White pine. Their foliage is for the most part coarse and sparse, they have a thin and naked look, and they soon lose their lower branches.

WASHINGTONIA GIGANTEA. What I have said of the long-leaved pines of California, is also applicable to this mammoth tree, which the English nurserymen persist in calling *Washingtonia*. At first it promised well. It was hardy, grew very rapidly, and the size of the trunk indicated the enormous size it was destined to attain. But it has disappointed the hopes that were formed of it, and I am satisfied we can do nothing with it. I have had several very fine specimens, but

one after another they have lost their lower limbs, and have become so unsightly, that I have been obliged to cut them down. It is not so much the cold of our winters, as the heat of our summers, that seems to affect them.

CEDRUS DEODARA. I have had some beautiful specimens of the Deodar cedar, one of which Mr. Sargent alludes to, and which was ten feet high and thirty-three in circumference in 1858. But I have lost it, as well as many other fine specimens, and I am constrained to admit, with Mr. Sargent, that it is not to be depended upon. I do not understand it. It will sometimes survive a cold winter and be killed by a mild one.

GOLDEN ARBOR VITÆ. I have a number of very fine specimens of this beautiful little shrub, the largest of which is more than six feet in height, and twenty-two in circumference. It is perfectly hardy here, but where it will not stand our winters, a very good substitute for it will be found in Hovey's arbor vitæ, which resembles the *aúrea* in its habit, and is nearly as bright in its color. Of this variety, I have also a number of good specimens.

CEPHALOTAXUS. Of this cluster-flowered yew, I have the *Fortùni*, male and female, the *drupàcea*, and the *pedunculàta*. They are all beautiful shrubs, and more hardy than the yew. Of the *drupàcea*, I have some fine plants, imported in 1859. They are now five feet high. There is some confusion in the names of these different varieties of the *Cephalotaxus*. Thus, what is called the male plant of the *Fortùni* has fruited with me, while the female has not. Nor am I able to perceive the slightest difference between the *Cephalotaxus drupàcea*, and the *Podocárpus japonica*. They were imported at the same time, are growing side by side, and it is impossible to distinguish them from each other. But by whatever names they may be called, they are all interesting, and a most valuable acquisition to our stock of hardy evergreen shrubs.

Of the **DWARF ABIES**, I have the following varieties: *Clanbraziliàna*, *élegans*, *compàcta*, *pyramidàlis* and *stricta*. They are all perfectly hardy, never grow more than a few feet high, and when grouped with the dwarf pine, the dwarf hemlock,

and the dwarf Scotch fir, they form a most interesting collection.

ARBOR VITÆ. The two most valuable varieties of the arbor vitæ, are the American and the Siberian, as the nurserymen call it, but which Mr. Sargent supposes to be the *Warreana*, or its synonyme, *plicata*. Of the American I have a number of fine standard trees, from twenty-five to thirty feet high. But its chief value is as an ornamental hedge plant. For this purpose it is greatly superior to all other evergreens. It will flourish under the shade and drip of other trees, where no other plant would grow. I have hedges of it, from eleven to twelve feet high, densely clothed with branches to the very ground. The Siberian is slower in its growth than the American, and does not attain to so large a size, but it is more dense and compact, and, standing alone, forms a more beautiful shrub. As a hedge plant too, it may prove to be equally valuable. I have a very large number of specimens, from ten to eleven feet high, and upwards of thirty feet in circumference. I have a beautiful hedge of the Chinese arbor vitæ, eight feet high, but it is in a very protected situation.

TORREYA. I have two varieties of this interesting plant, named after our distinguished American botanist, Dr. Torrey; the *taxifolia* and the *myristica*. They are both hardy here, although the former requires a slight protection while young. I have two good specimens of it, which have been exposed for two winters without injury.

One of the most beautiful trees I have in my collection, is a Weeping larch, which, although not an evergreen, yet belongs to the same family. It is eight feet high, and sixty in circumference.

Among the newer evergreens, I may mention the *Sciadopytis verticillata*, and the *Thuiopsis dolabrata* and *variegata*. They are all hardy here, and promise well.

I had intended to say something of the *Rhododendron*, that most magnificent of all flowering shrubs, to which I have of late years given considerable attention. But I have already occupied too much of your space. I may possibly make it the subject of another communication.

Princeton, N. J., December 27, 1866.

[It is unnecessary for us to comment upon this valuable paper; the most complete of the kind, and the most reliable of any that has been published respecting the hardiness and adaptability of the several species to our climate. So complete a *resumé* will only induce lovers of fine trees and shrubs to await anxiously the appearance of a similar paper from Mr. Field, giving his experience with the rhododendron.—ED.]

QUINCE-ROOTED PEAR TREES.

BY DR. J. S. HOUGHTON, PHILADELPHIA.

MANY cultivators of the pear will not have a dwarf, or quince-rooted tree, on their grounds. I do not belong to that class. I think it will generally be found that the persons most prejudiced against dwarf trees, have had a comparatively limited experience in planting, and do not give much personal attention to the matter. Some of the causes of failure, in planting and fruiting dwarf trees, are as follows: 1. Unsuitedness of the variety to the stock. 2. Too shallow planting, and its opposite, too deep planting. 3. A dry, loose, sandy soil, instead of a moist, compact, heavy soil. 4. Raising vegetables and other crops among the trees. 5. Planting in sod, or sowing down to grass. 6. Neglect to destroy scale and other insects. 7. Errors in pruning, i. e., growing too much wood for the roots. 8. Over-manuring. 9. Over-cropping. 10. Double-working, or grafting with unsuitable scions.

Of these causes of injury to dwarf pear trees, I propose to notice, at the present time, chiefly, the want of adaptation of the variety to the quince stock, and the effect of double-working or grafting with unsuitable scions.

It is a well known fact that some varieties of the pear cannot be successfully grown upon the quince stock, but the precise number of such varieties, and the reasons why they do not thrive upon quince roots, in each individual case, are not so well known.

The first class of trees which I will notice, as unsuitable to

the quince stock, I may call the *Onondaga* class. In this class may be named the Sheldon, Pratt, Beurre Bosc, Dix, Merriam, Buffum, Kingsessing, &c. These may be styled robust, strong-wooded, but rather close-grained trees. To fruit them successfully and profitably, you should have large trees, too large for the capacity of the quince roots. Then the union of the pear and quince, in those trees, is not so firm as in many others. They seem intended, by nature, to form large standard trees. The *instinct* of the experienced cultivator tells him they are unsuited to the quince stock, without reasoning about it, and all the trials which have been made confirm this natural impression. The only one of the number named, what is now occasionally grown on the quince stock, is the Kingsessing, and that variety, I think, is to say the least more successful on the pear stock.

The next class of pear trees, unsuited to the quince, which I will name, is the *Bartlett* class, including such trees as the Beurre Clairgeau, the Howell, Flemish Beauty, Belle Lucrative, Easter Beurre, Jaminette, Beurre d'Amanlis, &c. These I would characterize as pre-eminently large-wooded, soft-wooded, porous in grain, strong, luxuriant, succulent,—quite the reverse of the close-grained, fine, tough-wooded nature of the quince. These trees invariably over-grow the quince stock. They require a large amount of sap, which the small quince roots are unable to furnish. Their large, abundant foliage, I think, must absorb a good deal of moisture and nutriment from the atmosphere for they send down a flow of sap to the roots, which, being checked in its course, by the imperfect union of the strong growing pear and the firm grained quince, forms unsightly protuberances at the point of union, and positively prevents the natural growth of the roots,—the roots being, no doubt, in other trees naturally fed by the vitalized sap returned from the leaves.

In this last class of trees, the effect of the imperfect union of the pear and quince is very similar to the process called “ringing” on branches, only it extends to the whole tree, instead of a branch. The tree may appear to be very luxuriant. It may grow finely. It may produce one crop of splendid fruit, or even several crops. But its life will be short.

It will soon get an attack of chlorosis, its foliage turning yellow, or it may die suddenly from positive root exhaustion.

The Duchesse d'Angouleme belongs naturally to this last class of large, soft, porous-wooded trees ; but it thrives longer than almost any other of its kind on the quince stock. I have seen the point of union, however, between the Duchesse and the quince, very much over-grown by the pear, and knotted with huge masses, of a corky texture, looking like immense nut-galls. These corky excrescences I have cut, with a large chisel, vertically, in the direction of the flow of sap, with some advantage, helping, I suppose, the return of sap to the roots.

Another class of pear trees unsuited to the quince stock, are those which naturally incline to root freely from the pear wood. That many quince rooted pear trees do send out roots, very readily, from the pear wood, when planted two or three inches below the budded point, I will not stop to argue. I know that there are many persons who deny the fact. All I have to say is, that if such persons plant and transplant dwarf pear trees, largely, for some years, they will soon obtain sufficient evidence to convince them that they are now in error.

The dwarf variety which I have found to root most freely from the pear wood, is the *Vicar of Winkfield*. I have known hundreds of these trees to throw out large pear roots, and entirely to discard the quince roots, in five or six years, or less, leaving nothing where the quince roots were but a mass of decaying wood's mould. I may also name, among those which readily throw out roots from the pear wood, the *Doyenne d'Ete*. The Duchesse d'Angouleme does occasionally, but not so freely. So does the *Beurre d'Anjou*.

Now I regard it as an evil for a dwarf tree to change its nature, or habit of root-growth. If I plant a dwarf tree, because I think it preferable to a standard, I wish it to continue to be a dwarf tree, and do not like to see it assume the strong habit of the standard. Root-pruning, I know, will check its growth, but I do not like the labor of root-pruning, on a large scale, and I do not like the effect of root-pruning in our hot arid Middle States.

One more class of trees, generally thought to be unsuited to

the quince stock, is the *Seckel* class; that is, the close-wooded, fine grained, slow growing varieties, generally bearing small slender straggling wood. Of this kind, we may name the Winter Nelis, the Washington, Lawrence, Doyenne d'Alençon, Josephine de Malines, Beurre Giffard, &c. I am inclined to think there has been some mistake about the want of adaptation of the Seckel class of trees to the quince stock. I am not sure that the Seckel will continue to thrive, for a long series of years on the quince stock, but if properly treated, (that is, if planted in the right soil, and properly cultivated and fertilized) I am inclined to think it will. I have seen the finest specimens of the Seckel ever produced, on quince rooted trees. The Winter Nelis, and other varieties above-named, I believe may be grown successfully, for many years on the quince stock, except the Washington, and that variety can scarcely be grown successfully even on the pear stock.

The second part of my present subject, is the injury done to dwarf trees by unsuitable grafts, or scions. My idea is, that a strong growing tree, on the quince stock, should not be grafted with fine grained close textured scions; for instance, dwarf Vicar of Winkfield, should not be grafted with Seckel, Winter Nelis, or any wood of that kind. Why? Because, the grafts will not make a good union with the branches, and will not freely consume the sap sent up to them. Again, quince rooted Seckels and Winter Nelis, should not be grafted with wood like that of the Beurre Clairgeau and Bartlett. In both cases the trees suffer great injury, and generally die. I have seen five hundred Vicar of Winkfield die after being grafted with Winter Nelis.

The question will now rise in the mind of the reader, if the kinds of trees which have been named are in a greater or less degree unsuited to the quince root, what pear trees are suited to it?

I will reply to this question by relating an anecdote. About the year 1780, there occurred a very mysterious dark day, on which the sun was for some reason unknown to astronomers unexpectedly obscured, creating much astonishment and even alarm among the people. In the city of Boston, at that time, lived one Dr. Matthew Byles, a celebrated philosopher and

wit. An old lady, much frightened by the sudden darkness of the day, sent her little daughter over to Dr. Byles to inquire what was the cause of the mysterious gloom. "Tell your mother," said the philosopher, with a merry twinkle of his eye, "that I am just as much in the dark as she is."

THE APPLE CROP OF THE WEST.

BY DR. J. P. KIRTLAND, CLEVELAND, O.

THE crop of apples, in Northern Ohio, the last season, was only medium, in quantity, but in quality superior to any which has been produced in a number of years. A gradual deterioration has long been observed. Attacks from curculio, and codling-moths, fungus incrustations, diminished size, defective form and flavor and a tendency to premature decay, had annually increased, and up to the last season had rendered several of the best varieties of this fruit unworthy of further cultivation. A wonderful change then occurred. The crop reverted back to the condition of early days.

This change, though a matter of common observation and remark, seems not to be generally understood so far as its causes were concerned. It was effected, evidently by two agents.

1st. During the month of June of last summer a succession of showers fell, in quantity sufficient to keep the earth in a moist condition, which is essential, during that month, for a full development of the autumn and winter varieties of that fruit. The reverse of this happens three years out of four, along the south shore of Lake Erie. A drouth more frequently prevails during that month, and as a consequence, our later-ripening apples are impaired.

2d. On the 4th day of last June a cold, severe and protracted rain storm swept over northern Ohio and killed great numbers of recently shorn sheep as well as poultry and other animals. At that time the curculio and codling-moth were developed into their perfect state of insect-metamorphosis,

preparatory to their attacks on the young apples. Such numbers perished from the cold and violence of the storm that the apples generally escaped injury. Sufficient numbers of these pests survived to insure their future increase and propagation.

Coincident with that storm, a blight attacked extensively the ends of the branches of our apple-trees, and apparently diminished one half the quantity of fruit.

This is the first season I have seen the Winter Sweet Paradise apple of Downing in its highest perfection. It certainly ranks among the first as a table fruit, at least with those who relish a tender and fragrant sweet apple.

The blight swept, universally, over this region of country last season, with greater than usual malignancy, destroying not only most of the pear trees, but also involving and impairing quince, mountain ash, Scotch medlar and apple trees. It continued its attacks even till the approach of autumn, and was so common and destructive as to discourage all attempts at its counteraction. The cause, whatever it may be, (a fungus?) seemed to pervade the atmosphere.

POMOLOGICAL GOSSIP.

NEW GRAPES.—The gossip about grapes intended for our last number was unavoidably crowded out, we present it here.

DETROIT.—A new variety, first brought to notice in October last, when specimens were shown at Cleveland by Mr. T. R. Chace, who states that the vine was found in his garden in Detroit, Michigan, six or eight years since, and believed to be a seedling. The vine is hardy, vigorous, with foliage like Catawba; grapes in size between the Catawba and Delaware; bunches large, very compact; berries round, very dark, rich brown, with thick light bloom; flesh with very little pulp. Ripens with the Delaware. The description corresponds exactly with the Diana, and we should wish to know more about it, before pronouncing it a new variety.

LONGWORTH.—This and the succeeding varieties were brought

prominently before grape growers at the meeting of the Ohio Pomological Society, December 6, held at Zanesville, Ohio. Dr. Warder stated that it was a delightful fruit, and healthy and productive vine, found in the garden of the late N. Longworth, in Cincinnati. It was marked by him No. 20, and was a great favorite with him. It is of the same class as the Herbemont, but earlier. Bunches large and shouldered; berries rather small, round, black; very fragrant and refreshing for the table, and promises to make a superior wine.

LYMAN.—Found also at Mr. Longworth's. The vine is remarkably thrifty and healthy, with no signs of mildew. It is very productive, bearing handsome large bunches, sometimes shouldered; berries medium size, round, dark blue or black, and full of sweet juice. Promises to be one of the best new grapes.

SARATOGA.—Exhibited at the Cleveland Show. Mr. Campbell said he had been informed that some persons had asserted that it was only the Catawba, but he was convinced they were mistaken. A vine growing on his own ground differed essentially from the Catawba.

IVES'S SEEDLING AND RIATZ.—Dr. Warder spoke of the popularity and value of them as *wine grapes* in the vicinity of Cincinnati, since the failure of the Catawba, in that region. The Ives's Seedling especially is claimed to make a better wine than the Catawba, and is more productive, besides being exempt from disease.

MARTHA AND BLACK HAWK.—Two seedlings, originated by Mr. Miller, of Lebanon, Pa. Mr. Knox said he believed these two grapes were destined to become quite popular, when sufficiently known. The Martha bears the same relation to white grapes that the Concord does to black ones. Both are very sweet and good, and the vines, like the parent are remarkably vigorous, hardy and healthy,—just such as are wanted in our variable climate.

WALTER GRAPE.—This new grape was noticed by us in our volume for 1865 (XXXI. p. 120) as a new seedling. It has since been named the Walter, and was exhibited under this name at the State Fair at Saratoga, N. Y., in September last. Messrs. Caywood & Ferris, the originators, stated that it was

a cross of the Diana and Delaware, raised from the seed of the latter. It presented strongly the characteristics of the Diana, and so much like it, that it is said to require a nice taste to distinguish the one from the other. Its great value consists in the hardiness and better habit of the vine, and its uniformity of ripening, as well as its much less liability to mildew or rot. It deserves trial.

NICOTIANA MACROPHYLLA GIGANTEA.

BY THE EDITOR.

THE Parisian gardens are famous for their arrangement of showy plants, whose sole beauty depends upon the masses of gigantic foliage rather than upon their flowers, though occasionally upon the two combined. In a Catalogue General of the plants cultivated, there are upwards of ninety species named and described, among which are the Wigandia, Boccognias and Cannas, in variety, which we have already noticed or figured.

We, as yet, in our fine summer climate, know but little of the many plants suitable for summer decoration of the garden; there are a large number heretofore considered quite too tender for this object, and have consequently been coddled in hot-houses, summer as well as winter, where, grown in pots and their roots confined to the limited space, have shown little or none of their real beauty.

We again assert that we have not begun to appreciate the value of many familiar plants, or to estimate the usefulness of others not yet introduced, but which are well known in foreign collections. The task remains for our zealous amateurs, and gentlemen of taste, to develop the love of ornamental foliaged plants, as indispensable adjuncts to every summer garden. Of this class is the *Nicotiana macrophylla gigantea* (FIG. 2,) one of the species of tobacco, but so gigantic in foliage, and showy with its large purple flowers, that it must form a prominent feature of the lawn and pleasure ground. Its rapidity of growth is only equalled by the showiness of a well cultivated specimen; our experience with it the last season

is but the result of many similar errors of cultivators every year. A few seeds were sown and a dozen or more plants raised in pots, as it was new; these were shifted from time to time, and grown on as pot plants, without any very satisfactory results. Accidentally two plants were turned out into the open ground; the growth was immense, and before frost the plants had attained the height of six feet, with leaves three feet long and numerous heads of large tubular showy purple blossoms.



2. NICOTIANA MACROPHYLLA GIGANTEA.

Such is the character of this *Nicotiana*, which forms a truly grand object, and associated with the *Wigandia*, and other large foliaged plants, presents a marked aspect in the garden. Planted in good season, potted off in three inch pots, and turned out into rich soil the end of May, the plants obtain the height of ten feet.

We shall soon give a full list of the most prominent plants recommended in the catalogue above referred to.

FLORICULTURAL NOTICES.

CHINESE PRIMROSES.—Great attention has been given to this beautiful winter-flowering plant, within a few years, and highly improved varieties have been the result. We recently saw at Mr. I. Buchannan's place in New York, several hundred pots of seedlings, many of them half-double, and a few quite double, of various shades of red, showing that with due care some very perfect flowers may be obtained. The whole lot were excellent.

Some new seedlings are noticed in a recent number of the *Gardeners' Chronicle*. One is called *SPLENDENS GRANDIFLORA*, a single-flowered and fringed variety; it has large flowers, of a dark magenta color, with a yellow eye, and will be a showy variety when vigorously grown. Another, remarkable for delicacy of tint, and to be called *BEAUTY*, has the flowers of a pale soft blush, with a large yellow eye, very charming in its way. A third is a double-fringed flowered sort, with blossoms of a lilac rose-color, which is distinct and desirable. This last is very similar, if not precisely like some of Mr. Buchannan's, which are a great improvement on the old double, very difficult to propagate and grow. We would direct the attention of our cultivators to this primrose, believing it susceptible of great improvement still.

PLANTS FOR WINTER AND SUMMER DECORATION.—Selection of the most beautiful and useful from the great mass of plants known to succeed, is one of the most important of the horticulturist's duties, and in no branch must he exercise eclecticism more thoroughly than in the one under discussion. Some plants used in it are as indispensable—the different kinds of *Ricinus*, *Cannas* in great variety, *Polymnia*, *Colocasia*, *Uhdea*, *Wigandia*, *Ferdinanda*, *Palms*, *Yuccas*, *Dracænas* and fine leaved plants, of coriaceous texture generally. A few specimens of these may be accommodated in many large gardens; they will embellish the houses in winter, and transferred to the open garden in summer, will lend interest to it when we are tired of the houses. Some palms, like *Seaforthia*, may be used best for the winter decoration of the

conservatory, and stood out with the best effect, and without danger in summer. The many fine kinds of *Dracænas*, *Yuccas*, *Agaves*, &c., which have been seen to some perfection at our shows of late, are eminently adapted for standing out in summer, and are, in fact, benefited by it. Among the noblest ornaments of a good conservatory are the Norfolk Island, and other tender *Araucarias*—these may be stood out for the summer, much to their advantage, because the rains will thoroughly clean and freshen them for winter storing. So with some *Cycads* and other plants of distinct habit—the very things we wish to see added to the present beauties of the flower garden. Thus we may enjoy all the benefits of what is called subtropical gardening, without creating any special arrangements for them.—(*Gard. Chron.*)

922. *COTYLEDON FASCICULARIS* *Hook.* GLAUCUS BLUE COTYLEDON. (*Crassulaceæ.*) South Africa.

A greenhouse plant; growing one and a half feet high; with yellow and crimson flowers; appearing in spring; increased by cuttings; grown in light rich soil. *Bot. Mag.*, 1866, pl. 5602.

“A beautiful plant” of the general habit of the *Crassulas*, but with tall stems, twenty inches high, terminated with clusters of pendulous flowers, of yellowish green, shaded and banded with red. It is one of the handsomest of the tribe, and well worthy of introduction. (*Bot. Mag.*, Oct.)

923. *GLYPTOSTROBUS PENDULUS* *Endl.* PENDULOUS DECIDUOUS CYPRESS. (*Coniferæ.*) China.

A half-hardy coniferous tree, with pendulous habit; increased by cuttings. *Bot. Mag.*, 1867, pl. 5603.

A half-hardy (or hardy?) tree, with cypress-like foliage, similar to the *Cupressus disticha*, of which it was considered a variety by the elder Aiton. It has pendulous spikes of male and female cones. It forms a slender tree, forty feet high, and its foliage is deciduous. Probably it is not hardy in our New England climate, though no trial has been made. It would succeed at the south, and prove a fine tree. (*Bot. Mag.*, Oct.)

924. *HELIPTERUM COTULA De Cand.* COTULA-FLOWERED EVERLASTING. (Compositæ.) West Australia.

A garden annual; growing two feet high; with white or yellow flowers; appearing in summer; increased by seeds. *Bot. Mag.*, 1856, pl. 5604.

This is another of the beautiful class of Everlastings, of dwarf, compact growth, and numerous heads of golden yellow and white flowers. Introduced from Swan River by Mr. Thompson of Ipswich, in whose collection it flowered last year. It is a fine addition to our gardens. (*Bot. Mag.*, Oct.)

925. *MUSSCHIA WOLLASTONII Lowe.* M. WOLLASTON'S MUSSCHIA. (Campanulacæ.) Madeira.

A greenhouse plant; growing two feet high; with yellow flowers; appearing in spring; increased by cuttings; grown in light rich soil. *Bot. Mag.*, 1856, pl. 5606.

"A beautiful plant," introduced a few years ago into the Kew gardens, where it has flowered annually since in the cool greenhouse. It was found in shady valleys, at an elevation of three to four thousand feet. It forms a large leaved under shrub; growing from two to six feet high, terminated by a crown of leaves, and pyramidable panicle of pale yellow flowers, one and a half to two inches long. Its appearance must be highly attractive, both on account of the color of the flowers, as well as the large growth and habit of the plant. (*Bot. Mag.*, Oct.)

926. *ELAIS GUINEANSIS L.* Guinea Palm. (Phœnicacæ.) Guinea.

A hothouse plum; growing thirty feet high. *Illustration Horticole*, 1866, pl. 487.

One of the beautiful palms, with very long spreading fronds, highly ornamental. (*Ill. Hort.*, Aug.)

927. *CAMELLIA, MADAME DOMBRAIN.*

Garden Hybrid. *Ill. Horticole*, 1866, pl. 488.

A very beautiful variety, raised by M. Van Eckaute, horticulturist of Ledeborg. The flowers are of the first size, imbricated to the centre, of a delicate soft rose, lighter towards the edges of the petals. It is a distinct variety, both in its leaves and flowers, and possesses all the good qualities requisite in a new variety. (*Ill. Hort.*, Aug.)

928. JACARANDA DIGITATIFLORA VAR. ALBA. FOXGLOVE-FLOW-
ERED JACARANDA. (Bignoniaceæ.) Bengal.

A greenhouse plant ; growing six feet high ; with white flowers ; appearing in spring ; increased by layers ; grown in rich soil. Ill. Hort., 1866, pl. 469.

A magnificent conservatory or greenhouse shrub, with large leaves, crowned with a terminal panicle of large white bell-shaped flowers, having a pale yellow throat. It was received from Rio Janeiro, by M. Verschaffelt of Gand, and is a superb species, highly ornamental and effective. (*Ill. Hort.*, Aug.)

General Notices.

WINTER-FLOWERING EPIPHYLLUMS.—It is much the fashion to seek after “good winter-flowering things,” but with all that, the finest of early winter-flowering plants are but very imperfectly known. These are the varieties of *Epiphyllum truncatum*. There is no other winter-flowering plant whatever that possesses half the useful qualities of this, and yet how rarely is it seen well grown in gardens! I have seen specimens of it four feet high and nearly as much through, and as the branchlets hung pendulously, as is their wont, and nearly hid the pot, while the top was perfectly well furnished, it needs but very slight effort to imagine what preëminently beautiful things they must have been when in flower, just before and about Christmas, according to the temperature to which they are treated. And they have been grown larger than that, and particularly well by Mr. Barnes, now of the Camberwell Nurseries, who worked his *Pereskia* stock so that the *Epiphyllum* formed a diversified pyramid. Of course they must be on the *Pereskia* or on some equally good stock, to make them worth growing; for, judging from what is usually to be observed, they make about as much growth in one year on the *Pereskia*, as they do in six on their own roots. I know of nothing more tractable and more thoroughly useful in the gardener’s hands than a batch of these exquisitely colored and profuse-flowering winter cacti. When grown to a large size and well flowered, no “stove or greenhouse plant” surpasses them in beauty or in symmetry; but the epiphyllums assume a most graceful outline without any training or trouble, and instead of going back when they arrive at “a certain age,” like the usual run of specimen plants, they go on improving from year to year with very ordinary cultivation indeed. Established plants will flourish away without potting for three or four years at a time, requiring only to be watered moderately, and if they be top-heavy from free development of branchlets, to be firmly staked—which latter is best done with a few iron

stakes, supporting a strong wire ring or two, concealed under the drooping mass of shoots. This, of course, applies to large plants.

As regards temperature, the most valuable is that of an intermediate house or warm vinery. The best plants I have ever had to do with were in a stove vinery, *i. e.*, a stove with vines overhead, and where they were of course pretty effectively shaded during the summer months. But they are not fastidious, and will flourish in any warmish house, provided they be on the *Pereskia*. They may be worked on this at any height they may be desired. When young, and as small standards on clean little slim stems, they are unsurpassed for table decoration, naturally assuming the parasol-like outline so often sought in such plants; indeed, they seem specially calculated for table decoration. It is astonishing how quickly nice plants may be grown from grafts. The other day I saw at Mr. Barnes' Nursery neat batches of symmetrical plants, from twelve to eighteen inches across, just opening into flower, that were only grafted about this day twelvemonth. They were grown on rapidly, and shifted into 32's during the first summer of their existence, and in those 32-pots they will remain for several years without requiring a shift, and be just the very things for setting off a table.

The *Poinsettia* is our great gun at this season of the year, and everybody takes some pains to have it nice, but it is quite inferior to *Epiphyllum*. By the way, it should be noticed that these last are often kept too cool, and that intermediate or stove temperature is that in which they best flourish. I would recommend that no one should be satisfied with *E. truncatum* alone, but should grow along with it the charmingly-colored varieties, *Bridgesii*, *violaceum*, *spectabile majus*, &c., and in fact any other variety that may be met with, for a diversity of color among these *Epiphyllums* very much enhances their value.—(*Gard. Chron.*)

LARGE CUCUMBERS.—Three very large cucumbers were raised by Mr. J. Hamilton of Botchuby. They measured, respectively, 33, 34, and 39 inches in length, and weighed 5 lb., 6 lb., and 7½ lb. They were the variety called *British Volunteer*, and *Invincible*. The latter took the two head prizes at the Great International Exhibition at South Kensington, in May last.—(*Gard. Chron.*)

SAXIFRAGA FORTUNEI.—So freely does this flower in October, when there are not over many things wherewith to decorate the greenhouse and conservatory, that it is a decided acquisition to the in-door department. It also flowers boldly and profusely when grown in the open air. But whether it is hardy or not I cannot say. The flowers are pretty and singular, from having one petal very much more elongated than the others, like *sarmentosæ*. It is freely cultivated in any ordinary potting soil, and grown and plunged in pots in the open air in summer will come in for a fine bloom in October, when it may be taken in-doors. It blooms at a season when but few things are to be had in flower in-doors, and nothing of its color or style.—(*Gard. Chron.*)

GLADIOLUS BOWIENSIS.—Permit me to fully endorse the remarks of “Bowiensis” as to the superiority of this variety; it seems but little known or cultivated, compared with Brenchleyensis, but for general usefulness it is much to be preferred. As “Bowiensis” remarks, you may have it in bloom up to December. We began cutting spikes from this variety—for the purpose of decorating the Loan Exhibition held here this past summer—early in July, at the rate of sixty or eighty spikes per week, besides large quantities for other purposes, and continued to do so up till the middle of November, at which time the spikes were even finer than in the summer, although not quite so bright in color, and this from bulbs, none larger than a good sized hazel nut, and the greater portion merely “spawn,” about the size of peas. This is in fact the chief merit of this variety, viz., its blooming from such small bulbs—a merit which I believe no other variety possesses. A good way of planting this variety in borders, shrubberies, &c., is to plant in clumps of say twenty, from the size of walnuts down to that of peas; all these would bloom in succession from July to November, and so the clump would always look gay, instead of, as in the case of Brenchleyensis, a bloom of a few weeks in duration. I may remark that they like plenty of manure. Our best bed, which produced magnificent spikes, was heavily manured at planting time (in February—plant early) with pig manure, trenched in; this may not suit the more delicate French varieties, but I can confidently assert that it does the variety in question.—(*Gard. Chron.*)

Gossip of the Month.

PEACH BUDS INJURED IN WESTERN NEW YORK.—The Rural New Yorker states that the thermometer fell to 20° below zero on the 21st December, in the vicinity of Rochester. The morning was clear and cold, succeeded by a bright day, and the weather rapidly softened down to a thaw. Mr. Langworthy writes that upon an examination of his trees, January 5th, he found them, almost to a solitary bud, killed by the severe cold of the 21st December, and expresses the opinion that they were mostly or all killed in that neighborhood.

In and around Boston the thermometer fell from 3° to 8° below zero only, and we have not heard of any injury to the trees thus far, and we hope no severer weather will occur, and our crop escape the injury sustained by our western cultivators of this delicious fruit.

GRAPES AND FRUITS STRUCK BY LIGHTNING.—Mr. J. F. Bennett, of Pittsburgh, Pa., says the cause of rot in the grape is in consequence of lightning; the grapes having been struck and received a blow; “this deadly stroke being the burning thereby of oxygen and hydrogen, producing steam, which, even in minute particles, is destructive of life.”

Mr. Bennett also classes the pear blight, mildew, rot in the peach, plum, &c., as attributable to the same cause, mechanical injury, from the heat of lightning.

Mr. Bennett evidently has made a discovery, as important as that of the famous Mr. Comstock, who discovered a new "principle of vegetation," but whose secret died with him, because Congress would not grant him one million dollars for it. Mr. Bennett should have made a similar claim for the discovery of his new theory; for it will soon become the property of everybody, and "copper-coated" lightning-rods in fresh demand, to protect every grape-vine and fruit-tree throughout the United States. We advise the lightning-rod makers to lay in a large stock of materials, which will soon be in great demand. Copper stocks will soon be "up."

Gorticultural Operations

FOR FEBRUARY.

FRUIT DEPARTMENT.

JANUARY has been remarkable for its storms of snow, which have been more severe than for many years, probably not since 1853. Nearly two feet fell on a level, and in many places the drifts are six feet deep. Though obstructing the streets and making travel dangerous, farmers and gardeners will be benefited by having the ground well covered. The coldest day was on the 22d, when the thermometer was 2° below zero.

GRAPE VINES, in the earliest houses, will now begin to ripen their crop, and as the weather moderates good quantities of air should be given at all favorable times. Continue to stop the laterals, but be more cautious about watering, and discontinue damping the walks when the grapes are well colored. Grape vines, in the grapery and ordinary greenhouses, will soon begin to break, and will require gentle syringings, and a genial atmosphere to obtain a vigorous growth. Tie up the vines when all the shoots appear, but be careful not to break them in the operation. A moderate temperature will answer until the shoots are well advanced. Grapes in pots, well started, may have occasional waterings with liquid manure.

ORCHARD-HOUSES should have the same care as last month.

STRAWBERRIES in pots, now showing flower, should be more liberally watered.

PRUNING may be commenced, and continued in all favorable weather.

SCIONS may be cut when the temperature is moderate, and preserved in a cool cellar, in sand or earth.

FLOWER DEPARTMENT.

As the season advances the conservatory and greenhouse become more gay and brilliant. Azaleas and camellias should be among the most

prominent, but monthly pinks, cyclamens, heaths, roses, Chinese primroses, and numerous other plants, now contribute to the display. Among those requiring more heat, the caladiums, begonias, and other fine foliaged plants will begin to be attractive, and should have a good position in the warmest part. Hyacinths, tulips, and other winter-flowering bulbs, should now begin to flower, and add to the interest and variety of every collection.

CAMELLIAS. These will now be in full flower, and require no other care than to keep them duly supplied with water, occasionally giving them liquid manure. If done flowering, and the plants require it, prune away all small and superfluous wood, cutting well back. If kept properly syringed they will break well, and make handsome plants.

AZALEAS, unless retarded by keeping them in a very cool house, will now begin to start their buds, and flower abundantly until March. As they begin to grow syringe often, and give them water at the roots. If in a sunny place shade in the middle of the day. Young stock may be repotted and grown in more heat, if large plants are an object. Prune all plants that have already flowered, cutting out all weak wood.

PELARGONIUMS, as the season advances, will be objects of more and more interest. All should be put into their flowering pots, if not already done, and greater attention given to bring them into handsome shape. They should still be kept cool, but will require rather more water. Turn the plants round every week, and air liberally, being careful not to have the shoots at all drawn up, but stocky and stiff. Young stock should be encouraged by another shift.

GLOXINIAS AND ACHIMENES should be shaken out of the old soil, repotted in fresh, light compost, and placed in a warm place, to give them a start.

JAPAN LILIES, well started, should be shifted into larger pots.

ALLAMANDAS, STEPHANOTUS, and similar plants, should now be repotted, picking out the old soil, and using rich, light compost, and plunging in a good bottom heat, or placing in the warmest part of the house. Syringe often, with warmish water.

SEEDS of many kinds of annuals for early bloom may now be planted.

ACACIAS, done flowering, should be well headed in before they begin to grow.

PROPAGATING should be done now, when there is leisure, and the season the most favorable. Put in cuttings of all kinds of bedding plants, as well as the general stock.

CINERARIAS AND CALCEOLARIAS should have a cool and airy place, near the glass, shifting any that require it into larger pots.

CYCLAMENS, as they come into bloom, should have an airy place on a dry shelf, where they will bloom in greater perfection.

ERYTHRINAS started now, in a little heat, will flower early in the summer.

THE FRUITS OF 1866.

WE have endeavored in our volume of the past year to keep our cultivators well informed upon the progress of Fruit Culture, and refer not only to that volume for valuable information upon the subject, but also to our leading article in the January number, in which will be found a brief summary of the progress of the year. It is, however, always interesting to have the opinions of leading cultivators, and particularly those whose opportunities are such as to enable them to carefully observe, and judiciously collate the various experiences of those who are engaged in the cultivation or exhibition of our finest fruits. Such opportunities are not abundant, and there are but few who have the practical knowledge to present the information thus obtained in such a manner as to be useful and valuable to all. When they do occur, it is gratifying to us to be enabled to present such views to our readers.

One of these sources of important information is the Massachusetts Horticultural Society, which through their Fruit Committee annually give a report of their proceedings, in which they not only briefly review the whole subject of Fruit Culture, but particularly name such varieties as are new or of recent introduction, with valuable comments upon their merits as amateur or market fruits, or as worthy of special or general culture.

The reliable character of such reports, coupled with what is already known regarding the fruits through our pages—for there are but few that are ever exhibited but what have been described or figured by us—will assist materially in making known the real merits of the many varieties enumerated, and amateurs, as well as the inexperienced, can generally refer with perfect safety to these sources of information in the selection of the best fruits.

The reports of Mr. Cabot, for many years chairman, were full of useful information both in regard to the best fruits

and their practical value. The substance of each has been given to our readers. His successor in the office, J. F. C. Hyde, has been no less fortunate in his summary of each year, and the reports submitted by him contain an epitome of the Committee's annual labors no less valuable than those of his predecessor. If we differ sometimes from his conclusions, or his opinions of some particular fruits, it arises undoubtedly from the greater or less superiority of specimens, which have enabled each to form an opinion. Their value is none the less for this difference. Having retired from the position he has held for four years, to assume the duties of President, we trust that his successor may continue to give to the labors of the Committee an equal reputation and importance.

The report of Mr. Hyde occupies several pages, and we can only cull from the whole such portions as are of great interest, relating chiefly to the small fruits now attracting general attention:—

STRAWBERRIES.

The strawberry flourishes under a liberal supply of water, so that it has been remarked that nothing can be done that will prove more beneficial to this crop than a free use of the pump-handle. The drought of the previous year was so severe that the strawberry plants had made few runners, and those had but a feeble hold upon the soil, and the winter following proving what is generally called an open winter, the strawberry plants came out very poorly in the spring. The crop consequently, notwithstanding the favorable weather of May and June, was a partial failure, and the fruit brought high prices, and even where the plants appeared pretty well there was little or no crop. We account largely for this from the fact of their having suffered so much during the time of drought. Could the water have been applied freely during the previous year, so that the plants would not have suffered, there can be no doubt but fine crops of fruit would have this year rewarded the growers.

It should be our constant study to know what more can be done to promote the cultivation of the strawberry, a lus-

cious and healthful fruit that ripens at a time when there are few other fruits. Year after year we have endeavored to increase the interest of the members of our Society in the culture of this delicious fruit, but while our neighbors at Belmont have been eminently successful in securing an abundance of the largest and best specimens at their exhibitions, we have nearly failed in this respect, so much so the past season that we could not award some of the largest prizes offered for the strawberry. Now shall this continue to be the case when our numbers have so increased and we are or ought to be better able than formerly to produce this fruit? What can be done to furnish our tables more abundantly? Shall we offer larger premiums and in this way try to induce more of our members to enter upon the cultivation of the strawberry in right good earnest, not only for their own tables but for exhibition?

We presume strawberries are grown to considerable extent by those connected with this Society, but from indifference, or from the fact that the fruit is not of the best quality, they refrain from exhibiting. Some changes will be made in the schedule of prizes for the coming year, that we hope will have the effect to increase the number of contributors. Hovey & Co. take the lead in number of varieties and quality of fruit. If others can be induced to give the subject the attention it has received at their hands, we shall be able to excel in this fruit.

The whole number of contributors of this fruit the past season was twelve. Hovey's Seedling is still the best variety of its season. Jenny Lind is a favorite early sort. La Constante has been gaining friends, though we fear that for ordinary field culture it will not succeed. Brighton Pine still holds its place, especially among market gardeners. The Buffalo Seedling and Russell's Prolific are not valuable varieties. The French Seedling is soft and poor and of no value as a market fruit. Some fine specimens of the Agriculturist were shown by E. A. Brackett, of Winchester, who has been quite successful with this variety. In point of quality, it is not up to our well known varieties, but may like the Wilson, to which it is superior, be grown for market. It is a

good grower and bearer. The Monitor is a soft and worthless variety. The Brooklyn Scarlet is acid, small or medium size, and of poor quality. Hon. M. P. Wilder brought to our notice two seedlings raised by him, from a cross between the Hovey Seedling and La Constante, partaking of the good qualities of both those sorts; large, fine color, firm, excellent flavor, and if we mistake not, one or both promise to prove valuable acquisitions to our list of strawberries. The foliage is better than that of La Constante, though resembling it somewhat. We understand that if they shall prove on further trial equal to the expectations already entertained of them, they will be properly named and given to the public without charge by their originator.

Other varieties were shown, many of them of foreign origin, and none of particular value except for amateurs.

RASPBERRIES.

The raspberries ripen with the cherries, and are a fine fruit, coming at a time when they are very acceptable. This fruit too, is receiving less attention than formerly. There were but two contributors, both of whom showed Knevet's Giant, one of the very best varieties. The prizes were not all awarded this year, and the same has been true for one or two years past. Is it true that we are retrograding in the cultivation of the small fruits? It would certainly seem to be the case, judging from our weekly exhibitions. The raspberry is much less difficult of cultivation than the blackberry, and gives quite as good results. It is true that five or six years ago the price ran down too low to pay the growers, but so it will be with most everything else. There are times when there seems to be a glut in the market, but this should not lead to the entire abandonment of a fruit. Horticulturists, of all others, should sow and plant in faith, and patiently wait for results, and not be discouraged if some of their pet projects occasionally fail. We are not ready to give up the raspberry.

CURRANTS.

During the warm season we seem to desire some acid fruit, and the currant comes just at the right time to supply this

extensive want. Great improvement has been made in the size of the currant, within a few years, by the introduction of new varieties, but we fear that for quality they are no improvement on the Red and White Dutch, which are old favorites. The cultivation of this fruit was somewhat discouraging to the market gardener during the high prices of sugar, or before we became accustomed to high prices, and many dug up their plantations because they did not pay. This is not a good way. This fruit is worthy of cultivation, and through a term of years will pay in dollars and cents, as well as in the satisfaction that one may derive from the free use of the fruit for himself and family. There were five contributors, who exhibited specimens of but three varieties, La Versaillaise, Dana's Transparent, and Red Dutch. Surely this does not show very well for our large Society, embracing as it does, most of the prominent fruit growers of this part of the State. No excuse can be made by any man for not raising a few currants, if he has any land upon which to plant a bush, or even a slip, for no fruit can be more easily grown, and none will adapt itself so readily to a variety of soil and climate.

BLACKBERRIES.

We pass to blackberries, a delicious fruit, but one difficult to grow to perfection. The plant requires a strong soil and high cultivation, together with good protection in the winter. The latter is difficult to manage, though some lay down the bushes as raspberries or half hardy grape vines are laid. If left up the plants are almost sure to winter kill, and the crop is lost. The difficulty of picking the fruit, added to all the other difficulties, have led many persons to abandon its cultivation on an extensive scale. This is to be regretted, as there are perhaps few fruits more healthful than this. In some small gardens it is trained up to a wall or fence like the grape vine, or on the shady side of a greenhouse, and does remarkably well. A few contributors continue to place on our tables, year after year, magnificent specimens of this fine fruit. James Nugent, B. B. Davis, and H. Vandine, were the only contributors the past season. The gentleman first named

seems to have had remarkable success with the blackberry through a series of years. Our hope is that this fruit may be grown in spite of all the obstacles that seem to lie in the way.

GRAPES.

The past season has been a very unfavorable one for grapes. There was a short crop, and even this did not fully ripen. It is said by the best observers that in the West there was not more than half a crop of grapes. The cold and wet season was particularly unfavorable for good flavored fruit. We have tasted no grapes that have fully sustained their reputation, and we shall not venture to express decided opinions from our experience and observation of the past season. There was much mildew on some varieties, and few or none were entirely free from it. The Delaware suffered severely, losing nearly all its leaves, and in many cases failing to ripen its fruit. The Creveling was troubled in much the same way. The Iona held its leaves well, but hardly ripened its fruit. It requires a full season. The Adirondac was fully ripe, but was little better than sweetened water in quality, being destitute of that fine flavor it possesses when grown under favorable circumstances. The Concord held its leaves well, but the fruit rotted some. The Hartford Prolific did well. The Rebecca suffered from mildew, but ripened its fruit, and it is a curious fact, as we found on a recent visit to Bangor, Maine, that this variety ripens there nearly every year, and is regarded as almost sure. Israella shed its leaves badly, the result of mildew. The Rogers Numbers did very well, except what we believe to be number seven, that proves worthless on account of its susceptibility to mildew. Allen's Hybrid failed in nearly every instance. The fruit mildewed more than the foliage. The Diana hardly ripened. The grapes sent to market this year, while they were colored, were not ripe, and did not possess the good qualities that a drier and more favorable season would give them.

The show of grapes was large at the Annual Exhibition, both of foreign and native sorts. The arrangement for the display of this fruit on the long table in the library room

gave both the exhibitor and the visitor very general satisfaction. Never perhaps have we had a greater number of contributors or a more interested crowd of visitors than were seen during this show. Mr. Dingwall, of Albany, New York, took the trouble to bring many numbers of the Rogers Hybrids, with other grapes, to our exhibition, all of which added much to the interest of the occasion. Davis & Bates, W. C. Strong, F. Dana, C. E. Grant, J. B. Moore and M. P. Wilder, were also large contributors. J. W. Bailey contributed fine looking clusters of the Adirondac, whose appearance was much admired. Mr. Moore, of Rochester, New York, favored us at a later day with a bunch of the Diana Hamburg, but owing to the causes already named, it did not come up to the specimens of last year. It can but be regarded as promising. Out-door grapes have brought a higher price than in years past, though of an inferior quality.

PEARS.

We now come to the pear, a favorite fruit with horticulturists, and one that can be quite easily grown. Formerly, it seemed to require a life-time to bring a pear orchard into bearing, but of late years, it requires no more time than it does to get a good apple orchard. As pears are more extensively raised, it seems as though prices increased, for they have sold higher the past year than formerly. We pay better attention to this fruit, and rely more upon it than we did before the failure of the apple crop. It has fewer enemies and gives better results, perhaps, than any fruit we cultivate. Prominent among the contributors, during the season and at the Annual Exhibition, were Hovey & Co., M. P. Wilder, H. Vandine, F. Dana, Walker & Co., William R. Austin, Davis & Bates, and Josiah Stickney; many others exhibited very fine specimens, though on the whole, the fruit shown for prizes did not appear and was not as large and fair as that of some previous years. Though a silver cup was offered for the best dish of Bartletts, yet there were but few contributors, and the specimens came far short of those shown on a former occasion for a similar prize. It is somewhat remarkable, that the same gentleman should take both

cups, each time having the best dish of Bartlett pears. Prominent among the good pears shown were such varieties as Bartlett, Duchesse d'Angouleme, Sheldon, Urbaniste, Beurre d'Anjou, Dana's Hovey, Doyenné du Comice, Merriam, Doyenné Boussock, Lawrence, and others. The President had a very fine collection, in addition to his twenty varieties that took the prize. M. P. Wilder also had a very fine collection, embracing some of the newer varieties, such as Gen. Todleben, Emile d'Heyst, Conseiller de la Cour, and Caen de France.

Very fine specimens of the Mount Vernon have been exhibited by Walker & Co. This variety seems to improve in size and quality each year. It is well worth growing on account of its size, its good quality and very peculiar and pleasant flavor. We are satisfied that it has a tendency when fully or over ripe to rot slightly at the core. As it is very desirable to get as wide a range of flavors in fruit as possible, we recommend this to every amateur. It may possibly prove a good market variety as the tree gets age. S. L. Goodale, Esq., of Saco, Maine, kindly sent us specimens of the Goodale pear for further trial. We can add nothing to what we said last year. We are glad to know that it is in a fair way to be soon introduced to the public.

F. Dana brought in specimens of Augustus Dana, which is a pear of the very best quality, good enough, and will compare favorably with Dana's Hovey. We regard Mr. Dana as the most successful producer of new varieties of whom we have any knowledge. It is seldom that any one man produces more than a single variety that will stand the test of time, but we believe Mr. Dana will prove an exception.

ON LIQUID MANURING.

BY D. W. LOTHROP, WEST MEDFORD.

THERE is hardly any subject so little understood in the department of horticulture as that of liquid manuring. Yet it ought not to be so, for the great quantity of nutritive

liquids collecting from every household, to say nothing of farm-yards and stables, is too valuable to be lost, or so applied as to be of no benefit, or even destructive, as is sometimes the case, to vegetation. Besides, proper and well conducted experiments would undoubtedly show results nearly as marked as in any other matters appertaining to the garden. But these well-defined experiments we have not, or if so, not readily found in the books or journals of the day—thus leaving most every cultivator to practise liquid manuring at hazard, or not at all.

It is not claimed in the following statements and remarks, that the use of nutritive liquids is made clearer or safer by any positive light; on the contrary, the results arrived at are mostly of a negative character, while the whole subject is presented rather in the spirit of inquiry than otherwise.

The past season I have heard the question asked, "How does Mr. A raise such large pears?" "Why, he manures with simple sink water," was the reply. But it is proper to inquire, Does it flow perpetually on the trees, from their position to the house, while in a growing state, or is it applied by hand daily or weekly, or at any time? Is the liquid mixed with the chamber slops and allowed to ferment or not, before application? These are important considerations.

Undoubtedly liquid manuring can be made very beneficial to pear and apple trees, flowers, &c., as well as to grass land; but no one had better tamper with it unless he has experience or knowledge as to its effects; for, to say the least, the practice is hazardous. Some years ago the writer commenced the use of liquid manures, and for the purpose of securing the sink wash a large barrel was sunk in the earth, into which, by means of a covered pipe drain, the liquids ran. These were dipped out as the barrel filled, or occasion suggested, and dashed around young pear trees, grape vines, and shrubbery, during the spring, summer and autumn months. Thus the suds and all offensive waters were saved and used as best I knew from observation and reading. This course was pursued for several years, but with little or no effect upon hardly anything to which it was applied. I began then to think it must be used more liberally; and this I did in 1864, to a few

choice pear trees (an inch or little more through at the butt), which did not seem to improve them. In the following spring they made a feeble effort to leave out, and died in the summer. Many others treated similarly seemed very much checked. The season was very dry, and this circumstance, undoubtedly, contributed to their injury or death; for, aside from the continued drought, in itself hurtful, the liquid spread less and not so rapidly as if the soil had been moist. The best time, I think, to apply liquid manure in the summer, if at all, is just after a shower; for the obvious reason that it diffuses itself freely as water in a damp sponge. A few trees did not seem much hurt, but looked very well with this treatment. One, the Andrews, strange to say, flourished, though it had had a liberal supply of the heterogeneous solution. The Vicars, also, bore it very well, probably from natural vigor.

Upon reflection, I am of the opinion that the evil lay in a too raw or viscid liquid, which immediately met the spongioses, and either burnt or choked them with excess of food—which, as De Candolle observes, is likely to occur without due caution.

Meeting with such poor success from suds and sink water, carelessly applied while the trees were in a growing state, I now omit the summer application to young pear trees, and use it on grass land, or on some tree or plant not likely to suffer from it. During the last autumn, after the fall of the leaf, it was applied freely to pears, and more will be added in the spring. I cannot conceive that thus suffered to rest in the soil, subject to the action of the frost and moisture of winter, the saline matters can injure the young fibres by their causticity, but must, on the contrary, be highly beneficial. In fact, I consider the fall and winter months the best time to apply strong liquids, for their ingredients not only undergo new chemical changes, but take a wider range in the soil. At this season even fresh urine seems not to be hurtful, for the Shakers of New Hampshire so use it with success. Applied in summer, decomposition should first have commenced, and then it should be mixed with more than its quantity of water.

The truth is, nearly all manurial liquids are dangerous—more especially those of the household, as chamber slops, suds and sink water. Hence great caution should be exercised in their use. But this danger exhibits their power and value; to doubt which, says Mr. Mechi, is to doubt the science of agriculture. The more important question, then, is on their application. If much benefit results from their use in judicious hands, it is equally certain that in others much injury is done to vegetation. I have seen—as well as others—large apple trees killed with the frequent application of strong soap-suds; and a row of arbor vitæ, recently set out, was struck to death by this very liquid, which the proprietor unwittingly supposed would make them “jump.”

Proper liquidation, and generally fermentation, seems to be the only safe conditions for the application of the liquids in the growing season. But even if we then run no risk, it is a question of economy, as to labor, whether to use them or not. If the liquids must become offensive before use, the wastes from the household and sink would have to be collected and set apart, without addition, till fermentation—causing a great deal of trouble. Besides, when much diluted, they must needs be frequently applied to be of any utility. Unless the use of liquid manures can be made easy and safe, few only will take the trouble to save them. These conditions, however, are to be judged of by every individual cultivator's circumstances. The autumn and winter months, it is presumed, do not require the same caution and labor.

While I believe many kinds of liquid manures may be made beneficial to vegetation, I do not think they are the best, and by no means the safest mode of fertilization. As a general rule they can be regarded as only subsidiary. To manufacture ammoniacal liquids for the garden when stable manure can be procured, will not generally be regarded as good economy; but to use what are necessarily created by the household, may be. Some cultivators use a solution of guano (an ounce to a bucket of water), on pear roots; and the late Prof. Mapes used a liquid superphosphate of lime on the same, with good success. It is hardly to be supposed, however, that the practice will become general.

During the last autumn I have thrown in hen manure into my cess-pool, leaving it for a few days, and after liberal dilution and stirring, have placed it around my pear and apple trees, currant-bushes, shrubbery, &c. I have also thus reduced strong night-soil liquids. Rich manures can by these means be more readily diffused in the soil than when solid, and I trust with no injury, but rather benefit to the trees.

Around growing vegetables I have but little experience in the use of manurial liquids. Night-soil solutions, poured around young corn several times before it was a foot high, gave it increased vigor. The hills were made concave, and nearly a pint used to each.

In the summer season, a heap of dry muck is excellent in absorbing sink and other offensive waters, upon which it may be poured from the cess-pools, and must necessarily be improved by it as a fertilizer. The addition of hen droppings would improve it, while an occasional sprinkling of gypsum would make it better still, and help to fix the ammonia. In the absence of muck, common soil will answer, and the newer the better.

Mr. Mechi, of Triptree Hall, England, (before alluded to), who has had much experience in the use of liquid manures, states that the reason why many English farmers do not succeed so well in their use as he, is because they do not *sufficiently dilute* them when applied to growing crops. The urine of a horse or cow, falling on fresh clover at a dry time, will kill it; but just after a shower will do it no injury. For a similar and obvious reason, a clayey soil is safer for the application of pungent liquids than a light or sandy one.

Nature holds her elements in the soil, and their virtues are gently distilled by the fertile moisture of rains, and the roots of plants gradually and gently nurse them up. She does not apply strong liquids in great quantities, but as the "clouds consign their treasures to the fields," the earth is moistened, and appropriately yields up its food to famishing vegetation by natural laws. Every shower is a process of liquid fertilization, the "falling verdure" of the poet; and the great dilution of the salts contained therein, should give cultivators some valuable hints.

NEW VEGETABLES.

FROM the commencement of our magazine, more than thirty years ago, we have from time to time, almost yearly for a long period, given a general account of all the new vegetables introduced into our gardens; and Mr. Burr, the author of that excellent work, "The Field and Garden Vegetables of America," quotes our Magazine as authority for many of the most valuable varieties enumerated and described by him.

Thirty years ago the variety of vegetables was extremely limited and there was room for very great improvement, and through the exertions of such old and celebrated seedsmen as Landreth of Philadelphia, Thorburn of New York, and Hovey & Co. and Breck & Son of Boston, and later, Bliss of Springfield, everything of any value produced abroad, or found at home, was gathered together, tried, proved, described, and brought before the public in their catalogues. Many of these are to this day still classed among the best that we cultivate, and the public are indebted to the exertions of those large and responsible dealers for their zeal and industry in placing within reach of the whole public all that was worthy of preservation.

But the course of trade changed somewhat, and others than the responsible seedsmen offered so much that was worthless that new things were partially neglected, and the public fell back upon the good old kinds, after trying the trashy new. Yet as there was, and still is, room for improvement, after a period of neglect came the time for a change, for the old favorites had become adulterated through ignorant hands, and many new and fine varieties have been brought out from sources abroad and among our cultivators at home, so that at the present moment the best varieties of many vegetables are the productions of the last ten or twelve years. All these accessions of thirty years have been classified and briefly described by Mr. Burr, and brought down to the period of the publication of his work, four years ago. We propose now to notice some of recent origin:—

PEKIN NEW BLACK EGG PLANT.—Received from the north

of China, and introduced by Messrs. Hovey & Co., who exhibited beautiful specimens at the annual show of the Massachusetts Horticultural Society, in September, 1866, for which a prize was awarded.

It is entirely unlike the common Egg Plant in its leaves and fruit. The growth is more erect, compact and stronger, and the leaves are of a deep bronzy purple color, almost as ornamental as some of the tropical foliaged plants. The fruits are very large, quite round or globular, with a very smooth glossy almost black skin, often weighing 5 to 8 lbs. each. The flesh is very white, fine grained, with small seeds, much more delicately flavored than the old kinds, and more free from the strong taste. It is also quite early, and the fruits are produced in great abundance. It is a decided and most valuable acquisition.

MAUPAY'S SUPERIOR TOMATO.—Originated in Philadelphia, by Mr. Maupay, who thus describes it:—

“The Superior is a cross between the Fejee Island and Old Royal Scarlet. The fruit is of a beautiful deep red color, in form it is round, slightly flattened, and without a crease or wrinkle. Smoothness of the surface is not only one of its most remarkable, but one of its most desirable characteristics. This freedom from creases or wrinkles prevents the great waste usual with almost every other variety. It is of medium size, and the flesh almost as solid as a beef steak. In proof of their solidity it is not improper to state that although not of extraordinary size, the average weight is from 9 to 12 oz. each. It has very few seeds, and from the solidity of its flesh, comparatively little water. One bushel will make as much catsup or fill as many cans as two bushels of the ordinary kind; besides being possessed of a flavor that is unapproachable. For marketing purposes it possesses the great advantage of not only being solid, but of having a thick skin or rind which protects it from bruising and mashing in transportation. Another great advantage of this thick skin, is, that it admits of their being peeled or skinned for the table without scalding, which is always troublesome, and at the same time takes away the desired freshness and flavor, when desired for slicing cold. As an evidence of the

superiority of these tomatoes for marketing purposes, they commanded ready sale at two dollars per bushel, when others were offered at one dollar, and this without any care having been taken to select them. They can safely be kept after being taken from the vines, for from three to five days, and without any loss of the delicate flavor for which they are remarkable."

KEYES' EARLY PROLIFIC.—A full description of this will be found on another page.

THE EUREKA TOMATO.—A new variety raised in Pennsylvania, and stated to be a good acquisition, combining the tree form and excellence of the French Erect or Tree tomato, and as early and prolific as the Early or Apple Shaped tomato. It is of medium size, red color, smooth, round, or oblong, solid, and keeps and carries as well as the best. It is a hybrid obtained in 1861, and has been brought up to its present standing by steady cultivation. Endorsed by the Philadelphia fruiterers as the best for cooking, pickling, and making tomato figs.

THE FOARD TOMATO.—A new variety, originated last year with a market gardener of the same name in the vicinity of Philadelphia, and introduced by R. Buist, Jr., seedsman. It is, he says, without exception, the most beautiful variety we have ever seen; is of a bright scarlet color, cuts as solid as a well ripened apple, and almost free from seeds, which are deposited mostly on one side of the fruit. It is quite early and a good cropper. Recommended by Mr. B. as being the most perfect and desirable of the whole class.

THE GREAT CHIHUAHUA TOMATO, which might just as well have been called the **GREAT MOGUL** or the "Lost Giant," is one of the oldest tomatoes, brought out under a new name. We first introduced the seed into New England as long ago as 1842, and described it in our volume for 1845 (vol. XI.) as the **GIANT**. We saw it in New York, and brought home specimens weighing 2 to 3 lbs. each. But from its coarse character, liability to rot, &c., it was neglected until picked up and renamed the Great Chihuahua.

THE ROUND MEXICAN, Dwarf Scotch, and Harrington's Round Early tomatoes, are all nothing but ordinary sports

from the common tomato, of which every cultivator could pick out and name a dozen in any lot of fifty plants.

CAMBRIDGE MARROW SQUASH, so called, and said to be earlier than the Boston, is the same as the Boston Marrow.

LE NORMAND'S CAULIFLOWER.—This is a very superior variety received from France, and well worthy of general introduction as one of the best of the cauliflowers. Le Normand's Mammoth is the same as the above. There is, however, another new variety of this, called Le Normand's Short-stemmed, which is said to be a decided acquisition. Introduced by Vilmorin & Co. of Paris.

HOVEY'S NEW MINORCA MELON.—A new and fine variety of the true Minorca Melon, introduced originally to Canada, and grown and acclimatized there, so that the finest specimens have been produced in the open air in that northern climate, which have attracted universal attention, and have been exhibited at the Provincial Show, carrying off all the prizes. These melons attain the enormous weight of 20 to 30 lbs., and last year a gentleman in Burlington, Vermont, raised six melons from two seeds, the smallest of which weighed 20 lbs. and the largest 26½. They are of a round or roundish oval shape, and yellowish skin, very thickly netted all over; and the flesh, which is very thick, is red, very rich, sweet and delicious. It succeeds under ordinary cultivation, and for the market or for exhibition purposes is a fine acquisition.

EARLY SEBEC POTATO.—Much attention has been given to the improvement of the potato; several excellent seedlings have been introduced. Among all these, however, the Sebec has proved the most reliable, being earlier than the Goodrich, producing quite as abundantly, and of superior quality. It is similar in general appearance to the Jackson White, and is undoubtedly a seedling from it, as it was found, we believe, in a field where these were grown. It matures fit for the market in from 60 to 65 days.

EARLY GOODRICH POTATO.—A fine early variety, productive, good size, and excellent. Its shape is not a favorite one, but it may be classed among the most desirable early sorts.

THE ENGLISH POTATOES, of which several have been introduced, make quite a variety for those who are fond of a good collection, but most of them are quite worthless compared with the Sebec, Harrison, Goodrich, &c.

GIANT WAX PODDED BEAN.—A new and very excellent variety, introduced last year from Philadelphia. It is a vigorous grower, attaining the height of eight feet, clinging well to the poles, and producing pods full eight inches long and quite broad, which are very succulent and tender, and remarkable for their beautiful appearance when ready for use; the pods assume a fine waxen color, and remain light colored after cooking, and in flavor are particularly mild and delicate. It cannot be ranked among the early varieties, but it is a superior one for stringing. The beans when ripe are red.

THE CALIFORNIA BEAN is an excellent pole bean for shelling, and almost rivals the Lima for quality.

WHITE'S DWARF EXTRA EARLY BEAN is one of the earliest and best dwarf beans, of excellent quality, quite hardy and very productive.

DREW'S NEW DWARF PEA, introduced a year or two ago, is a very great acquisition, embracing the qualities of an excellent pea, so dwarf and bushy as not to require any stock, and of a quality equal to the well known Champion of England. It is a medium early, and a full sized pea.

CARTER'S FIRST CROP, AND DICKSON'S FIRST AND BEST PEAS, are two new English peas, both of which are stated to be the earliest in England. No doubt they are fine early sorts.

KEYES' PROLIFIC TOMATO.

BY THE EDITOR.

THIS new seedling, next to the Tree tomato, is one the most curious and wonderful productions, or sports, yet made in this important vegetable or fruit, if it may so be called, and shows how very great are the changes which take place in the habit and growth of plants, as well as in their fruits or flowers.

It appears to have been a chance production, which sprang up in the garden of Mr. C. W. Keyes, of Worcester, Mass., in the summer of 1864. Mr. Keyes is an extensive grower of tomatoes, and buys and tries every variety offered for sale. In the patch of ground where these were grown the previous year, this new seedling came up. It did not have the leaf or the smell of a tomato, and was carefully taken up and transplanted out of mere curiosity, to see what it would be. To his great astonishment, however, it grew rapidly, soon flowered and developed a large cluster, containing twenty of the most beautiful tomatoes, which ripened up so much earlier than any other tomato, large or small, that Mr. Keyes carefully saved the seed for another trial. In 1865 it was planted and treated precisely like his other tomatoes, and ripened its fruit in the same large clusters, full thirty days before either of the old sorts. He was now convinced that he had a valuable acquisition, but not being disposed to put it before the public only under the most severe test, and as the Tilden had just been introduced as one of the earliest and best sorts, he concluded to give it one more trial with the Tilden. In 1866 both kinds were sown at the same time; each was transplanted twice and treated every way precisely alike. The result was that his seedling ripened large clusters of fruit, as in the previous year, thirty days before the Tilden.

But Mr. Keyes was not satisfied with his own judgment, and in June of 1866 he gave Messrs. Hovey & Co. three strong plants, in order that they might give it a trial. Their report of the crop did not differ from Mr. Keyes; whole clusters were ripe before the Tilden produced a single ripe tomato. He also gave plants to his neighbors, Gov. Bullock, of Worcester, D. Waldo Lincoln, Esq., Charles Nash, and others, who each and all confirm Mr. Keyes' account of his tomato, which he, in consequence of its invariable and constant character, has very appropriately called the Early Prolific.

Its distinctness is shown by its leaves which are nearly entire, and measure eight or nine inches long and six or seven wide. They have little or none of the disagreeable odor of the common tomato foliage. The fruits are produced close

to the root, and appear in large clusters of ten to twenty, which possess the very remarkable quality of ripening up altogether, so that the first picking is very large, and the largest half of the crop ready for market before the Tilden can be gathered. The vine is so prolific, producing from seven to twenty clusters on a vine, that when these are all set the energies of the plant seem to be exhausted, and instead of continuing to grow and set its fruit, as other kinds do till frost, are directed to the maturing of the already over-abundant crop. The very large leaves begin to droop as the tomatoes ripen, and after a few days, have dried up and fallen off, leaving the fruit exposed to the sun, and the field one mass of brilliant red tomatoes.

The plant is very dwarf, compact and vigorous, the branches not extending but eighteen inches or so from the root, and from their prolific tendency the plants may be set out as thick as it is usual to plant potatoes. The fruit is of medium size, round, quite smooth and free from ribs, and of a very brilliant color. The flesh is solid, of the color of a blood orange, and of a brisk flavor, inclining to sweetness. Seeds not half the size of the Tilden, and few in number.

These qualities which are partly made from the fruit now before us, grown in the ordinary greenhouse, show that it is not only one of the most distinct of all tomatoes, but from its very great earliness, an acquisition of more importance than any ever made to this vegetable.

As a variety for forcing, or pot culture in the greenhouse in winter, it is no less valuable than for its earliness in the open ground; while the freedom of the foliage from the disagreeable odor and slimy pubescence of the common tomato, give the Early Prolific the highest and greatest value. A single plant in a small pot, raised from a random cutting in September last, is now bearing very beautiful fruit.

In the fortunate production of this tomato the public will congratulate Mr. Keyes, and we have no doubt will be glad to know that the invaluable labors of the industrious and enthusiastic originator have not been unrewarded.

POMOLOGICAL GOSSIP.

DANA'S HOVEY PEAR.—A brief description of this pear is given in the Gardeners' Chronicle, which we presume to be from that intelligent pomologist, Mr. T. Rivers. We are gratified to learn it has sustained its high reputation even in the cool climate of England, and that it is claimed as being in "its flavor more delicious than any pear known." We append the notice above referred to:—

This pretty and excellent pear was raised from seed, in the United States, by Mr. Dana, who dedicated it to his friend and brother pomologist, Mr. Hovey, of Boston, Mass. It is of the Seckel race, and like it in shape; the tree is of the same compact growth, but even more fastigate, equalling in that respect the Lombardy poplar; it is of a fine hardy habit, and bears well as a pyramid, either on the pear or quince. The outline given is that of a small specimen, owing to the wet season; under favorable circumstances it will attain nearly to a medium size. It is quite green when taken from the tree, but in ripening its skin changes to a pale yellow, completely covered with light russet. Its flesh is melting and juicy, its flavor more delicious than that of any pear known, being between that of the Winter Nelis, with a slight smack of the Seckel; its season is December. When this pretty and delicious pear becomes known, a dish of them at the dessert will be as much sought after as a dish of the old Golden Pippin, in the last century.

DR. SHURTLEFF'S SEEDLING PEARS.—In our late volumes we gave some account of Dr. Shurtleff's experiments in raising seedling pears, and also described and figured what we think one of his best seedlings—the President.

But the varieties are so numerous which the doctor has produced, that with our present brief acquaintance with them we are unable to form a just estimate of their value. He has almost exhausted the vocabulary of names. Many of them, twenty years ago, would have been claimed among the best pears, but at the present time it is difficult to say what number are worthy of attention. The President, Banks, Farragut,

Grant, and some others, are very large, showy and good, and certainly have size to recommend them.

Of these numerous seedlings Dr. Shurtleff has supplied Mr. Hyde, late Chairman of the Fruit Committee of the Massachusetts Horticultural Society, with brief descriptions of more than forty, and, as showing how much has been done by one individual, we copy this account for the information of all who are interested in raising seedling fruits. What parents the doctor used we are not informed, but we hope at a future time to obtain such information in regard to them as will be useful to all pomologists. We add the list here:—

No. 1, Gen. Kearney—fruted in 1862. Short diam. 3 inches; long diam. $4\frac{1}{2}$ inches; fine grain, juicy, rather high flavor; color, greenish yellow, good market pear. Ripe in September. Pyriform.

No. 2, Manning—fruted in 1866. Diam. 3 inches; stem fleshy, skin yellow, with russet streaks and dots; flesh, fine grained, white, juicy, with a very rich pleasant flavor; small core; ripens soundly Sept. 22. Quality first rate; obovate.

No. 3, Speedwell—fruted in 1863. Short diam. $2\frac{1}{2}$ inches; long diam. 3 inches; color, green; flesh, melting, juicy, with rich flavor; ripens soundly Sept. 1. Quality fine; obovate.

No. 4, Fortune—fruted in 1863. Short diam. $2\frac{1}{2}$ inches; long diam. $2\frac{3}{4}$ inches; color, golden yellow, with russet spots; flesh, white, melting, juicy, and very sweet; ripens soundly Oct. 6. Quality, first rate. Turbinate.

No. 5, Gen. Sherman—fruted in 1865. Diam. $2\frac{3}{4}$ inches; flesh, white, melting, breaking and juicy; November to December. Turbinate.

No. 6, Chattanooga—fruted in 1863. Diam. 3 inches; color, dark green; fine grain, melting and juicy, with nice flavor; ripens soundly Oct. 2. Quality, fine. Turbinate.

No. 7, Diman—fruted in 1863. Diam. $2\frac{1}{2}$ inches; color, russet, with red cheek; flesh, breaking, melting, very sweet and juicy; ripens soundly in all October. This pear has improved, year by year, in size and character; its quality for beauty and flavor is first rate. Turbinate.

No. 8, Shenandoah—fruted in 1862. Short diam. 3 inches; long diam. 4 inches; skin, yellow; flesh, fine grained and sweet; keeps well, and is a good market pear. Pyriform.

No. 9, Lemon—fruted in 1862. Diam. $3\frac{1}{4}$ inches; color, yellow; has much improved in four years. Turbinate.

No. 10, Golden Bell—fruted in 1862. Short diam. $2\frac{1}{2}$ inches; long diam. $3\frac{1}{2}$ inches; color, golden yellow; flesh, fine grained, with good flavor. An enormous bearer, and an excellent market pear. Ripe September 20. Pyriform.

No. 11, Francis—fruted in 1862. Diam. $2\frac{1}{2}$ inches; color, dark green; skin, tough, and rather liable to crack; flesh, fine grained, white, and delicate, with a flavor inclining to that of St. Michael; quality, very fine; ripe Nov. 1. Turbinate.

No. 12, Hancock—fruted in 1861. Short diam. 3 inches; long diam. $4\frac{1}{2}$ inches; color, light green; flesh, breaking and juicy; a great bearer, and an excellent cooking pear; always sells readily. Sept. Obovate.

No. 13, President—fruted in 1862. Diam. $4\frac{3}{4}$ –5 inches; color, greenish yellow, and russety; good grain, melting and juicy; ripens soundly. A very large and showy fruit; much like the Beurré Diel, in character, but does not crack; regular bearer; Nov. 1st. Quality, first rate. Turbinate.

No. 14, Farragut—fruted in 1862. Short diam. $3\frac{1}{4}$ inches; long diam. $4\frac{1}{4}$ inches; color, dark green; flesh, fine grained, white, melting, and juicy, with fine flavor; ripens soundly; is an abundant and regular bearer, a very handsome and attractive fruit. Quality, very fine; ripe Sept. 25. Pyriform.

No. 15, Orange—fruted in 1862. Diam. $3\frac{1}{2}$ inches; skin, tough, and bright yellow, with points; fine grain, keeps well, capital cooking pear; regular bearer, and markets well. Dec. 31. Roundish.

No. 16, Porter—fruted in 1862. Diam. $2\frac{1}{2}$ inches; melting, sweet, and juicy; ripens soundly; good market pear. October 1.

No. 17, May Flower—fruted in 1863. Short diam. $2\frac{1}{2}$ inches; long diam. 3 inches; flesh, rather dry, and firm; skin, yellow, with red cheek; keeps soundly without extra care until May. A most prolific bearer. Short pyriform.

No. 18, Shurtleff—fruted in 1864. Short diam. $2\frac{1}{4}$ inches; long diam. $3\frac{1}{4}$ inches; flesh, fine grained, scarcely any core; flavor, sparkling and delicious, very juicy; color, golden yel-

low, with russet spots; keeps well, and ripens soundly. Quality, first rate. Oct. 6. A favorite with every one. Pyriform.

No. 19, Allerton—fruted in 1862. Short diam. 3 inches; long diam. $5\frac{1}{4}$ inches; good grain, high flavor, rather acid; color, bright yellow. A large, handsome fruit, and always markets well; ripe Oct. 25. Long pyriform.

No. 20, Varuna—fruted in 1862. Short diam. $3\frac{1}{4}$ inches; long diam. 4 inches; color, greenish yellow, good grain; flesh, white, and juicy; small core, slightly acid. Large bearer; ripe in Sept. Turbinate.

No. 21, Sheridan—fruted in 1864. Short diam. 3 inches; long diam. $3\frac{1}{2}$ inches; good grain, juicy, rather vinous in flavor; color, dark green; ripens soundly. Large bearer, and good market pear. Turbinate.

No. 22, Davis—fruted in 1862. Diam. 3 inches; color, green; flavor, pleasant; very juicy; Oct. 11. Turbinate.

No. 23, Norfolk County—fruted in 1862. Short diam. $3\frac{1}{4}$ inches; long diam. $3\frac{3}{4}$ inches; color, green, with dots; good grain, juicy, with pleasant flavor; ripens well, a handsome fruit, and large bearer. Oct. 11. Long turbinate.

No. 24, Admiral Foote—fruted in 1863. Diam. $3\frac{1}{2}$ inches; color, green; flesh, melting, very juicy; fine grain, small core; exceedingly rich, sweet, vinous flavor; ripens well, and is in every respect first rate. Sept. 1. Obovate.

No. 25, Brookline—fruted in 1862. Diam. 3 inches; melting, juicy, with good flavor; ripens soundly, great bearer, fine market pear. Aug. 1. Short pyriform.

No. 26, Chilton—fruted in 1865. Diam. $2\frac{3}{4}$ inches; color, brown russet; flesh, sweet, juicy, and buttery, with high flavor; ripens well; very fine. Oct. 6. Turbinate.

No. 27, Banks—fruted in 1863. Diam. $2\frac{3}{4}$ inches; color, rich yellow, with sunny side bright red; flesh, melting, juicy, very sweet, with much character; ripens perfectly, and keeps remarkably for an early pear. Valuable not only for its great beauty and fine qualities, but for its time of ripening. In every respect first rate. Aug. 27. Turbinate.

No. 28, Cushman—fruted in 1865. Short diam. $2\frac{1}{2}$ inches; long diam. 3 inches; yellow and russet in color; nodular

surface ; flesh, sweet and fine grained ; small core ; keeps well.

Oct. 25. Pyriform.

No. 29, Grant—fruted in 1862. Long diam. $4\frac{1}{4}$ inches ; short diam. $3\frac{1}{2}$ inches ; color, greenish yellow ; flesh, sweet, fine grained ; small core ; flavor, rich ; quality, first rate.

Oct. 4. Obtuse pyriform.

No. 30, Citrina.—Short diam. 2 inches ; long diam. 3 inches ; (fruted in 1862) ; skin, bright yellow, lumpy and nodular ; flesh, rather gritty, but very rich in flavor and totally unlike any other pear ; great bearer. Sept. 15. Short pyriform.

No. 31, Muddy Brook—fruted in 1862. Diam. $2\frac{1}{4}$ inches ; skin, dark green ; flesh, white, melting and juicy, with good flavor ; great bearer, and good market pear. Sept. 1. Short pyriform.

No. 32, ——— —fruted in 1865. Diam. 3 inches ; yellowish green, with russet ; good cooking pear, and keeps well into the middle of February. Turbinate.

No. 33, John Cotton—fruted in 1862. Diam. $2\frac{1}{2}$ inches ; color, green ; flesh, fine grained, slightly acid ; ripens well and bears abundantly ; good market pear. Sept. 25. Turbinate.

No. 34, Gov. Carver—fruted in 1863. Diam. 3 inches ; flesh, firm and very rich in flavor ; keeps perfectly until June or July of following year, and ripens well ; fine flavor, and a valuable pear. Turbinate.

No. 35, St. Patrick—fruted in 1863. Diam. $2\frac{1}{2}$ inches ; color, green, with dots and some blush ; keeps well, and ripens perfectly, with a pleasant flavor. February 15. Short pyriform.

No. 36, Winslow—fruted in 1865. Diam. $2\frac{1}{2}$ inches ; color brown russet ; flesh, sweet, juicy, buttery and high flavored ; ripens well. Oct. 21. Roundish.

No. 37, Bergamotte Seedling—brought from Boston in 1838. Color, green, with a blush ; good flavor, but rather gritty about the core ; large bearer, and markets well. Sept. 15. Obovate.

No. 38, ——— —fruted in 1865. Diam. 3 inches ; color, light green ; very juicy, with good grain, and nice flavor. Oct. 25.

No. 39, ——— —fruted in 1865. Diam. 3 inches ; color, yellow, with dots and blush ; ripens well ; juicy and pleasant flavor. Oct. 29.

No. 40, Lothrop—fruited in 1866. Diam. $2\frac{1}{2}$ inches; skin, yellow, with russet; flesh, white, with good flavor. Sept. 16.

No. 41, Lucra—almost exactly like the Merriam. Fruited in 1860.

No. 42, Brewster—fruited in 1865. Yellow color; melting and juicy; ripens well in November. Size, medium.

No. 43, Isabella—fruited in 1866. Resembles St. Michael in size and shape; promises exceedingly well; ripe in November.

No. 44, Quince—fruited in 1862. Diam. 3 inches; skin, lumpy and nodular; flesh, fine grained, juicy and sweet; great bearer. September.

MRS. PINCE'S BLACK MUSCAT GRAPE.—We have already noticed this new grape, which is attracting much attention among English grape growers. Fine specimens were exhibited at the Royal Horticultural Society, January 15, which established its previous reputation for long keeping. The specimens were well preserved, and fine flavored, as a late variety it is thought it will “rival if not surpass our present favorites in its late hanging qualities, while it is superior to all late varieties in richness and aroma.”

A PLEA FOR THE INDIGENOUS FERNS.

BY R. ROBINSON SCOTT, PHILADELPHIA.

It is well known that fashion rules in the horticultural world as in the social. This remark was made in your pages some years ago in connection with that beautiful section of plants known as “Ferns.”

Your learned correspondent, J. L. Russell, furnished some useful and valuable hints on the propagation of ferns, which I regret to say have been but little attended to by fern cultivators among us. Since then, however, it has become fashionable to collect these delicate plants, and no collection of any pretensions but has less or more of them. Their popularity, however, appears to have culminated, and is now on the decline.

Why is it, that the grand and beautiful in nature once appreciated and admired, are cast aside and neglected to give place to other objects of no greater merit? Simply because they are not truly appreciated, their beauties are not seen, their attractions are still concealed to the mass of popular horticulturists. The student of nature, however, does not participate in this reign of fashion; even the most insignificant organism is to him full of beauty and wonder, and the common "polypody," which clothes our dry rocks, is to him as full of interest as the rare "*Dicksonia antarctica*," which equals in growth and majesty our tree forms.

Again, we despise our indigenous forms of ferns, except perhaps a few of the very rare species, and prefer for our fashionable conservatories and ferneries such as are not to be found by the vulgar or low—growing by the way-side. We import, that is to say, rare exotics—so that our collections may be "fashionable and unique." Occasionally, however, a stray native steals in among the rare exotics, and is quite as much cared for, until some scientific busy-body declares it to be an "indigenous species," and Miss Fashion gets to know that it is a "wild thing," and must be discarded.

We have not many indigenous ferns in the Northern States, all told they do not reach sixty species, but by the time the Southern territories are reconstructed and the New England busy-body may go down with safety to Florida and Louisiana swamps, then our list of species will swell rapidly, and our "Fern flora," if it may be so styled, will not be at all contemptible. For the present, let us examine the structure and peculiarities of those which are denizens among us, and we shall discover much that is interesting in the botanical distinctions which appertain to the fifty-five or sixty forms enumerated in our flora. Let not the duplicity of names, borne by these humble forms, deter the simple lover of plants; these difficulties can all be put aside by a little careful investigation, and the scheme of nature to afford the greatest variety with the least material will be made apparent.

Ferns have been deeply studied by our best botanists, even working men have spent days and weeks in endeavoring, from

an apparent chaotic mass, to develop a systematic list of distinct forms. It is the work of the professional botanist to do this, but men such as John Smith, with no pretensions thirty years ago to botanical knowledge, have made, by careful study and observation, the road to fern study much more clear and obvious. As another instance we might mention the name of Houlston, an humble working gardener, who in 1846 was so much absorbed in the study of this class of plants, that as soon as his daily work was finished he took the pencil and delineated, with as much accuracy as he could command, almost every cultivated species of fern within his reach; and these labors have since been placed before the public in conjunction with the botanical skill of Thomas Moore, now editor of the London Gardeners' Chronicle.

To come home to our own region. Have we not many humble students of ferns in the Northern States? men who annually enrich the collections of Britain and France by large contributions of our indigenous species, until our ferns are much better known abroad than at home, and much more valued. This, at least, is some compensation for their neglected condition with us.

To such men, ferns are not *fashionable* objects. Their value does not rise and fall as that of a new style of hat or bonnet. They are cared for as creations of the Great Organizer of nature, are studied as distinct creations, objects of reverence as well as beauty.

Your correspondent, Mr. Russell, still, I am led to believe, regards them with his former interest, and even recently has spoken another encouraging word for them.

In some future article, with your permission, I design to add a few notes on the specific distinctions to be sought among our indigenous species.

[We are glad to have our correspondent speak a good word for this truly elegant tribe of plants. We trust Mr. Russell will continue to urge their real merits upon lovers of fine foliage.—ED.]

THE STRIPED JAPANESE MAIZE.

BY THE EDITOR.

THE introduction of the great number of the Japanese plants of late years has enriched our gardens and greenhouses with many new, unique and beautiful objects,—beautiful both in foliage as well as flowers. The *Lilium auratum*, the *Saxifraga tricolor*, the Variegated Maples, and the Striped Maize, are but a few of the number which stand prominent as the representatives of the whole,—conveying a general idea of the merits of all. To Von Siebold and Fortune we are indebted for many of the Japan varieties, but to our own countrymen are we indebted for two of the most distinct—the *Lilium auratum* brought home by Dr. Hall, and the Striped Japanese Maize, sent home by Thomas Hogg. If Mr. Hogg had not added but this single plant he would deserve, as he no doubt will receive, the thanks of every lover of beautiful plants.

This new maize appears to be distinct from our common corn, and is called by some of the German cultivators, *Zea japonica*, but whether specifically distinct we are unable to say. As a botanical question it is interesting, but as regards its ornamental character it will be of little importance.

Its great and crowning beauty is the distinct striping of its long, broad and gracefully recurved foliage,—more distinct, perhaps, than any similar plant, unless it is the *Arundo Donax variegata*, which comes nearest to it, but whose habit and foliage are slender and small compared with the Japan maize. In the latter the leaves are three or four feet long, and three or four inches wide, ribboned their whole length with broad alternate strips of clear white and the brightest green, occasionally showing pink or rose colored lines upon the edges,—the whole producing a rich and grand effect when planted in masses of four or six plants. The growth is as rapid as our common corn, and in a few weeks the plants present a fine aspect, which is augmented as they increase in size. The constancy of the striping is remarkable, for we do not recollect to have seen a single sport among quite a number of specimens. As a plant for the border, for groups or masses or single spe-



3. STRIPED JAPANESE MAIZE.

cimens in conspicuous places, there are few ornamental foliaged plants which can equal it—certainly none requiring less care in cultivation.

The culture of the Japanese maize (FIG. 3) is simple. For the best effect it should be planted in pots in the hot bed or greenhouse in April, and the young plants potted off singly, and removed to the open ground in May or June; it then attains a good size by July with many of its fine leaves, and by September in good ground will reach the height of six or eight feet, presenting a mass of foliage as striking as it is effective in its rich and varied coloring.

Gossip of the Monthly.

WASHINGTONIA GIGANTEA.—Our very quiet and retiring contemporary of the Gardeners' Monthly, who is always so courteous and gentlemanly in his own columns, seems to have forgotten his usual urbanity, when writing for other papers, and we greatly regret to see our respected correspondent, Hon. R. S. Field, and we think also the friend of Mr. Meehan, and every lover of fine trees, set down by him as an "ignorant newspaper writer," because he don't agree with Mr. Meehan in calling the Washingtonia a Sequoia, when such "ignorant botanical compilers" as the late Dr. Lindley said it was distinct from Sequoia, and gave it the name of Wellingtonia. We are so used to being classed with the "ignorant newspaper writers," that we don't mind it ourselves, but we do protest against having such intelligent men as Mr. Field, and others of equal information, designated by such polite terms. Does our contemporary claim to hold the place of arbiter in such matters of opinion among the botanists and horticulturists of the world? Mr. Meehan ought to know that Uncle John, who claims generally all that belongs to him,—and sometimes more,—grabbed our biggest tree, and called it Wellingtonia; that the French, who ignore the name of Wellington, call it Sequoia; and that the Yankees, who think they know as much about their own big farm and what grows upon it as anybody, and who first discovered the tree, insist it shall not be dubbed Wellingtonia, when they and the French too, know that it does not belong to Sequoia, and is as much unlike it as a Thuja is unlike a Cypress. "Ignorant newspaper writers"! Almost "made himself ridiculous"! sounds well,—quite Pickwickian.

Horticultural Operations

FOR MARCH.

FRUIT DEPARTMENT.

With the milder weather of February the snow rapidly disappeared, and left the ground bare, with but little frost. Light snows succeeded, but the prospect is, that the spring will be earlier than last year. Unless very severe weather sets in, the frost will be out of the ground in good season.

GRAPE VINES, in the greenhouse and grapery, will now begin to break, and, if properly syringed, will soon require more attention; such as disbud-ding the superfluous eyes, tying up the main shoots, and securing the laterals. Discontinue syringing as soon as the flowers appear, but keep the atmosphere moist by damping down the walks. Increase the temper-ature 5° or 6°, as the season advances. Vines in cold houses will not require attention till April, taking advantage of the first good weather to uncover the vines, and get them ready for starting.

ORCHARD-HOUSES should be kept cool till the last of the month, when they may be closed in time to get up a slight action in the trees in time for the good weather of April.

PRUNING may now be done in all good weather.

SCIONS for grafting may now be cut, keeping them till wanted, as we have previously advised.

STRAWBERRIES in pots, in a frame, may be brought into the house, and placed on a warm shelf.

FRUIT-TREES, kept in the cellar, may be brought into the grapery or greenhouse, and started into growth.

FLOWER DEPARTMENT.

Every day brings forward the plants, and as the camellias go out of bloom there are others to take their places. The cinerarias, calceolarias, cyclamens and pelargoniums, will begin to flower, and gloxinias and achimenes, if started early, will add to the brilliancy of every collection; a fresh stock of hyacinths will add fragrance as well as variety and beauty. An abundance of work will now crowd upon the ambitious gardener, but by beginning in time a great deal can be done, and the hurry of planting greatly facilitated by early attention to the work to be accomplished.

CAMELLIAS, now nearly out of bloom, and beginning to grow, should be gone over and carefully pruned back to good strong wood. No plant bears the knife better; and many collections are spoiled for want of seasonable pruning. Shade from the hot sun; syringe often, and water with liquid manure.

AZALEAS will continue to flower; give plenty of water, as they come into bloom, and shade from the hot sun. Young stock should be shifted into larger pots.

PELARGONIUMS, of all kinds, will now begin to push up their flower

stems, and unless care is taken will run up weakly. Give an abundance of air, night and day, if necessary. Water more freely, and turn the plants round once a week. Tie out the shoots again, and bring the plants into handsome shape; avoid any attempt at forcing the growth.

JAPAN LILIES will now be growing rapidly, and should be placed on a light airy shelf. Shift into larger pots, if the plants require it, and water occasionally with liquid manure.

DAISIES, kept in frames, and now brought into the house, will soon be in full flower.

NEAPOLITAN VIOLETS, in pots, should be placed on a shelf, near the glass, in the coolest part of the house.

PANSIES, potted off into small pots, will make fine blooming plants by May.

FUCHSIAS should be shaken out of the old soil, pruned well in, and repotted in fresh rich soil.

PALMS should now have a shift into good rich light soil.

BOUVARDIAS, done flowering, should be very slightly watered, and allowed to rest, previous to starting them into growth for the summer.

CISSUS DISCOLOR should have a shift into good coarse peaty soil and sand.

MARANTAS should be repotted, shaking the roots out of the old soil.

AMARYLLISES should be repotted, and placed on a warm shelf, plunged in bottom heat, if possible.

SEEDS may yet be sown for early flowering, particularly asters, zinnias, stocks, &c.

DAHLIAS, started now, will bloom early in the season.

CONTINUE THE PROPAGATION of all kinds of bedding plants, of which a stock is wanted.

VEGETABLE DEPARTMENT.

March is the season to commence operations, first by making a good hotbed, in which should be sown all the vegetables required for early use. The directions in our previous volumes may be referred to, without repeating them here. A good bed, two feet high, when well made, will answer every purpose. When the violent heat has subsided, sow all such seeds as are wanted, either directly in the ground, or in pots or boxes.

LETTUCE, RADISHES, &c., should be sown in rows in the bed.

CUCUMBERS should be sown in pots, about four inches broad, three or four seeds in each pot.

MELONS in the same way.

CABBAGES AND CAULIFLOWERS may be sown in the bed, in rows.

TOMATOES AND EGG PLANTS may be sown in pots.

PEAS may be started on pieces of sod, and easily removed to the open ground, in April.

EARLY POTATOES may be forwarded by getting them well sprouted in the hotbed, and afterwards planting out.

COLD FRAMES should be prepared, into which such plants as are weakly may be removed from the hotbed to harden off before planting in the open ground.

T W E L V E F I N E P E A R S .

NOTWITHSTANDING the pear has always occupied much of our attention, we cannot believe the subject is wholly exhausted. There is not a variety of any merit which has not been noticed, described or figured in our pages. In our thirty-three volumes will be found more than two hundred and fifty varieties fully described and figured. We have given select lists, and special lists,—the lists of horticultural societies and pomological societies. We have from time to time written in detail upon the most desirable kinds, and our last paper was an enumeration of ONE HUNDRED FINE PEARS (Vol. XXX., p. 121).

We propose now to narrow down this list for a special purpose, not because they are not still the same acknowledged fine pears, but because we wish to advocate the claims of the cultivators of small gardens, as well as large cultivators, and to give a reliable list adapted to the wants of almost every man who has room for the small number of a dozen trees.

The Cambridge Horticultural Society, whose discussions on the merits of various pears are given in a previous volume, (XXX., p. 241), recently proposed another subject which the members thought of sufficient importance to demand attention, especially as lists of six or more have been published at various times. As this association enumerates among its two hundred and fifty members the principal cultivators who have carried off all the leading premiums of the Massachusetts Horticultural Society for several years, it is believed they are eminently qualified to give as reliable an opinion as any similar society in the country. Cambridge is famous for its fine pears, as well as the quality produced in that city, which is upwards of 5000 bushels annually, comprising all the leading kinds, and in all more than 100 varieties, which are sent to market by the BUSHEL.

The inquiry has been so often made, "What kind of pears would you recommend for a small garden?" that it was thought the discussion of the Society would at least afford some information, if it was not conclusive to those who read the opinions of everybody, and get so confused as to have a "glorious uncertainty" in the selection of varieties. "What," said a gentleman to us the other day, "would you advise me to plant, as I have room for only ONE more tree. I have the Bartlett, Seckel, Hovey, Urbaniste, Lawrence, Duchess, Sheldon, Doyenne du Comice, Marie Louise and Howell, and what would you do?" This was a difficult question we admit. But our immediate reply was, plant another Sheldon, or Doyenne du Comice, or Hovey, or a Howell, just what you desire the most of in October, November or December:

The questions continually come up. It is easy to name fifty varieties; but very difficult to know which to leave out when only twelve are wanted. The object of the Society is, therefore, to name a dozen, which will supply plenty of pears from August 1 to March 1, a period of SEVEN months,—a dozen sorts which can always be depended upon, without fail—even if not quite up to the fastidious demand of the amateur pear growers. We think they have a very good list, perhaps as good as could be made under all the circumstances, though we are sure some will say, What about the Elizabeth, Boston, Urbaniste, Swan's Orange, Howell, Abbott, Marie Louise, and many more. Perhaps the discussion will show why some of these were omitted; while others were too little known to secure a vote based upon the personal knowledge of all. We give a brief synopsis of the discussion, not having space for the whole, which would fill twenty-five pages, occupying as it did, several hours upon three or four long winter evenings.

THE BEST TWELVE PEARS FOR THE AMATEUR OR FAMILY USE.

DOYENNE D'ETE.

HERVEY DAVIS.—According to his experience, this was the best very early pear for market or family use; about the only pear that will keep without decay—at that season. Ripe, 1st to 10th of August; the leading early pear, the only perfect early variety—good as Beurre Giffard, full as good to keep;

bearing qualities good ; compares with the Rostiezer, likes it rather better. Considered in Philadelphia one of the best and most profitable, sold at \$8 per bushel. Had done well on quince so far—though his trees were yet young ; not large—about the size of Rostiezer.

THE PRESIDENT, C. M. HOVEY, had cultivated the Doyenne d'Ete for thirty years ; the trees originally imported were upon quince stock and produced beautiful pears ; but after a while they lost their vigor and eventually died out ; others were grafted on the pear, and the trees were now nearly a foot in diameter, and bore an abundance of fruit, the only trouble being that they came so early that the robins gathered the largest half of the crop unless picked early before they showed the least signs of coloring. It was a small pear, but its quality excellent, juicy, brisk and truly delicious ; certainly the very best first early pear ; in eating, if gathered and ripened in the house, the last week of July, but usually the first ten days of August. Everybody who desires the earliest pear should have a tree of the Doyenne d'Ete.

ROSTIEZER.

A. DICKINSON.—A first class pear ; eats almost as well as the Seckel ; it was one of the best early pears ; every one who has a garden ought to have a tree ; grows well, good bearer ; not quite so stylish a pear as some. Good either house ripened or gathered directly from the tree ; had picked them from the ground as they had fallen from the tree and found them excellent.

MR. DAVIS.—Had raised the Rostiezer five or six years ; grew well on quince or pear stock ; a good bearer and first quality ; should be picked in season and not allowed to remain on the tree too long.

JESSE HALEY.—A good pear for the season ; bears well, very well. Trees straggling growers ; good on pear, and also double worked ; had no trees directly on the quince.

J. DUDLEY.—Raised it three or four years ; on pear stock ; grows straggling, but if the limbs were kept cut in made a good tree ; the best pear at the season when it is ripe ; lasts in eating three weeks, and good all the time. Thinks it the best pear at the time it is ripe.

P. B. HOVEY.—Thought it one of the best summer pears.

THE PRESIDENT.—Had raised the pear many years; had found it a straggling grower, but a very great bearer; did well on either quince or pear stock. To get fine specimens it required thinning, as the pears grew in clusters, and so abundantly that they were not large unless thinned. One of the few pears which were not wholly spoiled by not being gathered in season. The Rostiezer was better when picked in due season and ripened in the house, but they were also good if left upon the tree, until they fell off. Some pears rotted at the core, and others became mealy; but the Rostiezer was always good.

BARTLETT.

A pear so well known and universally esteemed that it required no farther discussion.

BELLE LUCRATIVE.

MR. DICKINSON.—Did not like it; rotted at the core when hanging upon the tree; wants character; had a tender skin, and turns black. Thought it only second rate; would only have one tree.

MR. DAVIS.—Differed from Mr. Dickinson; had raised it many years; has had old trees. Never found it to rot at the core; was of the best quality; very sweet, too sweet perhaps for some, but it suited him. Keeps for five or six weeks in eating,—and good all the time; a favorite family pear. Good on pear or quince; one of the leading pears.

MR. HALEY.—Had never raised it to any extent. It was, however, a good pear.

C. BENNETT.—Had it in bearing three or four years; bears full every other year; fruit fair; never knew it to rot at the core; keeps well for some time. Did not consider it a first class pear; had not that rich quality and sprightliness that belongs to a pear of the best quality; does not sell so well in the market as the Bartlett and some others of its season.

MR. DUDLEY.—Had raised it four years; had done remarkably well; does not bear regularly; a very nice pear, suits his taste; picked and ripened in the house; good sweet pear—one of the best.

THE PRESIDENT.—Had known it well for more than twenty years. It had all the faults and all the excellences which had been alluded to by the gentlemen who had spoken. It was a good grower, and good bearer, not handsome, for it did not color, which was an objection to it as a market pear. It was, as had been said, subject sometimes to rot, or rather to become soft, yet unlike some kinds when soft it had not the taint of many which rotted. And again, it would hang well on the tree, and keep well when gathered; probably owing to the season, whether wet or dry. Some amateurs thought it too sweet, preferring pears with little more acidity. Summing up all its qualities, its faults as well as its merits, it must be considered a most delicious pear.

BEURRE D'ANJOU.

MR. DICKINSON.—Had ten or twelve barrels the last year; gathered seven from one tree; very even, handsome, keeps well, eats well, stylish, can handle them as you please, and frequently keeps till January.

MR. HALEY.—Thought it one of the best; a good keeper, a good growing tree, bears well and of large size. Succeeds either on quince or pear stock.

MR. DAVIS.—Said his trees were upon the quince; always done well; a favorite with him; good quality, keeps well, an annual bearer, though not so productive as some.

DR. BAILEY.—Had eaten the pears in January; good size, excellent.

MR. DUDLEY.—Thought it a splendid pear, tip top; keeps a long time, one of the best.

P. B. HOVEY.—Said it was a December pear, large, handsome, and keeps well.

THE PRESIDENT.—The Beurre d'Anjou was a most excellent pear; not perhaps quite so melting as could be wished, but very juicy, sprightly and rich, its many other excellences making up for this single want. It was a vigorous growing tree, of handsome form, good foliage, and a regular though not over abundant bearer. Its keeping qualities were also greater than those of almost any other pear, being in eating for nearly two months, and keeping nearly or quite up to January 1, though its period of maturity was the latter part of No-

vember and beginning of December. It wanted color when ripe, which was no objection as an amateur or family pear, but for market was considered important. Another thing, it succeeded well on the quince, and was an enduring tree on that stock ; it was rather slow in coming into bearing on the pear ; but like most pears of like character, it made up for the delay when it did begin to bear. Another thing in its favor was, its habit of growth, making but little small wood and requiring less pruning than many kinds. Taking every desirable quality into consideration, it possessed so many of them as to rank high among the few late fall or early winter varieties.

LAWRENCE.

MR. DICKINSON.—Had several large trees ; but they had not borne much ; thought well of the pear, but it does not appear to bear as well as they should do for profit. Were uneven in size, and should judge it would be a shy bearer ; it makes a fine shaped tree, and everybody ought to have a single tree, but he did not think it so good as Winter Nelis ; did not keep as well.

MR. DAVIS.—Said his trees were on the quince ; and bearing ; fruit large and handsome, and first quality. His trees on pear had not borne, but he had heard it was not an early bearer.

MR. HALEY.—Had done well ; likes the pear ; a good keeper, and good pear every way ; did not know so well about the bearing qualities ; it was a pear good enough for anybody.

MR. BENNETT.—Have young trees ; had done well, as nearly so as any variety of same age ; good quality, even size with him ; good flavor, sold well in market, as much so as any pear ; handsome and takes well in the market.

MR. DUDLEY.—Had never raised any fruit ; one of his neighbors grafted a tree fifteen years ago, which had not yet borne much, and he thought it too slow for him ; it was a fine pear.

THE PRESIDENT.—Said it was undoubtedly true that the trees required age before they produced either very abundantly or very even crops. Five of his oldest trees bore finely the past year, while the others had only borne a few pears. Like the Dix and Urbaniste it made a great deal of wood, and wanted thinning out. If this was judiciously done, no doubt

it would bear sooner. It is a handsome pear, turns yellow, sells well, but requires very careful handling, or it will turn black. Ripe through December.

LOUISE BONNE DE JERSEY.

MR. ASA BULLARD.—Thought it one of the best pears, especially if ripened in the house; very refreshing flavor, and excellent if the skin was taken off.

MR. DAVIS.—Said it was so good a pear that if he could only have one, he would have this; had done remarkably well either on pear or quince; the last two years it has failed, but it was probably owing to drought.

J. WARREN MERRILL.—Said it was a good pear, well peeled, but did not think a pear ought to be peeled; would place it among the best; good size; best bearer of any he had ever raised; had four trees seventeen years, and they never failed to give an ample crop, until last year, which he thought owing to his own neglect in allowing them to bear too much; exposed to the sun it ripened uniformly, and had just astringency enough to suit him. Placed it second only to Bartlett.

J. V. WELLINGTON.—Thought that for everything, health of trees and quality, it ought to stand first on the list. It was the best pear to handle, and none were more salable; bears as well as any other pear; tree healthy, grows handsomely, does not shed its leaves or blight; comes in just after the Bartlett, when wanted. No pear was more desirable, and if he could have but one, he would have this. It keeps a week after it is fully ready for eating.

MR. DICKINSON.—Agreed with the gentleman who had spoken. It was one of the best; a good bearer; a nice pear to handle, ripens easily, and keeps a number of weeks.

A. HOUGHTON.—Would give it preference to any autumn pear; very fine with him; would give up Bartlett in preference to Louise Bonne; his soil was light and dry.

MR. BENNETT.—Had twelve or fifteen trees; all dwarfs, set out ten or twelve years ago; gathered two and a half bushels from one, last year; specimens unusually smooth. Produces more than the Bartlett, and keeps longer after it is ripe; if properly thinned out, of good size and of good flavor; one of the most profitable. His soil was a strong clayey loam; south-

ern inclination ; drainage good. His trees were budded well for this year. Considered the trees as healthy and hardy as any other pear.

THE PRESIDENT.—Was compelled to say that it had not done so well as formerly ; the specimens were russety, rough and spotted, and though this might not be the case on light rich warm land, in his rather moist heavy soil it had not proved near so profitable a pear as many others ; had grown well and borne well, but for want of smoothness and color the fruit had not sold well in market. Though undoubtedly a first class pear, it was not, he thought, so certain as some others, and he much preferred several kinds to the Louise Bonne. In soils that suited it, it would probably continue to be a favorite. He thought, however, it had been overrated.

LE CURE.

MR. WELLINGTON.—Thought it was one of the best cooking pears we have. If he wished a variety for a crop, would grow the Le Cure ; about as profitable as any pear ; but for table use only few are good. Thought one of twelve would do for family use ; a very hardy tree.

MR. DICKINSON.—A very good pear when well grown in warm sandy soil ; fine specimens with a red cheek were almost as good as Bartlett ; cooks well and eats well. Thought almost as much of it as any pear grown ; not quite up to the standard, but the average is good ; not so good in cold soil. Produces abundantly and keeps through January.

LEWIS WHEELER.—Had only one tree, and regretted he had had it so long (ten years), never could get one fit to eat. Disagreed with Mr. Dickinson about its being about equal to Bartlett. He had not had good luck with it.

MR. BULLARD.—Said it grew vigorously and bore too full ; when he got fair specimens they ripened up well, and in January, when there are but few other sorts, it was very good ; but when others were plentiful it was not so desirable. The large specimens are good, late in the season, but can't compare with a first class pear.

MR. DAVIS.—Said he should want one tree out of twelve ; thinks favorably of it for quality if of good size ; should be thinned ; keeps till February, and very fine ; not quite equal to Louise Bonne, but keeps well.

J. N. MERRIAM.—Thought it hardly worth raising; rather have good apples; would give more for one peck of Glout Morceau than a barrel of Le Curé.

THE PRESIDENT.—Said it had many good qualities, and some indifferent ones. The tree was vigorous, hardy and handsome and produced abundantly; the fruit was large, showy and kept well; and when the specimens were fair and well ripened, at the period of their maturity in January and February, they were excellent, not certainly equal to G. Morceau, but good. Considering all its qualities, was it not preferable to grow a pear of which we could be sure of an annual crop of good pears, rather than a very few, perhaps none of a better one? If so we had better grow the Le Cure, until at least we have secured a late pear of superior quality. He had one tree which bore eleven bushels in 1865, and seven bushels in 1866, when forty trees of the G. Morceau and Beurré d'Aremberg, did not bear half the quantity. It preferred a warm soil and warm season, and when these occurred the pears were, as had been said, about as good as the Bartlett. In a collection of twelve for the family it might be a valuable variety.

MR. MERRILL.—Had a single tree, and had fine pears once or twice. One of the best for cooking. No other variety so much affected by exposure; always good on the south side, and poor on the north side of the tree.

SHELDON.

This glorious pear was too well appreciated and prized to need raise the least doubt of its great excellence.

DUCHESS.

MR. WELLINGTON.—Said it was one of the best for family use, or for market, and no member dissented from this opinion.

SECKEL.

Unanimously esteemed as one of the very best, and did not require any discussion.

HOVEY, (DANA'S).

MR. DAVIS.—Said it bore early, was handsome, and he would not be without it in a list of twelve.

MR. HOUGHTON.—Had had it four years; bore two years, but his trees suffered some from drought.

MR. DICKINSON.—Had had trees grafted with it four or five years, made large quantity of wood; very handsome tree, and a splendid pear.

THE PRESIDENT.—Said it had not yet been so generally introduced as many pears, but most of the members had had frequent opportunity of seeing it, tasting it, and knowing it. A magnificent tree, with almost the foliage of a Camellia, vigorous, stocky, hardy as an oak, holding its foliage green to the very verge of winter. Uncommonly productive, bearing in clusters,—all the specimens of uniform size and fair,—never wormy, knurly, one-sided or irregular, ripening up of the richest golden russet, never rotting at the core,—keeping up to the month of January, with a melting flesh and flavor almost unapproachable—it was a pear as yet unequalled. The most intelligent pomologists in England considered it “more delicious than any pear known.”

The varieties having been adopted individually in the order named, upon the conclusion of the discussion it was unanimously voted to recommend the above list as the best twelve pears for family use, to cover the entire pear season. Had the list been confined to the best twelve pears, without regard to season, the list might have been varied; as it is it begins with the August pears, and ends in February, a period of six months, or an average of two varieties for each month, as follows:—

TWELVE BEST PEARS FOR FAMILY USE.

- | | |
|-------------------------|-------------------------------------|
| 1. Doyenne d'Ete, | Ripe from August 1, to August 20. |
| 2. Rostiezer, | Ripe from August 15, to Sept. 1. |
| 3. Bartlett, | Ripe from September 1, to Sept. 20. |
| 4. Belle Lucrative, | Ripe from Sept. 10, to October 1. |
| 5. Louise B. de Jersey, | Ripe from Sept. 20, to October 10. |
| 6. Sheldon, | Ripe from October 1, to October 30. |
| 7. Seckel, | Ripe from October 1, to October 25. |
| 8. Duchess, | Ripe from Oct. 20, to November 25. |
| 9. Beurre d'Anjou, | Ripe from Nov. 5, to December. |
| 10. Lawrence, | Ripe from Nov. 15, to December 15. |
| 11. Hovey, (Dana's), | Ripe from Dec. 1, to January 1. |
| 12. Le Cure, | Ripe from January 1, to February 1. |

Thus we have two pears for August ; two for September ; three for October ; two for November ; two for December, and one for January.

It is unnecessary to say to those who are familiar with pears, that some of the newer kinds may take the place, when better known, of a few of the above ; but they have not been generally proved, and this list is the actual experience of cultivators, covering from four to twenty years. We think however we may safely say that it will be a great many years before the Bartlett, Sheldon, Seckel, Beurre d'Anjou, Duchess and Hovey, one half of the number, will be set aside for other new kinds.

Having thus occupied more space than we could well spare in order to complete the discussion in this number, we commend the list to our amateur friends, and shall be glad to have them send us any remarks upon the list.

The Society at another time will discuss other pears, and also present a list of the best six grapes.

HORTICULTURAL LITERATURE.

BY R. ROBINSON SCOTT.

IN your retrospect for 1866, speaking of a work of an American author, you say that "the work from its real merit has claimed, and will claim an attention, that works compiled from foreign authors, without practical knowledge,—*as most of our horticultural literature is*,—can never receive." It is the latter part of this sentence that most interests us, and I am pleased to congratulate you on the admission that most of our horticultural literature is *foreign*. When we ventured some ten years ago to advance this opinion, or statement, for it was not an opinion, it was objected to. Since then, however, how rapid the progress towards building up a home literature of horticulture ?

The country far from being in want of American works on gardening, is flooded with such. Works on kitchen gar-

dening, Fruit books, Rose books, books on Bulbs, and Parlor garden.—On window gardening, on grape culture—not one but many. We do not propose to offer any opinion of these, many of them we have not seen, for several of them are beyond the means of the gardener, and all horticultural societies do not keep their libraries up to the time; perhaps they have not the means, even if they had the will. The object we have in view is to inquire if we cannot have too many cheap books on horticultural topics? Is the point well taken that what one writer has said well enough, another does not do well to repeat in another book? We are of opinion that unless a book advances really erroneous information or dangerous recommendations, it cannot do any harm, and may reach some inquirer where an older would not. Much of this publishing that we read of, is of course a matter of business, and horticulture is a fertile field for disinterested publishers to operate in.

We want still a little more science in our literature, and this is the great feature in foreign works; there is a little more sprinkling of science in them, as a general rule. We want a few good reprints of European botanical works, with their valuable figures; such works as Schleiden's Principles of Botany, Berkeley's works on Cryptogamic Botany, Dr. Kuhn on Diseases of Plants, and many others which might be noted.. Such works do not mislead, even though they are foreign. The most unpleasant duty, however, is that of inquiry into the ability of our American writers to produce such works as we meet with, without drawing largely on the foreign well. The conscientious reviewer does not fulfil his duty if he does not make this investigation. Men quite unknown to literature get up books now-a-days on every branch of the art. We do not blame them; but there is such a thing as overdoing this, as all other useful works; but let those interested look out for themselves.

The remarks of our correspondent are most opportune. The *Nation* newspaper of Feb. 25th, in a criticism of one of the books above alluded to, has shown that what is called American Horticultural Literature, got up expressly to sup-

ply a great demand, is a mere piracy of an English book, not only page after page of the text, but illustrations without number. Even the ordinary labor of rewriting has been neglected. As we have before intimated, it is better to have the genuine reprints, and let the judgment of every cultivator apply the information to our varied climate or his own practice, rather than to have the views of a compiler who has no personal information of his own to impart, and who has not the requisite skill to supply interpolations or put together disjointed sentences, without making nonsense of what the author intended should be actual knowledge. Gilt edged books full of pretty pictures are all very well to stock a vacant library, or make a show of information, but those seeking real intelligence require something more than this. They want facts based upon actual experience. If there is nothing to be added to our stock of information but mere words, the less that is said,—unless better said than before,—the better. To wade through 400 pages to learn what has already been more concisely, clearly and intelligibly said, under the guise of a high-sounding title, beautiful paper, and pretty pictures, (where not spoiled by alteration), affords very little satisfaction, or accomplishes the object in view.

But this is not all. As a people, as Americans, we ought to have and do have a just pride in really meritorious works of our own; for they reveal our progress in every department of science. They show that all is not superficial; that we are not mere imitators, but that we have thoughts and ideas; that we have experience as well as originality; and that in horticulture as well as other sciences, we can supply most of the information required without borrowing, copying, or as some might express it, stealing from the works of other nations. We hope the ventilation of much of the so-called American horticultural literature will awaken our cultivators to the importance of throwing aside as worthless trash all works which do not emanate from men who are well known for their long experience and skill in all the departments of horticulture—ED.

THE WILD FLOWERS OF NEW ENGLAND.

BY WILSON FLAGG.

As early as the first week in April, we may look for the Liverwort, or Early Anemone (*Hepatica triloba*) one of the earliest of the spring flowers. It is commonly found in the borders of an oak wood, having a southern exposure, the morning and noonday sun being necessary for its perfection, no less than the shelter of the trees. The leaf of the hepatica consists of three lobes not entirely separate; and it is this liver-shape and its mottled hues of green and purple that gave origin to its name. In the early days of British civilization the notion prevailed that if a plant, or any important part of it resembled a part of the human body, it was a specific for the cure of the diseases of that part. Hence the liverwort was used extensively for the cure of derangements of the liver; and a little flower called *Eye-bright*, on account of the likeness of a human eye in its centre, was given for weak eyes. This medical superstition was termed the doctrine of *Siquatures*; and was founded on the belief that Nature had stamped on the plant the signification of its true healing properties:— a sort of analogical reasoning that savors more of poetry than science.

The flowers of this species appear before the leaves, rising in a dense cluster directly out of the ground, surrounded by the foliage of the preceding summer, frequently half covered by the dry leaves of the trees that formed their bedding during the winter, and elevating this foliage, as they lift up their heads into the light. The hepatica, considered an anemone by Linnæus, having a calyx, is discarded from that genus by modern botanists; but we, who are studying flowers as objects of taste and beauty, and who do not wish to perplex our minds with distinctions that may be endlessly multiplied, may be pardoned if we still continue to regard it as a sister of the little wood anemone, having similar habits and delicacy of structure.

The other anemones will soon follow this; but before we look for them, let us direct our attention to the Bloodroot

(*Sanguinaria canadensis*) another of the Signature plants. It bears some resemblance to the hepatica, being quite as early, and producing its flowers immediately from the root. The leaves likewise come up after the flowers, and attain to a very large size before the fruit is ripened. It grows, not in the deep woods, but under the protection of single trees or clumps, and in places where the soil is deep and not encumbered with grasses, bearing clusters of very delicate white flowers with eight petals slightly plaited, and arranged in such a manner as to give the flower a sort of angular appearance. Regarded as a flower, the *Sanguinaria* is too scarce to have become a popular favorite. Very few persons have ever seen it in its native habitats. The root is tuberous and full of red sap, resembling drops of blood, as it exudes from its substance. Hence, it is administered, according to the theory of Signatures, for purifying the blood. In modern practice it is considered valuable as an emetic. This plant is very generally cultivated and is found in many of our gardens.

The woods in the latter part of April are full of Wood Anemones (*Anemone nemorosa*) which though common and abundant are never tiresome to the eye. Their peculiar habitats, always wild and mossy, the extreme delicacy of the flowers, their pure whiteness, often tinted with a blushing purple, their tender drooping habit, and the appearance of one single flower in a whorl of three compound leaves, all serve to render it a beautiful object. The flowers vary considerably according as they are exposed more or less to the open sunshine. In the deep woods we find anemones of a perfectly pure whiteness; in the open pastures they are deeply tinged with purple; and the leaves in these situations are chocolate colored, while those in the shade of woods are purely green. I cannot see the applicability of the term *wild flower* to this genus of plants.

If we admire the Wood anemone as a symbol of delicacy and purity, the Rue-leaved anemone (*A. thalictroides*) is hardly less to be admired, having even more delicacy of structure, but without any drooping habit. Having several erect flowers upon a stem, of considerable length, it is easily gathered and bound into bouquets, and retains its beauty for several

days. The Rue-leaved anemone appears a few days later than the *nemorosa*, and delights more in open fields, especially under the protection of rocks and fences. It is abundant on the edge of woods, but seldom extends into their deep shade, requiring an open exposure for its perfection. This species has white flowers, and differs from the Wood anemone in its variable number of petals in a flower, and its variable number of flowers on its stem. The flowers are surrounded by a small whorl of exceedingly delicate leaves.

The Cinquoils, (*Potentilla*) of which there are many species, are not on any account very interesting plants. The common Cinqufoil (*P. simplex*) deserves mention only as a flower that attracts our observation very early in the season, upon the dry hills and pastures, where it is generally known under the name of barren strawberry. It has only a very superficial resemblance, however, to the strawberry plant, and is of no value except to the botanist, and as we may regard it as contributing its mite toward the decoration of nature.

There is no flower that has more celebrity among our people than the Ground laurel (*Epigæa repens*) probably the earliest of all our wild flowers. I cannot consent to give it the common and unmeaning name of May-flower, thus bringing it down to a level with the fœtid May-weed, and belying its character by an anachronism that attributes to the month of May a flower that belongs to April. The name of May-flower as applied to the *Epigæa* means nothing except what is false. Nearly all our early flowers are peculiarly May-flowers, but this is distinguished from all these by appearing in April. It is a plain misnomer; and as an apology for it, the name is said to have been given it by the Pilgrims, after the ship in which they made their voyage to this country. I do not believe the Pilgrims ever took any notice of it. Their stern necessities would not permit them to go in search of flowers, and moreover, they arrived in December and not in May. The name of May-flower was given to it by some ignorant people who had not wit enough to think of any better name than one which it bears in common with about a dozen other species.

The *Epigæa* is a creeping or prostrate shrub, and is found

mostly on dry knolls in swampy land, growing in small clumps. The leaves are evergreen, and slightly russet, overlapping the dense clusters of flowers, which possess considerable elegance, and emit an agreeable perfume, like that of hyacinths.

A very interesting shrub, sufficiently minute to be classed with the plants I am now describing, also an evergreen, and appearing in flower soon after the Ground laurel, is the Dwarf Andromeda, (*A. calyculàta.*) Though I mean to confine my remarks chiefly to the herbaceous flowers, I shall not omit to mention some of the small shrubs which are remarkable for the beauty of their flowers. This species is a low shrub, growing by the sides of ponds and water courses, in wet and boggy land, attracting attention by its myrtle-like foliage, and rows of pearly flowers. These are very small and cup shaped; but the peculiarity of the species is the arrangement of the flowers along the whole length of the slender branches, hanging very gracefully from the under side, while the leaves scarcely larger than the flowers, stand perpendicularly on the upper side. Neither the leaves nor the flowers have any beauty of color; but their irregular arrangement attracts every one's attention. There is not a lily-pond in the country that is not partially surrounded by the humble shrubbery of this plant, and it is the nearest representative of the Heath family to be found in New England.

The Coltsfoot (*Tussilàgo farfara*) is a foreigner, and so deficient in beauty that I would not introduce it, except for its medical reputation. The flowers resemble small dandelions, though their stem is not a hollow tube. They come up before the leaves in wet grounds which have formerly been cultivated. It is the habit of naturalized plants to occupy old fields, formerly under tillage, now either lying fallow or completely restored to nature. The most of them have probably not sufficient viability to contend with the indigenous plants, except in these fallows. The flowers of the Coltsfoot appear before the leaves, which are so large and broad as to cover them injuriously from the light of the sun, if they were to come up simultaneously. The leaves of the Coltsfoot form the basis of most of the British imitations of tobacco. An infusion of its leaves, before the medical art had been im-

proved by a knowledge of chemistry, was highly prized in the domestic practice of medicine, for its efficacy in curing a cough.

It is difficult, when we are estimating the beauty of a flower, to divest our minds of any vulgar associations that may attach to it. The Dandelion, (*Leóntodon taraxácum*) accustomed as we are to regard it merely as a pot-herb, seems to have no very fair claims to be admired for its beauty. It seems to belong to the kitchen only, and devoted to homely and menial services. But if we knew it only as a wild flower, it would not be much admired. Its leaf is coarse, succulent and without beauty of form; the stem of the flower is large and tubular; and the flowers, though very showy when fully expanded and scattered upon the greensward in the broad sunlight, and gleaming like so many lamps in the meadow, are still of but one uniform color, without those fine contrasts that are so necessary for beauty. The Dandelion flower is always full; its disc and circumference are equally composed of simple ligulate florets. It is not true, as some persons have said, that Nature has made her most beautiful things the most common. Beauty is a luxury, and it is its rarity that makes it such. If it were common it would lose its effect upon our minds. The dandelion is certainly not without beauty; but we should not think of admiring any single flower, but rather the cheerful appearance which thousands of them cast upon a field, when they are all gleaming in the light of the morning sun. One of the peculiar marks of this plant is the pappus or down, made up of simple hairs having a seed at their origin in the receptacle, from which they radiate, and form a globular head of considerable beauty.

The Mouse-ear (*Gnaphálum plantagíneum*) is an inelegant plant belonging to the family of compound flowers. It is allied to the Everlastings, but is without their durable qualities. The flowers are found very early upon dry hills, and are remarkable for their dioecious character. The male flowers are purplish, on short stems forming a flat corymb. The female flowers are white, on longer stems, and form a cluster that is not flattened. The Mouse-ear has but little claim upon our attention, except for its early appearance. The plants

are very pretty in an herbarium, where they may be preserved for years without changing their life-like appearance.

At this season we are tempted to notice everything that bears any kind of a flower. Like persons in a place where there are but few inhabitants, we are glad to speak to the meanest, for the sake of relieving our solitude by some kind of human society. So rarely do we find any flowers during this month, that we can even stop to notice that monster in the floral world, the *Ictodes fœtidus*, or Skunk cabbage,—a thing without beauty, and without anything to distinguish it more than its ugliness and its offensive odor. The flowers of this plant are arranged upon a spadix, underneath and within a sort of hood or bonnet, called a spathe. Nature has protected its flowers by this spathe as carefully and tenderly as a fond mother will cherish her poor deformed child. The flower with its appendages appears before the leaves, and never fails to attract the attention of young botanists, by its peculiar and rather formidable aspect.

The *Houstonia cœrulea* is one of our most common flowers, which like most others that are exclusively indigenous, has no good English name. Like the *Epigæa*, this is also called the *May-flower*, and with more appropriateness; though if it be used to designate a species, *Field-flower* would answer the purpose full as well. Some call it a daisy, others a violet; it is also named *Venus' Pride*, *Innocence*, *Forget-me-not*, *Dwarf Pink*; but all these are either out of character, or useless for designation. The two appellations it has sometimes received of *Snow-flake* and *Star-flower*, are better, especially the latter. When we observe how star-like it is in its appearance, with thousands of its flowers spread over the whole surface of the fields in May, we must allow that there is some propriety in this name: but this name too is given to a great many other species that equally deserve it. We cannot do better, than to designate it by its generic name, as we do the lily and the rose.

It may not be out of place here to say a few words of the *Equisetum arvense*, or *Field Horsetail*, the flowers of which are generally known by the name of *Pipes*. This is a type of one of the grand divisions of the flowerless plants, and is

the most common species in our fields. The leaf and stalk bear some resemblance to a horse's tail. It is remarkable that a whole family of plants should be named after such an ignoble object as the "caudal appendage" of a horse. But all the names used in botany are not poetical, and many of them are far from being decent, especially those applied to several species in the time of Gerard. If the English, however, sometimes gave bad names to a plant, we are indebted to them for thousands which are both poetical and significant. After the Pipes, or flowers of this species have appeared a week or more, the frondage becomes conspicuous, and covers whole fields in damp situations with a beautiful verdure, during the month of June.

Very few people who are not diligent searchers for flowers have ever seen the Purple Fringe (*Polygala paucifolia*), a little flower that comes up in April half buried in grass and mosses, and is made conspicuous by its deep purple hues. Purple Fringe is a name frequently given it by the country people, though it does not appear in any of our books. This is the earliest and prettiest of the polygalas; it is of a lively purple color, with long fringed petals, and is found among the herbage, on rising knolls, in wet places, which have not been much disturbed by cultivation. Another very common species, possessing considerable elegance (*P. sanguinea*) with rose-colored globular heads, appears in wet meadows almost everywhere in August.

NOTES AND RECOLLECTIONS.

BY R.

THE sight of a familiar little *Stellaria* at the Library Room of the Massachusetts Horticultural Society, February 16th, revived many pleasant memories of the days when, thirty-six years ago, I used to find it and other pretty spring blossoms in the woods and on the banks of the Hudson.

The *Stellaria pubera* or downy chickweed, for such it was,

grows in carpet like sods of a foot or more across, or, rather like some little fancy-wrought mat, spreading out its stiffish, square-stemmed branches all around and perfectly white with its snowy petaled flowers. Its leaves look like some of our narrow lanceolate foliaged phloxes, much like *P. suaveolens*, its flowers are borne at the ends of the branches, on forked pedicels, five acute-tipped but ovate sepals, each with a whitish margin, make up the calyx, five deeply cleft pure white petals with eight or ten elevated fleshy veins united in pairs at their tips, compose the corolla, ten short and white filaments support golden anthers, and a three parted stigma crowns the flattened, globular ovary. Short and almost minute hairs invest the edges of the leaves, and the surfaces of the peduncles, and the seeds are smooth and numerous. The specimens exhibited were raised from seeds brought from New York and given to Mr. James McTear, the contributor. Though these were but the tips of the branches with a few leaves and the very first blossoms, scarcely giving any one a correct idea of the habit of the plants, the flowers seemed to greet me in a very familiar way, though bearing as they did an erroneous name. We hope Mr. McTear will cultivate it for its seed, and introduce a pretty plant for rock works; it growing naturally in rocky ground and broken soil.

His *Arabis blepharophylla* (Hooker and Arnott) was a novelty and an interesting Californian species, discovered originally by Douglass. We would like to have improved upon the character of its blossoms, thinking that white petals would have been more becoming than the dull purple; but cultivation will doubtless produce white flowered seedlings, all in good time. With a lens, and perhaps younger and stronger eyes, there could be seen upon the margin of the leaves, rigid simple or sometimes forked hairs, or cilia, giving to the dark green foliage, the appearance of being furnished with eye lashes, whence the pretty and appropriate specific name. Very good, thought I, for a cold rainy, sleety day in the middle of February, to find a rare Caryophyllaceous native plant, and a new Cruciferous one from the other side of the Rocky Mountains! to find an old friend and an interesting stranger; and quite appropriate companions, though small, humble and

modest, to the wonderfully fine seedling camellias of Messrs. Hovey, which I understand delight not the florists' ear by any distinctive name—though one, I was informed was B, and so probably the “big B,” or bouncing B of our early alphabetical instruction florally illustrated, and superbly illuminated. May the Hoveys raise a thousand such, as good and better if may be; and who would want his or her name better associated than with some such gem of the floral kingdom? But alas! to be only known as Jones or Smith, all one's days!

In those fine woods fringing the beautiful Hudson, used to grow the Squirrel corn, better known as Dutchman's breeches (*Dicentra cacullaria*); carefully petted in gardens and favorably comparing with other and larger species of the *Corydalis* family. Some reward me with their exquisitely formed spreading leaves, and ridiculously shaped flowers, in gratitude for my admiration of a cluster of them I found one balmy morning among some broken slaty rocks, and which I can vividly see now; they are growing within my garden's pale, unmolested and cherished.

To see the purple azalea or pinxter flower (*Azalea nudiflora*) as it used to grow in the warm sandy soil and, later, the broad leaved kalmia, in their full glory, were worth a trip to the highlands and to the broader plains which extend from the river to the foot of the range where, on North and South Beacon, grow the sweetest and loveliest May-flower (*Epigæa*) and trailing arbutus (*Arctostaphylos ûvaûrsi*) that eye would wish to see.

Under the pines and other trees I have plucked the spotted wintergreen (*Chimaphila maculata*) and on the broken ledges overhanging the tide, used to be the small honeysuckle (*Lonicera parviflora*) its bulging tubular corolla of purplish yellow-green, seeming like some sarcasm on its delicious scented sister species, the richly perfumed Woodbine of England. And among the very gravel and pebbles of the beach, just beyond the line of high water, are stately stems of the ivory white *Anemone pennsylvanica*, which, transplanted into my garden, shows its willingness to become a good Yankee flower by sending up its suckers far and wide; but how handsome in blossom, conceive of a white butter-cup on a tall stem, and you can know.

And there used to grow on the limestone boulders especially, the curious Walking-leaf fern (*Camptosorus rhizophyllus*) and which I have successfully cultivated, but unfortunately lost. Some freshly gathered *spores* would be very acceptable from any fern amateur who may have it in his possession. Ah! that day of fern gathering in the ravines of the Fishkill Mountains, that fervid day of mid June, 1850, when with KNEVELS and GLOVER I pretty thoroughly explored the woods, and climbed the rocky prominences to gather whatever we could find! Among these hills TORREY used to herborize and investigate the flora of the region made classic by Revolutionary and modern associations alike; and opposite, the fine collections of Downing in horticulture, vied with the rare botanical treasures from more obscure branches of science of BAILEY'S labors. And the quick, eagle's eye of Drummond detected on the rocks and in the soil the delicate and tender green mosses which it was his forte to study. In this river town, too, I saw the first and the noblest tulip tree (*Liriodendron*), the most showy catalpas, the stateliest locusts. Thanks little starry chickweed for your pleasant, cheerful blossoms which awakened these memories of the past.

GLYPTOSTROBUS PENDULUS.

BY JOSIAH HOOPES, WEST CHESTER, PA.

IN the last issue of the "Magazine of Horticulture," in the list of new plants, there appears a notice of the *Glyptostrobus pendulus* *Endl.*, extracted from the Botanical Magazine. In reply to the remarks accompanying the same, permit me to say, that in Pennsylvania this beautiful species is entirely hardy and very desirable. A specimen in the writer's collection, planted some twelve years since, is now about twenty-five feet in height. A tree in the "Evans Arboretum," near here, is still larger, and has never been injured in the least. There are other excellent plants in the vicinity, principally grafted on the well known Deciduous cypress.

(*T. distichum*). I have no doubt but what it would succeed in the climate of Boston; and if so, you will have a very valuable addition to your arboretums.

Gordon in his "Pinetum" has adopted the classification of Noisette, and calls this species *Taxodium sinense*, in which he is undoubtedly wrong. Loudon, upon the introduction of this tree, called it *T. distichum pendulum*; but with too short an acquaintance, he also fell into error. It is found growing wild, in low moist soils, in the northern portions of China, and perhaps Japan; where it is also cultivated for ornament. It forms a very straight, conical tree, with horizontal branches, and short drooping branchlets (hence the specific name), bountifully supplied with curiously twisted, light-green leaves.

The Weeping Deciduous cypress is one of the few trees belonging to the Coniferæ, that drop their leaves during the winter months. In the autumn, the foliage early changes to a yellowish hue, gradually merging to a dark red, and then dropping from the tree.

We are pleased to learn from Mr. Hoopes of the successful cultivation of this cypress in Pennsylvania. At the time we penned the remarks referred to, we had inadvertently overlooked the fact that we had this same tree in our collection under the name of *Taxodium distichum pendulum*, received from Mr. Rivers some years ago. But at the moment forgetting the synonyme, thought it a new species. We can only say, however, in confirmation of our doubt of its hardiness, that our tree suffered severely from the cold winter of 1857, and is now after ten years little more than a shrub. Perhaps the location was not a favorable one; at any rate we wish after Mr. Hoopes's experience to see it fairly tested in our New England climate.—ED.

THE CZAR VIOLET.

BY THE EDITOR.

THE Violet is a universal favorite. Poets from the earliest ages have sang its praises, and the associations connected with it have endeared it to all. That quaint old author, Gerard, thus alludes to it:—

“Violets haue a great prerogative aboue others, not only because the mind conceiueth a certain pleasure and recreation by smelling and handling those more odoriferous floures, but also for that verie manie of these violets receiue ornament and comely grace, for there be made of them garlands for the head, nosegaies and posies, which are delightful to look upon, and to smell to; speaking nothing of their appropriate virtues; yea gardens themselves receiue by these the greatest ornaments of all, chiefest beauty, and most excellent grace, and the recreation of mind which is taken hereby, cannot be but very good and honest.”

Humble and lowly in habit, not ranking among the showy and attractive flowers, yet the simple beauty and delightful odor of its blossoms have gained a place for it in all the gardens of both rich and poor. Shakespeare speaks of

“Violets dim,
But sweeter than the lids of Juno’s eyes.”

and in reference to the odor of its flowers, pronounces it

“Wasteful and ridiculous excess
To throw a perfume on the violet.”

But we need not occupy space in any attempt to eulogize its merits or to show the estimation in which the violet has ever been held. Our object is to bring to the notice of all who admire and cultivate it, a new and fine variety, introduced the last year, which so far as regards both beauty and fragrance, is a great advance over the old kinds.

The common or English violet so called, the Russian, and other kinds are tolerably well known, as are also the common double blue, and the Neapolitan, also double. The latter is somewhat tender, and does not flower as freely during autumn and winter as the single varieties.

The new variety called the "Czar" (FIG. 4) is a seedling raised by J. L. Graham, Esq., of Cranford, near London, a year or two ago. What its parents were we are not informed. It has twice the vigor of the old violets, with larger and much stronger foliage, and flowers nearly or quite double the size,



4. THE CZAR VIOLET.

measuring an inch and a half in diameter, with broader and stiffer petals, and borne on footstalks, from four to six inches long. It is also deeper and richer in color and more fragrant —altogether a very marked improvement. It is so hardy that

it continues in bloom the entire winter, even when the frames are covered with snow.

Mr. Graham, the originator of the Czar, who received a certificate of merit from the Royal Horticultural Society for its fine qualities, writes us that it is altogether the most popular variety, and has nearly driven the other kinds out of the market, and the Gardener's Chronicle, in alluding to the improvement in the violet, states that the Czar eclipses all others which have preceded it. Its vigor and abundant blooming qualities are so great, that one hundred and thirty-four flowers have been counted on one plant.

The Double Violets have a prestige which induces many cultivators to believe a single variety cannot possess great merit, but with the violet, and some other flowers, this is a quality which is of minor importance, especially when offset by the large size, stronger fragrance, hardier habit, and long footstalks which make the Czars so conspicuous and so very desirable for bouquets.

FLORICULTURAL NOTICES.

NEW PYRETHRUMS.—Among the novelties of this tribe, of which so many have been raised of much beauty, a new yellow leafed one is announced as having been exhibited. It is a dwarf variety with beautiful feathery foliage. The color at present was as nearly as possible that of Golden Fleece geranium. Messrs. Henderson who introduced it, however, having tried it for bedding purposes last season, state that it is a beautiful golden yellow later in the season, and always retains its dwarf habit, even under cultivation in pots. As a bedding plant it promises to be most serviceable, being unique and distinct. It is to be brought out this spring and named "Golden Feather."

THE FUCHSIA.—The remark is frequently made, that the new varieties of fuchsias are not much improvement upon the older kinds, and that we want something more distinct and decided. Yet a writer who has the identical old

original fuchsia, introduced thirty or forty years ago, flowering side by side with the latest kinds, states the flower of the latter weighs *eighteen* times as much as the former! Few flowers have undergone a greater change since their first introduction, or even the first great novelty of 1842, (*Venus Victrix*.)

929. WEIGELIA MIDDENDORFIANA VAR. PURPURATA. PURPLE-FLOWERED WEIGELIA. Garden Hybrid.

A hardy shrub; growing 2 feet high; with purplish flowers; appearing in spring; increased by cuttings. *Ill. Hort.*, 1837, pl. 495.

This is a distinct and handsome variety of the *Weigelia*, raised probably between the *W. Middendorfiانا* and the *rosea*, by M. Van Poppel, of Prinsenbergh, Holland. The habit is dwarfer, the leaves smaller, and the flowers, which are of a rich crimson purple, rather smaller and appear in more dense clusters. It is a distinct and fine addition to our hardy shrubs. (*Ill. Hort.*, Oct.)

930. RHODODENDRON ARCHDUKE ETIENNE. Garden Hybrid.

Illustration *Horticole*, 1837, pl. 491.

This is another of the beautiful hybrids for which the Belgian collections are so celebrated—a variety produced by M. Verschaffelt. The flowers are pure white, and magnificently spotted with dark purple and crimson, forming a rich and superb contrast, and one of the most effective and striking seedlings that has been produced. These seedlings, though hardy in Belgium, are not quite hardy in our climate. We only regret that our gardens cannot therefore be enriched with these superb varieties, unless well protected in winter. (*Ill. Hort.*, Sept.)

Gossip of the Month.

FORSYTHIA.—Twigs of this fine Japan shrub, gathered in winter or any time previous to their opening in the gardens, will blossom very prettily if plunged in water and kept in an atmosphere of 45 or 50° Fahr., in the course of ten days, making, with some pieces of lycopodium, (ground pine, laurel or holly, quite a nice winter bouquet.—R.

Massachusetts Horticultural Society.

Saturday, Jan. 5, 1867.—The Annual Meeting of the Society was held to day, the President in the chair.

The President, C. M. Hovey, Esq., delivered his valedictory address as follows:—(The address will appear in our next number.)

The President then introduced his successor, J. F. C. Hyde, Esq., who took the chair and delivered a brief inaugural address, alluded to the services of the retiring President, and the prosperous condition of the Society.

The Finance Committee submitted the following Report for 1866:—

RECEIPTS OF INCOME.

By cash in Treasury, January 2, 1866,	-	-	\$7,077 54
“ Rent of stores,	-	-	11,450 00
“ Assessments and admissions,	-	-	2,575 93
“ Rent of Halls,	-	-	5,235 50
“ Received of Mount Auburn Cemetery, 1866,	-	-	8,735 40
“ Sundry receipts, exhibitions, &c.,	-	-	1,695 47
			\$36,769 84

EXPENDITURES.

Cash paid prizes for 1865,	-	-	\$2,848 00
“ “ Prizes for 1866,	-	-	2,534 00
“ “ Salaries, &c.,	-	-	2,286 66
“ “ Interest,	-	-	6,562 04
“ “ Insurance, five years,	-	-	1,125 00
“ “ Taxes,	-	-	2,925 20
“ “ Additions and alterations,	-	-	2,193 87
“ “ Furniture,	-	-	1,464 65
“ “ On floating debt,	-	-	6,355 55
“ “ Stationery, printing, &c.,	-	-	1,592 80
“ “ Sundry bills, coal, gas, &c.,	-	-	6,615 41
Cash in treasury,	-	-	266 66
			\$36,769 84

PROPERTY OF THE SOCIETY.

Real estate, building and furniture, costing at date,	-	-	\$249,082 87
Library and glass ware,	-	-	5,427 06
107 shares, C. and P. Railroad,	-	-	8,132 00
Cash in treasury,	-	-	266 66
			\$262,908 59

The Society owes, secured by mortgage,	-	-	100,000	00
Floating debt,	-	-	35,000	00
			<hr/>	
			\$135,000	00
Leaving a balance of Society's property,	-	-	127,908	59

On motion of Mr. C. O. Whitmore, voted that the thanks of the Society be presented to the retiring President, C. M. Hovey, for his highly interesting address, and a copy requested for publication, and that it be referred to a committee of three. Messrs. Wilder, Hunnewell and Whitmore were appointed the committee.

The thanks of the Society were voted to the President, J. F. C. Hyde, for his excellent address, and a copy requested for publication.

Prof. Russell submitted a report upon the robin, which was read much to the gratification of the Society.

On motion of C. M. Hovey, it was voted that a committee of five, of which the President should be chairman, be appointed to visit the fruit house erected by J. S. Converse, Esq., of Malden, upon the principle of Prof. Nyce. and report upon the condition of the fruit, and the importance of his invention. J. F. C. Hyde, C. M. Hovey, E. A. Brackett, W. C. Strong and W. R. Austin, were appointed the committee.

A testimonial of \$50 was voted to Mr. Story, late Chairman of the Flower Committee.

George Craft resigned his office as member of the Flower Committee, and O. H. Pêck was chosen to fill the vacancy.

H. Davenport, Thomas H. Smith and D. H. Blaney were elected members.

Adjourned one week, to January 10th.

Horticultural Operations

FOR APRIL.

FRUIT DEPARTMENT.

March has been a cooler, more stormy and unpleasant month than February. No out door work of any consequence could be done, and the snow still covers the ground. Work has been confined mainly to the forcing houses.

GRAPE VINES in the grapery will now be growing freely, and will soon begin to flower; as the latter begin to open all syringing should be discon-

tinued, the house aired freely and the temperature slightly increased. Such kinds as Muscat of Alexandria, Muscat Hamburg and some others, not free setters, should be well shaken every fine sunny day, in order to distribute the pollen. Damp down the house occasionally. Vines in cold houses should now be uncovered, and tied up to the trellis; keep the house well aired and rather cool so as to prevent the vines from starting too soon, and render them liable to injury by a few days of cool weather. Syringe often as the month advances and the weather favorable. Vines in the open air should be uncovered, and towards the close of the month tied up to the trellis; manure and fork or spade the ground around the vines.

FRUIT TREES should now be pruned if not already done. Transplanting may be commenced as soon as the ground is in good condition. Wash and clean all trees infested with insects.

ORCHARD-HOUSES should now be kept warm, and the trees syringed often until they begin to flower.

STRAWBERRY BEDS should be weeded as soon as the weather will admit; weed, rake and clean both young and old plantations; and if the ground is poor apply a light coat of bone dust.

SCIONS should all be cut immediately.

CHERRY, PLUM and PEAR Trees should be grafted.

CURRENT AND GOOSEBERRY cuttings should be put in.

TAR or otherwise protect trees from the cankerworms.

FLOWER DEPARTMENT.

The greenhouse and conservatory should now be the gayest of the year. In addition to the flowers already noticed, the pelargoniums, fuchsias, calceolarias and cinerarias will be showing their blossoms, and bulbs of all kinds brought in successively will form a rich addition. Where there is space, or available means, such plants as have done flowering should be removed to reserve houses and their place filled with others. Even cold frames will answer for heaths, and many half hardy plants.

CAMELIAS will now be growing vigorously and should be freely syringed morning and night; shade from the hot sun, and water once a week with liquid manure. Plants yet in flower should be pruned in as soon as the flowers have all opened.

AZALEAS will begin to make a great display; syringe until the flowers begin to open, when it should be discontinued, and moisture supplied by damping the walks. Shade from the hot sun, and water occasionally with liquid manure. Repot young stock and hurry on in a moist warm house. Nip the tops of young growth to form bushy plants.

PELARGONIUMS will now be throwing up their flower-stems. Turn the plants round often, give an abundance of room to each, and air liberally every day. Water with liquid manure, and when fully in bloom shade in the middle of the day from the hot sun.

FERNS should be repotted, and kept in a moist warm house, syringed freely morning and night.

CALADIUMS started early should be repotted, and kept on a shelf near the glass, shading in the middle of the day. Fresh roots for late growth should now be potted.

HEATHS done flowering should be headed in, and removed to a cold frame where they can remain till time of planting out.

GLOXINIAS AND ACHIMENES should be repotted.

PALMS may now have another shift into larger pots.

CISSUS DISCOLOR should be repotted, and trained up to some kind of fancy trellis.

CYCLAMENS done flowering should be kept dryer and cooler, removing if convenient to a frame.

FUCHSIAS should have a shift into larger pots, using rich soil, and placed in a half shady situation for a week or two.

SCARLET GERANIUMS intended for specimens should be treated similar to pelargoniums, using richer soil, and watering more freely with liquid manure.

BOUVARDIAS done flowering should be kept rather dry until time of planting in the open ground.

PETUNIAS, VERBENAS and other bedding plants should be removed to a cool frame to harden off before planting out.

GARDENIAS removed to a bed with brisk bottom heat will flower freely.

AMARYLLISES now starting into growth should be potted and placed in a good hot bed.

FLOWER GARDEN AND SHRUBBERY.

With April the lawn and pleasure grounds, the shrubbery, walks, &c., should be put in order. Roll, rake and clean up as speedily as possible. If the lawn looks poorly top dress with guano, or bone dust, and give a thorough rolling. Dig lightly among the shrubbery, and level, rake and roll the walks.

SEEDS of all the hardy varieties may be sown immediately, first well preparing the ground by digging, raking, &c. Lackspurs of the finest kinds sown in beds are almost as fine as hyacinths. Any good catalogue will show which are the leading hardy varieties.

GLADIOLUS may be planted the last of the month for early bloom, making another plantation in May.

BULBS of all kinds should be looked after, uncover the beds and clean and stir the surface. Hyacinths and tulips will require the first attention, and afterwards the lilies.

HERBACEOUS PLANTS should be uncovered, and if they require it taken up and reset.

HOLLYHOCKS, CARNATIONS, and all plants wintered in frames should be set out early before the weather is warm.

DAISIES, PANSIES, &c., may be set out in the border or in well prepared beds.

CANNAS, and similar ornamental leaved plants, should be potted and brought forward in a favorable place for planting out in good season.

GARDENING FOR PROFIT.

It is not to be supposed that the mass of what may be termed amateur cultivators of the garden, the orchard, or the greenhouse, ever intend to follow the pursuit as a matter of profit,—they rather do it for a real love of horticulture, for the pleasure and instruction it affords, and the invigorating influences which spring from an active participation in its labors, giving them frequent opportunities to enjoy the fresh air, and the exercise connected with the varied details of cultivation. But there are many, whether they may be termed amateurs or not, though it is common to consider themselves so, who go into the cultivation of fruits and flowers with a view to realize large profits,—gentlemen often of means and education,—who knowing that many men without means or much education either, are highly successful in their gardening labors, and lay up annually a moderate sum, against the time when they will be unable to perform their duties with the same strength and the same zeal—seize upon the opportunity to emulate their example. The field is large, and judging of ordinary commercial laws, the larger the capital the greater the amount of profits. The rule, however, does not appear to work, and in a short time it is found that personal supervision alone will ensure success, and that gardening cannot, like manufacturing and some other professions, be made profitable, through the agency of other parties.

“ He who by the plough would thrive,
Must either hold, himself, or drive.”

The best illustration of the fallacy of the current idea, that when all other occupations have failed that of farming or gardening can be made successful, is given in a most excellent work, by Peter Henderson* of Jersey City, recently published, which has laid before us for some time, but which the crowded condition of our columns has prevented us from

* Gardening for Profit, by Peter Henderson. Illustrated. New York, 1866.

noticing. It is eminently an original book, and no rehash of other writers, and one of the very few which may be considered as belonging to American horticultural literature. It records the actual experience of eighteen years devoted to a special purpose, and gives us facts and details of all the operations of gardening for profit—for supplying the great market of New York. We can read chapter after chapter, and feel as we read that the author has done all he records, with his own hands, and hence, with his success we are sure that we shall be safe to follow him, though experience alone, as in his own case, will bring the same profit, for Mr. Henderson has made his occupation as profitable as it is honorable.

It would be interesting to our readers perhaps to follow Mr. Henderson through the various chapters of his work; but this we have not the space to do. Besides, we should not do justice to the admirable manner in which he has treated Gardening for Profit. Beyond a notice of his introductory and general remarks, we must refer to the volume itself.

Mr. Henderson appreciates fully the importance of real information upon the subject of cultivation by those who attempt to teach by the aid of books, and he fully bears us out in our remarks in our last number:—

“We have very few works,” says the writer, “either agricultural or horticultural, by American authors, whose writers are practical men, and fewer still of those who are men who have ‘risen from the ranks.’ The majority of such authors being editors, lawyers, merchants, &c., men of means and education, who, engaging in the business as a pastime, in a year or two generously conclude to give the public the benefit of their experience—an experience, perhaps, that has been confined to a city lot, where the teachings were of the garden, or of a few acres in the suburbs, where the teachings were of the farm.”

“The practical farmer, or gardener, readily detects the ring of this spurious metal, and excusably looks upon all such instructors with contempt. To this cause, perhaps, more than any other, may be attributed the wide spread prejudice against book farming and book gardening, by which thousands

shut themselves off from information, the perusal of which might save years of useless toil and privations.”

This is the true stand point from which all progress is made. Theories may be advanced by those who know but little of the practical workings of the garden or farm, but it is only experienced men who can confirm the practical value of such theorizers. Without in the least disparaging education as an important aid to the cultivator, yet Mr. Henderson affirms, so far as his experience goes, “that any common laborer, with ordinary sagacity and three months practical working in a garden, would have a far better chance of success, other things being equal, than another without the practice, even if he had all the writings, from Liebig down, at his fingers’ ends. The successful cultivators are all active workingmen, who depend “alone on their own heads and hands for success, and not on the doubtful judgment and industry of a head gardener, who has no further interest in the work than his monthly salary.”

The work is divided into seventeen chapters, which treat successively all the departments of culture; showing what Men are fitted for the business; the amount of Capital required; Profits of Market Gardening; Location, Situation, &c.; Soils, Drainage, &c.; Manures; Implements; Uses and Management of Cold Frames; Formation and Management of Hotbeds; Forcing Pits and Greenhouses; Seeds and Seed raising; Seeds, how and when to sow; Transplanting; Packing Vegetables; Preservation of Vegetables in Winter; Insects; Vegetables and their Varieties; Propagation of Plants by Cuttings; A Calendar for each Month, &c. Each and all are treated in a plain, practical, and common sense manner, which every reader can understand, and so far as all but experience, apply to his own practice. The hints on hotbeds, and cold frames and their management, are invaluable to all who would reap success in the growth of early vegetables, flowers and plants. Our brief space alone compels us to condense our notice of this highly useful volume.

F A R M E M B E L L I S H M E N T .

BY REV. A. D. GRIDLEY.

WE are far from believing that farmers have no eye for landscape gardening. The trouble is they think they have no time for it, or at least none for the careful details of gravel walks, flower gardens, lawns, terraces and the like. Whatever they do must be on a large scale. We therefore beg leave to suggest a few hints to them.

They like to look upon large meadows, large grain fields, large wood-lots. Yet it often happens that their houses are surrounded by straggling masses of high trees, high fences and out-buildings, so that they and their families cannot see out and enjoy the fine landscapes around them. There is perhaps a broader interval lying below the knoll on which the house stands, dotted here and there by groups or single specimens of fine trees. Perhaps a creek or river winds through this valley, now sparkling in the sun, and now resting in shadow. Beyond it are sloping hills, covered in part with woods, and the cleared spaces enlivened with flocks of sheep and cattle. In another direction lies the village, with its church spires and its sun-lighted roofs.

Now, would it not add much to the value of that homestead to have those prospects opened up, so that the family could enjoy them? And the farmer's axe could do nearly the whole of the work; do it, too, in the winter, when other work does not press for attention. All that is wanted is a little resolution to undertake the work. If some rickety shed or cow-house stands in the way, move it back out of the view. If trees obstruct, down with them. For, good and desirable as trees are when in their places, it sometimes happens that their absence is better than their presence. Yet, in advising that trees be cut down which hide desirable views, we do not mean that all the trees about a farm-house should be swept away; but rather that vistas be opened through them, by cutting down those which shut out the finest prospects from the doorways and windows. Indeed, it enhances the beauty of a landscape to leave groups of trees between them, to serve

as frames for the several pictures. It may be true that the farmer himself owns only a small fraction of these several landscapes, but they virtually become his by mental appropriation. The prospects are his to enjoy, without the care and labor and cost of owning all the land. And in these days of high-priced labor, and these days when farmers will grow old and weary, this is a consideration of some importance.

And just here, comes in a hint worth noting. If the farmer's land does not extend widely on any particular side, he can give his homestead an appearance of greater dimensions by concealing its boundaries. Instead of having a line of wooden fence or a stone-wall running across the fields in plain sight from his door, he can make a wire fence (invisible at twenty yards,) or a sunken fence, (the English *ha-ha*,) or he can conceal his fences by occasional groups of shrubbery. By a little management of this sort, one can accomplish some very pleasing results.

One of the most important features of every country-seat is the lawn. It is so of all places, large or small. It gives more permanent satisfaction than flower-borders, or fountains and vases and other artificial adornments. Now, the farmer is the man of all others who should have a fine lawn. He may not find the time to grade it with extreme nicety, or to keep it in the highest finish, but he can easily have a broad-sweeping surface of smooth grass around his house, and he can keep it in respectable condition. Let him lay off from one to three or four acres in front or on two sides of his house, and having ploughed and harrowed it smoothly, sow it with timothy, red-top and a little white clover. Plant a few shade-trees upon it, both deciduous and evergreen. Lay out no walks or roads through it except such as are demanded by necessity or convenience. This lawn may be pastured by sheep or a few cows, or it may be kept under the scythe, cutting the grass near the house once a fortnight. But we need not specify just how the grass shall be managed,—leaving that to the wants and taste of the farmer himself; only, give us this expanse of smooth turf sacredly reserved from all other uses, and we have given the lawn an aspect of

elegance, repose and comfort which can be secured in no other way.

To embellish the farmer's home in the way now suggested, and to keep it in good order from year to year, it may not always be safe to leave the work wholly to the proprietor's moods, and to chance opportunities. It will be better for the wife and daughters to secure at the beginning of each year, the pledge of a weekly holiday, or half-holiday once a week, in which one or more of the farm laborers shall be at the bidding of the ladies to work at some kind of home embellishment. In the spring and fall, the work will be such as planting trees and shrubs; in summer, it will be making or clearing walks, mowing the grass and such like. By some systematic plan of this sort, there will be a great saving of household friction, and the place will be kept uniformly in good order.

But we need not pursue this topic into further details. Our object is simply to suggest a few thoughts to stimulate the farmer's ambition in the way of rural embellishment, and to show that the idea is one that can easily be reduced to practice.

CITY GARDENING AND GARDEN ARCHITECTURE.

BY ROBERT MORRIS COPELAND, BOSTON.

THE rapid growth of the cities of the Northern United States has greatly surprised those who live in or visit them, and many large fortunes have been made by holding real estate in cities until the increasing demands of business or population has greatly enhanced its original value.

When the New York Central Park was first proposed a majority of persons believed it would be a costly folly, or at best a costly sanitary measure, which only an extravagant city could afford. Already the increased taxes derived from the lands which surround the Park are equal to the annual interest and cost of its maintainance, and it is believed that in a few years more the increasing taxes will be sufficient to make a sinking fund to repay the original cost.

Men have become so well convinced that city lands will grow in value, that they are favorite investments with those whose means are sufficient to enable them to place their money where they shall derive no immediate income.

Other men, unable to let their money lie idle, build tenement houses on their lands, in order that the rent from them may return interest and taxes whilst they are waiting for a good time to sell.

It is strange that none of the rich men who have purchased vacant lands have seen that there was a third method of getting a satisfactory return for their money, in pleasure as well as in profit.

Boston is deservedly famed for its interests in horticultural pursuits, and in its environs may be found more tasteful country houses than anywhere else in the United States; but none of its citizens have realized that a great deal of rural and garden beauty can be got within the city limits.

Many men build city houses, that will cost from \$25,000 to \$75,000, and have a country place beside; for which they reserve all their horticultural enthusiasm, and spend on its grounds and greenhouses large sums of money.

No one need discourage this practice, for there are abundant reasons for leaving the city in June, to spend the summer in the country, but it is a pity that the opportunities the city affords for gardening should be neglected.

So long as cities were confined within narrow limits few could afford to hold land enough in them to make a garden, and give conservatories, greenhouses, trees and shrubbery, the room and sunlight they require; but where, as in the case of Boston, several hundred acres of land were added by filling marshes, suitable opportunities were offered, at reasonable prices, to attach gardens to city houses.

Cities, when land can be had, offer especial advantages for horticulture, because of the protection the walls and houses offer to many tender plants. Besides this protection, their numerous fires send up volumes of heat through house and factory chimneys to check the descending frosts of fall and spring.

Every autumn we see salvias, heliotropes and bouvardias,

blossoming freely in city yards when they have been entirely killed by frost in the country. By improving these advantages we might produce plants, shrubs, and even trees, in city gardens, which are unable to endure the climate of the suburbs.

There are many rare evergreens which would make the most charming addition to the winter garden, which suffer from the sun in spring and summer, but would thrive on the north side of city houses and walls.

Beds of tender bulbs, like anemones, ranunculus, gladiolus, &c., would pass safely through the winter, if sheltered by city houses and walls, and make the spring garden gloriously gay, and Neapolitan violets would exhale such volumes of fragrance that they would scent the neighboring streets, could they be sheltered from the frost of winter.

Very slight screens on the sides of gardens exposed to cold winds prove effective. By the aid of screens of crossed laths, Mr. Tudor grew fine fruit at Nahant, and many a late, cold kitchen-garden has been made early and productive, by planting a hedge of Norway spruce, or arborvitæ along its bleak side.

Those persons, who are indifferent to the pleasure and beauty which may be derived from flowers, shrubs and evergreens, are affected by the atmosphere, fragrance, and vigorous vegetation, which may be seen in well kept green-houses and conservatories during the winter. All lovers of nature feel exhilaration, and often positive delight, on entering a conservatory in the winter, where groups of plants in blossom, vines climbing the pillars and clinging to the sash bars, spotted with the starry passion flowers, or rich with clustered roses, seem to greet the visitor with a hearty welcome.

Almost every country place is furnished with some kind of glass houses, which are devoted to plants, fruit, or grapes. The addition they afford to parlor and table decorations, and the dessert, are generally appreciated; but being at a distance from the city they rarely afford their owners the gratification of watching the growth of the plants, and participating in their cultivation. They are, for the most part, consigned to

the care of gardeners whose only duty is to furnish fruit or flowers, and the owner never receives half the pleasure they might afford. Occasionally, during the winter, he will drive out and visit his greenhouses to make sure all is right, but like visits to picture galleries and the opera, such occasional visits are rare, and form no part of the daily amusements or business. Where a well managed conservatory or plant house of any description is easily accessible, it is one of the most attractive places to every member of the household, and many an hour is passed unnoticed in quiet enjoyment in the conservatory, that would otherwise hang heavy. An habitual association with flowers, particularly when the rigor of winter prevents our usual out of door amusements, humanizes and refines the character and often awakens a permanent interest in science and art, as well as in the practices of horticulture. But when plant houses are distant, and merely the source from which flowers and fruit are obtained, their cost and the trouble which, too often, attends on gardeners discourages the proprietor, and easily induces many persons to believe that it is cheaper and more satisfactory to buy what they want at the horticultural stores, than to be troubled with the responsibility of producing them.

Were the opportunities which the vacant lands in cities offer better appreciated this would cease to be true; we could bring to the doors and windows of our houses the gardens and conservatories that would make winter a season of horticultural pleasure, rather than the dull interval which must follow the glories of summer and autumn.

For the sake of illustration, let us suppose a man to buy such a parallelogram of land as lies between Berkley and Clarendon Streets and Marlborough and Commonwealth Avenues, on the Back Bay of Boston. There would be 130,000 feet of land, which at \$1.50 per foot, would cost \$195,000
 A suitable dwelling-house would cost 30,000
 Stables and brick wall, to surround the whole lot,
 8 feet high, 15,000
 Conservatories, &c., planting and grading, . . . 15,000

\$255,000

Here would be an expenditure of a very large sum of money; but by following the plan to be proposed the purchaser would make a good investment for his children. This lot of land was appraised by the Commissioners when first filled in, at \$1.25 and \$1.50 per foot, according to the location of the lots which were offered for sale; but to-day it is estimated to be worth double that amount.

The same advance may be expected on other lots of land situated further from the Public Garden, on the prices at which they are now held by the government.

But to return to our plan. Supposing the land to have been purchased, a boundary wall should be erected, and a house of suitable architectural elegance should be built on the northerly portion of the land, reserving sufficient area north of the house for a winter garden of such evergreen and variegated leaved plants as require shelter from the sun.

The stables and offices would be near the house, but screened from observation by suitable plantations, and connected with the kitchen by proper walled and covered passages. These passages would, in their turn, be combined with lean-to greenhouses, or serve as espaliers for fruit-trees or vines.

The house should be raised sufficiently above the surface of the land to require to be surrounded by one or two broad stone terraces whose walls would terminate in handsome balustrades. The posts of the balustrade would serve as supports for pots of trailing plants like *tropæolum*, *maurandia*, *tradescantia*, or for more architectural plants, like *agave* and *yucca*.

The terrace would be enriched by geometrical flower beds, planted in colors, where large masses of the same plants, or plants of the same colored blossoms would give rich and lasting effects. The supply of plants would be furnished from the pots and greenhouses.

The terrace would connect, by an arcade, the house with a conservatory, of such size as might seem best, which should be made a perfect winter garden, where plants in beds, vines clambering the rafters, and festooning the posts, would be relieved and enlivened by groups of specimen plants in full

blossom, fountains, birds and statuary. The succession of blossoming plants would be easily maintained by the green-houses, which would find their appropriate places as lean-to's against the west or north walls of the estate, or as span-roofed houses in the open portions of the place, adjoining the lawn or flower-garden.

Descending the terrace steps we should come to a parterre surrounding a fountain, where the flower-beds cut in the turf would connect the conservatory and terraces with the lawn. These flower-beds would be devoted to spring and autumnal bulbs and bedding plants.

From this point the rest of the place might be laid out in the natural or geometrical manner, as best suited the taste of the owner, as there would be sufficient room for either kind of treatment.

The lawn and its attendant trees and shrubbery would terminate in a belt of trees partly concealing an arbor or other architectural garden structure.

Passing the belt we should come to the kitchen-garden, where a half or three-quarters of an acre would give space for hotbeds, melon pots, fruit-houses, wall-fruit, and the forcing ground required for early and late vegetables.

The space afforded by a magazine article does not permit us to enter into the minutiae of this arrangement, or to consider what might be best under different circumstances, or to show the respective advantages of the two methods or systems of laying out grounds.

Enough has been said to point out the opportunity such open lands offer for beauty, pleasure and profit. By pursuing such a plan the purchaser would obtain infinite pleasure, and be sure he was laying up money advantageously for his posterity, without being obliged to cover his lands with costly houses, which another generation will consider as unfashionable or inconvenient, and be ready to sell for old bricks. This kind of management would ensure its own reward. The lands adjoining such an estate would soon be covered with first-class houses, built by men who could not afford to make gardens for themselves, but who would be eager to have their houses where they could see the beauty another had made.

Whilst thus obtaining a present and personal benefit from the liberality of their neighbor they would in return add to the value of his estate when it should be offered for sale, as it would then be situated in a first class neighborhood. The gardens would thus give one generation at least real and valuable pleasure, would ornament the city, and at the same time continually increase in value, and be a solid fortune in case necessity should compel their sacrifice.

If so large a tract of land would be too much for a single individual to buy and hold, two or three might join together, erecting their houses on different parts of the land, but combining their ornamental grounds into one harmonious whole.

If one should buy a single acre, a half acre, or even quarter of an acre of land, he would have space enough to work out the most satisfactory results. He could not have the quantity of horticultural and floricultural beauty a larger area would permit, but just as great variety; he could have conservatories, greenhouses, flower beds and shrubbery, which if well managed might produce as delightful a result as if the scale were greatly enlarged.

There are many men who can spend 50 to \$75,000 on a city house. That amount of money, spread over quarter of an acre of land in the manner proposed, would make a most delightful residence, which could not fail to give enduring pleasure to all who were privileged to visit it.

BIRDS AND THEIR RELATIONS TO INSECTS.

BY D. W. LOTHROP, WEST MEDFORD.

THE sciences of ornithology and entomology are pursued with so much ardor at the present day, that many curious and instructive facts are presented to those who have heretofore given these subjects but a slight attention. The Patent Office Agricultural Reports, as well as those of our own state, and most every work on horticulture and agriculture, with all the smaller periodicals, abound with pleas for the birds, not only for their cheerful melody, but particularly for

their instrumentality as co-workers in the great art which feeds mankind—agriculture.

It must be admitted on all hands that they destroy a prodigious quantity of the various insects abounding in nature, and perhaps that these ephemeral beings were made for this useful sacrifice, if for anything. In fact, all animated nature seems to be in a state of warfare, from the mite which the natural eye cannot discern, up through fishes, birds and beasts, to man—whom Cousin calls a “fighting animal.” The Rev. Mr. Hutton of England, in a work entitled, “Book of Nature Laid Open,” observes of the mutually destructive or predacious habits of the former class:

“The tree-louse lives on plants, the *musca aphidivora* on the tree-louse; the hornet lives upon the *musca aphidivora*; the dragon-fly on the hornet; the spider on the dragon-fly; the small birds on the spider; and the hawk on the small birds.”

The following, from Scott’s Rokeby, gives even more credit for humanity—if the term may be allowed in this connection—to the beasts than to man:

“The hunting tribes of earth and air
 Respect the brethren of their birth;
 Nature, who loves the claim of kind,
 Less cruel chase to each assigned;
 The falcon, poised on soaring wing,
 Watches the wild-duck by the spring;
 The slow hound wakes the fox’s lair,
 The greyhound presses on the hare;
 The eagle pounces on the lamb,
 The wolf devours the fleecy dam;
 Even tiger fell, and sullen bear,
 Their likeness and their lineage spare.
 Man, only, mars kind nature’s plan,
 And turns the fierce pursuit on man.”

But returning from perhaps a slight digression, if one felt a natural or avenging disposition to speak against some of the more voracious of the *feathered tribes*, which rob the gardens of their first fruits, against such an array of scientific and moral deduction as the ornithologist and entomologist present, he could hardly summon the courage so to do. Surely the cultivators of the soil should be loyal to science,

and I think it may be said they always intend to be. But zealous professors of any single branch of study—of natural history, for instance—are apt in their enthusiasm to magnify their favorite pursuit into an importance which it will not warrant. Learned men have accomplished much for the world; but no one need be told that they are fallible. The differences of savans are proverbial; and no one can say that the ignorant are the only ones that entertain foibles in the philosophy of common things. “The learned have often amused themselves,” says a writer of full as much force as of politeness, “by publishing the follies of the dunces; but if the dunces would retaliate by publishing the blunders of the learned, they might for once put forth a volume that would *not be dull*, although it would be *large*.”

I find in the Post Office Report for 1865, a quotation from Anderson’s *Recreations in Agriculture*, running as follows: “Were it not for the birds that visit our gardens, and insects which prey upon each other, the number of these diminutive creatures produced would be such as soon to overpower the industry of man, and put an end to his miserable existence.” Mr. Wilson Flagg, in the *Agriculture of Massachusetts for 1861*, presents the matter a little differently. He says: “I believe it admits of demonstration, that if the birds were exterminated, mankind could not subsist upon the face of the earth.” In the latter quotation, it will be observed, no credit is given to the *predacious insects*—which may be regarded as the saving clause of the former.

It may possibly be true, as Mr. Anderson states, and as Mr. Flagg believes, that were it not for the birds, or birds and insectivorous insects combined, the earth would become uninhabitable. But a query suggests itself: If the birds were destroyed, would not the predacious insects be sufficient to keep their “kith and kin” from dangerous multiplicity? Birds not only destroy themselves and their own eggs, but they devour the *noxious as well as the innoxious insects*, or those beneficial to agriculture by destroying others—co-workers with the birds. It would seem, then, that their utility is in a measure compromised, even as insect feeders, by the evil they do. Upon this point, we would ask, Which

of the two, insects or birds, destroy the more insects? An answer, perhaps, cannot be given. Besides, are not insects, like men and beasts, swept away by heats, frosts, dampness or dryness, epidemics, &c.? At best their lives are short. Our birds are certainly not diminishing; are our insects destructive to vegetation and fruit becoming less yearly? Do we not find that in some years the insects are far more numerous and destructive than in others? Take the past thirty years, and no one we think will dispute the fact that so it has been with the cankerworm, the curculio, the caterpillar, the Palmerworm, the wheat midge, &c. Can the bird theory find a satisfactory solution for this? If not, it fails in its pretensions.

Having proceeded thus far, I find a very interesting article on the "Destruction of Insects Injurious to Vegetation," in the Agriculture of Massachusetts, 1856, by S. P. Fowler of Danvers. It is refreshing to find a writer upon this subject, though ten years back, who, avoiding the usual erratic flights, does not place the perpetuity of mankind upon the existence of the feathered race. Though he gives due credit to the birds in the premises, he here speaks of the forces in nature:

"The means used by nature to prevent or confine the mischief caused by insects, are long continued rains, frequently considered unseasonable, but happening at the pairing time, or during the caterpillar or larva state, cause the death of thousands. Late spring frosts, so much dreaded by farmers, are also beneficial by causing their destruction. Cold and severe winters destroy many insects in the chrysalis state, particularly if there should happen to be but little snow upon the ground. The formation of ice upon trees serves to loosen and throw off their eggs, which are glued to the branches."

Mr. Fowler quotes from Dr. Deane, who in 1797, supposed that the grub of the cankerworm was produced from the egg of an earth-colored bug, and that "Providence at that time was about to extirpate them, for a kind of little bird had then made its appearance in some parts of the country, which *fed* upon the cankerworms." Upon this Mr. Fowler observes: "These little birds here spoken of were probably the cedar or cherry birds, which have been increasing in numbers ever

since they left the swamps and cedar pastures to reside near the habitations of man and partake of his fruits unbidden, and in kind return have devoured an immense number of cankerworms during the past fifty-nine years. But, alas! for the doctor's predictions,—the grubs were probably as numerous last spring as they were in 1797." The cedar bird in Massachusetts is commonly called Canada robin.

For the destruction of this pest, (the cankerworm) Mr. Fowler does not seem to rely upon birds, observing that during the period of twenty-five years it had thrice visited his grounds, but he prevented its ravages by tarring his trees.

The Palmer worm, he says, appeared in Essex County some years ago, but did not increase, disappearing the next season. Of this worm he thinks we have little to apprehend.

I wish we might increase most of our birds fifty fold, to ascertain in fact whether insects decrease in an inverse ratio, and what its effect would be upon early fruits. But this may not be; for the number of birds does not seem wholly to depend upon the inhumanity of man, or upon boys of nest-destroying proclivities. Probably there are other and greater causes, as with insects, over which we have no control.

The *robins* are usually acknowledged as the most destructive of our semi-domesticated birds. Even their early spring notes do not relieve them from the hatred of some cultivators; for they are bold and greedy, and

" Rife the sweets and taste the choicest fruits,
Yet scorn to ask the lordly owner's leave."

For myself, I advocate *the independence of the garden*. Nature has given man dominion over the birds of the air as well as over the beasts of the field, and each individual should have all the control over them on his own domain he can acquire or chooses to exercise, without the interposition of penal statutes. It is true there may be a "public good," but it is difficult to say what that is in this matter. Let each cultivator judge for himself. The robins and cedar birds take nearly all the early cherries—especially if much exposed, as they are on the young trees—the former also visiting the strawberry beds and raspberry bushes, if not sheltered or

strictly guarded. At such times, few feel like stopping to balance accounts with them as to services rendered, but attempt summarily to disperse them by fear—or perhaps place them under “military law.” Should any one, however, proceed to extremities and shoot any “robins, thrushes, linnets, sparrows, bluebirds, bobolinks, yellow birds, woodpeckers, or warblers,” he is liable to a fine of two dollars for each one, at any time of year. So says the law. If he destroys any one of these on another’s premises without leave, the penalty is ten dollars—and of course *two dollars with his leave!* But towns can suspend the law for one year. It is true this statute is much disregarded and rarely if ever enforced; but this fact should furnish an additional reason for its repeal—at least so far as to permit every man on his own land, from one acre to a thousand, to have the matter in his own hands.

Some theorists and a few cultivators have recommended the planting of more cherry trees—thus raising enough for both parties. It is certainly a humane proposition; but it is to be feared that birds would congregate in increased numbers. A similar idea was entertained in relation to *feeding the caterpillar*, by Geo. B. Emerson, as appears in his elaborate Report on the Trees and Shrubs of Massachusetts. The learned gentleman states truly, that the caterpillar is very fond of the leaf of the *wild cherry*; and to keep it from *infesting apple orchards*, he recommends that these trees be planted around them—on the supposition that the more acceptable leaf of the cherry would satisfy any quantity of this destructive insect. But the idea is not practised upon, through fear of the increased multiplication of the pests—even in spite of the robin, which is said to devour them, though both are plentiful in the same field of operation! Wild cherry-trees are being rapidly cut down; and some cultivators think that a law for their destruction is of more importance than that for the preservation of birds.

For myself, I cherish no hatred against birds, but rather encourage many of them, such as the frisky martin, the blue-bird, the cheerful yellow bird, the beautiful goldfinch, and the spirited little wren, to build around my house—in boxes, those that will—for their melody. But with the more

destructive birds I claim the privilege of using my discretion, especially at certain seasons of the year; believing that if some of the cherry birds and robins are killed, destructive insects will not be perceptibly increased.

NOTES ON GRAPES.

BY J. F. C. HYDE.

LAST season was one of the most unfavorable for grapes that we have had for several years. The weather was cool, with much rain, and grapes ripened slowly, and were very deficient in quality. In fact few of the grapes sent to market were entirely ripe. Our crop was about a ton, most of which ripened sufficiently to be salable in the market. The Concord, a variety that we raise largely, was altogether the most profitable among the many. The bunches and berries were of fine size, and the crop mostly ripened. The quality of this variety is never very good, and last year poorer than usual. There was no mildew to injure the foliage, but some of the berries rotted, which is not an uncommon thing with the Concord. The growth of wood was large, but under our system of spiral training and severe pruning, the wood ripened well, and the season closed with the vines in excellent condition. Vines set two years ago produced from ten to fifteen pounds of fruit. No variety is more hardy and vigorous than the Concord, and none will produce larger crops and retain its health and vigor.

The Creveling was the next best in appearance and value in our small vineyard. This variety suffered from mildew, losing many of its leaves, and on the vines so afflicted the fruit was poor and late. This liability to mildew is the only serious objection to this excellent grape. It is true that the bunch is rather loose, and for this reason it is not so handsome a market grape as the Concord, but it is infinitely better in quality. We know of no grape that gives better satisfaction as a table grape than this, when it is grown in perfection. We have often remarked that when a person had eaten grapes *enough* he could still eat a few of this refreshing variety. The vine is a good grower and a great bearer, and the fruit

should be thinned, or the vine will be injured by excessive cropping. For home use this may be regarded as a very valuable variety, and may when more fully known be properly appreciated in the market. It sold last year for five cents more a pound than the Concord.

The Hartford Prolific is the earliest eatable grape we raise, and is a profitable early market variety. It is a good grower, resists mildew well, and gives good crops of passable fruit. Its chief defect as a market fruit is the dropping from the bunch. We need a better grape that will ripen equally early to take its place.

The Framingham fruited freely with us last season, and the description of the Hartford will answer perfectly for this variety in every respect. It is so nearly like it that we have as yet failed to discover any difference, and it has no merit that the Hartford does not possess. It resisted mildew well.

The little Delaware has been so highly praised that it is dangerous to express an opinion adverse to it, but facts are stubborn things. More fruit failed to ripen of this variety than of any other except the Isabella. It suffered so from mildew of leaf that the vine could not perfect its fruit before the heavy frosts came on. It is a very slow grower, and the bunch and fruit are quite too small for the market. More money can be made by raising Concord grapes and selling for ten cents a pound than can be made by raising Delawares and selling for *twenty* cents a pound. It is a grape of very excellent quality when grown to perfection. Should not recommend it for general vineyard culture for the market.

IONA. Our vines three years set, gave very fine bunches of fruit which failed to ripen. We believe this variety will prove to be too late for our short seasons. We have never seen a grape of higher quality among the native varieties. It did not suffer from mildew, the foliage remaining fine until the frost came.

DIANA. This is one of the very best grapes, but it is a shy bearer with us, and ripens its fruit unevenly. It is said that this variety does best in a poor, dry soil. If some person will produce for us a grape of the good quality of the Diana, with the vigor and hardiness of the Concord, that will ripen early and evenly, he will confer a great favor on the public.

ALLEN'S HYBRID. This was a complete failure last year. The foliage and fruit mildewed badly. It has too much foreign blood in it to bear the rough culture and exposure of the vineyard in this latitude. Persons planting a few vines in choice locations should not be without this excellent grape. It was badly winter killed a year ago. It should *always* be covered.

ROGERS No. 4. This grape is as early as the Concord and much better, but is not so vigorous in vine nor so hardy. Its large size and excellent keeping qualities render it a valuable sort. We have been so pleased with it that we have planted largely. It bears spiral training very well. Vine and fruit nearly free from mildew. Very promising as a market variety.

ROGERS 15. This is a very rampant grower and will not bear the restraint of our system. It has never given respectable results with us. Small bunches of ordinary fruit is all we have been able to produce. It is too foxy. We have been surprised to learn that Mr. Rogers calls this the best of all his numbers. We conclude that we have not given it proper treatment. We have set other vines on a wire trellis where they will have plenty of room, and we expect better results. We do not believe it to be so valuable for market as No. 4.

REBECCA. When this variety was introduced several years ago we liked it so well that we planted several vines, and some of them have given fair results. It is a variety of the very first quality, and when in perfection has a peculiar flavor not found in any other grape. It is not a profitable sort to grow for market, certainly not on light loamy soil. It is said to do well on a stiff clay. It ripens well as far east as Bangor, Maine. It is not very hardy, foliage mildews, some seasons badly; nearly a failure last year with us.

ISRAELLA. This variety has not fruited with us though the vines have been set two years, and long enough to give some bunches. It is true that the vines were weak when set, and they will require time to become established. The vines have mildewed badly each year, and we fear that this will prove a serious drawback to its success. We have had high hopes of this as an early market grape.

CUYAHOGA. Too late for our seasons, not worth planting.

MARY ANN. Too poor in quality, though early.

ADIRONDAC. We were much pleased with this new variety when it was first brought to our notice, and we were led to plant it extensively. It has not yet fruited with us for we lost all our large vines last winter, though they were covered. It has suffered severely every year from mildew. We fear it is not hardy enough either to endure our summers or winters. Some of the fruit we tasted as shown at the Horticultural Rooms was of poor quality, only sugar and water, without much flavor. It will fail to meet the expectations that have been formed of it.

ISABELLA. This old variety that we used to ripen finely now fails nearly every year, and we have pretty much discarded it, only keeping a few vines for old acquaintance sake.

We have very many other varieties under cultivation of which we hope to speak more definitely at the close of this season. One great evil is overcropping the vines, and all cultivators should be careful to thin the fruit, when too many bunches set. It needs courage to do it, but the good of the vines require it. There will be seasons, like the last, when the grape grower will lose courage, and feel that there are too many difficulties to be overcome to make the crop a reliable one for persons of only ordinary attainments in grape culture. But the horticulturist, of all others, should exercise faith and perseverance, and he will overcome all obstacles.

THE EARLY WILD FLOWERS.

BY WILSON FLAGG.

WHEN strolling at this time upon any of the open pasture lands, in dry situations we find an abundance of the Early Saxifrage (*Saxifraga vernalis*), a plant that is interesting on account of the season, rather than its beauty. Its flowers are very small and white, and arranged in a corymb, at a distance slightly resembling the Candytuft of our gardens. They serve as a lively embellishment of the hills in April and May; but, on account of their tendency to wilt immediately after being gathered, they are good for nothing as show-flowers in vases.

The Wild Columbine (*Aquilegia canadensis*), occupying similar localities, deserves no such feeble commendation. I believe it is the only species of the genus *Aquilegia* that grows in this region, though there are two other species in Canada. The flowers are invariably scarlet, with bright yellow stamens projecting beyond the flower, and a yellow inner surface. The petals are tubular and horn shaped, terminating in a spur containing the nectary, somewhat resembling those of the larkspur. The columbine delights in rocky places, often growing out of the crevices of rocks and taking root in the crusty deposits, consisting chiefly of decayed mosses and lichens. Not even the profusion with which these lovely flowers are strown in many localities, has caused them to lose their interest in our sight. Though common, they are not vulgar. Every part of this plant is beautiful; its rue-leaved foliage of a dusky green, its long slender stems, and scarlet flowers hanging like jewels from the ends of the branches, and its nectaries like slender horns alternating with the petals, render it one of the most attractive ornaments of our rocky hills.

There is not an individual of either sex, who was brought up in New England, who has not in childhood clambered over the barren hills and precipitous rocks in search of these flowers, which are still more desirable objects on account of the difficult situations they occupy. It is natural to all persons to prize anything the more if the attainment of it is attended with increased difficulty; whether, (if we are engaged in search for flowers,) the difficulty arise from the scarcity of the species, or from the steep and dangerous places in which it grows. The columbine does not present an extreme case of this sort, but the best specimens cannot be obtained except on the shelving sides of rocks and precipices.

Now let us examine that most common and despised flower, the Buttercup (*Ranunculus acris*), and overlooking the pretensions that are made by young persons, of its mystical power of indicating the character of the appetites, let us consider whether it has any ordinary share of beauty. I think it must be allowed that the buttercup might be considerably admired if its beauties were not displayed in all places and at all

seasons. If, like the Wood anemone, it appeared only in retired situations, displayed its charms for a few weeks and then escaped from observation until another year had passed, it would be more highly prized. Still, it is very tame and wants delicacy. Its flowers are all of one unvaried, though brilliant yellow; and the petals, as well as the stamens in their centre, are of the same uniform hue. The flowers have no graceful drooping, and are awkwardly attached to the branches. The plant is also coarse, flaunting and stiff, and the foliage is entirely without beauty of form or brilliancy of color. Take it altogether, we must confess that it is not only common but vulgar, applying this epithet to the buttercup as we would to an awkward, plain-looking woman, who was drest in high colors without any taste. Some of the smaller species of ranunculus have a great deal more beauty, both in their flowers and their foliage.

The flower of the Marsh Marigold (*Caltha palustris*) bears a close resemblance to that of the buttercup, being, however, very much larger. This species is common to both continents, and in both it is used as a pot-herb, under the name of Cowslips. The flowers, growing in dense clusters, make a very showy appearance during the latter part of April and in May, rising, in the midst of a tuft of bright green foliage, out of the shallow waters. They have no beauty, except in contrast with the brown meres in which they abound. The whole plant is coarse and succulent, and will not preserve its colors in an herbarium.

I believe the Robins Plantain (*Erigeron bellidifolium*) is an alien, though it is common enough in our fields to be regarded as one of our indigenous plants. It bears a daisy-like flower, with daisy-like foliage. I suspect the English name was given it on account of the time of its flowering, when the Robin Redbreast begins to sing in England. It belongs to a genus of plants that are remarkable in general for their ugliness. This species is very pretty, resembling the flower of the common daisy cultivated in pots; and it deserves to be prized because it excels the rest of its ugly kindred.

I need make no apology for introducing a very humble and inconspicuous flower in this description, the Early Blue Violet.

(*Viola ovata*), so common in all old pastures and roadsides. The green mounds in our country grave-yards are always covered with these flowers, that seldom rise above the herbage that surrounds them. The genus *Viola* comprehends a great number of species, of which there are nearly twenty in the New England States. Bigelow enumerates twelve species; two of these are yellow, two white, and the others are either blue or purple. The yellow species have the most resemblance to the pansy of our gardens.

There is another early blue violet, with very large conspicuous flowers, more wild as well as more gregarious in its habits than the common *Viola ovata*. This is the *V. pedata*. The leaves of the pedate violet are subdivided so as to resemble a bird's foot. They are very delicate and pretty, enclosing a dense cluster of brilliant flowers, which are seldom seen in an open pasture, but delight in situations half protected by wood and shrubbery. Of the white violets, the most common and early species (*Viola blanda*) is found in low grounds, commonly half submerged in water. The leaves are spear shaped, and the flowers, which are beautifully striated with purple, are very small and hardly perceptible without stooping to examine them. They are fragrant but are borne on such slender petioles that they are difficult to be gathered. This is the case with all the violets; which are valuable only to adorn the places where they grow.

The *Erythronium americanum* bears the English name of Dog-tooth Violet; but it is far from being a violet, and belongs to an entirely different natural order of plants. It is more like a lily or a tulip. The whole plant resembles the three-leaved Solomon's Seal, except that it has only one flower on the stem. The flowers are very delicate and pretty, rising like tulips from a bulbous root, but nodding like lilies. The leaves are spear shaped, and beautifully mottled with purplish spots, and usually attract more attention at first than the flowers, which are of a pale yellow, with a brownish tint on the outside of the petals, and not very conspicuous. In some books the *Erythronium* is called *Adders-tongue*, from a peculiar shape of the flowers when they are expanded. This plant is not very common, and seems to require a rare kind of soil that abounds only in certain locations.

Very soon after the Erythronium, if we search the woods, we cannot fail to discover the early *Thalictrum*, or Meadow rue. There are two species of *Thalictrum* in our meadows. The *T. dioicum* is the earliest in flower, and seldom grows outside of woods. The extreme delicacy of the staminiferous flowers of this species render it an object of interest, varying in their color from a pale ashen blue to a deep chocolate, and hanging like fringe from the extremities of the branches. The foliage is very elegant and pretty; but the whole plant is generally overlooked by common observers on account of its want of brilliant colors.

Convallaria, the botanical name of Solomon's Seal, signifies "in the valley." The different species are found most abundantly on the sloping margins of small streams and are seldom in flower before May. They are not often thrifty outside of the protection of trees. Like the Lily of the Valley they thrive best in the shade, as well as in damp places. The two leaved Solomon's Seal is one of the most common species—so named because the most of the plants when they are in flower have but two leaves on the stem. I have occasionally found localities in which nearly all the plants had three leaves,—where the soil was very rich and deep; and if the species were cultivated the leaves might probably be increased to four or five. In its wild state, however, it is the normal habit of the species to produce but two leaves. Culture seldom fails to produce abnormal varieties of any species. The flowers of the *C. biflora* are minute, very fragrant, and borne in a little spike on the summit of the plant.

The three leaved Solomon's Seal is the most beautiful of the genus; but it is exceedingly rare. Bigelow says it is to be found near the foot of the Monadnock. I have seen it only in one locality,—in a place called "Woods Egypt," in Beverly. Each plant has three leaves with but few exceptions, of a lanceolate form, alternate, with an umbel of nodding yellow flowers, drooping upon their stem like miniature lilies. Nature indicates her appreciation of this beautiful plant by hiding it in little recesses in the deep woods, and refuses to cherish it when transplanted into a garden. She reserves it to reward the search of the true lovers of her own

works, and will not allow it to be made subservient to the desires of pride.

The Bellworts (*Uvularia*) are allied to the Solomon's Seals and resemble them in many respects. The most common species in this region is the Sessile Leaved Bellwort (*U. sessilifolia*). It is not uncommon in wet meadows and thickets during May. It delights in places half wooded and open to the sun, and on the mossy banks of streamlets running through the coppice. Its botanical structure is very simple, the stem being divided into two branches, the one bearing leaves only, the other leaves and a single flower. The leaves are very pretty and of a sort of pinnate shape, and not fully developed until the flower has faded. The flower is of a pale yellow, drooping on a very slender peduncle. The flowers, plucked with the whole plant from the ground, are easily bound into bouquets, and are generally admired for their neatness and delicacy.

The Gold Thread (*Coptis trifolia*) is well known in the apothecaries' shops, where the roots, consisting of fine thread-like fibres, as yellow as gold, are sold for a tonic. These golden fibres are the roots of a very pretty little plant, having bright green scalloped leaves, and small white flowers, somewhat like those of the Wood anemone. The Gold Thread is found in wet places in the woods, and is distinguished more readily by its foliage than its flowers, that drop their petals as soon as they are gathered.

The *Trientalis* is a universal favorite. I cannot learn why it should be called Chickweed Wintergreen. I can see its resemblance to the *Stellaria* or Chickweed; but it is not a wintergreen, though the European *Trientalis* may possess this character. The American *Trientalis* (*T. americana*) would never be overlooked by a young botanist; and his first observation, when he had discovered it, would have reference to its extreme delicacy. He would also observe that it is one of the few species that belong to the Seventh Linnæan Class. It has seven stamens, seven petals in the corolla, and seven divisions of the calyx. Seven is indeed the number when it does not deviate from its normal habit of growth; but there are exceptional flowers that have eight or more stamens, in-

stead of seven, with a similar superfluity of petals and sepals. This plant is found only in shady woods. I never saw one in an open field. It seldom exceeds five inches in height, bearing a whorl of pointed leaves at the summit of a very slender stem, out of which rises a single flower, or sometimes two or three.

One of the most singular flowers of the field is the Dragon Root (*Arum triphyllum*), found always in low situations, called in England by the more fanciful name of Wake Robin. The flower has no corolla, but consists of a spathe, of a greenish yellow striped with purple, bending over like a hood and inclosing a club shaped spadix bearing the stamens in the middle and the germs at the base. The leaves are trifoliate, as its name implies. The root is round like a turnip, and is extremely acrid; but this acrimonious quality is dissipated by boiling, leaving a nutritious substance, from which arrow-root powder may be prepared. The fruit consists of a globular head of scarlet berries.

In boggy grounds, before the middle of May, we occasionally meet with the Buckbean (*Menyanthes trifoliata*), a plant somewhat nearly allied to the celebrated lotus. It grows in places that are covered with water, and is therefore a true aquatic. Any one would be struck by the resemblance of its spikes of purple and white flowers to those of the horsechestnut. Its leaves are ternate, something like those of a bean vine, but more fleshy. This species is not very common, but is easily recognized by its numerous spikes of flowers rising, like pond lilies, immediately out of the shallow waters.

The Dwarf Ginseng (*Panax trifolia*) is one of the most delicate productions of the season. The flowers, which are white, form a perfectly globular head, about an inch in diameter, on a stem from three to four inches in height. The leaves are mostly in threes—very delicate and pretty, springing from a round tuberous root situated very deep in the ground. The Dwarf Ginseng is abundant in “Cats Swamp” in Beverly.

The larger species (*Panax quinquefolium*) is rather coarse and ordinary in its appearance; the flowers are very nearly like those of the trifolia, but grow in an irregular and elon-

gated cluster. The leaves are coarse and quinate or still more subdivided and rank in their growth, so that the plant has no elegance or beauty. The large Ginseng is a celebrated medicinal plant; and tons of the roots have been exported from Pennsylvania to China, where it is used extensively by the Chinese for the cure of almost every disease. It is remarkable that physicians and chemists have been unable to discover in this plant any medical virtues of any kind; and this corresponds with the general fact that the most celebrated popular remedies which have ever come into universal use are totally inefficacious in all cases.

M A R A N T A Z E B R I N A .

BY THE EDITOR.

AMONG the ornamental foliaged plants, which decorate our greenhouses and conservatories, few can surpass, if equal, that old and familiar object *Maranta Zebrina*, or as it is now often called *Calathæa Zebrina*, while in its ease and facility of growth, as well as its general availability for all purposes for conservatories and gardens, it stands at the head of these plants.

Introduced many years ago, it is yet far from being generally cultivated, or its real worth truly appreciated. Many of the ornamental foliaged plants require especial attention to keep them in health, vigor and beauty, but this *Maranta*, though forming superior specimens when well treated, will bear more neglect than most other plants of similar character, and stand the ordinary treatment of out-door plants during the entire summer.

A well-grown and splendid specimen is always an object of the highest admiration, and never fails to attract the attention of the most ordinary lover of plants. Its large, broad, massive deep-green leaves of a velvety texture, banded with black-green stripes, in a zebra like manner, have a richness of effect, and beauty of coloring, which few other plants possess, and when the specimens acquire their full size, often

measuring five feet high and five feet in diameter, their effect can be better imagined than described.

It is undoubtedly from the fact that the plants in collections generally are half starved from want of proper treatment, that they have not been more sought after and cultivated. The treatment of the plants is very simple; during their growing season they require good rich soil, plenty of moisture and a warm temperature to give them a vigorous start. This is from March to October. From the latter period to spring



5. MARANTA ZEBRINA.

they require to be kept quite dry, without allowing the foliage to flag, and placed in an ordinary greenhouse. Upon the approach of spring they will commence growing again, and will require repotting, shaking off most of the old soil, and replacing with a compost of coarse peat, leaf mould and rich turfy loam, with an addition of a little coarse sand; place the plants at once in a bottom heat of 80° or 90°, where they

should be kept growing till the beginning of June, watering more freely, and syringing often as the season advances. The specimens may then be removed to the open air for the decoration of the lawn, or flower-garden or piazza, where they will form the most attractive objects during the season. If the plants are placed in vases or pots of handsome design their beauty will be greatly enhanced.

Before the approach of cool weather they should be removed back to the house, where they should be kept dry, as before advised. To increase the plants all that is necessary is to divide them carefully at the time of repotting.

Horticultural Operations

FOR MAY.

FRUIT DEPARTMENT.

THE month of April has been cool and wet, though fortunately free from any injurious frosts, and the season appears now highly favorable for the cultivator. So much cool and damp weather has retarded planting, but at the same time trees have not yet started, and such work can be continued for some time yet. In the hardy fruit garden pruning should be pushed on vigorously, and grapes should be trained to the trellis before the buds are so much started as to endanger their loss by breaking.

GRAPE VINES in the grapery will now be just going out of flower, or setting their fruit, and will require more attention. Disbud all useless growth, and keep the laterals topped in good time. Commence thinning the last of the month, but be careful not to thin too much, as is too often the case, and fine bunches are quite ruined. Damp down the house often in hot weather, so as to obtain a moist atmosphere. Vines in cold houses will be coming into flower soon, and the temperature should be little higher by giving less air and closing early in the afternoon. See that hardy vines are neatly trained to the trellis, and all eyes not wanted for new wood rubbed off.

STRAWBERRIES will require attention if fine large fruit is wanted. Go over the beds and dig up with a trowel or hand fork all small plants and such as are too much crowded; then top dress with good leaf mould or old manure, not likely to be full of weeds; then clean and rake the beds. New plantations may now be made. Dig or trench and manure well. It is the best season for this, as the vines will bear the best crop next year. Old beds, if raked well with a coarse rake, to pull out weak plants,

and then top dressed, will produce good crops. Old plants that have been forced, if turned out into the open ground, will produce a late crop.

ORCHARD HOUSES will require much attention. If our directions have been attended to the trees will now be well set with fruit. Air abundantly in good weather, closing up early. Look after the green fly and red spider, and if either appear destroy them as we have recommended. Water more liberally as the season advances. Now is the time to obtain and pot new trees.

GRAFTING may be continued all the month.

RASPBERRIES should be neatly tied up to strong stakes, heading off the shoots at the height of four feet. Secure blackberries in the same way.

SUMMER PRUNING should be commenced as soon as the new shoots are four or five inches long; pinch in all laterals to two or three eyes. If this work is commenced early and continued, the trees may be kept in fine shape without scarcely ever using the pruning knife.

FLOWER DEPARTMENT.

This is the busy month with the ambitious cultivator. Everything is to be done almost at once; at least there is so much work that there is no time to be lost. The houses should now make a fine show with pelargoniums, calceolarias, azaleas, &c. Remove all soft-wooded plants to cold frames, so as to give space and air to those in bloom or in fine-growing order. Repot and prepare all winter-blooming plants, which are apt to be forgotten in the hurry of the season.

AZALEAS, kept cool, will now be coming into full bloom; shade in the middle of the day. Young stock or young specimens coming on for next year, may now have a shift into the next size, using good fibrous peat and sand. Stop and thin out the young shoots as they advance in growth. Large specimens will require more water.

PELARGONIUMS will now begin to bloom; give air freely, and shade an hour or two from the noonday sun; water more freely, regulate the shoots and tie them into good shape, if not already done. Young stock may have a shift into larger pots.

CAMELIAS should be syringed freely every evening. Keep them slightly shaded during their growth, and water rather more freely.

HEATHS AND EPACRIS may be turned out of the pots into a well-prepared bed, where they will do much better than kept over summer in pots. Water occasionally till the plants get hold of the soil.

CHRYSANTHEMUMS should now be propagated and the early stock shifted into larger pots. Keep in a cold frame.

WINTER-FLOWERING CLIMBERS should now be headed in and the branches thinned out before they begin to grow.

STEPHANOTUS, ALLAMANDA, and similar stove plants should now be repotted and encouraged in their growth.

CACTUSES should now have a sunny situation and a more abundant supply of water.

FUCHSIAS, intended for handsome specimens, should now be encouraged by a shift into larger pots, and a good situation in an airy house.

JAPAN LILIES should have a shift into their flowering pots.

MAURANDYAS and other free-growing climbing plants, for turning out doors, should have a shift into larger pots.

AMARYLLISES now growing freely should have more water ; if they require it, repot after they have done blooming.

ORANGE TREES, now making their growth, may be shifted into larger pots, using a good rich sound compost.

FLOWER GARDEN AND SHRUBBERY.

The favorable April weather has given an emerald hue to the lawn and ere long it will require to be cut; give a thorough rolling in order to obtain a fine even surface. Mow as soon as the growth requires it. Re-rake, clean, and roll the walks, and rake or dig all beds or spaces around trees or shrubs. See that the shrubbery is cleared of superfluous wood, and all shrubs pruned with a view to a succession of fresh shoots. The flower garden should be put into complete order, and all vacant spaces sown with choice annuals, unless wanted for bedding plants.

TULIPS will be in flower the last of the month. Stir and clean the surface and keep out all weeds.

ROSES yet unpruned should be headed in, and it will aid in keeping up a succession for a week or two.

GLADIOLUSES should be planted this month, reserving a portion till the end of the month, which will give a succession of flowers up to October.

CARNATIONS AND PICOTEES should be put out into beds.

DAHLIAS may be planted out the last of the month, or as soon as danger of severe frosts is over. Prepare the ground by deep digging.

ANNUALS of all kinds may yet be planted.

PHLOXES should be taken up and divided if the roots are large and old.

BEDDING PLANTS of all kinds may generally be planted out by the 20th of the month.

CANNAS should be divided and potted, ready for planting out in June.

ERYTHRINAS may be planted out as soon as the weather is favorable.

NEAPOLITAN VIOLETS should be divided and planted out in well-prepared ground, in order to have good plants for next winter.

POLYANTHUS AND AURICULA seeds may now be planted.

ROSES of the Tea, Bourbon, and Noisette classes may now be planted out in prepared beds.

BOUVARDIAS may be turned out into the open border.

PEONIES should be neatly staked as the shoots get up, which will keep their fine blooms out of the dirt.

HOLLYHOCKS may be planted out in beds, or the open border.

PREPARE GROUND for Rhododendrons and Azaleas, which may be removed safely all the month of June.

BOX EDGINGS may now be reset; planting deep and firm to obtain a nice growth.

HEDGES may be clipped by the last of the month.

R O S E S .

JUNE is the month of roses,—or rather June was the month for roses,—for the skill of the hybridizer has almost changed the season, as it has the quality and beauty of the rose. In former days, when the only roses were the hardy summer varieties which bloom but once in the season, June was truly the rosy month; but now they are scattered over the whole summer, and in favorable autumns are almost as brilliant in September as they formerly were in June. Shall we say this has been done by nature, or that man has accomplished the change? In the current notion of some, that man effects but little, if anything, in the character of our plants, but that natural selection does all, we think there is a great error. Nature has not, in thousands of years, materially altered the rose from its single five petalled flowers; but the skill of the hybridizer, in less than half a century, has not only given us roses of regal form and beauty, but added the crowning grace of a perpetual bloom.

The French have been the great improvers of the rose. With a climate particularly favorable to its development they have produced nine-tenths of all the fine roses which adorn our gardens and greenhouses at the present moment. With the single exception of the superb Noisette rose, which we can claim as of American origin, nearly all others have come from the gardens of the French. The hundreds of varieties of the Moss rose, the thousands of what are known as the Centfeuilles, Damask, Gallica and Alba roses come from France, while the Hybrid Perpetuals are entirely due to the skilful labors of the French hybridizers, who by constant attention to the habits and characters of the Eastern roses, too tender to stand even the mild climate of the Continent, have so hybridized and bred them in with the hardy varieties, that the fragrance, beauty and rich coloring of the former, have been united with the hardiness, vigor, and substance of the latter, producing a union surpassed by neither in their

original character. The deep velvety tints of the delicate Bengal have been brought out in full force in the robust habit of Gen. Jacqueminot.

Our more northern or New England climate is rather too severe, or rather our autumns are too short to obtain results as favorable as under the milder season of France; and there are as yet but few of the Hybrid Perpetuals which can truly claim that name in our climate; still, in exceptional seasons, and under favorable conditions of culture they do not fail to show how well worthy they are of our utmost care. Even an occasional bloom is welcomed with unusual pleasure, and when a full display of flowers is brought out they are greeted with feelings of the greatest delight. A handful of flowers of Gen. Washington, Chas. Lefebre, Maurice Bernardin, Comtesse de Mendenicelli, Gen. Jacqueminot, Lord Raglan, or Jules Margottin, in September, is a treasure to the true lover of flowers, not surpassed, if equalled at any season of the year.

Yet in all our love for the Hybrid Perpetual roses we are not to forget our old and tried favorites—the companions of many a year—the summer roses. If they are not so fragrant, so massive in their depth of petal, or so rich in coloring, they furnish such a wealth of blossoms, and flourish even under the greatest neglect, that they will ever be viewed as indispensable additions to every garden, while for purity of color as yet none of the Hybrid Perpetuals can equal them. If we wish for a wreath fit to deck the brow of the blushing maiden where shall we find the equal of Mad. Hardy, Mad. Plantier, Mad. Le Gras, Unique blanche, and many others; for depth of tint, what can surpass George the IV.; for ethereal coloring where is the match for La Chendolé; and how shall we surpass in form Coupe d'Hebe? All these, and more we might name are endeared to rosarians by a thousand remembrances of dewy morns and pleasant evenings, when gathering them in all their freshness and peerless beauty.

The rose season,—if June it shall be,—will soon be here, and we hardly need remind the amateur of its approach; but those who have not yet seen and appreciated the rich acquisitions of the last few years, should not fail to recollect it.

We think we do not err when we say that not one garden in one hundred contains a selection of twenty-five, or even ten of the best roses; yet they are not expensive, and they are not difficult to grow. With ordinary attention the summer roses always bloom freely; and with a little extra care the Hybrid Perpetuals bloom abundantly and freely.

By the liberality of a true lover of flowers rose culture is about to receive the encouragement it should long ago have had. The Massachusetts Horticultural Society, through the aid of one of its prominent members, holds out great inducements to all cultivators to give renewed attention to rose growing. Wisely the donor has given ample time for all to prepare for the display, to take place in June, 1868, to those who know the good roses, that they might begin with the present year, and to those who do not that they might now make their selections what to plant the coming autumn. Let us hope that not a few will improve the opportunity to do so. It is no real satisfaction to see a few large commercial dealers competing with each other, only so far as it affords an opportunity to see the best varieties. It is all very well as an incentive to increase our collections; but it is a real source of pleasure to see the number of amateur cultivators greatly increased, and to see them bring forward their collections and contend for the prizes. This indicates real progress in rose culture, for as they are more extensively introduced a knowledge of their beauty is developed, and the vast improvement in their form, rich coloring and magnificence over the older varieties is made known, all of which tend sooner or later to such an appreciation of their merits, that it will not be uncommon to find the rose holding the place it ever should above all other shrubs—the finest among all decorative objects of the garden.

And this leads us to say a word upon insects, which seem to prey upon the rose, and to which it appears less exempt than any other plant. We have, in an article in our pages some years ago, alluded to the almost entire extinction of the rose in our gardens, from the depredations of that devouring pest, the rose slug. Before the introduction of whale oil soap, as a sure means of their destruction, it was considered

almost useless to cultivate the rose; but immediately it became a more desirable plant; and it has gradually been growing in estimation—not but that, as a flower, it was always a favorite—and obtaining the position it had lost. The soap specific was indeed a great boon to lovers of the rose, for with the least attention the slug has been kept from devouring the foliage and despoiling a plantation.

But the soap had its objections notwithstanding its efficacy, and some amateurs would almost prefer the insects to the remedy. We have never been one who could see this. But fortunately through the skill and exertions of Mr. Geo. Jaques,—a friend of the late Mr. Haggerston, the discoverer of the efficacy of whale oil soap,—who has made the destruction of noxious insects a study, a new article has been introduced, which he calls the “SAPO Tobaccum,” manufactured under a patent, from the oil of tobacco and whale oil, and ingeniously put into bars of soap, which is quite as certain in its effects, while it is to a great extent free from the disagreeable odor of the whale oil soap, and is more portable, is mixed and applied with less labor, and without the disagreeableness in manipulation. It is in reality a meritorious and sure remedy for the destruction of the ROSE SLUG, the aphid and the red spider, either in-doors or in the open air, and we take great pleasure in bringing it to the notice of our readers, and assuring them it is one of the neatest and most efficacious remedies yet found for destroying any of the insects which annoy the cultivator, and despoil his favorite plants.

If we had not already given our readers some advice in regard to the culture of the rose, we should do so now; but a reference to previous volumes will prevent the need of this. We might, however, recapitulate a few rules, which should always be remembered in rose growing.

1. Select good strong growing kinds, and the hardiest varieties, unless you wish to give them extra attention and care.

2. Secure plants on their own roots, if possible; some slender growing sorts do well budded, for a year or two, but a little neglect will often result in having nothing left but the stock—a single flowering worthless plant. Always avoid budded roses.

3. Plant in good strong rich soil, and be liberal with manure; there is very little danger of using too much.

4. Use the knife freely; don't be afraid to cut a plant "hard in." For want of severe pruning many rose plantations are almost worthless.

5. Hybrid Perpetuals should have the soil well covered with manure in the autumn, and when liable to winter kill the entire shoots may be covered in the same way as a grape-vine.

6. Destroy insects early. Do not wait until they have partially destroyed the foliage. An application of "Sapo Tobaccum," or whale oil soap, as soon as any signs of an insect can be seen, will save the plants from injury.

ON THINNING GRAPES.

BY S. JORDAN, ANDOVER, MASS.

I believe it is a maxim, at least in gardening, that what is worth doing at all is worth doing well. But in thinning grapes this axiom seems to be an exception rather than the rule, as must have been evident upon an examination of the grapes exhibited at the Massachusetts Horticultural Society's Show, last September. Instead of the bunches remaining close and compact, when laid on the dish, they spread out all over the dish, thereby destroying the whole beauty of the bunch, which should be compact and retain its form as when hanging upon the vine. Now this negligence in regard to thinning grapes is quite excusable in amateurs and young beginners; but from experienced and professional gardeners something better is expected.

Twenty years ago, in your Magazine (Vol. XIII., 1847) you called attention to the subject of thinning grapes, and gave an account of Mr. Roberts's practice, as carried out by him. I at once adopted his system, and now, after a practice of twenty years, I cannot do better than to quote your own remarks at that time. "This operation is, generally, altogether too carelessly done. Our attention was first drawn to

this subject after reading a small Treatise upon the Vine by Mr. Roberts, one of the best modern cultivators of the grape in England. The ordinary mode of thinning grapes is to cut them out here and there, in sufficient quantity to allow the swelling up of the remaining berries, regardless of the true form of the bunch: we cannot do better than to quote Mr. Roberts's own words, detailing his practice. The time of thinning I recommend is when the berries are well set, or attain the size of No. 2 or 3 shot, beginning at the bottom of the bunch, leaving the leading berry if possible, and according to the kind of grape, taking care to thin judiciously, as there is a great difference between the Cannon Hall Muscat, and Frontignan, as to size. As you proceed, thinning upwards on the bunch, say for an inch or two more or less from the bottom, you find the peduncles or footstalks, or what more technical term you may apply to them, to consist of three berries, the leading one, and one on each side. My practice is to leave the leader or centre berry, taking off the other two. As you approach higher up the bunch, or approaching the middle part, such sorts as the Hamburgs form a sort of secondary shoulder, and upon the sides of these you will find them set on in threes. Proceed to thin as for the bottom, leaving the leading berries, taking off the side ones as before, proceeding upwards to the top of the bunch to the main shoulders, suspending or raising the shoulders with strands of soft matting, and thinning the same as before mentioned, taking care to remove all inside berries, as they scarcely ever color well, and if the grapes have to hang long on the vine they contribute to mouldiness in rainy weather. The above system of thinning leaves a bunch equally balanced, each berry acting its own part and not robbing another will be found to assume a strong bold footstalk, and be regular as to size in every part of the bunch.

Now, sir, if our grape growers would adopt this method of thinning we should then see bunches of grapes retain their proper form and size, and by this method the thinning is accomplished at once, and the less a bunch of grapes is handled the better.

THE EARLY RICHMOND CHERRY, AND NEW SEEDLING STRAWBERRIES.

BY JOHN KING, DUBUQUE, IOWA.

THIRTEEN years ago I inserted a number of the Early Richmond cherry buds on small Morello suckers. They have grown rapidly, and at the present time are upwards of one foot in diameter, with fine spreading tops.

The buds were taken from an old tree. I had the pleasure of seeing the scions fruit the third year. They have borne every season since, and every other year a full crop.

When transplanting I insert the junction, about four inches below the surface. I believe the trees thus arranged do better than on their own stocks. Mine have a northerly exposure, and are as hardy as an oak. If the fruit is left to hang upon the tree until ripe it becomes nearly black, and is excellent. The tree is well suited to our Northwestern country. It is about the only cherry we can grow successfully in this cold region. Nurserymen would doubtless benefit themselves, and the people of the Northwest, by raising an ample supply for sale of the *true* Early Richmond.

Mr. F. Cramer (a German) of this city, a scientific gardener, has been experimenting for several years, in raising seedling strawberries. He has at length produced two worthy of notice. One is the product of the Wilson's Albany, called "Cramer." It is less acid than the Wilson. A bright red color, large, firm, and of excellent flavor. A prolific bearer, and promises well as a market fruit and for amateur culture. The other is a seedling of the "Peabody," named "Julien." It is remarkably handsome, of a delicate high flavor, a vigorous grower, and highly productive; a fair size; a bright scarlet color. A splendid amateur berry.

The Cramer and Julien are acquisitions. It is hoped Mr. Cramer will soon offer them for sale.

ARBORICULTURAL NOTICES.

CONIFEROUS TREES AT THE GREAT FRENCH EXHIBITION.— Nothing could be more gratifying to those who appreciate the beauty of coniferous trees, than the display of these at the great Paris Exhibition. Notwithstanding many of the kinds are not hardy in our climate, no true lover of these plants can fail to read with great delight the following account of the show; it will not only form a good appendix to Mr. Field's excellent article in a late number, but will, we hope, lead to their culture in pots or in winter gardens protected by cheap glass structures which may be removed in summer:—

We begin with Conifers, and of these there is the finest collection, ever gathered together—the largest number, and the greatest variety of kinds. They will remain here all the season, so that they may be seen and studied by all. They are tastefully disposed in rising banks along the flanks of the great conservatory and other houses, and in many spots about the garden department, adding to it much beauty, apart from their individual interest to the horticulturist and planter. There are classes for new conifers, for the largest and best collections, for the best single specimens and so on. For an important and permanent exhibition of this kind, it would be a sad thing if groups like these should be badly arranged; and it may be safely said, that the conifers could not be better disposed than they are in this garden. In its centre there is a large and handsome winter garden in an elevated position, which has been raised upon high walls, and against these great mounds of earth have been thrown up, except in front, where there is a large and beautiful cascade. These rising mounds are covered with conifers, so that the great conservatory rises out of rich banks of them; while as the ground falls, outside the walks that run round the central conservatory and the banks, are other large groups, interspersed with fine masses of rhododendrons and by the front mass of rockwork; and as one glances over the whole space, single specimens and groups are to be seen scattered

about in all its parts. As there are nearly 40 "exposants," and some of these show as many as 350 plants, I need scarcely say that to detail any more than the newer plants of the collection is out of the question. The two larger collections are planted on the side of the great conservatory, that on the side of it facing the great maritime aquarium. This collection is a very fine one, embracing most things in cultivation from a dwarf *Libocedrus tetragona* to large Cedars, pyramidal Junipers, the *Wellingtonia*, and even the common Larch, the larger plants giving the great house a very desirable finish. Generally throughout the ground the "exhibits" in this important class are excellently disposed, and their plants good. The winner of the premier prize is Mr. Deseine à Bongival, he shows 350 plants: Defresne 2d, with 200; and Odin 3d, with 450.

Of the class for 50 choice hardy species—" *Lot de 50 espèces ou variétés de pleine terre*"—the 1st prize was taken by Messrs. Veitch & Sons. They sent a beautifully finished group, comprising the choicest, though not overgrown plants of kinds much in cultivation, like the *Araucaria* and *Abies Douglasii*, and remarkable large specimens of subjects as yet rare like the true *Abies amabilis*; the Umbrella Pine, the finest specimen extant no doubt; a beautiful dense and free specimen of *Thujopsis dolabrata*; a handsome close-growing *Juniperus drupacea*; very dense healthy, and compact-growing specimens of *Thuja gigantea* and *Lawsoniana*; and a handsome plant of *Juniperus fragrans*, and *Thuja Lobbii*; and last, though far from least, several lovely bushes of the invaluable *Retinosporas*.

But interesting as these classes undoubtedly are, the competitors for the specimen remarkable for size and good cultivation, will soon catch the visitor's eye. The winner of this prize is the finest specimen of *Thuja gigantea* ever seen, and I doubt if anybody who has never seen the tree wild, could have formed any idea of its noble character ere seeing this plant. A very fine *Wellingtonia* near at hand, so fine indeed that people wonder at the courage of its owner in risking to lose it by removal here, makes no difference to this great *Thuja*, which in face of much opposition asserts itself

to be a tree of the first order for gardens in cold and temperate climes. The second prize was given to a not very remarkable subject from the English point of view, *Abies Nordmanniana*, and the fine *Wellingtonia* only came in third.

Of conifers of recent introduction in commerce, be it observed, the first prize is taken by M. Seneclause, with a fine group remarkable for having some scarcish things greatly developed, notably *Larix Kämpferi*, about 10 feet high, and shooting away even more vigorously than the common Larch. Here is also in fine development, *Tsuga Sieboldii*, *Retinospora Keteleeri variegata*, fine; *Juniperus myosurus*, a curious drooping kind; a cylindrical growing var. of Scotch Fir; several distinct vars. of *Abies pectinata*; *Thuja Craigiana*, fine; *Abies jezoensis*; and *Thuja magnifica*, very free, bold, and graceful looking, with some tender plants that should scarcely have figured in a collection of this kind—*Libocedrus chilensis argentea*, *Abies grandis* and *lasiocarpa*, and a fine *Arthrotaxus cupressoides*.

Of new conifers, naturally of most interest to your readers, there are several very interesting groups, planted in a sheltered position near the covered way at the back of the great conservatory, in which is exhibited the material d'horticulture. Messrs. Veitch have beaten all comers in this class, though there was by no means a dull competition.

The first plant you notice in their group, from its distinct and dense habit, is the dwarf and cushiony *Thuja pygmæa*, very low but spreading out into a healthful little bush. It is probably the prettiest of all dwarf conifers, and will suit to a T the choice corner of a rockwork, or indeed any other position in the select garden. It also contains two new and beautiful representatives of the genus *Retinospora*—*filiformis* and *filicoides*—the former with a free flowing habit, so to speak, its branchlets pushing well out in a slender style; *filicoides* of a close habit and neatly cut foliage, graceful too, as its name would lead one to expect. It were better to see additions to this dwarf group of conifers than almost any other, inasmuch as they are so eminently fitted to meet a great want of the present day—a more diversified and ver-

dant kind of aspect among the dwarfer inmates of flower gardens. It is admitted that we want verdure and grace, or we tacitly admit it by introducing subtropical plants which are expensive to keep, and impossible to cultivate in the open air in many parts of the country. Here in this hardy and elegant family we have that comparatively dwarf but pyramidal habit which we want so much, while when we come close to them and examine them, we find they are as elegantly chiselled and dissected as the finest fern. Everywhere in this grand collection of conifers are to be seen evidences of this, and never have I looked upon more beautiful masses of verdure than *R. plumosa* in Messrs. Veitch's large collection, and also *obtusa* in the same; they are simply invaluable for those who use them with taste. Apart altogether from our want of a more elegantly diversified surface in the flower garden, and which the best and most practical way to meet is perhaps by the use of such plants as these, and neat and elegant young specimens of such things as *Thujopsis borealis*, the recurved *Yucca*, &c., there is in many British gardens a great gulf between the larger tree and shrub vegetation, and the humbler coloring material which most will admit should be filled up, and there is nothing known more suitable for it than these. In most of the groups of new and newish conifers in the garden may be noticed the fine *Cryptomeria elegans*, which in every case promises to be a first-rate thing, inclining, as I have seen it planted out, to the pendulous in habit, and growing more "kindly" than the old species. In Messrs. Veitch's collection there are also two desirable-looking very dwarf forms of *Cupressus Lawsoniana*, one dark-green, the other glaucous; *Juniperus nobilis*, promising looking; *Abies firma* and *microsperma*; *Thujopsis lætevirens*; *Retinospora pisifera aurea*; *Abies Hookeriana*; several things unnamed, variegated *Retinosporas*, and many others. Near their collection is one from Messrs. Thibaut & Keteleer, a compact group of fine new things, which was to the smaller new group what Messrs. Veitch's 50 was to the class for 50. The most striking feature in the bed is the three beautiful specimens of *Arthrotaxus* which it contains. In the centre it has *A.*

imbricata, a graceful and vigorous-looking perfect pyramid; then *Doniana*, equally good, but more concise and less pointed in style; and finally, *A. Gunneana* is on the margin—of a rather dense drooping habit. Without displaying much beyond plants to be obtained in commerce, this group is of the most finished character. The *Retinosporas* are good, the one grown in England as *leptoclada* being named *andelyensis* (Carr.), and the *R. squarrosa* of English gardens *leptoclada* of Siebold. In a large group here there is a remarkable specimen of what we call *leptoclada*, about 4 feet high, and very close and erect in habit.

In the building itself, in the forest production department, there are interesting specimens of freshly cut fruiting branches shown, the most important of which are great specimens of *Pinus macrocarpa* and *Sabiniana*, showing the entire distinctness of these two species. Among other groups of conifers I noticed a young and distinct-looking "*Cedrus pinifolia*," *Tsuga Sieboldii*, *Pinus Murrayana*, *Retinospora nova* species, *Abies numidica*, and several species of *Podocarpus*, surely useless for the open garden. Even the minor parts of the Exposition are great, one bank sweeping round the back and sides of the fresh-water aquarium being more than 100 yards long, and all planted with conifers. *Dacrydium Lobbii* looks a very graceful subject in one group, and would make a charming conservatory plant; and *funnebris* is also shown in a well variegated state. *Cupressus Goveniana*, a fine kind, is also shown both in a large and small state; it is a capital thing for favored parts of the British Isles. Of *Araucarias* there is a large nursery-like group of *imbricata* and several others, while the greenhouse kinds are also planted out, and some shown indoors. There is one remarkable specimen of *excelsa* planted out. The most remarkable *Araucaria* is one shown by Mr. Knight of Pontchartrain, and by him called *nana*; it seems a distinct and new species, very glaucous in hue, with a stiff development, and thick central stem and shoots. It was not recognized by either Dr. Moore of Dublin, or Mr. C. Moore of Sydney, both of whom know *Araucarias* well, and is likely to prove a useful plant for conservatory decoration.

NEW CABBAGES.

BY THE EDITOR.

THE improvement of the cabbage, within the last eight or ten years, has been very great. Both in Europe and America more attention seems to have been given to this important vegetable. The Stone Mason and Marblehead Drumhead are evidence of the improvement at home, while the Early Schweinfurth, Joulin Savoy, &c., are evidence of its improvement abroad. The cabbage has really been wonderfully improved, as all who have seen the immense heads exhibited at our horticultural shows must have had ocular demonstration. Heads, weighing 30, 35, 40, and even 50 lbs. each, not being uncommon, and as solid and fine flavored as the smaller and inferior heads of former days.

It is unnecessary for us to comment upon the importance of this great advancement in a vegetable so very generally in use, or of the great gain which accrues to our cultivators who are wise enough to turn out of the beaten track of old things and try the new. Some there are who cannot, or will not be convinced of this improvement; but fortunately before the light of greater intelligence this remnant of a previous century is giving way to that of progress in everything, especially in the marked improvement of our vegetables and fruits.

The American varieties above alluded to are now well known, and their value appreciated. The newer French varieties, which appear equally deserving of attention, are the following, more particularly the Early Schweinfurth, (FIG. 6,) which appears to combine the size and merits of the large late sorts, with the comparative earliness of the early sorts. Messrs. Vilmorin Andrieu, the well-known seedsmen, describe them as follows, in the *Revue Horticole* of 1866:—

SCHWEINFURTH CABBAGE.—This variety was received from Germany. It has a very large head, the largest of all the cabbages, and unites with this quality, that of a great comparative earliness over any of the large headed kinds. It is not so early as the Early York, but immediately follows it.

Seeds sown in March are full grown and ready for use early in August, and the seeds can be sown successively until the 15th of June. From the last sowing fine large heads are obtained in October. The root is very short, and the heads are formed with but few outer leaves. It is of a clear green, with a slight tint of red. The head is very large and very



6. EARLY SCHWEINFURTH.

solid. The cabbage is of excellent quality, tender, fine, and well flavored.

PANCALIER SAVOY, OR JOULIN CABBAGE.—A well known market variety, at Anjou, France, where it has a high reputation. It has a short root, with leaves of a dark shining green, with large outer leaves and moderate sized heads. It is commended for its very great earliness, as it is the earliest of all the Savoys, and takes its place, as it comes to perfection earlier, and has none of its defects, which under ordinary culture have loose heads, and are apt to run to seeds.

DWARF BRUSSELLS CABBAGE.—The perfection of the Brussels cabbage, with very much shorter stems, and very solid heads.

All these varieties are highly commended by Messrs. Vilmorin, the well known seedsmen, through whom they have been introduced.

THE CHINESE PRIMROSE.

FROM THE GARDENERS' CHRONICLE.

THERE is no more beautiful ornament of the greenhouse or the parlor window than the Chinese Primrose when properly cultivated. It will grow and bloom with the most ordinary care, but the real beauties of the plant can only be brought out by skilful management. The small stunted specimens usually seen are no indication of what the primrose should be under the right management.

We have frequently given the views of good cultivators upon the treatment of the primrose, and now add another article, which cannot fail to remind amateurs of the best treatment of the plant, if it does not supply details not already minutely given:—

Seeds obtained from the very finest and most advanced strains will, in the hands of an unskilful cultivator, produce nothing but poor weedy flowers. The foliage should be short, stout, and yet vigorous; and the flowers set well above the foliage. This is the "happy medium" in the cultural results which makes the beautiful Chinese primrose so charmingly attractive. The plants are easily cultivated when the cultivator has become intelligently acquainted with the conditions under which he can produce in the highest state of perfection the living material on which he operates. These conditions are clearly ascertainable, and of ready application, as many successful cultivators can testify. For conservatory and greenhouse decoration, and for the exhibition table, the mode of cultivation sketched in the following

remarks will be found worthy of application. If it differs in some of its details from plans usually adopted, it has yet been most successfully applied, and some of the finest plants and flowers I ever saw, sprang from the adoption of the practice now detailed.

A sowing of seed should be made about the middle of February (this is earlier than is generally recommended), in shallow pans well drained, covering the drainage with small lumps of fibry loamy turf, and filling up the pans to within about a quarter of an inch of the rim with a compost made of fine loam, finely sifted decayed leaf-mould, and silver sand well mixed together. The pans should then be sprinkled through a fine rose watering-pot till the soil becomes pretty well saturated, then allowed to drain for about three hours, when the seed should be sown, pressed gently into the soil, and afterwards slightly covered with soil, and again gently pressed. The pans should be plunged in a gentle hotbed, and in about a fortnight the plants will make their appearance, when a little air should be given. It is a good plan to place a piece of glass over the pans, as in a dry atmosphere it prevents a too rapid evaporation of moisture from the soil.

When the plants are strong enough to be handled without fear of injury they should be placed singly into small 60-sized pots, using a compost of the same character as that in the seed pans; the plants should be returned to the hotbed, and be raised to within 6 inches of the glass, where they should be allowed to remain until the roots reach the sides of the pots. Air should be carefully and judiciously administered at this stage. The next shift should be made into 48-sized pots, using a soil composed of nice yellow loam, leaf-mould, some silver sand, and some road sand from a gravelled road. The whole should be passed through a fine sieve previous to using it. A light and friable compost like the foregoing is admirably adapted for the plants, and will be found to suit them exactly. The plants should now occupy a pit having a north or east aspect, and be kept close for some days, and carefully shaded if the sun should be on them during the day. As soon as the plants make a show of growth,

air can be administered, for now they will grow into dwarf yet vigorous plants.

About the commencement of August the final shift should be given ; 16-sized pots should be used for the largest plants, and 24-sized pots for the smaller. At this stage some lumps of well-rotted manure from an old hotbed can be with great advantage placed over the drainage. The roots of the plants soon find their way down to it, and feed on it during the winter. This obviates the necessity for administering liquid manure, for this requires careful application, especially as it has been known to cause the plants to rot at the base of the leaf-stalks, when injudiciously applied. From August till November the plants should occupy a frame with a south aspect, and at all hours air should be freely administered, unless severe weather prevails. All flowers that appear previously to the middle of September at least, should be pinched out. By November the plants will be nicely in bloom, when they can be removed to the conservatory or greenhouse, and there they make a fine display until the end of April. To some it may appear at first sight an immoderately large shift from a 48 to a 16-sized pot, but considering the duration of time the plants are required to be in bloom, the room and food for the roots thus provided will be found none to much ; for it frequently happens that when the plants are allowed to bloom in small pots, the sustaining qualities of the soil are soon exhausted, the plants become weakly, and the flowers small and unsatisfactory.

Watering is a point to which considerable importance attaches—in fact it is a prime feature in the successful cultivation of the Primula ; water should be administered in the morning of the day, adapting the quantity given to the requirements of the plants and the condition of the atmosphere. The plants should be examined in the evening to see if any are very dry, but if they can remain till the morning, it is much the best plan. A considerable experience in the cultivation of “everybody’s flower,” the Primula, has proved that if the soil be permitted to become soddened with wet, and to remain so at a time when evaporation is scarcely

perceptible, the plants are sure to become sickly and ill-conditioned, and rot will ensue.

The *Primula* possesses one great advantage over most winter and spring-flowering plants, in that it is rarely, if ever, infested with greenfly, or any other of those pests that are often so troublesome in the greenhouse. It is therefore easy to keep the plants clean, and well they repay the small attention they require.

The difficulties attendant on the cultivation of the double kinds are fading away to some extent in proportion to the growing strength of constitution imparted to the improved varieties. "Being increased from cuttings, it is important to secure a sound and well-established plant at the commencement. Such a plant, selected in spring, may be grown on in a warm and partially shaded greenhouse or pit where a moderately moist atmosphere can be maintained, or should be potted in a compost of good loam, pure leaf-mould, decomposed cow-dung, turfy peat, and silver sand in equal quantities, and having a few small nodules of charcoal intermixed. The plants must have the pots thoroughly drained, and be rather firmly potted. They may be repotted as often as the roots form in sufficient quantities, but too large a shift should not be given. When once well-established the plants should receive abundant light and fresh air; and only require shading from strong sunshine. A dry parching atmosphere, which stunts the growth of plants of this character, should be avoided. Water must never be applied in excess. In hot weather a light but cool north aspect is best for them, and they may be freely ventilated. The plants thus grown, if in good health and vigor, will bloom profusely, from October, onwards through the winter months. They must however have a warm but not close greenhouse for their winter quarters, and be very cautiously watered at that season."

WILD FLOWERS.

BY WILSON FLAGG.

THERE are some plants which are very ornamental to the fields, though they bear no flower. Such are many species of fern. The green grass is made more beautiful in the early part of the season by the brown, yellow and reddish purple tints of the Buckhorn fern, which passes through a great variety of colors, before it ripens into perfect verdure. These beautiful ferns are abundant in the wet meadows which have been laid down to grass. A little clearing and cultivation seem to be favorable to them. The prettiest ferns, however, are found in the deep shade of woods, where they often cover the whole surface of rocks and rocky declivities with their deep verdure and their peculiar frondage. Some of the species remain perfectly green throughout the winter.

The true Sarsaparilla, a popular remedy which like the Ginseng is entirely inert, is a native of South America and the West Indies. It is not found in this country. But the old-fashioned simplers, or herbalists, of whom a few still remain in our country towns, will direct us to a substitute in our own fields—the false sarsaparilla—a plant equally inert, and almost equal in popular estimation. This is the *Aralia nudicaulis*, a very singular plant, having one stem, subdivided into three smaller ones, each with a terminal globe or umbel of greenish flowers. From the root rises another stem, also dividing itself into three, each with a terminal leaf, containing generally about five leaflets. The roots run like slender cords just under the surface of the ground, and are extensively used as an ingredient of root beer, to which they confer neither flavor nor medical virtue of any kind. Their use originated from their resemblance to the roots of the true sarsaparilla, and the similarity of their medical qualities.

We must not omit to notice the Trilliums, while engaged in our rambles, of which there are three species in our woods. The name Trillium evidently applies to the prevailing division of the different parts of the plant into triplets. There might be some question with regard to the positive beauty of the

flowers of the *Trillium*; but their delicacy and peculiarity of structure will always draw attention to them. They seem likewise to hide themselves from observation, concealing their flowers under their foliage, so that they are not easily discovered. The most common species in Massachusetts is the *T. cernuum*, or nodding trillium. Each plant has a single undivided stem, surmounted with three broad leaves, from the centre of which proceeds a flower, having in general two colors, white and brown. Two other very handsome species, *T. pictum* and *T. grandiflorum*, are found in certain localities in the vicinity of Boston, but they are rare.

A very rare plant in this vicinity is the *Linnaea borealis*, called in English Twin-flower. It is common to the northern parts both of Europe and America, and is named in honor of the great Swedish naturalist. It has been discovered nowhere in Massachusetts except a certain locality in Lynn. The branches, each bearing two rose-colored flowers, proceed from a prostrate stem, of not sufficient length to be called a vine. The flowers are very pretty, resembling those of the flax, but smaller and more delicate.

Another plant, that might with equal propriety be called Twin-flower, the *Mitchella repens*, is an exceedingly delicate vine creeping about the roots of trees, generally in the deep woods. The leaves are round, opposite, and variegated. Hence the common name of checkerberry which was originally applied to this plant, now more generally given to the partridge berry (*Gaultheria procumbens*) or spicy winter-green. The *Mitchella repens* produces two fragrant white flowers from a single germ, that ripens into one scarlet berry, with two eyes, marking the calyx of each flower. This species is well adapted for a hanging plant in the house, if it will bear in-door cultivation. The experiment is certainly worthy of being tried.

In our fields are two geraniums, the *G. maculatum* and *G. Robertianum*; in other parts of the country are several other species; but they are not very interesting. The common crowfoot geranium is abundant in shady places by the sides of fences, and does not confine itself to wild situations. The flowers, of a bright rose color, are very pretty in the

fields; but they wilt immediately on being separated from their roots, and will not recover after being put into water. Hence they are not good vase flowers. The herb Robert, *G. Robertianum*, is a smaller flower, with more delicate and finely shaped leaves, found in wet and shady places, usually by roadsides. Both these species are favored in their growth by a partial cultivation of the land, or rather they grow better in soils which are partly artificial, than in wild land.

The Orchideous flowers are not numerous in this latitude. One of the most beautiful of these is the bulbous *Arethusa* (*A. bulbosa*). It is not uncommon in wet lands of a peculiar description, but it is seldom I have been able to find a specimen, on account of the short period the species remains in flower. This plant a few years since I discovered in a meadow near the Cambridge Poor House. It is now entirely extirpated; for it will not bear even the approach of cultivation. I have sometimes been almost persuaded that the dust from ploughed land is capable of destroying it. It has usually one bright purple flower on the stem, sometimes two, according to Nuttall. The stem which is almost leafless rises from one side of a solid bulb that is imbedded in peat moss, while the fibrous roots extend into the soil beneath.

The pale *Arethusa* (*A. ophioglossoides*) flowers soon after the other species, and remains in flower several weeks.

Another of the Orchideous plants is the Ladies Slipper (*Cypripedium acaule*), everybody admires its beautiful nodding flowers which are both delicate and showy. We find it only in woods, in pleasant shady recesses, most frequently under the pines, growing upon the surface of rocks, with its roots imbedded among the decayed pine leaves and mosses which have accumulated there. The flower, borne on a long and leafless scape springing from two broad radical leaves, is very suitable for vases, as it will keep a great many days in water. The most conspicuous part of the flower is the nectary, which is like an inflated cap, of a bright purple color and longer than the petals. I have found the white Ladies Slipper, *C. candidum*, in Beverly, but it seems to me to be

identical with the purple one, except in color. The yellow Ladies Slipper, *C. pubescens*, bears a smaller flower of considerable beauty. I have found it in Worcester.*

The Golden Senecio (*Senecio aureus*) is just pretty enough to rank above a weed, and is very conspicuous in the meadows in the latter part of May. The flowers are yellow, and though somewhat imperfectly developed, are not wanting in elegance. One of the peculiarities of this plant is the variation in the shape of the leaves of different parts of the stalk. The lower or radical leaves are distinctly heart shaped; the next above them are lyrate, and the upper ones pinnatifid. If you pull up this plant with the roots, you will perceive a strong odor of sandal wood; but it is not perceptible in the flower. The other species of *Senecio*, or groundsel, are inelegant weeds, of a rank, disagreeable odor, and without beauty of flower or leaf.

While examining the Golden Senecio, we shall be likely to discover in the same situations, the Water avens (*Geum rivale*) conspicuous for its tall stem, and drooping dark brown flowers. Some of the foreign species of this genus are very beautiful. This species is attractive by its peculiarities rather than its beauty. The dark colored part of the flower is the calyx; the corolla, somewhat longer, is yellow, veined with purple. The seeds are crowned with long feathery awns. The plant resembles the *Senecio*, in the shape of its leaves and its general habit.

Young persons are often heard to inquire what plant is the true "Forget-me-not." I believe the first species to which this poetic name was given is the *Myosotis palustris*. This is not an American plant, though it has long been naturalized here, and is found growing wild in places very distant from any cultivated land. I have found it frequently in the woods near Fresh Pond in Cambridge. The flowers, of a bright blue, are not larger than those of the purple Sandwort; but they are made conspicuous by growing in a

* Prof. John Lewis Russell, who joins a highly poetical mind with unsurpassed botanical science, says that the yellow Ladies Slipper prospers very well under garden culture.

cluster. The original tradition from which it derives the name of Forget-me-not is of German origin.

Mixed with the *Myosotis*, among the half inundated grasses and mosses, you may always discover the beautiful Meadow Starwort, beautiful on account of the perfect symmetry and delicacy of its flowers, and their pure whiteness. You would hardly believe it to be a sister of the common Chickweed. The leaves of the Chickweed, however, are ovate or roundish, while those of the Starwort are linear and tapering to a point. The petals of the Starwort are also more pointed, and longer.

The *Pyrolas*, of which there are three species in the vicinity of Boston, are generally in perfection in June. The earliest, *P. secunda*, the One-sided Wintergreen, is the least interesting. The flowers are of a rusty white, and arranged on one side of the stem, and are without fragrance. The *P. rotundifolia*, the Consumption Flower, or round-leaved *Pyrola*, attracts universal attention, by its long spike or raceme of white flowers, having the odor of cinnamon, rising from a cluster of round leaves. They are found always under the shade of trees or bushes, never in the open field or pasture; the flowers might at first be mistaken for a cluster of white hyacinths, and their fragrance is no less agreeable. Another species, with more elegant leaves and flowers but without fragrance, is the *P. umbellata*, or Pipsissewa, so called by the N. A. Indians, who used a decoction of its bitter leaves for consumption and rheumatism. Hence the name of Rheumatism weed frequently applied to it in the country. The leaves are narrow, shining and evergreen, arranged in whorls around the stem, and surmounted by an umbel of beautiful drooping and purple flowers. The plant is very bitter, like the bitter of gentian, and was a common ingredient in the "diet drinks" formerly in use in New England.

Another very common ingredient in these old fashioned "diet drinks" was the Partridge berry, or Spicy Wintergreen (*Gaultheria procumbens*) now called Checkerberry. Everybody is acquainted with this plant who has ever spent a summer near the woods. It is one of the few aromatic

plants of a northern clime, that is extensively used in the apothecaries' shops. The most of the spices, or aromatic seeds and fruits, come from the tropics. The flowers of this plant are white, cup-shaped, and not inelegant; but its greatest beauty resides in the fruit. This is of a bright scarlet; and has the property of surviving the winter, without sustaining any injury by frost, and greatly increases in size as the plant puts out its new leaves in the spring. I have found the last year's fruit, as large as cranberries, upon the stem, which was likewise full of blossoms, the plant forming a complete bouquet of leaves, fruit and flowers.

Let us now divert our attention to some of the most singular plants in our woods, those of the genus *Monotropa*. These plants have neither green leaves nor green stems. The flowers are also colorless, and seem to be of the same substance as their stems, which are whitish and transparent, like the sprouts of a potato in a dark cellar. The stem, instead of leaves, is clothed with scales, also transparent and turning black as the plant approaches maturity. The flower of one species, the Upright Birdsnest, is erect, and forms with the stamens and pistil a cluster that resembles a bird's nest full of unfledged young. In the *M. lanuginosa* the flowers droop at the termination of the stem, and resemble a tobacco-pipe. The *Monotropa* is partially parasitic, subsisting on the decayed roots of trees, like some of the mushrooms.

The wild flowers, as the poet Campbell admits in his "Ode to the Field Flowers," are generally eclipsed in splendor by those which have been improved by culture. This can hardly be said of the Canadian *Rhodora*, that comes into flower in the latter part of May, and is one of the most showy ornaments of our fields where it is abundant. Its flowers are the more conspicuous, because they appear before the leaves, and cover the whole plant with their bright purple tints. The Canadian *Rhodora* generally occupies wet places on the outside of woods, where it is under the partial protection of the trees. We find it in the deep woods; but there it grows tall and straggling, and produces only a few flowers. I cannot imagine anything more beautiful than a wild whortle-

berry pasture, still brown and yellow with the half developed foliage of Spring, brightly crimsoned with beds of the Canadian *Rhodora*. Summer may be said to commence with the fading of the flowers of this plant, that seldom out-last the first week of June.

The *Medeola virginica* appears in flower about the first of June. It does not seem fair to bestow upon this exceedingly delicate plant the vulgar name of Cucumber root: but plants, like human beings, do not always bear names according in sound with their beauty and their other attractions. Still it is hard to divest a beautiful flower of a bad name which has once been generally applied to it. The *Medeola* delights in moist shady woods, and like most other wild flowers prefers either the border of the wood, or the sides of the avenues leading through it. The flower bears a close resemblance to the *Trilliums*; but the leaves are arranged in two whorls, the lower one consisting of six or eight leaves, and the upper one of three or four. The flowers are greenish white, terminal and drooping.

FLORICULTURAL NOTICES.

TRICOLOR ZONALE GERANIUMS.—The Royal Horticultural Society held an exhibition of this beautiful class of plants on the 21st of May, the object being to bring together all the prominent varieties of this showy group, beginning with the oldest sorts, so as to show the progress which has been made from year to year up to the present time, each exhibitor being requested to send a statement of the parentage of his seedlings or plants. One great object is to prove, if possible, whether the skill of the gardener (a point at present doubted by some) has any certain control over nature in producing these variegations. The display was undoubtedly a magnificent one, and we shall endeavor to keep our cultivators informed of the result.

THE GREAT FRENCH EXHIBITION.—May 2d was the day for the exhibition of new plants, and a superb display was made

by Messrs. Veitch of London, Linden of Brussels, and Jean and Andrew Verschaffelt of Gand. Among the new things we quote the following, as reported for the Gardener's Chronicle:—

Messrs. Veitch made a fine display, and in addition to those shown previously the following are some of the most remarkable:—

Two *Dracænas* not named, one a splendid reddish-leaved kind, with broad leaves, quite unlike the ordinary brightly-colored kinds, and really fine; another in the style of *D. brasiliensis*, with a singular and striking variegation, each leaf having a margin of white, and the central or young leaves quite so when unfolding, the crest of the plant in fact almost white, and the leaves margined with the same color; *Aralia Veitchii*, a beautiful species, with a crisped margin to a very narrow leaflet—dark olive green with a reddish midrib; *Aphelandra* or *Sanchezia nobilis variegata*, a noble plant with rich green leaves regularly belted with yellow stripes; *Maranta Veitchii*, the best of all the *Marantas*; a croton with crisped margins to the leaves and with yellow spots on them, but which become of bright red when the leaves get seasoned, so to speak; another croton with a dark rose midrib in the midst of a band of yellow; altogether Messrs. Veitch show 10 new crotons, the most remarkable of the remainder being one with green leaves, yellow midribs and deep rose peduncles and stem. They have also a *Pandanus*, in the style of *ornatus*, with brightly and beautifully variegated leaves, which will prove a first-class stove plant; *Dieffenbachia gigantea*, finely developed, 7 feet high; a most curious *Aralia*, with long oak-like leaves, and a very beautiful plant, dissected in the leaf like a small Maiden-hair fern, but with tendrils somewhat in the way of a vine, a thing not named or known, but which will prove a gem for trailing over a slender arch or trellis in a stove or orchid-house; it is a Brazilian plant, and probably bignoniaceous. Also *Dieffenbachia Pearcei*, with mottled leaves, the parts that clasp the stem being white; a large *Marattia*, a *Clematis* (John Gould Veitch), probably one of the monstrous forms of *C. azurea*; a lot of varied forms of the Japanese *Primulas*,

which they have so often shown in London; and altogether about 50 distinct new plants, some of which will not be in position till to-morrow.

Mr. Linden also makes a strong display, having one extraordinary thing in the way of a *Tradescantia*, but with noble leaves a yard or so long and 7 inches broad, with a vein of dull purple along the margin, and the apex of the leaf, slightly recurved, the bases of the leaves clasping the stem like a *Billbergia*. It is an Epiphyte, and one of the most remarkable ever seen. *Echites rubro-venosa*, with red veins, is a very nice plant; *Dieffenbachia nobilis*, well named, a free and bold kind; *Ficus dealbata*, a large species, with leaves more than a foot long and 6 inches wide, their under side silvery and downy; two *Adelasters*, somewhat like the species introduced a few years since; *Bignonia ornata*, with the large young leaves centred with silvery purple; a new *Iresine*, likely to be good; a well variegated *Hemerocallis*, a large species of *caladium*, spotted rose; *Cyanophyllum spectandrum*, nearly as good as the *magnificum*, which is saying a good deal for it; *Dracontium pertusum*, with a mottled snake-like stem; *Spathiphyllum* sp. nova, with leaves about 2 feet long, glossy and veined, like the fresh, fat leaves of *Ficus elastica*, a noble plant for decoration of conservatories, stoves, and probably for the subtropical garden; with a magnificently developed specimen of the fine *Anthurium regale*, and a few other plants. Mr. Bull shows the prettily spotted *Bertolonia margaritacea*, in flower, with a very pretty flower, too, for a foliage plant; and the fine *Odontoglossums Alexandræ superbum*, and *O. hystrix*. Mr. Ambrose Verschaffelt also makes a very respectable display, with *Cordyline multicolor*, which is in fact, a brightly striped *Dracæna*; *Dracæna lentiginosa*, having leaves like *Saccharum violaceum*, but narrower and smaller; *Dracæna Verschaffeltii*, a yellow green, with a dark green stripe, a distinct and pleasing plant; *Daphne speciosissima*, like a variegated *Pittosporum*; *Acer sanguineum*, dark rosy claret-colored, and several other interesting species of *Acer*; *Caladium Barilletii*, of a silvery tone, and a few rosy stripes; also *Agave mirabilis*, *compacta*, *spectabilis* and *grandis*, all these being

new dwarf and beautiful species, the two last especially so, the lower leaves of grandis falling over the edge of the pot as close together as slates on a house. Mr. Verschaffelt assured me that he believed it to be nearly 200 years old, from the number of these leaves that were concealed underneath, and the upper portion of the plant, only surpassed in beauty by grandis, which has leaves of a compact outline swelling in the centres, silvery, and altogether first-rate; while to these and others must be added the magnificent Cibotium regale, a Tree fern with silky or rather shaggy stem, and great leaves, those made when in its native country in a fully developed state, being said to be 25 feet long.

931. *BO'NICA VOLU'BILIS* *Harv.* TWINING BONICA. (Liliaceæ.)
Cape Town.

A greenhouse climber; growing six feet high; with greenish flowers. *Bot. Mag.* 1837, pl. 5619.

A plant of no great beauty, but remarkable for being "in habit and general appearance like no other plant." It has a large tuberous root, from which ascends a slender leafless stem, six or more feet high, bearing small green flowers. It is allied to the aloes, and is only important for its singular habit and growth. (*Bot. Mag.*, Jan.)

932. *CURCU'MA AUSTRALASICA* *Hook.* AUSTRALIAN WILD TUMERIC. (Zingiberaceæ.) Australia.

A stove plant; growing two feet high; with rose colored bracts; appearing in winter; increased by division; grown in light rich soil. *Bot. Mag.*, 1837, pl. 5620.

A showy plant, with long brown leaves, throwing up a dense spike or crown of transparent rose colored bracts amid the green foliage, and highly ornamental throughout the months of October to January. (*Bot. Mag.*, Jan.)

933. *HELIANTHEMUM OCYMOIDES* *Persoen.* BASIL-LIKE ROCK ROSE. (Cistineæ.) Spain.

A greenhouse plant; growing two feet high; with yellow flowers; appearing in summer; increased by cuttings; grown in light soil. *Bot. Mag.*, 1867, pl. 5621.

One of the prettiest of the Rock roses, which are very little known or cultivated in our gardens. The present species is very showy, with slender twigs, producing an abundance of bright yellow flowers, an inch or more in diam-

eter, with a dark centre. In the Kew gardens it is cultivated in the open border, where it flowers freely until cut off by frost. It should be wintered in the greenhouse. (*Bot. Mag.*, Jan.)

934. TAPEINOTES CAROLINÆ *Wawra*. EMPRESS CHARLOTTE'S TAPEINOTES. (Gesneriaceæ.) Brazil.

A stove plant; growing a foot high: with colored foliage and white flowers; increased by cuttings; grown in rich light soil. *Bot. Mag.*, 1867, pl. 5623.

A beautiful stove plant, of an erect habit, with oblong lanceolate leaves, which are green above and red beneath; the flowers, which appear in abundance towards the ends of the branches, are axillary and white. It is a fine addition to a collection. (*Bot. Mag.*, Feb.)

Societies.

AMERICAN POMOLOGICAL.

The following circular has been issued by the President, for the coming autumnal meeting at St. Louis in September next:

Whereas, the meeting of this National Association was to have been convened last September, and whereas, this meeting was postponed to the present year, Therefore, the undersigned give notice that its Eleventh Session will commence in the City of St. Louis, Mo., on Wednesday, September 11, 1867, at 11 o'clock, A. M., at Mercantile Library Hall, and will continue several days. All Horticultural, Pomological, Agricultural, and other kindred institutions in the United States and British Provinces, are invited to send delegations as large as they may deem expedient; and all other persons interested in the cultivation of fruits are invited to be present and take seats in the convention.

Among the prominent subjects which will come before the Society at this session, will be that of the revision of the Society's Catalogue of Fruits. The special committee appointed for this purpose are now, with the various state and local committees, actively engaged in collecting such information as will aid in determining what varieties are best adapted to the different sections and districts of our country; and this information, in the form of reports, will be submitted to the action of the convention. In compliance with a resolution passed at the last session of the Society, the several State Pomological and Horticultural Associations are requested to compile lists for their own states or districts, and forward them at as early day as possible, to P. Barry, of Rochester, N. Y., Chairman of the Committee on the Revision of the Catalogue.

Members and delegates are requested to contribute specimens of the fruits of their respective districts, and to communicate in regard to them whatever may aid in promoting the objects of the Society and the science of American Pomology; and as the fruits of the South and South-West will then have attained their size, it is especially desirable that a grand display from these sections be made.

Each contributor is requested to come prepared with a complete list of his collection, and to present the same with his fruits, that a report of all the varieties entered may be submitted to the meeting as soon as practicable.

All persons desirous of becoming members can remit the admission fee to Thomas P. James, Esq., Treasurer, Philadelphia, who will furnish them with transactions of the Society. Life membership, ten dollars; Biennial, two dollars.

Packages of fruits, with the name of the contributor, may be addressed as follows: "American Pomological Society," care of C. M. Saxton, corner Fifth and Walnut Streets, St. Louis, Mo.

MARSHALL P. WILDER, *President.*

JAMES VICK, *Secretary.*

Massachusetts Horticultural Society.

Saturday, January 12, 1867.—An adjourned meeting was held to-day,—the President in the chair.

Col. Wilder, from the Committee to whom was referred the valedictory address of C. M. Hovey, Esq., late President of the Society, reported the following resolutions:—

Resolved, That the Society recognize, with pleasure, the acceptable discharge of public official duties by Mr. Hovey, the late President, not only in the address submitted to us, but that upon the laying of the corner stone of the new Hall, the dedication thereof, and various other occasions.

Resolved, That the thanks of the Massachusetts Horticultural Society be and are hereby tendered to C. M. Hovey, Esq., for the energy and ability with which he has discharged the duties of President for a period of four years, a period which will ever be distinguished for the progress, prosperity, and successful administration of its affairs.

Resolved, That a piece of silver plate of the value of \$150, with a suitable inscription, together with these resolutions, be presented to Mr. Hovey, as a testimonial of the approbation and respect of the members of this Society, and that a committee of three be appointed by the Chair to perform this duty.

The resolutions were unanimously accepted, and the same committee appointed to perform the duty.

Adjourned three weeks to February 2.

Horticultural Operations

FOR JUNE.

FRUIT DEPARTMENT.

THE season, though rather late, has been highly favorable, and fruit crops of all kinds promise unusually well. No late frosts have occurred, and, though the weather has been wet and cool, no injury has been done to vegetation.

GRAPE-VINES, in the grapery, will now have their fruit well set, and forward enough for thinning. This is an operation little understood, or, if understood, carelessly done. A correspondent, in the present number, has some hints which are worthy of attention. Attend now to the stopping of all laterals, and tying in the shoots. Give more air, and maintain a genial moist atmosphere, being careful of cold draughts of air, which are sure to bring on mildew. Vines in cold houses will be in full bloom, and should be kept warmer till the fruit is well set. Use water rather more sparingly for a few days. Hardy vines should now be tied firmly to the trellis, and useless shoots rubbed off, allowing only such to grow as are wanted to supply new wood, or a proper proportion of fruit.

STRAWBERRY BEDS should be thoroughly cleaned of every weed, and clean, dry, cut straw scattered through the beds, or along the rows, to keep the fruit out of the dirt. If dry weather give a thorough and liberal watering. New beds should be hoed and kept free from weeds, so as to allow the runners to get an early and vigorous growth.

PEAR-TREES should be summer pruned. Commence by cutting or pruning off all laterals to the second or third leaf, allowing the terminal branches, or those wanted to supply vacancies, to extend for a while. Manure liberally, if not already done, and lightly dig around each tree.

ORCHARD-HOUSES will need care. As the fruit begins to swell up top dress each pot or tub with old manure, and water freely. Keep down all insects by the use of *sapo tabacum*, or whale oil soap. New trees, recently potted, should be syringed often.

RASPBERRIES AND BLACKBERRIES should be tied up to strong stakes.

Attend to newly grafted trees, loosening the ties, and staking vigorous shoots, to prevent their being broken by the wind.

FLOWER DEPARTMENT.

The planting of all kinds of bedding or summer blooming plants, should be proceeded with and completed as soon as possible, that they may get hold of the ground before the severe warm and dry weather of the month overtakes them. Once established they will soon make strong plants, while a little check will greatly retard them. This work done, the winter blooming stock will require attention, especially if early flowers are wanted.

All the pruning and repotting should be done, and the plants be ready for plunging out into a good sunny spot, to complete their growth.

CAMELLIAS will now have made their growth and set their buds, and should be removed to the open air as soon as the latter are fully formed. Continue to syringe often.

AZALEAS will now be making their growth, and will need encouragement to obtain short stocky wood. Top-dress if they require it. Syringe twice a day, and water with liquid manure. Prune in straggling plants.

PELARGONIUMS will now be flowering in their best condition. Shade from the hot sun, which will prolong their bloom. Young stock may be repotted, to obtain a more vigorous growth.

CHINESE PRIMROSES. See our present number for hints on the culture of these beautiful plants. They now require to be kept in a cool frame.

FUCHSIAS should be kept growing, as the least check will prevent them from forming large specimens. Water freely, with manure water, or the new French fertilizer, which is very valuable for plants of all kinds.

CALADIUMS will now be growing rapidly, and should be shifted as they require it, shading from the hot sun in the middle of the day.

MARANTAS AND DRACÆNAS, of the different species, free growers, should be liberally watered, and repotted as they require it.

FERNS should now be kept well syringed, and shaded from the hot sun.

PALMS should be repotted. Water liberally now.

BEGONIAS will be growing rapidly, and will require larger pots.

CHRYSANTHEMUMS should be planted out in well-prepared beds, to be taken up in autumn, or shifted into larger pots, and plunged in the open ground.

PLANTS of many kinds, requiring good treatment and extra heat, may be placed in the greenhouse after the camellias and hardy sorts are removed to the open air. Regulate, prune and tie in climbers of all kinds.

FLOWER GARDEN AND SHRUBBERY.

The growth of grass has been exceedingly rapid, and lawns already have a verdure rarely seen at this season. They should now be cut and rolled often. All edgings should be cut, and the walks cleaned and rolled, to make them firm and smooth. Herbaceous plants should be staked up, and vacant places in the border filled with annuals or bedding plants.

TULIPS should be taken up as soon as the foliage begins to yellow.

GLADIOLUSES should be planted, if not already done.

DAHLIAS should be planted immediately.

ASTERS, raised in cold frames, or hotbeds, should be planted out in well-prepared ground.

BOX EDGINGS AND HEDGES should be clipped.

TIGER FLOWERS AND TUBEROSES may be planted in the open border.

CANNAS should be planted out in good rich soil.

ROSES, of the tender kind, should be planted in good rich soil.

VERBENAS, and bedding plants of all kinds, should be planted out at once.

THE WINTER - GARDEN.

IN a climate where, for six months of the year, the weather is so variable, unpleasant, and severe, it is somewhat remarkable that so little attention has been devoted to the means of lessening the discomfort of the inclement season, simply on the score of health, if not for the gratification of a taste for plants and flowers. With the earliest days of October, our gardens and grounds are shorn of much of their summer beauty, and though we have the period succeeding—that glorious period of autumn—with its varied coloring of crimson and gold and emerald foliage intermingled and blended as they are in no other region—another month finds the landscape but a cheerless expanse of leafless branches, save where the evergreens predominate and fill up the scene.

The keen freezing air of November, its cold easterly storms, and the light covering of snow would each cause little regret, or much annoyance, but for the fact that they are only the precursors of a season of greater severity, and knowing as we do that it is the order of nature, we cheerfully, as we should, submit to the change, bearing all the rigors of winter, but continually looking for spring, when buds and flowers will again put forth, and herald the season of green fields, delicious fruit, and luxuriant harvests.

The invalid, unable to bear the severity of our winters, seeks a more genial clime, and makes the fatiguing journey of a thousand miles, or the often unpleasant voyage of weeks or months, to reach a climate free from the ill effects of our own, returning with the incoming of the warm season, to enjoy the bracing air of a northern summer.

Yet we have within our reach the means of rendering all this labor useless and unnecessary, whether for the invalid or those who love a continued season of warmth and comfort; and it is surprising that so few, especially those who have abundant means, have not availed themselves of them. The winter-garden is a more simple acquisition than the

summer or sea-side villa, and the comforts and enjoyment of one are as great as the other.

Iron and glass are not very expensive, and the taste of the architect and the skill of the professed cultivator combined, would ensure the erection of structures admirably adapted to the purpose. The achievements in this direction are yet to be developed. Our correspondent, Mr. Copeland, in a late number (p. 134) has alluded to the pleasure to be derived from the winter-garden, which he shows may not only be secured without much expense, but add so much to the enjoyment of city life that it should form part at least of every elegant city house. "An habitual association with flowers," he truly remarks, "particularly where the rigor of winter prevents our usual out-of-door amusements, humanizes and refines the character, and often awakens a permanent interest in science and art, as well as in the practices of horticulture." Many conservatories and greenhouses now attached to our country residences afford but little enjoyment, for they are so distant from the city they are rarely visited by the owner, and only serve as resources for occasional cut flowers and bouquets. When summer returns they are then but mere shells, cleared of their inmates, to recuperate from the same fresh breeze which is so invigorating to the proprietor.

How different are these structures, and how enhanced the pleasure of their ownership, when a daily stroll in the most inclement weather takes us among the glossy foliage of the camellia, literally bending beneath the weight of its rich blossoms, or even when more common plants fill up the house. The invigorating influence of the fresh earth, and trees and shrubs, their varied foliage, the beauty of the blossoms and their delightful odor, all combine to render such daily intercourse with plants an unfailing source of delight. The orchard-house, with its fruit-trees, is one kind of winter-garden. The cool greenhouse, with evergreens and half-hardy shrubs, another. And the conservatory, with a slight artificial temperature, still another and higher source of enjoyment, as well as comfort. Each may form a part of every city garden of the higher class of dwellings, where a few hundred feet of land are attached.

But we are not content with advocating the enjoyment of city dwellers alone. The residents of the suburbs of all our great cities, and even of the country, need not be deprived of the winter-garden. It should form a part of the house, and be accessible in all weather, without exposure to snow or severe cold. A veranda, temporary or permanent, may connect the garden with every house.

Our climate is more severe than that of Great Britain, and a cool greenhouse there would be, as a rule, too cold for us. But the cost of heating is so small, and the labor so light, that this is no bar to the enjoyment of an ordinary spring temperature, in which a larger part of the best winter flowering plants will flourish with vigor. It only requires that the selection should be judicious, and for the object in view. The hundreds of evergreens or coniferous trees, too tender for the open air, might be grouped together, and be made very interesting, and with these the half-hardy rhododendrons and azaleas, intermixed with camellias, which flourish in a much lower temperature than is usually supposed. These alone, and a few of the hardy palms and yuccas, would form a group of plants, always interesting, and always attractive.

These few remarks have been suggested by an article in a foreign contemporary journal, which seemed peculiarly applicable here. Having so long enjoyed the advantages as well as pleasures of a winter-garden, we have often wished that this enjoyment might be broader, and that the thousands who have ample means, need only the hint, or certainly but the opportunity of appreciating them, to render the winter-garden a part of every city, suburban, or country residence.

The details of erection, of laying out, and the selection of plants, &c., is not our object at the present time. This we may refer to hereafter. What we desire is that such structures should be viewed as sources of health and comfort, and the best means of extending a taste for beautiful plants.

There are, we cannot doubt, hundreds of residents within the limits of towns or cities, or scattered about their suburbs, who know nothing of the amount of enjoyment to be drawn from a COLD GREENHOUSE, by which we mean a glass house

merely, without any of the heating apparatus which adds so materially to the cost of greenhouses and other structures suited to repel frost. Of course there is greater luxury in the moderately heated stove or orchid-house, greater luxury indeed in the nicely-warmed greenhouse with its Madeira climate all the year round, and we are not disparaging these in the least, or recommending their discontinuance by those who can command them; but for a most extensive class of persons—and we may use this term in the comprehensive sense which Mr. Mill does in reference to another subject—who are really fond of their gardens and capable of deriving great enjoyment from the culture of flowers, but who at the same time cannot afford the expense of a warmed greenhouse or stove, there is, we can assure them, very much satisfaction to be drawn from a simple greenhouse, which is a mere shell of glass, and has no provision whatever for the supply of artificial heat.

We strongly recommend then to that numerous section of amateur horticulturists to which we have already made allusion, the adoption of a cold greenhouse as a garden luxury of comparatively small cost, and yielding a most abundant return. Why, to cover over with a glass roof the whole or the half of any of the long narrow strips which are dignified with the name of town gardens, would furnish the most enjoyable of all modes of gardening in such situations. We venture to say that greater results in the way of the production of favorite plants would be realized by thus covering over a larger portion of such a garden, than could be obtained from the smaller pent-up ill-ventilated conservatories, as they are called, which are often attached to town residences, and in which an attempt is made, generally without success, to repel the winter's frosts. True, the same kinds of plants would not be suitable for the cooler as for the warmer structure, but there is no question as to which would be the most pleasing and satisfactory to the owner:—perfect success with inmates of the cold house, or partial if not total failure with the inmates of the warmer one,—on the one hand, we will suppose, luxuriant camellias, revelling in beauty; and on the other, frost-bitten or sunburnt pelargoniums.

Our recommendation that those who can do so should by all means set up their cold greenhouse, even though they cannot go further, is founded on experience, and we may here briefly describe such a house, of which the particulars are now before us:—The length is 50 feet; the width, 16 feet. The roof is hipped, forming an unequal span, somewhat flattish, and facing the north-east, with a boundary wall on the south-west. In front is an upright glazed sash, two feet high, above which has been introduced a strip, six inches wide, of perforated zinc, so as to yield a gentle and constant ventilation when desirable, the space being closed up in cold weather by wooden flap shutters, which mode of ventilation has answered the purpose very well. There is no heating apparatus, the house being in winter shut up close, and merely opened occasionally on fine days as a corrective of damp. One half of the two ends is of glass, and at each end, in the angle formed by the ridge of the roof, is introduced a movable wooden flap for additional ventilation. Two glazed flaps are also provided in the short slope of the roof, to be used in hot weather as occasion may require. The back wall is covered with ferns, lycopods, oxalis, &c., planted in the interstices of galvanized wire netting, which holds up a stratum of peat earth, and in which snowdrops, crocuses, and primroses are dotted for early spring blooming. This house has now been erected nearly four years, and answers the purpose admirably.

The plants are all planted out. As a matter of convenience in this particular case, the interior has been laid out in a very simple manner, a straight path running through the centre, with a raised bank of earth supported by a dwarf wall on either side, back and front, the surface of both banks being more or less varied. But of course a more irregular arrangement could be adopted when desirable. The position of the house is somewhat shaded, and for general purposes no doubt a greater command of light would be desirable, but as it is, the plants put on a robing of refreshing verdure, rendering the house at all seasons a pleasant resort. In a lighter situation no doubt a greater profusion of varied flowers might be produced.

With regard to the plants used, experience has shown that camellias take the first rank. Even for these alone, such a house is quite worth building. They grow healthily, and blossom freely. Ferns of all kinds capable of enduring slight frost, also succeed well. The New Zealand and Japanese species in particular, thrive admirably; and many of the choicer forms of British ferns find under these conditions a pleasant home. Himalayan rhododendrons, fuchsias, roses of the Chinese section, *Berberis nepalensis* and *japonica*, and *Chamærops Fortunei* all do well, besides many hardy subjects, which, though in favorable localities growing well enough exposed, cannot be made to succeed in the open air in smoky towns. Of the latter series may be instanced such things as *Sansevieria carnea*, *Helonias bullata*, *Wahlenbergia hederacea*, *Calla palustris*, &c., plants which, in localities such as those indicated, dwindle away in the open air, but with the mere shelter of the glass, such as they obtain in a cold house, grow and flower freely. Then again, snowdrops, crocuses, hyacinths, and other bulbs, planted annually, enliven such a house in the early spring, when it is perhaps most enjoyable. There are many other flowering subjects, such as cassiopes, cyclamens, common and double primroses, and small herbaceous and Alpine plants generally, which might be readily grown in a structure of this kind, in situations where the light is not too much obstructed. On the other hand, plants that will not endure slight frosts are unsuitable; for in the house to which we have referred the internal temperature sometimes falls as low as 24° F. = 8 degrees of frost, and anything like a sharp frost is sure to make an entrance.

We repeat that the erection of a glass structure of this kind, without fire-heat, would furnish a most agreeable and enjoyable adjunct to the dwelling of a town resident. Its interior might be laid out picturesquely, and there are plants enough which if once fairly started, would succeed under the care of persons altogether ignorant of floriculture, to furnish admirably any such house of ordinary size; while those who make the culture of special subjects a hobby, might without difficulty make successful arrangements for accommodating their pets.

LETTER FROM COL. WILDER.

It is with great pleasure that we lay before our readers a letter from Col. Wilder, who is now on a visit to England and the Continent, partly for the improvement of his health, and partly for a tour of observation among the gardens and grounds of the well-known cultivators of Europe, to see, after reading all that has been written of the condition of horticulture and pomology abroad, how they compare with our own progress at home.

We do not expect to be favored with very long or minute descriptions of Mr. Wilder's observations, as his object was to leave behind the duties and labors of an extensive correspondence—which his impaired health would not admit of giving that attention which he has ever devoted to such correspondence, always a pleasure in his robust health, but latterly too great an effort—but we hope for other and similar letters to the very interesting one which we now present.

As the season of fruits approaches, we do not doubt we shall have a full account of the great show which will be held at the Paris Exposition in September or October, where will be gathered together all the varieties cultivated in France and Belgium. We are glad to learn the tour so far has not been fatiguing, or impaired his health:—

“I have spent two weeks in England, and hope to devote more time to her on my return. Although I have been deeply impressed with the beauty, grandeur and sublimity of what I have seen, her stately palaces, her ivy mantled castles and cloud-capped towers, nothing surprised me more than the wide expanse of living green, dotted with flocks and herds, which everywhere attracts the eye; no wonder that we find in England the best of mutton and beef.

The day after our arrival at Liverpool, being Easter Sunday, we went to church at the ancient town of Chester, examined the old monuments at the cathedral, and on Monday saw the old Roman wells, the Roman baths dating as far back as A. D. 95. On inquiring for Hoole House we were informed,

that Lady Hamilton was in church, and that we should be introduced to her. This was done, and we visited her place the next day. It is a gem of a place, not large, but remarkable for its extensive rock-work. This has been so well described by Mr. Sargent in your magazine that I refrain from details. The most striking feature of these grounds is the semi-circular belt of rock-work, rising to the height of twenty feet or more, and embracing the lawn of about an acre within. This is planted with various evergreen trees and shrubs, between the rocks, so as to produce a proper blending of shades, or, as in a few instances, great and striking contrasts. On entering the grounds I saw what I supposed to be a large mass of the blue *Wistaria*, climbing to the very top of the embankment, but proved on approaching to be nothing else than the little blue *Aubletia* and *Myosotis*, planted between the gray rocks so densely as to cause this impression. Mrs. Hamilton informed us that Lady Broughton, the former occupant, expended large sums in devising the plan of these grounds, much of which she directed from her window, often removing and reconstructing what had failed to produce the desired effect. The Heather and Primrose were in bloom, nestling in the interstices, and, although early in the season, the rocky belt, with its fine evergreen trees, and shrubs, was not only unique, but beautiful. The collection of evergreens is choice. Here are specimens of the *Cedrus Deodara*, with good central shoots, the finest I have seen, except at Elvaston Castle, where they are twenty-five feet high, and furnished to the ground. One noble *Araucaria imbricata*, the only tree of many which has stood the climate, some beautiful *Pinus pinsapo*, *Cupressus Lawsoniana*, and most of the novelties in the *Conifera* tribe. Here are good illustrations of the use of the knife, many trees being sheared into form, while others, like the *pinsapo*, do better without it. Some Cedars of Lebanon have been so closely cut as to form thick bushy pyramids. The *Thuja aurea*, just bursting into growth, with its golden tips, is beautiful indeed, and the green glossy hollies, laurels, and ivies, were to me interesting objects. But it was not my intention to describe what has been so well done by another correspondent, and must close. It was too early in the season

to see this singular place in perfection, but when the bedding plants, of which there is a large stock in readiness, are interspersed in the sinuosities between the trees and shrubs of the rocky girdle, and upon the lawn within, each bed of which is guarded by two Irish yews, straight and stiff as Victoria's grenadiers, (although I do not like these,) I think the whole must present a most delightful prospect to the beholder, altogether unique, and unlike any other place on record.

I have been at Lord Derby's, Eaton Hall, and Elvaston Castle, Chatsworth and other fine places, and the horticultural grounds of the Exposition are the attraction for the present. Many of the leading men in this line, all of whom you know, have specimens of rare things planted in beds in open ground and under glass. The azalea show is just over, and their places will be occupied by another tribe, and thus the succession will go on during the exhibition. I am of course delighted and surprised at what I have seen, and most of all that, after threescore and eight, I am here myself.

What investigations I may make in regard to horticulture and the rural arts I cannot say, but having received the appointment of Honorary Member of the United States Commission I suppose it is expected by the Board that I should do something. Yours, as ever, M. P. W.

UNION OF PEAR AND QUINCE WOOD.

BY R. ROBINSON SCOTT, PHILADELPHIA.

THE subject of pear culture remains in *statu quo*. Yet facts frequently come to light that render the suggestions and opinions of the past, confirmations. It was some years ago supposed that the Dwarf Pear had received a quietus, and that henceforth the great demand for the trees would be cut off, and standards, almost exclusively, be planted; yet it has not so turned out, and but yesterday a gentleman, to whom I sold pear trees some six years ago, showed me his trees, both of standard and dwarf, and though managed by his own

hand, in leisure hours, they were noble specimens. The dwarfs and standards were planted in the same soil, a deep loam. Some of the standards had borne heavy crops, others not a single pear.

The Buffum, on its own roots, trees twelve to fifteen feet high, models of form, had not yielded a pear. So with several other varieties. A Bartlett, on the pear, had commenced to bear when about four years old, and bore regularly ever since. The tree is now twelve feet high, and bears bushels. Such facts prove to me that all that has been advanced about the failure of the pear, in the vicinity of Philadelphia, is not gospel. But we must pass on to a remark about the nature of the pear and quince wood, contained in a recent article in your magazine.

It has been stated as an argument against the success of dwarf trees, that the quince wood and pear wood are so different that they may easily be detected by the eye. In many cases we have proved it impossible thus to discriminate between the two woods. In the present instance the statement is very different. It is that certain kinds of pear wood are soft and "porous," others firm and close-grained. The quince is also characterized as "firm-grained." These characteristics, if well established, cannot be too fully understood, but, physiologically, we cannot comprehend their application. Is there, then, as has been suggested, "firm-grained wood," and "porous soft-grained wood," and how does the nature of the growth of the tissue produce these varieties in groups so closely allied as the pear and quince genera? But we may remark that this idea of the dissimilarity of the texture of the wood has not originated with your correspondent. With his statement we find no fault, and only desire to have it more fully elucidated, hoping that its investigation might lead to some better explanation of the difficulty with which some varieties unite with the quince. It is a "*strong point*" with a certain opponent of dwarf pear culture "that the pear is an '*open-pored*' thrifty wood, of large growth and stature, while the quince is a *close-pored*, compact wood, of slow growth and small stature. These two oppositely constructed woods, except in a few varieties, and extraordinary

cases, will not unite and form a perfect growth." Now what does physiology teach us on this point? It tells us nothing of *porous wood*, or *pores in the wood*—there can be no such thing as "porous wood." What is known as porous cell walls, is quite a different thing, relating only to the cell membrane. The office and nature of this porous tissue is not at all clear to physiologists. One thing is certain, there are no openings in the wood.

We admit that the processes of cell formation, connected as they are with the nutrition of the tree, are modified by the matters introduced by the roots, and drawn into the cells to be assimilated. If these necessary materials are of the proper character, and in abundance, the wood, which is composed merely of individual cells, will be of a healthy nature, but in no case porous, or spongy, or soft, in either pear or quince. As to the probability of discovering the essential cause of one tissue not readily uniting with another, from the abstruse nature of the question of vegetable nutrition, and the little information possessed on the subject by our chemists and vegetable physiologists, it will probably remain much longer undefined. Let us not, however, be vague in our assumptions and talk of "porous wood," when there is no such thing in the healthy pear or quince.

The late A. H. ERNST, at page 106 of Vol. XXIV. of your magazine, talks of "porous and delicate tissue" being the result of stimulated growth, and thence the key to "Fire-Blight." Have we learned nothing since his time?

STRAWBERRIES IN NEW JERSEY.

BY R. ROBINSON SCOTT, PHILADELPHIA.

NOTES AND OBSERVATIONS ON VARIETIES.—It would be ungenerous for those who were present at the "Great Strawberry Festival" and Exhibition, on the 13th inst., at the new settlement, called Hammonton, to forget their pomological brethren farther east, who are not yet enjoying that delicious fruit in abundance. We would desire them, especially the

originator of the standard American strawberry, which, since 1834, has gradually, but steadily, risen to a high place on the list of varieties, especially for the table—to learn what fruits were there, and what were not there.

The Hovey is ignored in these new settlements, while at Philadelphia it has recently regained the position from which designing traders had sought to remove it. It has been called the *Germantown*, and even the reliable J. J. Thomas, in the late edition of his well-known book, gives these two names as belonging to distinct fruits. “Hovey” is the name of the strawberry which has been exhibited several times, and commended by the Pennsylvania Horticultural Society. Can it be possible that J. J. Thomas is ignorant of that fact? The HOVEY is moreover an established fruit. On suitable soils, with proper culture, it is the best of all our American strawberries, pistillate though it be, but it has been abused.

Now the *Agriculturist* has put in a claim for its place. It is too uncertain, will not bear without the highest cultivation, is delicate in its constitution, does not withstand the severity of the Middle State winters, with their rapid changes. The Albany sets the teeth on edge; sugar it as you may the acid is there. Well, there are other great fruits. The 700 of Knox, called at times *Jucunda*, though by Mr. Knox’s friends with a little reluctance. Is this great fruit to eclipse Hovey! Not so. It is not adapted to our climate. The foliage burns. It will prove unfit for careless cultivation, much more than the Hovey or *Agriculturist*.

The IDA is a beautiful and vigorous strawberry, pistillate though it be, quite distinct in habit and foliage, a pleasant and handsome fruit. The Brooklyn Scarlet is excellent, partaking of the Hautbois character strongly, and resembling somewhat the Lady Finger and Large Early Scarlet. The Lady Finger is also a handsome fruit, but does not maintain the position it gained, and the poor Hooker was not seen at Hammonton by us. Among bushels of fruits it may have escaped our notice. We thought we saw it, but were corrected in the impression. The great Rippowam was there, not fully tested; and the Philadelphia, from Mr. N. L. Felton, the originator of Wilson’s Improved Albany, and exhibitor of the Germantown last fall.

POMOLOGICAL GOSSIP.

THE PEAR CROP.—The promise of a very large pear crop, judging from the remarkably abundant blossoms, appears, in many localities, at least, to have been premature. Owing to the peculiar weather at the time of flowering, or to other causes, the fruit has not set well, and of a few particular sorts, like the Duchesse and a few others, there is scarcely any fruit. Louise Bonne de Jersey looks well, as do many kinds; but the Bartlett is not an average crop, and others have in part failed. This is the general impression with many cultivators who have carefully examined their trees. Our own trees seem to have done better, and, with the exception of the Duchesse, which is decidedly a failure, others look well, and the Boston, Dunmore, Sheldon, Moore's, and many more, never set so large a crop, and the fruit never looked better at this season.

THE EUREKA GRAPE.—This is the name given to a new variety raised by Mr. N. Bogue of Attica, N. Y., which is stated to excel in earliness, sweetness, rampant growth, productiveness, softness of pulp, tenderness of skin, and fineness of seeds. Judge Soper of Batavia, N. Y., an amateur grape grower, thus speaks of it in an article in a Western New York paper:

“This is a new grape, originated and introduced by Messrs. Bogue & Son, nurserymen of this (Genesee) County. It is a seedling of the Isabella, very much like it, ripening some two weeks earlier, richer and more tender in the pulp, and more compact in the bunch. It has been cultivated by them in their nursery, and by several amateurs in their vicinity, long enough to establish its value and give it a character. It will be a very valuable acquisition in the grape line, and add new laurels to the Isabella grape.

“At the Annual Fair, held in Genesee County last fall, this new Eureka grape took the first premium, in competition with the largest collection of out-door cultivated grapes ever exhibited in this county. Many amateurs had an opportunity of testing it, and all pronounced it worthy of extensive cultivation.—H. U. S., *Batavia, N. Y., January, 1866.*”

WILD FLOWERS.

BY WILSON FLAGG.

I am not displeased, when I observe some species belonging to an admired family of plants, that fall short of their congeners in beauty. We must have foils in nature, or her works would soon pall upon the senses. What a miserable scene this earth would present to our eyes, if the ground upon which everything is sustained were throughout of some beautiful hue, and every pebble glistened like gold, rubies and sapphires! In the Ragged Orchis (*Orchis psychodes*) we behold a homely representative of one of the most beautiful families of plants. Everywhere in the open meadows stands this little Ragged Orchis, fringed like others of its genus, but of a pale greenish hue, and without a speck of any brilliant color. The great abundance of this species may be the consequence of its plainness, as the searchers of flowers leave it unmolested.

No person, on the other hand, can help admiring the Orchis *fimbriata*, the Fringed Orchis. It is not very showy; but the flowers grow so compactly in a neat, purple plume, and stand nodding in the high-grass with so much grace in the month of August, that they never fail to attract attention. The *O. spectabilis* seems to differ from the *fimbriata* only in being a month earlier, and bearing flowers more brilliant and showy. There is another rare species, the *O. ciliaris*, having flowers of a bright orange, inclining to white. But the greatest beauty of all is the White Orchis—the Nun of the Woods—flowering only in the cloistered solitudes of the deep forest. Its roots are always imbedded in bog moss, so that it is a real parasitic. The flowers are perfectly white, and resemble a little lady wearing a white cap. I have found them in Wenham woods, near Beverly Farms.

There is not a flower in our fields that possesses more general attractions than the Grass Pink (*Cymbidium pulchellum*.) It is not so brilliant as the Early *Arethusa* (*A. bulbosa*,) but it bears several flowers on a stem, and has more elegance of shape and appearance. The *Cymbidium*

grows abundantly in certain open meadows which have never been disturbed by tillage. Like other plants of the Orchis family, it is impatient of any interference of art with the primitive condition of the soil that produces it. If a meadow abounding with flowers of this species should be ploughed and tilled for one season, and afterwards left to nature, the *Cymbidium* would probably never reappear in that field. This plant has one long leaf, sheathing the stem, that bears six or more bright purple flowers.

In low ground, especially in fallows, under the shade of fences and shrubbery, we observe a plant with leaves of a pedate shape, resembling those of the Crane's-Bill, bearing in July clusters of greenish and wholly inelegant flowers. This is the Sanicle (*Sanicula marylandica*) a mean plant with a very pretty name. A friend remarked to me that he could not think for what purpose, good or bad, this plant had been created; for it has neither beauty nor utility, nor is it common enough to be a pest, like the Roman Wormwood and some other worthless plants. I can only suppose that it is designed, like the Ragged Orchis, to set off the charms of beautiful flowers by contrast. It would be difficult to explain how much of the pleasure we derive from the observation of nature is due to her homely productions. The rocks and the ground are homely and frequently disagreeable; yet we must confess that we admire the beautiful plants that grow upon them more than if the same rocks and ground were shining with crimson and azure. It seems to be the design of nature that beautiful things shall be rare: and in this respect the fields are symbolical of human society. The majority of human beings are plain and homely in manners and countenance, and the others are the more beloved and admired on this account. The majority are also selfish and wanting in any but the most common kind of virtues. This renders the generous, and the possessors of exalted virtues, the more admirable. The sanicle is too homely to be rare. It is found in almost every wood in the country, where the ground is too much shaded for grass.

One of the prettiest flowering shrubs in the month of June is the Low Laurel (*Kalmia augustifolia*) an evergreen,

bearing a whorl of rose colored flowers, with a cluster of recent foliage growing out of their centre. The generic name of this plant was given to it and others of its genus in honor of Kalm, a Swedish botanist, who described the plants of America from his own observation, about a hundred years ago. We know this species by the name of Lambkill, which seems to be a corruption of *Kalmia*. Here is its etymology: *Kalmia*—*Kallamia*—*Killamia*—*Kill-lamb*. There is no other way of accounting for its English name, as neither sheep nor lambs are known to be killed by it. Many English names of other plants are but similar absurd corruptions of their Latin names.

The Ground Ivy (*Glechoma hederacea*) is a very common weed in old gardens. It is rather too pretty to be called a weed. I always admired it, as it creeps under the shade of fences, and preferring the garden to the field, because it is an exotic, and dares not trust itself among the crowd of strangers it would encounter in the pasture or wild wood. The leaves are handsomely formed, crenate, and heart shaped. The flowers grow in a whorl around the stem, petals blue and anthers meeting and forming a cross.

Another foreigner that delights in similar localities is the Celandine (*Chelidonium majus*.) Everybody knows this plant, its peculiar pinnate foliage with lobed leaflets, its yellow flowers in a sort of umbel and stalks and leafstems abounding with a yellow sap, like gamboge.

In the latter part of July we meet constantly in pastures and by rude waysides, a little plant bearing a close resemblance to an Aster. It is not an Aster, however, but a Fleabane (*Erigeron philadelphicum*.) The flowers are white, the florets of the ray very delicate and fine, having sometimes a tinge of purple. This is a very pretty species belonging to a very homely genus of plants.

In wilder situations, generally in damp grounds, we discover the *Pedicularis canadensis*, bearing the disagreeable name of Louse-wort. A flower, if it possesses any beauty, ought not to be stigmatized with such an odious name. Its supposed magical power of destroying vermin should never be used to disgrace it. I have heard the country people who

are not botanists call it *Twist-weed*, a name very aptly given to it on account of a peculiar twist in the arrangement of the flowers upon their stem. The flowers are labiate, yellow and purple, varying in color on different plants, and the leaves long and lanceolate with crenate lobes.

The Blue-eyed Grass (*Sisyrinchium anceps*) is very abundant in grass fields in early summer, but its eyes are never open except in the broad sunshine. I have seen whole acres made blue with the flowers of this species, though their existence would hardly be detected in cloudy weather. *Anceps*, its specific name, meaning a two-edged sword, has reference to the spear-shaped leaves, which are thickest in the middle, and flattened down to a thin edge on each side. The flowers are blue, with a yellow centre.

One of the prettiest ornaments of our peat meadows in the month of June is the Marsh Pea (*Lathyrus palustris*.) The flowers equal those of any cultivated species in delicacy and beauty; but they are half concealed under the leaves of the plant, and need to be taken into the hand and examined. The leaves are beautifully pinnate, and flowers deep purple.

Allied to this species is the Beach Pea (*L. maritimus*) found very generally under the sandy banks of our sea-coast. It differs so little from the cultivated garden pea, that it is probably its progenitors. The foliage has the same "pea-green" color that marks the cultivated species, but it has the habit of the dwarf varieties. This species has not the elegance and beauty of the *L. palustris*.

The Lupine (*Lupinus perennis*) is common in many places on dry sandy plains protected by adjoining woods. It is less admired as a wild flower than it would be if it were not familiar to us in gardens. The flowers are very numerous in tall spikes or racemes, varying from a deep blue or purple to paler tints of the same colors. I have found some varieties that were white. The Lupine grows abundantly in Andover, chiefly on level and dry grounds.

The Yellow Bethlehem Star (*Hypoxis erecta*) is a little grass-like plant which is plentiful in wild grass lands, especially in shady lanes leading through a wood, where it keeps company with the Crane's-Bill, and the later violets. The flowers are

wheel-shaped, closely resembling those of the White Star of Bethlehem of our gardens, except in color. This species was first described by Michaux and named *H. caroliniana*. The early botanists who described the American plants made their observations chiefly in the Southern States. Hence the large proportion of American plants that bear the names of *caroliniana*, *virginiana*, *marylandica*, &c., compared with those which are named after the Northern States.

An inferior plant, the Umbelled Thesium, (*T. umbellatum*), with but little beauty, bearing flowers in a crowded umbel, perfectly upright, resembling the Early Saxifrage, is abundant in dry pastures among the wild shrubbery. It is seldom more than five or six inches in height, flowers very small and of a dull white, sufficiently conspicuous to attract observation, but not likely to become a theme of poetry or to emblemize any passion or virtue.

The Veronicas (Speedwell) on the other hand, are, with some exceptions, flowers of considerable delicacy and beauty. The meanest of the genus is the *Veronica serpyllifolia*, Pauls Betony, found in great abundance by damp waysides, and only about two inches high. The Marsh Speedwell bears a delicate purple flower, borne from the axils of the leaves, and growing in the shallows of small streams. The finest species are such as have been naturalized.

Allied to the Veronica is the genus *Gratiola* (Hyssop.) The Hedge Hyssop (*G. aurea vel officinalis*) is found by the borders of ponds and brooksides, producing an abundance of yellow tubular flowers in September. Its supposed medicinal qualities cannot be traced to any intrinsic virtue of the plant.

L I L I U M T E N U I F O L I U M .

BY THE EDITOR.

THE additions to the Lily tribe, within a few years, have been numerous, and most of them of the greatest beauty. Japan has been the source of supply, and the *L. auratum* the richest acquisition since the introduction of the *L. speciosum*.



7. LILIAM TENUIFOLIUM.

The species and varieties now number, according to some of the most authentic German Catalogues, upwards of 60.

Several of the latest Japan varieties, or species, have not found their way into collections, neither are they so distinct in character as the *L. auratum*, but they will add to the importance of the lily tribe, which holds a place scarcely second to any among the decorative garden or conservatory plants.

The lilies are as yet but half appreciated, in fact, the best kinds are but little known. Even the old *L. japonicum* is yet rare, and the true *L. japonicum* or *Brownii*, is scarcely seen outside of the collection of the enthusiastic amateur. We hope, with the attention now directed to the *L. auratum*, all the lilies, without exception, will be more highly valued, and generally introduced into our gardens.

The *L. tenuifolium* (FIG. 7) is a recent acquisition, and has now just flowered for the first time in this country. It is from Siberia, and is therefore hardy—a valuable quality in the lily tribe—and will flourish like the Japan lily, under ordinary culture.

The plants attain the height of three feet, and are terminated with a spike of ten to twelve flowers, which individually resemble the Martagon, but they appear on the sides of the main stem, and form a pyramid in the same manner as the *L. speciosum*. The size of the flower is not large, but the color is the deepest scarlet, or crimson scarlet, very showy. It flowers usually the last of June, or early in July. The foliage is narrow and slender, as its name indicates.

It is readily raised from seeds, which flower the second or third year, or it may be increased by offsets. It grows in the same soil as other lilies, and should be planted and cultivated in the same manner.

L. tenuifolium resembles, in its flowers, the *L. sinicum*, but the latter is a slender growing species, and rather too tender for out-door culture. *L. tenuifolium*, from its deep color, will contrast well with *L. japonicum*. It may also hybridize with *L. speciosum*, and be the source of infusing a still deeper tint into that superb lily.

FLORICULTURAL NOTICES.

935. *GRIAS CAULIFLORA* Linn. ANCHOVY PEAR. (Myrtaceæ.) West Indies.

A palm-like tree; with yellowish flowers; increased by cuttings; grown in rich soil. *Bot. Mag.*, 1857, pl. 5622.

A tropical plant, with a palm-like aspect, producing the West India fruit known as the Anchovy pear. It grows from ten to twenty feet high, with a straight stem, terminated with large, handsome leaves, three to four feet long, and ten inches broad. The flowers are produced on the main stem, are two inches broad, pale yellow, very fragrant, and are succeeded by a large brown fleshy drupe. It has flowered repeatedly at Kew, and forms a handsome ornament among tropical plants. (*Bot. Mag.*, Jan.)

936. *CLAVIJA FULGENS* Hook. BRILLIANT FLOWERED CLAVIJA. (Myrsineæ.) Peru?

A stove shrub; growing four feet high; with scarlet flowers; appearing in autumn; increased by cuttings; grown in rich soil. *Bot. Mag.*, 1857, pl. 5626.

A beautiful plant, growing four feet high; with foliage a foot or more long, and dense spikes of the most brilliant scarlet flowers. Dr. Hooker says, "It is easily managed, flowers freely, and forms a very strikingly ornamental plant." (*Bot. Mag.*, Feb.)

937. *LILIUM HÆMATOCHROMUM*, (HYBRIDUM?) BLOOD RED FLOWERED LILY. (Liliaceæ.) Japan.

A hardy bulb; growing two feet high; with dense red flowers; appearing in July; increased by offsets; grown in light rich soil. *Ill. Hort.*, 1867, pl. 503.

A new lily from Japan, sent recently to M. Verschaffelt of Gand, who states that it is, without contradiction, "in the dimensions of the flowers, and their dark and brilliant colors, a variety eminently ornamental." It grows about two feet high, with small decussate leaves and enormous flowers, measuring about eight inches in diameter. It is supposed to be a hybrid, but what the parents could be is a doubtful question. (*Ill. Hort.*, Jan.)

Societies.

CAMBRIDGE HORTICULTURAL.

This Society held its Second Annual Strawberry Show on Thursday and Friday, June 27 and 28. The exhibition was remarkably fine, and some of the specimens of strawberries very large. The season was too early for the *La Constante* in perfection, though fine berries were shown by three or four exhibitors. Hovey's Seedling, from the Belmont growers, was, as usual, fine, showing that this old sort is yet in its prime. The report is as follows:—

From Hovey & Co., eight varieties, viz.: *La Constante*, *Triomphe de Gand*, Hovey's Seedling, *Agriculturist*, *Russell's Prolific*, *Napoleon III.*, *Buffalo Seedling*, and *Rippowam*. From J. C. Park, seven varieties, among which were *La Constante*, *Triomphe de Gand*, Hovey's Seedling, *Jucunda* and *Agriculturist*. From J. D. Hovey, a magnificent basket of *La Constante*, also the *Fillmore*, a seedling of fair size, *Jucunda*, *Agriculturist*, *Rippowam* and four other varieties. From George Hill of Arlington a basket of very large and superbly colored Hovey's Seedling, also very fine *La Constante*, *Jenny Lind* and *Brighton Pine*. W. H. Locke contributed a handsome basket of Hovey's Seedling, also fine baskets of *Brighton Pine* and *Triomphe de Gand*. From Samuel Locke a basket of *Triomphe de Gand* and Hovey's Seedling. Davis & Bates contributed two varieties, and W. P. Walker two varieties.

PRIZES FOR STRAWBERRIES.

For the best basket, containing not less than four quarts of any one variety, to J. D. Hovey, for *La Constante*, \$25.

For the next best, to George Hill, for Hovey's Seedling, \$15.

For the best collection, not less than three quarts of each variety, to J. C. Park, \$15.

For the next best, to Hovey & Co., \$10.

For the best basket of Hovey's Seedling, not less than three quarts, to W. H. Locke, \$5.

For the next best, to Samuel Locke, \$3.

For the best basket of *Brighton Pine*, not less than three quarts, to W. H. Locke, \$5.

For the next best, to George Hill, \$3.

For the best basket of *La Constante*, not less than three quarts, to George Hill, \$5.

For the next best, to George Hill, \$3.

For the best basket of *Triomphe de Gand*, not less than three quarts, to Samuel Locke, \$5.

For the next best, to W. H. Locke, \$3.

For the best basket of *Jenny Lind*, not less than three quarts, to George Hill, \$5.

For the next best, to W. H. Locke, \$3.

FLOWERS.—From Hovey & Co., 86 varieties of plants in pots, among which were rare specimens of palms, *Hibiscus Cooperii*, with elegant crimson and green and white foliage, *Maranta Zebrina*, *Philodendron pertusum*, singularly perforated with round and variously shaped holes, *Dracæna terminalis*, the variegated leaved yucca, the Butterfly orchid, *Pandanus variegatus*, gloxinias, and many other plants: this collection was awarded the first prize. G. G. Hubbard sent a small collection of plants, among which were the Tri-Colored fern and other species, gloxinias and other plants. Cut flowers, bouquets, &c., were contributed by Hovey & Co., Frank Becker, Asa Bullard, E. C. Stevens and others.

Massachusetts Horticultural Society.

Saturday, January 5, 1867.—We complete our Report of the Society with the Address of the President, C. M. Hovey, which has been in type a long time, awaiting space:—

GENTLEMEN:—Another year has been added to our existence, as a society, and we are now assembled, at this season of fresh hopes and renewed endeavors, to discharge the duties which devolve upon us, and inaugurate the government for the present year. Our labors have been crowned with success, and we gather together once more to participate in mutual congratulations upon our prosperity and condition.

Everything combines to render this occasion one of more than ordinary interest. It is the period when the newly elected officers enter upon their official duties. It is the period when the appropriate Committee report the financial state of the Society,—its receipts and expenditures,—and give us the valuation of our property. It is the time when we are to listen to the suggestions of the President, and pass upon important appropriations for the year. But even the new administration which is to be inaugurated—the valuable reports to be presented—or any other business would give it the interest which characterizes the present occasion. No, gentlemen, these are the expected and interesting details of the January meeting, which make you acquainted with the progress of the Society in its onward march to a more elevated position. The deep interest which attaches to this assemblage is, that the official ties which have bound us together for four long, eventful, anxious years, are now to be severed, and the pleasant business associations, though often burdened with responsibilities and labors, in the erection of the new Hall, are now and forever to be broken off. This event would be viewed with sadness were it not that it is only officially that these ties are to be sundered; for released from the duties and cares of office, with more leisure at my command, it will be a source of the highest gratification to become once more a working member, and bring the same aid—the same zeal—the same enthusiasm—and the

same earnest aspirations—to the support of the Society, which have been exerted in its behalf for more than thirty years.

Entering upon the duties of President at a time when the country was convulsed with civil war,—when property was considered almost valueless—and our Society retired from its once prominent position to a place scarcely known to the public,—it became a duty, as it was esteemed a pleasure, to exert all the influence at my command, not only to maintain the Society in the condition in which I found it, but to spare no time or effort to give it more vitality and force. Its name was honored—and the memory of its founders revered. The effects of its early organization were not only apparent in the neat cottage gardens—beautiful villas—suburban retreats—and rural avenues everywhere in our neighborhood, but the dead, who have found their last resting place beneath the shady recesses of Mount Auburn, could they but speak, would chant the praises of our intelligent and thoughtful predecessors, who, by their wise counsels and broad views, conceived and carried out the great enterprise which has established that “Sacred Garden of the Dead,” and, in part, enabled us to rear this Temple, dedicated, forever, to the Science which not only fills our gardens with radiant flowers and our orchards with

“ Fairest fruit,
Blossoms, and fruit at once, of golden hue;”

but adds that crowning grace of embellishing the earth beneath whose verdurous turf all must some day slumber, with leafy bowers, under whose shade we may linger, seeking consolation for the lost and loved. How strongly—yes, how vividly are we reminded of the great achievement of establishing a cemetery as we survey the old burial ground immediately before us, and contrast it with the diversified surface,—the picturesque aspect and matchless beauty of Mount Auburn, once known as “Sweet Auburn,” the dearly cherished name given by him, who often meditated amidst its silent dells, who had chosen it for his home, but who surrendered it for our use,

“ Sweet smiling village, loveliest of the plain.”

In all that has been accomplished, it is pleasant to record the unanimity and zeal with which I have been supported and sustained in all the acts and duties of the four years it has been my lot to preside over you. Success is not to be attributed to me alone, but to my associates who surveyed our position, and with true courage, determined upon nobler and greater issues. Such pioneers as Dearborn, Lowell, Cook, and others, did not look to the dying out, or even neglect of an association established for the great objects which were the constant pursuit and diligent study of their lives. But bringing to the task intelligence, perseverance and skill, asserted and maintained the importance of every exertion to develop a taste for Rural Art. None can appreciate more fully than I do, the entire confidence you reposed in the Building Committee, when you placed unreservedly all the available funds of the Society at their disposal; or ask for a more hearty co-operation in all the varied changes which brought the structure to its

final completion. I have to thank you for this and other repeated acts of approval and approbation.

The Society's Hall will compare favorably with any similar edifice in the United States—and as a single isolated building, complete in itself, it will, I think, be difficult to find its equal. Its interior accommodations are no less perfect than its exterior design and finish, and without knowing the views of the members generally, I can only affirm that if the means were now at our command, I know not that it could be materially altered or improved without additional ground. It is true some have thought there was a want of room; but this could only be had by our extension to the rear, which it was not then, though it may hereafter be, in the power of the Society to do. It was a matter, however, by no means overlooked.

And here, gentlemen, I must detain you for a moment in regard to our Hall. Beautiful as the well known skill and taste of our architects who designed it could make it, within our means, its crowning characteristic, which, more than anything else, typifies it as the Temple of Horticulture, belongs to the elegant statues which dignify and adorn its beautiful front. But they typify more than this; they reflect not only the wealth which is ever ready to aid meritorious works, but the taste which is now, happily, the frequent accompaniment of it. To the princely merchants, whose only garden is the crowded avenue of the noisy city—whose only flowers are the long lines of figures in the ledger and bank book, and whose daily works are confined to the dusty counting room—as well as the retired gentleman, whose beautiful grounds exhibit so many of the beauties of nature embellished by art,—are we indebted for generous acts, materially strengthening the position of the Society; but more particularly for the gift of the graceful Statues of Ceres, Pomona, and Flora. These enduring monuments of their generosity will keep their names ever fresh in our memory.

The possession of a new building of so much larger proportions, has naturally resulted in a change in the details of management; and in order to accomplish all the great results which the increased facilities of the Society afford, and which were in part foreseen by your Building and Finance Committees, it was found expedient and desirable to revise the By-Laws to conform to the new state of things. This was not done, however, only after long and mature deliberation, and the alterations which have been made, will, I have no doubt, work to the entire satisfaction of every member, and add greatly to the income of the Society. All must admit that such a valuable property as the Society now possesses, should be placed in the hands, or under the care of, a responsible superintendent, who should be present here at all times to lease the halls, collect the rents, keep the building in order, attend to repairs, open the rooms to strangers interested in horticulture, visiting our city, and in various ways look after the wants of the members. The change, though effected only a few months ago, has already largely enhanced the income of the Society, and aided in making more widely known the high value of the halls, for various purposes required by the public, over all similar edifices in our city. Its constant almost uninterrupted occupation, for three months, is the best

evidence of its adaptation to the wants of our citizens. An important change has also been made in placing the property under the control of the Finance Committee, as they are to provide means, when required for the payment of all debts and mortgages. It has been thought that they could be better intrusted with the charge and management of the building. I think you will all agree that it is in competent and responsible hands.

And here, gentlemen, you will pardon me for a brief allusion to our late Treasurer, Capt. Austin, who for seventeen years has performed the duties of the position so acceptably to all. During that long period, commencing when the resources of the Society were limited, up to and through the time of the erection of the Hall, when the property had more than quadrupled, and large amounts expended, there has been the same uniform, systematic rendering of accounts, and minuteness of detail that characterize his private business. Nothing has been lost, and under his careful management a great deal saved. Fortunate has the Society been in the selection, as well as the keeping of such a faithful Treasurer. All must regret the necessity of his resignation, in consequence of his inability to attend to the increased labors of Superintendent and Treasurer combined.

In like manner I might note the resignation of the tried and faithful Librarian, and Superintendent of our weekly exhibitions. Years of constant active labor in the duties of his office have made him well known to all who visit the Society's rooms. After so long a period, devoted more to the Society because he sympathized with its objects, than for pecuniary reasons, he now, with increasing years, finds it necessary to relinquish his services in our behalf. We can only hope that his place will be filled by others equally zealous and faithful, and that the memory of so many years passed among books and flowers and tempting fruits, will lighten his pathway in whatever direction it may lead.

I hardly need recount the labors and progress of four years with which most of you are familiar. From the organization of the Society in 1829, up to 1862, a period of thirty-three years, with a list of members sometimes more and sometimes less, the entire number June 1, 1862, was 571. The total number to-day is 936. In 1844, at the time of erecting the old hall, the entire property was valued at \$37,654.12, and the gross income \$3,250. With many liberal and timely donations since then, the accumulation from Mount Auburn, and the sale of the old hall, the property was valued January 1, 1862, at \$92,625.91, and the gross income, \$10,550. The property to-day, January 5, 1867, is valued at \$270,000, and this without taking into account the largely increased value of the land on which the building stands, and the gross income for 1866, \$30,350. Yet during the last twenty years the Society has awarded in prizes and medals upwards of \$50,000. It is a record of which any similar institution might be proud.

In my brief remarks before you at the time of my inauguration, I alluded to the very great importance of offering liberal prizes, and have since kept the subject before you, and it is especially gratifying to be able

to state, that the Society, from its good position has increased the prizes gradually, during four years, from \$3000 to \$3600. In addition to this there is the most acceptable donation of Mr. Hunnewell, for the encouragement of the rose, to the amount of \$500, making the sum, if there should be no further increase, of \$4100 for 1868. If there is any subject I would request you to keep constantly in remembrance, it is the continued increase of prizes.

I can congratulate you, therefore, upon the very prosperous state of affairs. Nothing seems to be wanting which could give the Society additional vigor and force. It enters upon the new year under auspices which must be cheering to all. With its building finished, its fine halls affording ample space for the exhibitions, with its greatly augmented income, and a fair prospect of such an increase that it will ere long be enabled to cancel its mortgages, and offer prizes equal to the object it desires to encourage, with its list of members nearly doubled, and with a President active and zealous in the cause, whose pomological attainments will give to the Society that distinction which it has ever been jealous to maintain, it cannot but go on reaping new honors and gathering fresh renown.

I have little to add: yet in leaving the position I have held for four years, I desire again to urge you to renewed exertions in your round of duties, as members, as exhibitors, as cultivators, as lovers of plants and flowers, of trees and shrubs, or of fruits and vegetables. The standard of horticulture in Massachusetts, and in our city and its neighborhood in particular, is high. I think it was the late Mr. Downing who said, in some remarks upon the progress of horticulture, that Boston was fifty years in advance of New York. But this I take to be a slip of the pen. That we are more advanced I do not think will admit of a doubt. But whether true or not, we wish to maintain the high standard and reputation already reached, and call upon the members of our Society to do their part in the work.

Our country advances with almost frightful rapidity in every branch of industry and material wealth. The telegraph is already too slow. We annihilate space and are not satisfied. In this restless advancing indomitable spirit of our people there is danger—danger that our material wants and objects will absorb our æsthetic and finer tastes. Wealth is now accumulated rapidly, and by millions, and it finds its outlet, not so much in the country as in the busy city. We are uneasy in the quiet retreat of the suburbs, away from the commotion and turmoil of the great marts of trade, and the pleasant occupation of planting, as well as the contemplation of Nature's handiwork, becomes, after a time, laborious and wearisome, or ceases to attract our attention. The shady groves, the brilliant flowers, and even the ruddy fruits, the product of our own hands, are neglected. The fresh air of the dewy morn, and the gentle breeze of the summer eve lose their pleasant and invigorating influence, and we sigh for the excitement of the busy city, where we can join in the bustle, bask in the exchange, or participate in the chances of the gold-room.

It cannot be denied that a purely horticultural taste,—not a mere love

of show, the frequent appendage of wealth alone,—is diminishing rather than increasing. I say this with deep regret, and perhaps you will dissent from my opinion. By this taste I mean a real genuine love of the country, of pleasure grounds and verdant lawns, of gardens and conservatories, and all the accessories of a rural home, where are gathered together the representatives of every clime, and where, amid the noble palms of the East, the fragrant orange trees of the South, or the gigantic evergreens of the far West, we can always find, summer and winter, new and unceasing sources of pleasure, instruction and delight. This may be an extreme view; but it will serve to illustrate the idea I wish to press upon you, to labor for the dissemination of a true, hearty love of nature, and the thousand objects which contribute to the happiness and comfort of a highly civilized and refined people. Induce our cultivators not to be content with the ephemeral beauty of the summer garden, but to bring here and place upon your tables the rich and varied products of every region of the globe, and the magnificent specimens which the art of the cultivator has enabled him to rear. Offer large prizes, and create a laudable spirit of rivalry which shall not cease, but continue to extend, until liberal wealth and cultivated taste shall be usurped by sordid aims and gross desires.

It is not, said Gen. Dearborn, in his address to the Society in 1829, “until the imperious demands of man—the multiplicity of riches—the embellishment of letters, and discoveries of science—legislation and jurisprudence—the honorable profession of arms—the love of music, painting, sculpture and architecture,—it is not until all these various objects of immediate interest, or of contingent and associated importance, have been zealously pursued and successfully attained, that horticulture unfolds her endearing and exalted beauties. She forms the wreath which crowns the monument of an Empire’s greatness, and takes rank among the number, and becomes the most distinguished of the fine arts.”

And now, gentlemen, again I have to thank you for the forbearance which you have manifested in the discharge of my duties, and the many tokens of friendship extended to me in my official career. Whatever errors I may have committed have been of the head and not of the heart. I have endeavored to perform all the duties devolved upon me to the best of my ability. I trust, at least, I have not sacrificed any interests of the Society.

One single act remains to be performed, and my connection with the Society as President will be terminated. It is to introduce to you my successor, whom you have selected to preside over you. Into his hands I commit all the duties assigned to me, assured he will so conduct the affairs of the Society that its well-earned reputation will be preserved and maintained untarnished to his successors. I tender to you, sir, my kindest regards for your health and prosperity.

Gentlemen of the Society, I bid you adieu.

Saturday, February 2, 1867.—The Committee of Arrangements for the Annual Exhibition, reported the 24th, 25th, 26th, and 27th of September as the days for holding the same.

The President was requested to sit for his portrait, agreeably to a previous vote of the Society, and W. R. Austin, E. A. Brackett, and F. P. Denny, were appointed a Committee to attend to the execution of the same.

Wm. Claflin, W. H. Halliday, F. A. Dennison, J. A. Black, and S. Benton Thompson, were admitted members.

Adjourned one month, to March 2.

March 2, 1867.—An adjourned meeting of the Society was held to-day,—the President in the chair.

It was voted that the Society join in a resolution, requesting the Legislature to take some measures to prevent the increase of destructive insects. Dissolved.

April 6.—The stated quarterly meeting of the Society was held to-day,—the President in the chair.

Col. Wilder was appointed a delegate to represent the pomological and horticultural interests of the Society at the Paris Exposition.

E. S. Hunt, S. Appleton, Wm. Cairns, Geo. Pierce, Wm. Munroc, and Geo. Sawtle, were elected members.

Adjourned one month, to May 4.

Saturday, May 4, 1867.—An adjourned meeting of the Society was held to-day,—the President in the chair.

L. Wetherell, J. C. Hovey, and E. F. Washburn, were chosen a Committee to make a Report on the new specific, "Sapo Tabacum," for the destruction of insects.

The following members were elected: W. S. Clark, Amherst, Mass.; E. H. Sawyer, Rev. Wm. H. Wilcox, L. C. Barney, F. E. Buswell, Miss Marie C. Carter, Geo. H. Chapin, Chas. Follen, Geo. Jaques, A. J. Cass.

Adjourned one month, to June 1.

THE OPENING EXHIBITION FOR THE SEASON took place on Saturday, May 25. The display was not so large as was anticipated, but the specimen plants were very fine, and the cut flowers, considering the lateness of the season, excellent.

Messrs. Hovey & Co. sent a large and varied collection of plants, among which were the *Latania borbonica*, *Pandanus elegantissimus*, and *variegata*, *Hibiscus Cooperii*, beautiful, *Pitcairnia Alstensteinii* with four spikes of flowers, the variegated aloe leaved yucca, *Statice Halfordii*, several large azaleas, *Dracæna braziliensis*, and *ferrea*, 12 petunias, single and double, 12 Zonal geraniums, *cinerarias*, 6 pelargoniums, the new *Abutilon vexillarium*, and many other plants. From H. H. Hunnewell came 12 pelargoniums, fancy and show, very large, well grown and fine. Fine fuchsias were sent by J. W. Brooks, and a few plants from F. Parkman.

The cut flowers comprised rhododendrons, azaleas, shrubs of various kinds, peonies, tulips, &c.

PREMIUMS FOR PLANTS AND FLOWERS.

GREENHOUSE PLANTS.—For the best 12, to Hovey & Co., \$20.

PELARGONIUMS.—For the best, to H. H. Hunnewell, \$8.

PELARGONIUMS, FANCY.—For the best, to H. H. Hunnewell, \$8.

ZONAL GERANIUMS.—For the best, to Hovey & Co., \$4.

CALCEOLARIAS.—For the best, to Hovey & Co., \$4.

HANGING BASKETS.—For the best, to Hovey & Co., \$4.

For the next best, to J. E. Westgate, \$3.

CUT FLOWERS.—For the best, to Hovey & Co., \$6.

For the third best, to J. Comley, \$4.

For the fourth best, to F. Parkman, \$3.

NATIVE PLANTS.—For the best, to Miss M. E. Carter, \$3.

BASKETS OF FLOWERS.—For the best, to Mrs. E. S. Joyce, \$3.

For the next best, to Miss S. E. Westgate, \$2.

Gratuities were also awarded for the following named plants and flowers: J. A. Kenrick, for three varieties magnolia; Walker & Co., for fine collection of late tulips; Hovey & Co., for azaleas, petunias and pelargoniums; Miss S. E. Westgate, for two bouquets; Frances Parkman, for pot plants; J. W. Brooks, for fuchsias.

The display of fruits was very limited. A dish of Hubbardston Nonsuch apples, from the Fruit House, was exhibited by Hovey & Co., in as good state of preservation as those at the Fall Exhibition. Fine specimens of Hale's Early peach, Black Hamburg and White Frontignan grapes were exhibited by D. H. Barnes, gardener to M. H. Simpson, Saxonville.

In the vegetable department the display was unusually fine. J. B. Moore of Concord took the first prize for asparagus, Walter Russell the second, and G. H. Smith the third. George Hill exhibited some fine specimens of White Spine cucumbers, which took the first prize, also Victoria rhubarb and lettuce. Very fine rhubarb was also shown by J. H. Smith and James Nugent. Radishes by Josiah Crosby and Walter Russell.

The regular Weekly Exhibition will continue each Saturday through the season, from 12 M. to 3 P. M.

Horticultural Operations

FOR JULY.

FRUIT DEPARTMENT.

JUNE has been a moderately cool month, with frequent refreshing showers, and vegetation never looked better at this season. All kinds of fruit look well, and the crop of strawberries was never larger or finer. Grapes are rather late, but so far free from mildew.

GRAPE VINES will now require good attention, giving air freely, both night and day, in fine weather. Damp down the house, morning, noon and night. Stop all laterals when they crowd the vines, and tie in all wood for bearing next year. Vines in cold houses will not be quite so forward, and

thinning should now be attended to. Give particular attention to airing, as any cold draughts would cause mildew. Air freely in good weather, and maintain a genial atmosphere by sprinkling the walks. Hardy vines should be thinned of superfluous wood, and the permanent canes laid in at full length. Thin the berries, and water in dry weather, if fine specimens are wanted.

ORCHARD-HOUSES, in which the trees are kept in summer, should be well aired night and day. Mulch the surface of pots with manure, and water freely, using liquid manure occasionally. Attend to the stopping of young shoots, on newly potted trees, intended for bearing next year.

FIGS in pots should have abundance of water and liquid manure.

STRAWBERRIES should now have attention. Rake and clean off old beds, taking out all weeds, and, if run together, dig out alternate strips into which the young runners should be rooted. Spring-planted beds should have the runners regulated as they grow, and laid in at regular distances. Plants intended for hills or rows should have the runners clipped off. Prepare for making new beds next month. Plants for forcing should now be layered into small pots.

SUMMER PRUNING should be continued this month, as it is the time when the trees are making the most vigorous growth.

FLOWER DEPARTMENT.

The weather has been exceedingly favorable for all kinds of bedding plants, and they have taken hold of the ground well, and already make quite a show of blooms. Nothing has yet suffered for want of rain. Now is the season to look after the winter flowering stock, repotting everything that requires it, and plunging out in the border, or placing in a proper situation to encourage their growth. Winter flowering climbers should be regulated, the small wood cut out, and the stronger growths pinched in. Syringe freely in dry weather. Collect soils and manures for winter use.

AZALEAS will now have made their growth, and may be removed to the open air, selecting a half shady, sheltered spot. Water freely, till the buds are well swelled, and syringe night and morning. Improve leisure time to tie the plants into neat shape. Re-pot and bring on young specimens, keeping them in a rather close pit, or warm house, syringing freely.

CAMELIAS should have free and copious syringings every day, in dry weather. If the plants need repotting this is the month to do it. Inarching may be done now.

CINERARIAS will require attention; shake out the old plants, and take off the young offsets, potting them in a light soil, and placing them in a frame where they can be kept rather close till rooted. Fumigate if there are any green-flies. Now is the time to sow seeds.

CHRYSANTHEMUMS should now be plunged in a warm dry place, watering freely every day. Stop all vigorous shoots, so as to secure compact bushy plants.

PELARGONIUMS will now require particular attention. Let the old plants dry off soon; then head them down to two or three eyes, keeping them rather dry till they begin to break; as soon as well started, shake out of the old pots, and put into smaller size, reducing the roots, and using light sandy loam and leaf mould. Put in cuttings for young stock.

CHINESE PRIMROSES should now be removed to a cool frame, where they can be shaded from the hot sun. Sow seeds for a fresh stock of single kinds.

HEATHS should now be pruned into shape, and young stock repotted, if they require it.

FUCHSIAS should be encouraged by a shift into larger pots. Keep in a cool house, and water with liquid manure.

POINSETTIAS AND EUPHORBIAS should be repotted.

CACTUSES may now be repotted.

CALADIUMS should have a shift into larger pots.

TREE CARNATIONS should now be planted out so as to get strong blooming plants.

CALCEOLARIA SEEDS should now be planted.

OXALIS HIRTA AND BOWIEI should be repotted.

VERBENAS for winter-blooming should now be repotted. Plunge in a warm dry place.

TUBEROSES for late blooming should be repotted and plunged in the open ground.

FERNS should have a shady situation in the house, where they can be freely syringed.

BOUVARDIAS should be repotted, and plunged in the open ground.

HELIOTROPES should be headed in, and afterwards repotted.

MIGNONETTE AND SWEET ALYSSUM SEEDS may be planted.

FLOWER GARDEN AND SHRUBBERY.

The weather could not be more favorable for a fine lawn, and if it has been rolled often, and mown every ten or twelve days, it will be a carpet of green. Continue to give it the same attention. Clean, rake, and roll the walks every few days, and clean and rake the shrubbery and all flower beds. Clean walks, neat edgings, freshly raked beds, and a smooth lawn, make the garden always attractive.

DAHLIAS should be watered freely, if fine blooms are wanted. Prune and tie up often.

CARNATIONS AND PICOTEEES should be layered.

ROSES should be layered.

PERENNIAL FLOWER SEEDS may now be planted.

DAISIES should be divided and reset.

NEAPOLITAN VIOLETS should be replanted, if not already done.

Stake and tie up all tall flowering plants. Cut off the tops of peonies, and gather all dead stems and old flower stalks, that the garden may have a neat and tidy appearance.

PENNSYLVANIA HORTICULTURAL SOCIETY.

It is gratifying to record any evidence of an increasing taste for Horticulture. The better adornment of suburban villas, the neater enclosures of village gardens, and the increased attention devoted to the planting of trees along the avenues of cities, are sure indications that a portion at least of our people have still a love for trees and plants and flowers. If this taste is not as general as we could wish, or not so cultivated as we could hope, it is still gratifying to know that it is surely though slowly increasing, and, with the growth of the country and the increase of wealth, will become general, and find its expression in magnificent gardens replete with all the accessories of modern Europe.

But beside the increase of beautiful gardens, other evidences of horticultural progress are the multiplication of societies, organized for the purpose of disseminating information upon horticultural science, and encouraging the growth of fine plants and fruits by the award of premiums for superior specimens, thus bringing before the public the beautiful flowers, and luscious fruits of every clime, as well as the thousands of varieties produced by the gardener's skill. Take from our gardens all that the cultivator by his skill has added to them, for the last fifty years, and they would be shorn of much of their beauty, and our tables would scarcely contain an eatable fruit or vegetable.

All this progress has been so gradual that the mass of the people do not realize the change, and look upon it as a matter of course. True, we do look for progress, but scarcely as rapid as has been effected in every department of horticulture. The fruits of thirty years ago, few as they were in number and variety, have nearly all disappeared; the flowers are mostly entirely new, and the vegetables which supplied the market then would scarcely be looked at by an intelligent dealer. Yet most or all of this has been effected since the organization of the Pennsylvania and Massachusetts Horti-

cultural Societies, whose influence has had much to do in bringing about the result.

It is therefore with the greatest pleasure that we welcome the prosperity of these associations, pioneers as they were in extending a fostering hand to horticultural art, inducing co-operation among the cultivators in their respective localities, and accomplishing results which have benefited the whole country. The Pennsylvania Horticultural Society, emulated no doubt by the success of the Massachusetts Horticultural Society, have erected a new hall, the largest in the country, and will now be prepared to make such exhibitions as will be second to no other. Philadelphia abounds with collections of plants, which have the advantage of age, and hence the specimens of such things as time alone can give growth and character abound here in greater number than in any other part of the country, and the new hall will enable the fortunate possessors to show them, as they never have been before, to the best advantage. We congratulate the cultivators and the society upon their success in this enterprise.

We have before us the dedicatory address, delivered by the president of the Society, D. Rodney King, Esq., who has been active in bringing to a completion the labors of the Society in the erection of this hall. Mr. King is a true lover of plants, and is zealous in horticultural pursuits. We are glad therefore to briefly notice his address, from which we only have space for a few extracts:—

The first meeting for the formation of the Society was held in the lecture room of the Franklin Institute, on Saturday, the 24th of November, 1827, in pursuance of a call which was published in the daily newspapers, as follows: "Those persons desirous to form a Horticultural Society are requested to meet at the Franklin Institute, on Saturday next, at 12 o'clock." At this meeting Mathew Carey was called to the chair, and the following resolution was passed: "Resolved, that it is expedient to establish a Horticultural Society in the city of Philadelphia for the promotion of that interesting and highly important branch of science, and that a constitution be formed for that purpose." The two subsequent meetings

were held in the Franklin Institute. During the year 1828 the Society held two of its meetings at No. 173 Chestnut Street, and at one of these, viz., on the 2d of June, Horace Binney was chosen the first President. For the remainder of the year 1828, and during the year 1829, the Society occupied the basement room under the hall of the American Philosophical Society, in the east wing of the State House. During the year 1830 (with one exception) the Society held its meetings in the hall of the Phoenix Fire Company, in Zane Street. This exception was the May meeting, which was held in the large room attached to Mrs. Mercier's confectionery and ice cream saloon, in South Third Street, east side, above Spruce. During the year 1831 the Society continued to occupy Phoenix Hall, but the anniversary meeting was held in the Franklin Institute. From May, 1832, to May, 1833, it occupied the premises No. 121 Chestnut Street. From June, 1833, to March, 1842, a period of nearly nine years, it occupied the basement room under the Philosophical Society. In March, 1842, it rented the lower saloon of the Chinese Museum (which stood at the northeast corner of Ninth and George, or Sansom Street), and continued to occupy it until it was burned on the 5th of July, 1854, a period of nearly twelve years.

Philadelphia and vicinity claims the honor of having given the earliest and strongest impulses to the study and practice of the sciences of botany and horticulture in this country.

Long before the Revolution, and as early as 1728, John Bartram established a botanic garden and arboretum on the banks of the Schuylkill, which is still in existence. He and his son William, and his cousin, Humphrey Marshall, collected and introduced into England more than a thousand new species of plants and trees, besides a great number of varieties belonging to species already known. More than one hundred and forty years ago, John Bartram established on the banks of the Schuylkill a botanic garden and arboretum, in which he and his son William cultivated many of the plants and trees collected by them during their travels through the Carolinas and Florida, then a howling wilderness.

In 1768, Doctor Adam Kuhn; of Philadelphia, was

appointed the first professor of botany in the college here. In 1777, John Jackson, of Loudon Grove, Chester County, Pennsylvania, commenced another botanic garden, which is still in existence; and in 1799, two brothers, Joshua and Samuel Pierce, of East Marlborough, Chester County, Pennsylvania, planted an arboretum, principally of evergreens or conifers, which is probably at the present time, one of the most complete in the United States. In 1803, Doctor Benjamin Smith Barton, of Philadelphia, published the first elementary work on the study of botany in this country.

In the year 1800, Andre Michaux, and 1810, his son, F. Andre Michaux, two distinguished French botanists, visited this country, and both found in Philadelphia congenial minds among the members of the American Philosophical Society, and in gratitude for the many kind attentions received by the younger Michaux from the members of that society he bequeathed a large share of his fortune to it, on the death of his widow, who is now quite aged, in trust, for the formation of a botanic garden and arboretum. I hope most sincerely that this may form the nucleus of an institution of that kind, and that our city authorities may second the excellent institution of this learned foreigner, by appropriating one of the public parks—Hunting Park for instance—for the purpose.

In 1818, a former president of the Society, Zaccheus Collins, together with John Vaughan, William Maclure and Joseph Corea de Serra, contributed to a fund to enable that remarkable and self-taught genius, Thomas Nuttall, to make a botanical tour of the western part of the then United States and Territories, and afterwards of California and the British Possessions on the Pacific, by the way of Cape Horn.

Besides those already mentioned were many other botanists scarcely less distinguished, and among them I may name James Logan, Dr. Henry Muhlenberg, Reuben Haines, Frederick Pursh (formerly gardener to William Hamilton at the Woodlands), and the lamented Dr. W. Darlington; and among the many distinguished *living* botanists of Philadelphia, I may mention Elias Durand, Dr. Leidy, Prof. George B. Wood and Prof. Horatio C. Wood, Prof. Joseph Carson,

Thomas Meehan (editor of the *Gardener's Monthly* and corresponding secretary of the Society), and many others.

The markets of Philadelphia, particularly of fruits and vegetables, are remarkable for their excellence and variety, and this may be attributed, in part, to the great variety of soil by which it is surrounded. New Jersey and Delaware, with their light and sandy soils, supply us with melons, peaches, sweet potatoes and early vegetables, while the alluvial soils of the "Neck," and the calcareous soils of Montgomery, Bucks and Chester Counties supply us with the other fruits and vegetables.

But while we acknowledge the advantages that Philadelphia possesses in soil and climate, we must still attribute much of the excellence of her markets, and much of the beauty of her suburbs, to the influence of this and other similar societies, which collect and disseminate the experience of intelligent and skilful cultivators, in order that the novice may be benefited. Compare the markets of the present day, of fruits and vegetables, with those of the time of the formation of this Society, and you will perceive the great improvement which has already been effected. These facts are sufficient to prove to you that this Society is justly entitled to your patronage and support, and I therefore commend this present enterprise (got up by the ladies of Philadelphia with the same zeal and energy that characterized them at the great Sanitary Fair) to your liberal and generous support. To them, and especially to that life-long friend of the Society without whose energy, perseverance and careful superintendence, it is scarcely too much to say, this Bazaar would never have been held, and also to those gentlemen who have given so much of their time, attention and means to the erection and decoration of this building, your thanks are most justly due.

And now a word or two in regard to the building. Although the sum at the disposal of the Society for the erection of so large an edifice was quite limited, yet no expense has been spared to render it, what they conscientiously believe it to be, one of the strongest, if not the strongest building of the kind in the city; and it is now

offered to the use of the citizens of Philadelphia without a defect or blemish of any kind. With foundation walls over four feet thick; with side and end walls thirty-three inches thick and containing nearly one million of bricks; with a floor capable of sustaining four times the weight that it will probably ever have to bear; with a roof pronounced by many competent judges to be unnecessarily strong; with ample means of ventilation and ease of access and exit (being but little above the ground level and provided with nine doors for exit); with every convenience and appliance necessary to adapt it to the great variety of purposes for which it may be needed,—I say, with all these advantages, it cannot fail to receive a large share of the public patronage.

THE WINDING LANES AND HEDGE-ROWS OF NEW ENGLAND.

IN the Supplement to the Boston Daily Advertiser of June 25th, there was a communication signed H. C. M., on Wild Cherry-trees, &c., in which Mr. M. advises that ceaseless war be made upon the wild cherry-trees, as breeders of insect pests, and as poisonous to animals who eat them. Fired by his indignation against the cherry-tree, which may, or may not be well founded, he rushes into a diatribe against all the hedge-row beauties of our New England lawns, and urges that they be cleared of shrubs and wild vines. This article fills one with amazement, considering the paper in which it was printed. Of course, when a daily paper furnishes agricultural reading to its weekly subscribers, it is necessary that it should draw upon other brains than those of the over-worked staff of editors, who are responsible for the daily issue. But the first principle of editorial management seems to forbid that anything should have the apparent endorsement of such a paper which is an outrage upon good taste and the principles of rural beauty.

We know that the Advertiser does not agree with the correspondent; it will not, it would be inconsistent with all its

habits and theories if it did. Let us leave the paper, therefore, and consider the writer's position. Bad as the sentiments are, and ruinous as the practice would be, the article in question was an outspoken and manly defence of a most atrocious theory, and its advocates have already too much sway in New England. We can see their devastating influence in all parts of New England. Many a lane which skirted some rich woodland, or wound along the shores of a lovely pond, fringed with every variety of shrub and flower our climate will permit to thrive, rich all summer with blossoms, festooned with wreaths of clematis and wild grape, gay with the crimson haw and hip and alderberry, has been converted into a hideous mass of stubs, brush and rottenness, to gratify the prejudices of a road mender, or highway surveyor, who believed that them aer brush jest kept the road wet all the time, shet aout the sun and the air and made the border a muck hole. Want of drainage, want of gravel, want of labor, are nothing in his estimate. Cut the brush is an easy work, and the sun and the air will have a chance to dry up the water, dig the ditches and convey the gravel.

The home of hundreds of singing birds, the spring haunt of the cheery voiced red-winged blackbird, the copses where linnets, thrushes and yellow birds pour out melody all day long, the margin of the lake where wild bees murmur softly as they gather their honey, and listen to the splash of the water, must be turned into desolation to gratify the brutal instincts of some man who would as soon hear a man play a jew's-harp as the Quintette Club, or the Great Organ. The men who have charge of our roads are, as a rule, utterly insensible to anything but the charms of what they call clearing up. To cut down a stately elm to widen the road so that a house may be moved through it without destruction, or to cut off some corner full of shrubbery and straighten the road a few feet, is a public improvement which fills them with delight, and is worth any amount of labor and trouble.

Other favorite lanes, whose winding pathways take us beside meadows rich with clover and tasselled with Indian corn, through copses fragrant with blossoms and gay with berries, across wood lots whose shady depths solicit the tired

traveller to rest and linger in their seclusion, have the misfortune to bound the farm of some thrifty or "Nerdowell" farmer, who in this matter occupy common ground.

The thrifty farmer, seeing the advantages of straight and strong walls and fences, admiring the clean meadows, where the mowing machine may move without touching a stone, believing in cornfields where straight rows invite the horse hoe and cultivator to remove each weed, learns to value all things by their money price, and by the lack of wastefulness.

The hedge-row which bounds the wood, half burying his solid wall, and shutting off the vision from his smooth acres, is of no practical value, to sell or to burn, and must therefore be an injury. It is a haunt for rabbits and squirrels, furnishes resting room for birds which eat his fruit, and is the breeding-place for worms and caterpillars, and gives an untidy appearance to his land; he seizes the first leisure moment, and leading his men grubs it all up.

The thriftless farmer, whose grass-fields look like a burying ground, with their many piles of stones and stumps, whose corn is choked with weeds, whose gates hang by one hinge, whose windows are stuffed with old hats, feels at an odd moment a desire to do something to make his farm like other folks. To show his appreciation of improvement by carefully gathering the stones and removing them to the ditches and gravel pits, would be a work of time, would require long and steady labor, and would not show much to the passer by. To take his bush-scythe and chop down the hedge-rows, like his thrifty neighbors, is but a short job, and will show at once. Every passer by will see that he has been doing something as well as other folks. That is just the thing to suit the lazy and fitful man. His scythe is ground, the brush-hook sharpened, and before bedtime the accumulated beauty of many years is swept away, to lay a pile of withering leaves, sickening the air for days with a sweet green decaying odor. The brown branches, the shrubs, the rubbish, concealed for years by the kindly protecting plants, are now exposed in all their ugliness to the daylight, to be an eyesore and a brush-heap for months, until loving nature slowly heals the gashes and lacerations by a new growth of clethra, viburnum, elder,

rose, and clematis, and once more the wood becomes attractive to birds and lovers of nature.

This murdering process has been performed periodically on certain lanes in New England, until one almost dreads to visit the places he loved to linger in last summer, lest he shall find the shrubbery and flower-garden converted into a pile of rubbish and grave-yard.

Country farmers in New England feel towards shrubs by the roadside as western emigrants do to trees. To the emigrant, trees are the natural enemies of man. They must be cut down, girdled, burned, anything to get rid of them. In a few years the burning sun reminds the farmer that his house needs shelter, and he replants the same varieties of trees he so laboriously cut away. So with our hedge-rows; they are the peculiar beauties of New England. Added to our hills, clear streams and lakes, they render a landscape unsurpassed in the world; but it requires education to appreciate the details. The very farmer who cuts away ruthlessly on the roadside, will, as he gets rich, plant in his yard or garden, snowballs, the cultivated cranberry tree of the roadside; or berries, which are evergreen barberries; spireas, that do not surpass the wild spirea; roses which do not equal in fine foliage and fragrance the *Rosa carolina* of the low lands. He will try long and painfully to construct a fair imitation of the lavish beauty he has so often destroyed. When Mr. M. tells us that wild cherry-trees are positively injurious to cattle, and he knows it, we must yield a point to him, for a little positive affirmative proof is better than a large amount of negative belief. Yet every one has seen hundreds of wild cherry-trees, which surround pastures browsed very closely by cattle, and no dead animals lying about. I never saw any animal fed on withered cherry-leaves, and therefore cannot deny the belief in the statement of Mr. M. But I would ask why, if withered cherry-leaves kill animals, cut the trees when in leaf, and better still, why not leave them uncut.

I should like to know what the property is in these leaves which would kill a cow. There is a very small amount of Prussic acid in them, so small that analysis separates hardly an appreciable amount. It takes a great deal of poison to

kill an animal. You may give your horse five grains of arsenic a day for weeks, and he will grow fat on it; but give half a grain to a man and he would die.

The same is true of the other poisons. One would have to give a horse or cow ten times the dose of Prussic acid to kill, which would kill a man.

The American Pharmacopœia states that from the bark of the root of the wild cherry-tree, which is much the richest in all the secretions, taken in the autumn, 1-10th of one per ct. of Prussic acid was obtained in one case, .04 of one per ct. in another.

It would seem therefore rather hard to condemn a tree which is a most beautiful object when in blossom in May, is shapely at all seasons, and full of fruit for birds in midsummer, which does no harm to animals who browse it green, because when some ill-advised improver cuts it down in leaf, some other more ill-advised cow reaches at it and commits suicide by eating the leaves.

But if we should abandon the cherry-tree to the tender mercies of Mr. M. and his friends, it is utterly inexcusable for any one to prefer to cut down, or trim up "the shrubbery of the road sides, unless in exceptional cases; there is a fitness of things." When an expensive house has a rich lawn, bounded by a carefully built wall, we do not want to see the road-side fringed with a picturesque mass of shrubbery. There is no harmony in such a combination, and the want of harmony and fitness is sufficient excuse for removing the native growth. But there is great harmony and fitness when the shrubbery shields the moss covered stone walls, the Virginia fence, the broken palings, or the wood's edge and the pond's brink.

Now is the very glorious season for hedge-rows. The barberry has just passed. There are five varieties of cornel and five of viburnum, each as beautiful as the lauristinus of the greenhouse, in blossom, and their blossoms will be followed by various colored berries, which will remain for the rest of the growing year. The elder, *Sambucus pubens*, just out of blossom, is becoming resplendent with its crimson clusters of fruit, whilst its sister, *Sambucus Canadensis*, is beginning to open its broad cymes of white flowers, giving birth to rich

clusters of purple berries, which will hang on the bushes until autumn. Creeping through the shrubs and reaching up to the trees are grape-vines, now loading the air with spicy fragrance, soon to be purple with fruit.

The Virgin's Bower will be in blossom in a few weeks, and will take up the burden of the song of the beautiful, and give a fuller utterance to it in its white blossoms, until the refrain is caught by the Swamp azalea, whose whiteness and fragrance almost induce us to forget the spring favorites. Later, the clethra, with the azalea, will contrast its pure white flowers against leaves as richly green as those of the japonica, and will make August woods as attractive as June.

Filling every available point during the entire season the wild roses, beginning with *Rosa nitida* and *lucida*, and ending with the Sweet Brier and *Rosa carolina*, or Swamp wild rose, will have added color and fragrance to the scene.

When the flowers have gone the berries take their place; elders, barberries, black alder, cornels, carry the color into midwinter. Shame on the man who can propose to cut away the beauty which no man can recreate. No formal or varied shrubbery, costing endless time and money, can compare with the profuse bounties Nature lavishes on our rocky hill sides, and rough road ways.

Space and time forbid me to dwell more on the other hedge-row glories, the richness of the yellow and purple of aster and golden rod, the quaint prim stateliness and silky softness of the mullen, the vigor of the elecampane, the gentler beauties of the linum and the violets. No week from April to November, from the first crow foot and cinquefoil to the last aster and lentician, is without new and interesting flowers and plants. You may cut away the forest, reclaim the meadows, ditch the wet places and till the dry; you may banish the wild flowers, to be replaced by corn and grass, and leave the hedge-rows, which are the property of all, and there will still be beauty and interest in the New England landscape. There children will get their first lessons in botany and bird's nests; there lovers will find flowers to typify their thoughts; there grave men will learn generosity as they see the bounty of nature in her lavish display of

flowers grown with no care and cost; there the tired wayfarer may find shade and fragrance when the midday sun admonishes him that the time has come for his noontide meal. So long as they remain we shall have poetry and enthusiasm in the character of the growing New England boys and girls. When once you have subdued the lanes and highways to the formal things Mr. M. desires to see, you have dealt a fatal blow to the growth of a love for the beautiful in the young minds of our children, and have given our people a greatly narrowed opportunity for liberal natural esthetic benevolence.

ARBORICULTURAL NOTICES.

THE VARIEGATED TULIP-TREE is a magnificent acquisition to our hardy ornamental foliaged trees; each of the singularly formed but rich deep green leaves are boldly blotched in the centre with gold, giving a large specimen a conspicuous and decorative aspect among trees. The variegation too is permanent, for we do not think there are a dozen leaves on a large tree which are not regularly variegated.

DEUTZIA CRENATA PLENO has flowered in great perfection this year, and we can safely class it among the hardiest and most beautiful of shrubs. The branches, like *D. scabra*, are loaded with racemes of double white flowers, the outer petals of which have a pink tinge which give the flowers a slightly blush hue. Its growth is vigorous, its habit erect and symmetrical, and its flowers as abundant as the parent.

SPIRÆA CALLOSA ALBA.—This is another fine addition to our hardy shrubs. It is precisely like the *S. callosa* in its style of flowering, and of the purest white. Its habit, however, is more dwarf and it flowers in greater profusion, small bushes a year old being one mass of broad corymbs of white blossoms.

VARIEGATION IN TREES produced by inoculation. A writer in an English paper gives the following particulars in regard to the Variegated Ash:—"With regard to the ash you inquire about, my uncle says it is an event of half a century

ago. Mr. Brown and he were on a botanical excursion in the highlands, and looking over a glen about three miles west from Kenmore they noticed the branch of an ash with entirely yellow foliage, which they took away with them, and budded on the common ash at Perth Nurseries. As far as I can ascertain from him, none of the buds grew, and memory fails him in recollecting much about it, only the fact that the operation communicated the disease or blotch to the stocks on which it had been budded, and it has been grown since that time and annually grafted and catalogued under the name of Blotched Breadalbane ash. It had been further experimented on by grafting Weeping ash on the same stocks, and it communicated to the Weeping ash the blotch also. We must presume that the piece of bark introduced with the bud did attach or grow, although the eye did not push; this is a circumstance that often takes place in budding. I have seen the bud of a variegated holly lie dormant or blind, as we term it, for a number of years, and grow afterwards. Your inquiry fixes the fact of the inoculation of the disease by budding in this case, and perpetuated through a long series of years." This is exactly analogous to the case of the variegated jasmine operated upon by Mr. W. Anderson, while curator of the Chelsea Botanic Garden. A variegated white jasmine was budded on a branch of *Jasminium revolutum*; the bud adhered but never pushed, yet the following year slight variation appeared in the stock; the worked branch was the next year accidentally cut out, yet the variegation increased, so that the whole plant became variegated. How suggestive these facts are to the growers of variegated Zonal pelargoniums.

THE NEW DOUBLE CRIMSON THORN (*Cratægus Oxyacantha coccinea fl.-pleno*).—As a hardy ornamental tree for planting in the shrubbery and flower garden, we look upon this thorn as the grandest acquisition that has been obtained for many years; and as a forcing plant it is equally desirable, for the young plants appear to flower freely when only a few inches high. This, indeed, has been sufficiently shown by the examples which have been exhibited by Mr. W. Paul, at the Royal Horticultural Garden, South Kensington, and

at the Royal Botanic Garden, Regents Park, several times during the spring of the present year. As there has been some doubt created in the minds of the public as to whether there are not two new double crimson thorns, issuing from different establishments under similar names, we are glad to be able to dispel the mystery. We speak advisedly when we say that the plants shown by Mr. William Paul and the branches shown by Messrs. George Paul & Son are identical, both in leaf and flower. The variety is a sport from the double pink thorn, and originated in the beautiful and well-kept garden of Christopher Boyd, Esq., of Cheshunt Street, near Waltham Cross, where it still exists. It has, therefore, never been the exclusive property of any one nurseryman. The history of the sport is briefly this: About seven or eight years ago, some flowers of this intense hue were observed on a plant of the double pink thorn, and on examination it was found that a strong branch had started up from near the centre of the tree, with leaves as well as flowers differing from its parent. The branch was encouraged, and year by year increased in size, retaining the color and character originally observed. The parent plant is apparently about twenty-five years old, thirty feet high, and as much in diameter, measured from the outermost branches at its greatest width. There is still only one stout central branch of this deep color; the other branches, which are profusely adorned with flowers, being of the original pale pink so well known to horticulturists. When looking at the tree recently, so great was the contrast between the sport and the original that we could not rid ourselves of the impression that the parent variety was, in this instance, paler than usual; and we asked ourselves whether the coloring matter had not been drawn from the larger surface and intensified in this particular branch by one of those secret processes which the student of nature is often called upon to behold and wonder at, without being able to account for or explain. This may be fanciful, but here is certainly a *lusus naturæ* worthy of the attentive consideration of our vegetable physiologists. It may be added, to complete the history of the plant, that it has now first-class certificates at the exhibitions of the Royal

Botanic Society and the Royal Horticultural Society, and also at the International Horticultural Exhibition of 1866.

THE GOLDEN ELM.—This is the name given to a new Belgian variety figured in the *Illustration Horticole* for April, 1867. It was raised by M. Egide Rosseel, nurseryman, near Louvain. It is a variety of the English elm (*U. Campestris*), with a perfectly golden yellow foliage, distinct and unique, and for mixing with plantations of trees forms a most conspicuous and attractive object, its golden leaves presenting a great contrast with the sombre green of other trees. It will be a valuable addition.

P O M O L O G I C A L G O S S I P .

STRAWBERRIES IN WESTERN NEW YORK.—The summer meeting of the Fruit Growers' Society of Western New York was held at Rochester, June 27. There were several good collections of strawberries and quite a number of new seedlings. The latter were from Ellwanger & Barry, Jacob C. Moore, J. Keech, and T. R. Peck. Ellwanger & Barry had an early sort which promises well, and J. C. Moore had one which was thought better than *Triomphe de Gand*. J. Keech had two sorts of his, *Gen. Meade* and *Gen. Sheridan*, and T. R. Peck had thirty-six seedlings, some of them of fine appearance.

Frost & Co. had the variety known as *Dr. Nicaise*, which was handsome and showy in appearance, but was said to possess but little flavor. *Golden Queen* was exhibited, which is the same thing as *Trollope's Victoria*.

A resolution was offered by H. N. Langworthy to discard all pistillate strawberries, as adapted to general cultivation. It was objected to as excluding *Hovey's Seedling*, *Russell*, and others, and was not adopted.

The meeting then took a vote on the best six varieties of strawberries for amateur culture, with the following result:

	VOTES.		VOTES.
<i>Triomphe de Gand</i> ,	28	<i>Hooker</i> ,	18
<i>Wilson</i> ,	22	<i>Jucunda</i> ,	17

	VOTES.		VOTES.
Agriculturist, -	16	Green Prolific, -	4
Russell, - -	9	Trollope's Victoria,	4
Early Scarlet, -	4	Dr. Nicaise, -	4

It is curious to observe that not more than one of the above varieties is considered valuable around Boston, and none of them valuable for market. There appears abundant room for the introduction of new seedlings if our Rochester cultivators consider the above list as the best they now have.

ROYAL ASCOT GRAPE.—This is a new variety, raised by Mr. Standish, near London, some account of whose seedlings we recently copied in our pages. It is stated to be as early as the Hamburg, a luxuriant grower, forces well, and one of the highest flavored of Muscat grapes.

CHAMPION MUSCAT GRAPE.—A new variety is offered for sale under this name. It was raised by Mr. Melville of Dalmeny Park, from the Champion Hamburg crossed with the Cannon Hall Muscat. It is a very free setting variety and succeeds perfectly under the same treatment as the Black Hamburg. The bunches are large, well shouldered, and the berries of great size, resembling in every respect the Champion Hamburg, but with the most exquisite and powerful Muscat flavor.

NEW SEEDLING STRAWBERRY.—The new variety raised by Hon. M. P. Wilder, and shown last year, has been again exhibited the present year, and appears to be one of the best of the new seedlings introduced for several years. In general appearance it resembles La Constante, from which it is believed to be a cross between that sort and the Hovey. The size is large, the form regular, the flavor good, and though a little hollow in the centre it appears to possess many good properties. It is a more vigorous grower than La Constante, but not quite so glossy and rich in color.

THE RIPPOWAM STRAWBERRY, which was said to surpass the Agriculturist in size, has not made much of a show. Specimens raised in our collection, and in others that we have seen, were only moderate in size, light in color, and only of fair flavor, quite deficient in firmness, color, and good keeping qualities for a market berry. How long will it be before

raisers of new seedlings, or committees on exhibitions will be able to give the public reliable information regarding new varieties? The famous puffed up Agriculturist is worthless for market and too poor for the amateur.

WILD FLOWERS.

BY WILSON FLAGG.

THE azaleas are favorite flowering shrubs in florists' collections at the present day, and are remarkable both for the delicacy in the structure of their flowers and the purity of their colors. In the vicinity of Boston are only two species, — *Azalea viscosa* (swamp honeysuckle) and *A. procumbens* a prostrate shrub, bearing pink flowers. The *A. viscosa* is a well-known shrub that attracts attention by its fragrance no less than its beauty. The flowers are white, often purely so, but sometimes tinged with a light shade of purple on the outside of the petals. It derives its specific name from a glutinous substance deposited on the pubescence of the stems and flowers. This is the most northerly species, extending as far as Canada.

It cannot be doubted that the interest attached to a flower is greatly increased by finding it in the wild wood. I have frequently observed this effect, and the opposite, upon suddenly meeting a garden flower in a field or a woodpath, or a wild flower in a garden. When the swamp honeysuckle is seen growing with the fairer azaleas of the florists in cultivated grounds, its inferiority is most painfully apparent. But when I encounter it in some green solitary dell in the forest, bending over some still waters, where all the scenes remind me only of nature, I am affected by it with more pleasure than by a display of the more beautiful species in a garden or greenhouse.

The genus *asclepias* includes a variety of peculiar plants, some of them being remarkable for their beauty. The most common species, known as Silkweed or Milkweed (*A. syriaca*), is a coarse and inelegant plant, abundant in the borders of

fields, and thriving better in the vicinity of cultivated lands than in wild places. What is most remarkable in this plant, next to its milky sap, which is true liquid India rubber, is the fruit, consisting of pods of an oblong shape, tapering to a point and filled with silken down, a number of fibres being connected with each seed. These pods have been formerly used as a substitute for feathers in filling beds, but other, better and cheaper substitutes have since been discovered. The flowers of this species, were it not for their dull leaden and coppery hues, might be considered elegant, hanging in dense clusters and exhibiting a peculiar structure.*

There are three or four other species that are much admired: the *A. pulchra* (water silkweed), growing very erect in wet grounds, and bearing umbels of beautiful bright purple flowers; the *A. tuberosa* (butterfly weed), with numerous flowers of a brilliant orange color, for some unaccountable reason very attractive to butterflies; and a very delicate species, with fragrant white flowers, the *A. quadrifolia*, found in dry woods in the latter part of June.

A very conspicuous flower found in the meadows in July is the Spiked Willow Herb (*Epilobium spicatum*). The racemes are very long, and covered with light purple flowers that expand first on the lower part of the stem, so that a whole spike is never fully in bloom at once. They are very showy and beautiful in the meadows, dotted about among the tall grasses, in a sort of rivalry with the wild rose and the purple asclepias. The other willow herbs are not remarkable for their beauty, or any other interesting quality.

Very few of our American flowers are celebrated in classical literature. But of the lily, which is exceeded only by the rose in poetic celebrity, our woods and fields display three very beautiful species. The brightest of this trio is the common Red lily of the whortleberry pasture, *Lilium philadelphicum*. The flowers of this species, that frequents only dry soils, are generally single, borne upright like a tulip, and of a vermilion color, spotted with deeper shades of red.

* It is remarkable that the leaf of the *A. syriaca* can hardly be distinguished at first from that of the true India-rubber tree. The latter is, however, a great deal harder, and of an evergreen character.

Three and sometimes four flowers have been found on a stem. The number of flowers seems to be increased by favorable conditions of soil and situation. The Yellow lily—*L. canadense*—is a more graceful species than the Red lily; and though not so brilliant, it has nodding flowers, like the lily of the poets. The flowers are finely bell-shaped, yellow, with dark red spots inside. The *L. superbum* is the most remarkable of the three species. The flowers do not differ from those of the Yellow lily; but they are very numerous. The stem is several feet high and forms a pyramidal cluster of beautiful orange-colored flowers, exceeding all other species in magnificence.

Among the minute flowers of the field there is nothing prettier than the Red Sandwort (*Arenaria rubra*) and the Scarlet Pimpernel (*Anagallis arvensis*). The sandwort is very common in dry fields and roadsides, particularly in sandy and gravelly soils about our dwelling houses. The flowers are as small as those of the common chickweed. Bigelow describes their color as red; but the word red is too indefinite. The word most applicable to the sandwort is *pink*. This term, though not generally used by botanists, expresses a light purple—a purple diluted with white. The leaves and branches of the sandwort are as delicate as the flowers.

The *anagallis*, or Scarlet pimpernel, like the sandwort, attracts attention by its minute beauty. The flowers are very small, but make themselves conspicuous by their bright scarlet tints, that resemble sparks of fire among the green herbage. This is the plant which in England has been named the “poor-man’s weather glass,” on account of the habit of the flowers of closing in gloomy and damp weather.

If we observe the structure of the blossoms of the potato or the tomato, we shall discover their close resemblance to the blue flowers of the Woody Nightshade (*Solanum dulcamarum*). These are hardly less elegant than the fine scarlet berries of the same plant that attract our attention upon the fences and stone walls by rustic roadsides. The habit of the nightshade of climbing upon trees and fences has caused it to receive the name of ivy; but like the sumach that

bears the same name, it has no botanical affinity with the true ivy. Most people name a plant, on first discovering it, after any well-known species that resembles it in some remarkable quality. In like manner our ancestors named almost every bird a robin that had a red breast and similar habits to those of the English Robin Redbreast. The poisonous qualities of this plant do not seem to be very dangerous. It may certainly be handled with impunity; and the nauseous taste of the fruit must prevent any one from eating it. It has narcotic properties, and is used to some extent in the *Materia Medica* of the regular practice.

Another family of plants which has a representative among culinary vegetables, as well as among field and garden flowers, is the convolvulus. The Sweet potato (*Convolvulus batatus*) is one of this genus, though the flowers it bears are not so large or so handsome as those of other species. Every one knows the true Morning Glory of the garden, an annual producing flowers of a deep purple or violet, with varieties bearing pink and white flowers. The convolvulus sepium—the large Bindweed—surpasses the cultivated Morning Glory in the luxuriance of its vinery, and in the size, but not the beauty, of its flowers. It is common in low grounds, twining among the bushes and over walls and fences. The flowers of the small Bindweed, *C. arvensis*, resemble those of the large species in all respects except size. The whole plant, indeed, is but a miniature likeness of the other. There is still another species, that is not twining, bearing large white flowers.

The St. Johnswort (*Hypericum perforatum*) is a plant which is interesting because it is common. We like to know the name and history of a person whom we always meet upon the road, even though there be nothing remarkable in his personal appearance. The St. Johnswort, though not exactly obtrusive, is always to be seen during the months of July and August. Everybody is acquainted with its looks and appearance, and almost everybody knows its name. Hence, though far from possessing beauty, it becomes interesting. We want to know the character of the individual who is evidently determined to be in our company.

But the plant that makes itself thus conspicuous receives no high compliments from any one. Its whole appearance is stiff and homely; the leaves small and numerous, and remarkable for being covered with innumerable extremely minute transparent dots; the flowers, borne in a corymb, are crowded and yellow, without very distinct form, having less beauty even than a buttercup.

There is a remarkable difference between the *Hypericum* as it is in winter and spring and as it is in summer. It does not die down to the ground and preserve its germs underneath the soil, like most herbaceous plants, but it assumes a sort of metamorphosis. In the winter it becomes, not exactly a vine, but a trailing plant with numerous flexible branches, spreading out widely and covered with minute ovate leaves, so that it might be mistaken for a cranberry plant. It is, indeed, an evergreen during the winter. It is very elegant in this hibernating state; but when it has put forth its perpendicular stalk, and burst into bloom, it is coarse and ugly.

The genus *lysimachia* (Loosestrife), though not very brilliant, contains a few species of considerable elegance. Indeed, the *L. racemosa*, the Upright loosestrife would be admired if it were purple, scarlet or crimson. Its yellow color reduces its value as a beautiful object; for yellow, though the color of gold, is comparatively unattractive. Some persons deny that this color has intrinsically less power to produce what may be called the sensation of beauty, and assert that it is less agreeable because it is more common than any other color except green. This is a point that cannot be decided, except by our feelings, either one way or the other. Like certain questions in morals, the answer must depend very much on the habits of the person who gives it. It would probably be conceded by the majority that crimson is the most beautiful color; next to this are its modifications,—purple, produced by a mixture with blue, and scarlet, by a mixture with yellow; blue follows crimson in the scale, then yellow, lastly green, which is but a mixture of blue and yellow. Black never causes the sensation of beauty, except when exhibited in contrast with white or some of the light and lively colors.

The Upright loosestrife attracts attention in the meadows by its long spikes of yellow flowers, appearing, as Bigelow describes it, "like a hollow cylinder of flowers," tapering elegantly to a point. The Four-leaved loosestrife is remarkable chiefly for its regularity, "having its long simple stem surrounded by whorls of four lanceolate leaves, with the same number of yellow flowers on capillary footstalks in their axils." A very common species, with larger flowers than either of the others described, is the Hybrid loosestrife (*L. hybrida*). To those who seek flowers only as beautiful objects, the loosestrifes are not very attractive. I cannot find any clue to the derivation of the name of this genus. It seems to have a meaning without any application to the plants that bear the name.

FLORICULTURAL NOTICES.

TRI-COLORED ZONAL PELARGONIUMS.—The recent show of these varieties, at the Royal Horticultural Society, was a magnificent display of the newest and best seedlings, and the established favorites of the last four or five years, among which Mrs. Pollock was pre-eminent. Mr. Wills, the grower of several fine varieties, prepared a paper which he intended to read before the Society, but for want of time was prevented from so doing. To this paper, which is published in the *Gardeners' Chronicle*, he has appended a list of all the new geraniums, commencing with the old scarlet, introduced in 1710, showing the origin and parentage of all the gold and silver tri-colors raised since 1834, when *Manglesii*, a silver variegated sort, was first produced. Mrs. Pollock was raised in 1861, and since then, in the short space of six years, all the new sorts have been produced. Mr. Wills exhibited upwards of 200 specimens, illustrating his list of varieties. Up to the last year Mr. Grieve and Mr. Wills have originated nearly all the best sorts, but the present season there are many claimants for the honor of producing new and superior seedlings, among whom are Messrs. Carter. Medals were

awarded for collections to E. G. Henderson & Son, Mr. Wills, Mr. Grieve, and to Messrs. Carter & Co. Messrs. Carter's plants were of exceedingly vigorous growth, with leaves five inches across. The gem of the whole was a variety named *Victoria Regina*, raised by Mr. Grieve. A large number of exhibitors received FIRST CLASS certificates, for seedlings of 1866, showing the great interest now felt in the production of these superb plants.

NEW CALADIUMS.—The process of hybridization is now practised with all classes of plants. Mr. Bleu of Paris has been particularly successful in raising seedling caladiums, which far surpass any of the original varieties introduced to our gardens. A writer in the *Gardener's Chronicle*, in noticing the plants at the Paris Exhibition, says that the seedlings of Mr. Bleu were a "Wonderful collection. Anything like the exceeding variety and beauty of color in some of them it would be impossible to find in any other family of seedling varieties. Some of the noblest among them are suffused with livid red, which intensifies towards the centre, the margin being quite green, while in one or two with very large leaves the central color is of a delicate violet rose; but it is vain to hope to say anything about them in limited space—suffice it to say, a more interesting result of cross breeding could not be seen. Many of the kinds have not yet been named."

ANNUALS.—The prettiest things in the gardens of the Paris Exhibition, writes a correspondent of the *Chronicle*, and about the prettiest things I have ever seen in any gardens, are numerous large beds of well grown annuals, perhaps many dozen kinds in one bed, nicely arranged both as to color and height. These please everybody. One bed, displayed by Messrs. Vilmorin, containing a great number of the newer kinds—the dwarfs, and margined and ameliorated annuals, so much brought out of late—is very charming; and indeed all are so; they are exhibited by seedsmen who of course display all the variety they are possessed of. These beds of annuals please everybody, simply because they are delightfully varied as well as pretty; and by-and-by, when they go out of flower, they can be removed in a moment and replaced with summer or autumnal plants.

POA TRIVIALIS ARGENTEA ELEGANS.—This elegantly variegated meadow grass is in great demand with the London cultivators, and is specially valuable for its wonderfully free growth, its dense but gracefully drooping habit, and for the combination of three colors in its beautiful foliage, pure white, light green and pale pink being blended in each linear leaf. It is recommended for “hanging baskets, for the outer margins of mastic or stone ornaments, vases on raised pedestals, also for dividing in small tufts for the decoration of drawing-room vases.”

NEW DWARF VARIETY OF TAGETES SIGNATA PUMILA.—Messrs. Carter & Co. have a new dwarf form of this fine annual, selected by Mr. Gordon of the Crystal Palace, which is largely grown for the extreme compactness of its habit. The flowers are well above the foliage, and being freely produced, of a pale yellow color, it is the best substitute for the yellow *calceolaria* grown. It has the great advantage of blooming late in the season.

THE NEW HYBRID LILY raised by us, from *L. speciosum* impregnated with *L. auratum*, has just completed its flowering the second year. The plant was six feet high, with a stem nearly an inch through at the base, remarkably robust, and bearing ELEVEN flowers, forming a pyramidal spike nearly two feet broad, each flower TWELVE INCHES in diameter, measuring to the tips of the petals. This is the largest lily known, except the famous *Victoria* lily. The color, as described by us last year, is nearly the same as the *Lilium speciosum*, and the form of the flower the same. It is, in fact, a gigantic form of the Japan lily, and for stateliness, magnificence and beauty stands unequalled among all the lilies known. How many more flowers a single bulb will produce can only be ascertained by further experience, as this is only the second year of its blooming.

MARSHALL NIEL ROSE.—This superb rose has already flowered in several collections, and fully sustained the high expectations of cultivators. Superior blooms were exhibited at Nottingham, Eng., May 18th. They were of the richest golden yellow, and measured five inches in diameter, the petals being beautifully cupped and symmetrically arranged.

It is perfectly hardy in England, and an excellent grower, and blooms, when well established, beautifully in all situations.

MUSA ENSETE.—It is not generally known that this fine Musa, one of the noblest plants in existence, is of a remarkably hardy constitution, and that it will grow well in the greenhouse or conservatory. Planted out in a winter-garden it will grow healthfully, and we need not say what a magnificent object it is for the decoration of such a place. It also, strange to say, stands the drought and heat of a living room remarkably well, and though, when well developed, it is much too big for any but Brobdignig Hall, the fact may, nevertheless, be taken much advantage of by those interested in room decoration on a large scale, as are many of our readers.— (*Gard. Chron.*)

938. GASTRONE'MA SANGUINEUM, *Lindl.* BLOOD RED FLOW
ERED GASTRONE'MA. (Amaryllidaceæ.) Caffraria.

A greenhouse bulb; growing a foot high; with deep red flowers; appearing in spring; increased by offsets; grown in peat loam and sand. *Ill. Hort.*, 1867, pl. 507

A beautiful greenhouse bulb, introduced from Caffraria by Messrs. Backhouse of York, England. It throws up numerous lily-like leaves, and a stem eight or ten inches high, terminated with a large deep scarlet flower, divided into six segments, with a tubular yellow throat. Cultivated in a large pot, and well drained, it forms a splendid addition to the greenhouse. (*Ill. Hort.*, Feb.)

939. MARANTA (?) ROSEA PICTA *Hort. Linden.* ROSE LINED
MARANTA. (Marantaceæ.) Brazil.

A stove plant; growing two feet high; with ornamental foliage; increased by division; grown in rich soil. *Ill. Hort.*, 1877, pl. 508.

One of the most beautiful of the many Marantas recently introduced. The leaves are large, of a very dark deep green, the midrib being of beautiful rose color, and an admixture of rose surrounding the entire leaf. The underside of the foliage is of a deep rich rose. Altogether these tints form a contrast of coloring excelling any of the Marantas. It was found on the borders of the Amazon, by Mr. Wallis, the collector of M. Linden, who introduced it to European gardens. (*Ill. Hort.*, Feb.)

940. RHODODENDRON MARGINO-PUNCTATUM. Garden Hybrid.

A half-hardy or hardy shrub; growing six feet high; with white spotted flowers; appearing in June; increased by layers. *Ill. Hort.*, 1867, pl. 505.

Another of the many splendid hybrids raised by the Belgian cultivators. It is hardy in that climate. The flowers are white, and conspicuously spotted on the upper petals, and the edges of the lower ones. It is a very great acquisition. (*Ill. Hort.*, Jan.)

941. CAMELLIA CONSTANTIA TRETIAKOFF. Garden Hybrid.

A garden plant, with blush colored flowers. *Ill. Hort.*, 1837, pl. 509.

A fine variety, raised in Moscow. The flowers are of the first size, finely imbricated, and of a very delicate blush tinge. The foliage is ample, and the variety a decided acquisition. (*Ill. Hort.*, Feb.)

942. THUNBERGIA FRAGRANS *Hort.* FRAGRANT THUNBERGIA.
(Acanthaceæ.) India.

A stove climber; growing 6 feet high; with white flowers; appearing in spring; increased by cuttings; grown in light rich soil. *Ill. Hort.*, 1867, pl. 511.

A beautiful species of the Thunbergia, with large white fragrant blossoms, resembling a white petunia. It grows vigorously, blooms abundantly, and forms a conspicuous object in the hothouse during the spring months. (*Ill. Hort.*, March.)

943. CATTLEYA QUADRICOLOR *Lindl.* FOUR-COLORED CATTLEYA. (Orchiaceæ.) New Grenada.

A stove orchid; with white, yellow and purple flowers; increased by offsets. *Ill. Hort.*, 1867, pl. 514.

A beautiful species of the Cattleya, with very large and conspicuous flowers of a delicate pink, the lip tipped with purple and shaded with pink, with a yellow throat. It is yet rare, but a superb kind. (*Ill. Hort.*, April.)

944. AZALEA INDICA VAR. FRANCOIS DEVOS. Garden Hybrid.
(Ericaceæ.)

A greenhouse plant; growing 4 feet high; with scarlet flowers. *Ill. Hort.*, 1867, pl. 512.

A new and very splendid double variety of the azalea, raised by M. Verschaffelt, and dedicated to the foreman of his extensive establishment, M. Devos, in honor of his earnest

labors and great skill as a gardener. For the size of its flowers, and their very double character, its bright color, and numerous spots, it is one of the best, if not the most beautiful variety yet obtained among the double kinds. (*Ill. Hort. March.*)

945. *MARANTA ILLUSTRIS Hort. Lind. ILLUSTRIOUS MARANTA.* (Marantaceæ.) South America.

A stove plant; growing a foot high; with ornamental foliage; increased by division; grown in rich peaty soil. *Ill. Hort.*, 1867, pl. 515.

This is one of the new and very remarkable Marantas, introduced by Mr. Linden, from South America, where it was found on the borders of the Amazon. The leaves are large, and of a bright rich green, with bars of black green, and a zone of pink and white encircling the inner edge of the leaf; the underside is of a pale rose. The diversity and contrast in the colors of the foliage, and the distinctness of the zone, give it a prominence over all the older kinds. It is, in fact, four colored, and is similar though distinct from the *M. rosea picta*, another equally beautiful kind. (*Ill. Hort.*, April.)

946. *PLEROMA SARMENTOSA Hook. SARMENTOSE PLEROMA.* (Melastomaceæ.) Peru.

A greenhouse plant; growing a foot high; with clear purple flowers; appearing in winter; increased by cuttings; grown in light rich soil. *Bot. Mag.*, 1867, pl. 5629.

Resembling very much the beautiful *Pleroma elegans*, but the plant is better adapted to greenhouse cultivation, being a small, rather slender straggling under-shrub, and blooming in winter. It is also well adapted to greenhouse culture, and "one of the most valuable acquisitions to our houses of late years." The flowers are two and a half inches in diameter, of the deepest violet color, and they appear in panicles of four or five each. (*Bot. Mag.*, March.)

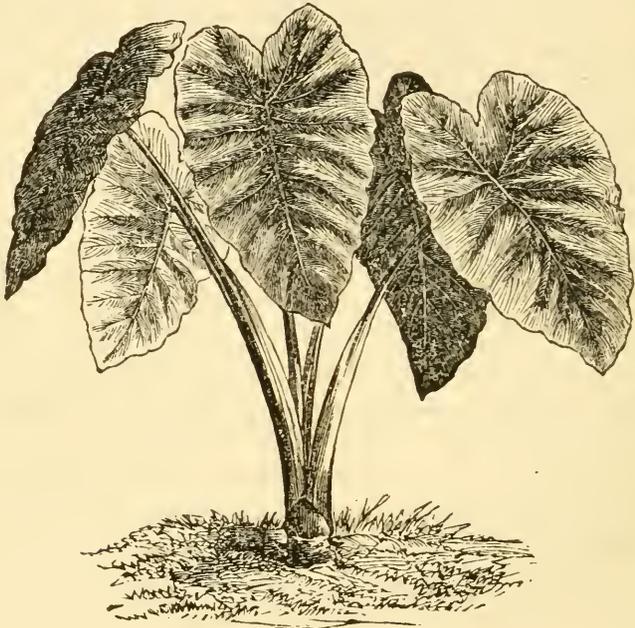
COLOCASIA ESCULENTA.

• BY THE EDITOR.

THE *Colocasia esculenta*, as it is now called, is an old and familiar plant to many cultivators, known for a long time as

the *Caladium esculentum*, a native of our own country, and introduced into Europe in 1739. It grows in the Southern States, where its roots attain considerable size, and are edible. In Fayal, where it has been introduced, it is cultivated extensively, and large roots, sent to us by Capt. Burke, under the name of *yams*, proved, upon planting, to be the *Colocasia*.

It is as an ornamental plant, however, that we bring the *Colocasia* to the notice of our readers. It is but recently, since attention has been directed to the introduction of fine foliaged plants, that this species has been reclaimed from the neglect of many years, and its great merits for ornamentation been acknowledged. The ease with which it is cultivated,



8. COLOCASIA ESCULENTA.

the rapidity of its growth, and the immense size of its light green leaves, distinguish it as a most attractive and effective object for the lawn or garden: associated with *Cannas*, the *Pampas Grass*, the *Phormium tenax*, *Bananas*, and similar large leaved plants, it harmonizes well, and as an outer row to circular beds, or even as single specimens, it is a fine addition to any collection. A group of the best *Cannas*, eight or ten feet in diameter, surrounded with the *Colocasia*, produces a superb effect on the edge of the lawn.

The culture of the *Colocasia*, (FIG. 8) as we have said, is simple. The large fleshy roots or tubers should be potted in

March or April, and forwarded in the hotbed or greenhouse, until the weather is favorable, which is usually the latter part of May, when they should be turned out into the open ground, planting in very rich soil, rather moist, and be freely and copiously watered in dry weather. Under this treatment the plants attain the height of two to three feet, with leaves three to four feet long, and two feet or more in width.

Upon the approach of cool weather, or as soon as the first frosts have disfigured the foliage, the roots should be taken up, the tops cut off, dried thoroughly, cleaned of dead leaves, and put away in perfectly dry sand, under the stage in the greenhouse, where no moisture will reach them, remaining here until the time to pot again in spring. They are rapidly increased by dividing the roots with a sharp knife.

Massachusetts Horticultural Society.

Saturday, June 25.—ROSE AND STRAWBERRY EXHIBITION.—The Rose and Strawberry Exhibition was held on Tuesday and Wednesday, the 25th and 26th of June. The flowers occupied the large Hall, and the fruits and vegetables the lower Hall. A central table, in the large Hall, was filled with specimens of beautiful plants, principally from the extensive collections of Messrs. Hovey. Cut flowers of roses filled the stands arranged on the two sides of the Hall, and the general collections of cut flowers occupied a table in front of the stage, at the opposite end from the entrance.

The plants from Hovey & Co. comprised, among many others, pandanuses, palms, yuccas, fourcroyas, &c., of large size, and superb specimens; also, *Dracæna braziliensis*, *ferrea* and *terminalis*, *Maranta zebrina* and *pulchella*, *Hibiscus Cooperi*, caladiums of several kinds, gloxinias, *Canna nigricans*, *gigantea* and *Annei*, *Cyperus alternifolius*, Cycads, Zonal geraniums, and their seedling lily, with three flowers fully expanded, measuring twelve inches in diameter; a more magnificent plant was never exhibited. Also cut flowers of roses in variety, collections of cut flowers, several of Beaton's Nosegay geraniums, and leaves of a new seedling variegated *Magnolia tripetala*, the leaves superbly blotched with gold. Mrs. Ward of Canton sent six or eight of the finest grown specimens of gloxinias, which were universally admired.

Cut flowers and roses were contributed by F. Parkman, J. Breck, W. C. Strong, J. C. Chaffin, J. E. Westgate, Jas. McTear, Jas. Nugent, J. W.

Brooks, E. Stone, Wm. Wales and others. Mr. Chaffin's collection of roses contained some very remarkable flowers, as did those of Hovey & Co. and F. Parkman. Mr. Wales sent the new and fine Marechal Niel, in beautiful condition.

JUNE ROSES.—Class I. For the best twenty varieties, to Francis Parkman, \$6.

For the next best, to Hovey & Co., \$4.

Class II. For the best ten varieties, to James McTear, \$3.

For the next best, to James Nugent, \$2.

For the next best, to Joseph Breck, \$1.

HARDY PERPETUALS.—Class I. For the best twenty varieties, to J. C. Chaffin, \$6.

For the next best, to Francis Parkman, \$4.

For the next best, to Hovey & Co., \$3.

Class II. For the best ten varieties, to C. J. Power, \$3.

For the next best, to Francis Parkman, \$2.

For the next best, to James McTear, \$1.

MOSS ROSES.—For the best display, to Francis Parkman, \$4.

For the next best, to Hovey & Co., \$3.

For the next best, to James McTear, \$2.

TENDER ROSES.—Class I. For the best display, ten varieties, to James Nugent, \$5.

For the next best, to James McTear, \$4.

GENERAL DISPLAY.—Class I. For the best, to Francis Parkman, \$6.

For the next best, to E. Stone, \$5.

For the next best, to John C. Chaffin, \$4.

CUT FLOWERS.—For the best, to H. H. Hunnewell, \$5.

For the next best, to Hovey & Co., \$4.

For the next best, to Joseph Breck, \$3.

BASKET FLOWERS.—For the best, to Mrs. S. Joyce, \$2.

For the next best, to Mrs. E. M. Gill, \$1.

HAND BOUQUETS.—For the best, to Hovey & Co., \$4.

For the next best, to Hovey & Co., \$4.

Gratuities were also awarded to Hovey & Co. for a great display of rare plants, \$20. Mrs. T. W. Ward, for several pots of gloxinias in great perfection, \$8. J. McTear, J. W. Brooks, Hovey & Co., and many others, for cut flowers, &c.

FRUIT.—The Strawberry Show was very fine. The day was too soon for some kinds for full growth, but generally they were nearly equal to any previous display. David Hill of Belmont sent a basket of Hovey, which were truly superb, and carried off the large prize of \$25 for the best single dish of four quarts. For the second best, to J. C. Park, for La Constante, \$15. J. C. Park had the first prize of \$25 for the best four varieties, viz., La Constante, Jucunda, Triomphe de Gand, and Hovey's Seedling. Hovey & Co. for Hovey's Seedling, La Constante, Triomphe de Gand, and Napoleon III., the second prize of \$15. Other prizes were awarded, of which we did not get the names of the exhibitors.

Horticultural Operations

FOR AUGUST.

FRUIT DEPARTMENT.

THE month of July was cool, with an abundance of rain, and trees have made a fine growth, and the fruit looks unusually promising. Grapes, though rather late, have grown well, and so far there has been but little mildew.

GRAPE VINES, in the grapery, will now be ripening their fruit, and the early sorts will be ready for cutting. Hamburg and Muscat, in the course of the month. Abundance of air should now be given, to aid in coloring and in giving flavor to the berries. Be more sparing of moisture. Lateral shoots may now be allowed to extend more freely, cutting away only to give plenty of air and light, so as to thoroughly ripen the wood. In cold houses the vines will be swelling their fruit, and should be kept warmer, with plenty of moisture, until the berries begin to color. Air freely in good weather, but close the house early, and guard against cold draughts, which are likely to bring on mildew.

STRAWBERRY PLANTATIONS may be made the latter part of the month. Prepare the ground at once by a thorough digging, or half-trenching, using plenty of well-rotted manure. When the weather is favorable level and rake the surface, mark out the rows three feet apart, and plant eight or twelve inches apart in the rows. Old beds should be cleaned, and if cultivated in rows the runners should be cut off, or in beds, the ground should be dug and manured, to encourage a vigorous growth.

SUMMER PRUNING pear-trees may be continued all the month, heading the laterals to two or three eyes, but allowing the terminal branch to extend.

FRUIT should be gathered in good season, especially the early pears, which need, generally, to be ripened in the house.

THINNING FRUIT should be continued, looking over the trees from time to time, and taking off all wormy or ill-shaped specimens.

PLUM, PEAR, AND QUINCE TREES should be budded this month.

FLOWER DEPARTMENT.

The season could not be more favorable for plants of all kinds, and the flower garden now looks fresher than is usual at this season. Greenhouse plants of all kinds also look well, as there have been no droughts or scorching sun to dry and burn them. Now is the time to continue preparations for winter-flowering stuff. All the soft-wooded plants should be encouraged to make a free growth, by the use of liquid manure; and they should be kept dwarf and compact by pinching off the tops occasionally. Seeds of many annuals should now be planted. At leisure time secure a good stock of soils and manures for winter use.

CAMELLIAS will now be swelling up their buds, and should have repeated syringing and liberal watering. Top dress and repot such as require it, if not already done.

AZALEAS, that have made their growth, should be removed to the open air, selecting a half-shady place. Tie them into shape. Syringe often, and abundantly, and water with liquid manure. See that the thrips and red spider are destroyed, which can be easily done by the use of whale oil or tobacco soap.

PELARGONIUMS will require attention. Cut down the old plants to within two or three eyes of the old wood. Keep the plants rather dry for a few days, till the wounds are healed, and they will begin to push fresh shoots. Then shake out of the old soil, and repot into smaller pots, cutting off all superfluous roots. Use light leaf mould and loam, with plenty of sand, and place in a frame, where they can be sheltered from heavy rains, and very carefully watered. Put in the cuttings for young stock.

CHRYSANTHEMUMS, either in pots or the open ground, should be kept in shape by topping the branches, up to the middle of the month, when it should be discontinued. Water with liquid manure.

TRICOLOR AND ZONAL GERANIUMS, intended for fine specimens in autumn, should now have a shift into good rich soil, and have the branches tied out so as to form broad bushy plants.

PANSY SEEDS may be sown this month, for early spring flowering.

CINERARIA, PRIMULA AND CALCEOLARIA seeds should be planted.

CHINESE PRIMROSES should now be shifted into larger pots, and have the protection of a frame from the hot sun.

BOUVARDIAS should be topped, so as to form bushy plants.

FERNS, which require it, should be shifted into larger pots.

CALADIUMS AND BEGONIAS, growing freely, may have another shift.

PALMS, in vigorous growth, should be liberally watered, and shifted into larger pots, when full of roots.

MIGNONETTE SEEDS should now be planted in pots, in a frame.

JAPAN LILIES, done flowering, should be more sparingly watered.

FLOWER GARDEN AND SHRUBBERY.

The rains of July have kept the lawn one mass of verdure, and rendered frequent cuttings necessary. Give a good rolling, when in the right condition of moisture. Cut grass edgings neatly, and clean and rake the walks.

DAHLIAS will now be flowering, and should be pruned of superfluous shoots, and tied up to the stakes firmly, without danger to the stems.

GLADIOLUSES, coming into flower, should be tied up to neat stakes.

NEAPOLITAN VIOLETS, lately transplanted into frames, should be kept clear of weeds, and the ground stirred between the rows.

ROSES should now be layered.

SEEDS OF PERENNIALS may yet be planted, and others sown previously removed into prepared beds, or the border.

RHODODENDRONS AND AZALEAS, of choice kinds, should be cleared of the seed pods, as they weaken the blossom for next season.

OUR HORTICULTURAL EXHIBITIONS.

As a means of educating the public taste for plants and flowers our Horticultural Exhibitions are of great importance. Those who visit them naturally expect to find superior specimens of cultural skill, and if they are not to be seen, there is a consequent disappointment, and the impression conveyed that professional men, with all their reputed skill, can do little better than those who are only amateurs in gardening art. Mere variety may for a while satisfy and please; but after a time this will fail to be attractive, and superiority of culture still remain one of the great features of our shows.

But even fine specimens, such as we occasionally see, are not all that make up a successful exhibition; judged singly, and as models of skilful treatment, nothing more could be desired. In England, where so much encouragement has been given to their cultivation, and where prizes, unheard of in our own country, are offered for beautiful specimens, the exhibitions have failed to be as attractive as they ought, simply because they are a repetition of what had been often seen before. Novelties, more or less attractive, are brought forward every year, and these have added greatly to the interest of every exhibition. Indeed, they have come to be regarded as holding a very important place in every display. It is around these that the lovers of plants delight to linger, and it is the enthusiasm which is enkindled by their inspection that makes them prominent, greatly sought for, and always attractive. Whether a new plant, a new flower, a new fruit, or a new vegetable, they attract those who are interested in all that is new, novel, magnificent or valuable. And this is natural. The most beautiful plant, or the richest fruit, confined to the garden of the introducer or producer, would remain comparatively unknown for a long period; but brought before the public, at a prominent exhibition, where it can be shown to advantage, and of sufficient excellence to obtain a prize or certificate of merit, it has the stamp

of the society, and goes before the world with a character. A society thus accomplishes its great objects, which are twofold, for such specimens give beauty, novelty and attractiveness to its displays, and encourage the cultivator by liberal prizes to renewed exertions in the growth and introduction of new things.

The Exhibition of the Royal Horticultural Society of London, the Royal Botanic Society, and other prominent associations, have been noted for the size, beauty, and high cultural skill of the many specimens exhibited. The azaleas, pelargoniums and fuchsias, have been models of form, and literally masses of blossoms; but they are brought forward often by the same exhibitors, and in precisely the same style, year after year. Individually they have lacked nothing. The whole aim has been to see to how high a state of perfection a plant could be produced, and as specimens of gardening art they are complete. When arranged for exhibition they formed banks of flowers of dazzling hue, over which the eye tired for want of some proper relief.

All this is well when plants are shown simply for their individual growth; but when part of a grand display there is something more necessary to produce the best effect. This is arrangement, or a tasteful and picturesque grouping of the plants to produce a harmonious whole. The English cultivators, content with their own way of exhibiting plants, have contended for skill rather than for grand effects, and their shows, magnificent as they are, and have been, lack the pleasing arrangement and elegant grouping which characterize the French and Belgian exhibitions. The International Horticultural Show of Belgium, in the spring of 1864, awakened a new interest among the English cultivators who were present, and at that great display they, for the first time, seemed to realize how much inferior in general effect their own exhibitions were to that which they witnessed abroad. "As an exhibition," says a writer, who was present, "it is altogether unlike our own in respect to the arrangements, and in great measure also in respect to the peculiar plants exhibited. There are none, or almost none of the immense specimens of which we have so many, and there are

none, at least in the principal departments of the exhibition, of those endless lines of tall stages which elevate our monster specimens so much that it almost breaks one's neck to look up at them. On the other hand there are magnificent 'foliage' plants—palms especially—such as we never see exhibited in England, and various noble forms of the Screw pine and Yucca race enter largely into the composition of the show; there are flowers on moderate sized bushes, which, when distributed as they are in this case, are quite sufficient to lighten up the scene without dazzling the eyes of the looker-on,—and both variety and taste are displayed in the distribution of the materials brought together."

Such should be the object of every large exhibition, those established to please and instruct the public, where they can find almost every form of vegetation—not specimens of such things as only few can cultivate—but plants fitted for every kind of gardening, in-door and out—the cold-house and the warm-house—the lawn and the garden. True we cannot expect to rival the magnificent palms of Continental Europe, where they have been cultivated for years, and attained a noble size—but we may have smaller specimens, which give the same variety, and foliage plants in abundance, grouped for effect alone. Perhaps we are in advance of the general taste in advocating such a display, as we are sure it could not be done just now on the same scale. But in arguing the fitness of plants and their arrangement, we have reference only to the materials with which our exhibitions are now made up. The rarer and choicer things will all come in time. What we desire is to make the most of what we have—to grow such, of which there are numerous examples, as can be obtained of large size in one or two years, and to strive more to produce grand effects than to show isolated specimens. The latter should rather be episodes in an exhibition, and at the same time models of skilful treatment. We do not intend to find any fault with what has already been accomplished. Compare the exhibitions of only ten years ago with the present, and we shall see how superior they are. But we must not be content with what has been done. The object of every society is to develop the resources

of our gardens, and to stimulate our cultivators by liberal prizes to increased exertions in the way of the introduction of novelties, the growth of fine specimens, and to educate them up to the highest point of tasteful and effective arrangement; and further to invite them to increase the variety of objects for exhibition, and in particular to give attention to such things as are novel in form and outline, even if they have no flower. In this way the yuccas, the agaves, and similar things, backed up by gigantic cannas, of one season's growth, produce a grander display than a hundred smaller plants, though loaded with blossoms. A fine coniferous tree, of handsome form and outline, with its deep green verdure, is far more satisfactory than a plant scantily covered with flowers.

These brief hints are suggested by the near approach of our great September exhibitions, and we should close with the hope that it might bring the subject before every lover of progress, but we find in the *Gardeners' Chronicle* an article so appropriate that we annex the following extract:—

The improvement of our flower shows is a matter of such vital importance to horticulture—at least to that department which bears on the cultivation of flowers and flowering plants—that it ought to engage the serious attention of all who are in any way connected with gardening pursuits, now that the summer exhibitions are at their height. The advantage of giving attention to the subject just now, consists in this, that we can actually see the point to which we have attained, and, by employing a little honest criticism, may arrive at a tolerably correct estimate of our deficiencies.

We are sure it may be laid down as a basis upon which this subject may be discussed, that our deficiencies do not lie in the department of cultivation. In respect to the growth or production of plants and flowers, British gardeners always acquit themselves like men; and, with the stimulus of exhibitions to prompt them, are in no danger of losing the pre-eminence they have won. But there is room for improvement in “getting up,” so to speak, of the materials so admirably cultivated, and that is the point where, in a special sense, the cultivators of exhibition plants may contribute their quota of

improvement. Familiar as we now are at our shows with monster specimens, we could not do without at least a considerable proportion of such as these; and familiar as we are, too, with blossoms in profusion, almost overloading our specimens, we could not tolerate plants on which the blossoms were scanty; but we could well afford to dispense with not a little of the formality in training with which we have unfortunately, at the same time, become familiar. We might admire a fine specimen of some evergreen shrub, trained in moderately by the knife, to let us suppose a pyramidal culture, in which, however, there still remained some play of light and shade, from the slight inequality of the sprig, where we could never bring ourselves to admire the same kind of shrub clipped evenly and smoothly to the form of a cone. And so we could admire an azalea, for instance, in which the spray, while preserving something of its natural massing, had been disposed so as to take a conical general outline, where we could not admire the trailing of a plant which had been put into steel hoops, and resembled nothing so much as a huge crinoline. Some years ago there was a great outcry about the forest of stakes used for tying out exhibition heaths, and plants of a similar character, but nothing half so rigidly formal was ever perpetrated among heaths as now appears unblushingly among the poor azaleas.

Of course it is not to be supposed that the huge plants of all kinds brought to our shores—azaleas, pelargoniums, heaths, roses, &c.—can be grown without support, and in many cases that support must be considerable in amount; but it may be laid down as one guiding principle for the cultivator, that the less support necessary to the plant—other points being equal—the greater has been the merit in respects of its cultivation; and, as a second, that the less rigidly formal the arrangement of the branches, under that necessary amount of support, the greater has been the merit in respect of its training. If, as we have said, in regard to the cultivation of these plants, British gardeners always acquit themselves like men, we must add that it would be an advantage in respect to the training of them, if they could be persuaded not, indeed, to appropriate the garments, but to listen to the advice of the gentler sex.

The great deficiency, however, of our flower shows, lies in the arrangement of the plants, after they have been transported to the place of exhibition with so much care and cost. This defect has, indeed, grown up with the growth of the exhibitions themselves, and is perhaps inseparable from the customs which obtain among us. Nevertheless, it is a defect, and a great and palpable defect, and one which all who are concerned in the future of flower shows should lend their aid to remedy.

The chief evil may perhaps be best indicated by the statement that our flower shows are literally a blaze; there is no relief, or no efficient relief, to the intense and unusual glare, which is oppressive almost beyond endurance, if the day is hot, and the show room crowded. Respecting this evil there is, however, a fact and a fallacy to be distinguished. That in too great a preponderance of bright colors, and too little of refreshing green, is a fact which one glance at some of the exhibitions we have described would impress forever on the mind. But that we could do with flowering plants in a less floriferous state is a fallacy. That it has taken possession to some extent, of the public mind, is, however, evident from the passing remarks one hears at a flower show. "The colors are too oppressive," says one, looking all the while with intense admiration at the large blazing Crinoline azaleas. "But I do not like to see the green leaves amongst the flowers," says another, who is gazing with satisfaction at a plant with scantier flowers. Nevertheless, what says the horticulturist, calmly looking on, and taking measure of the cultural skill displayed? Why, that B had his thinly bloomed plants less under control than A, who brings his out, apparently all in flower, scarcely a leaf visible; and consequently that A has shown more skill, and carries off more credit than B. Now what is the great use of our exhibitions, if they are not to act as tests and stimulants to bring out horticultural skill? Reduce the test, and be content with paucity of bloom, and what comes of it? Why, even the casual looker on, who so much admires the "green leaves among the flowers," would learn to point to a thinly bloomed plant as poor and faulty compared with specimens

within his recollection, and would walk away disgusted if he found that such were the best productions the gardens of England could set before him. No, the change we want is not to lessen the foliage by thinning our plants of flowers. We must have our plants up to the highest standard of cultural skill, and if they can be brought out smothered with flowers, we must have them so. But we must have a foil for all this brilliancy. We must have all our bright colored mass-flowering plants, such as azaleas, pelargoniums, &c. set in separate, small, distributed, and if need be, well balanced groups, with a back ground of green leaves, whether that back ground be composed of the ferns and foliage plants which now form parts of our shows, as seems most desirable, or whether it be made up of additional material employed solely as a setting for the floral gems. We must also increase the non-floral element of our great shows by inviting more palms, and pothods, and arads, more yuccas and agaves, and dracænas; more cycads, more conifers, yea, even more hardy evergreens, such as collections of hollies, collections of box, collections of arborvitæ, collections of yews, and such as these. They all have their use, and might indeed very well be supplemented in the earlier displays by collections of what are called Hardy rhododendrons, which would give variety of color.

Our monster plants, or at least a goodly number of them, we could not spare, but we do not want them set up in long dreary banks, about which no one cares to linger. Let us rather have little groups of them, kept apart by groups in different levels of some of the various other objects of exhibition at which we have hinted—and the list of which could be indefinitely expanded, so as to change the aspect of the show at every step, and then we might hope to see visitors taking as much interest in the *modes* of the plants as in the *modes* of their fellow visitors. Above all, let us have an unlimited number of these large flowering plants, and of large spreading palms, and ferns, placed as single objects, where the view of their beauty may not be obliterated; that is to say, let us have them elevated on appropriate stands, amongst groups of low plants, placed well beneath the eye.

And let us have infinitely more low growing plants than now, set low—plants interesting in themselves, and useful as a surrounding for more valuable and conspicuous specimens.

IS THE DWARF PEAR TREE DESIRABLE?

BY D. W. LOTHROP, WEST MEDFORD.

IN a previous volume of this Magazine, (XXX, p. 292,) I made a few remarks in some degree commendatory of the quince root for the pear. But it was rather qualified and faint praise. A few years more of experience and observation have almost, if not quite, made it "odious," (if a reconstruction phrase is not too severe,) and I would like, in due deference to others' opinions, to make some more comments upon it. No doubt if I were to engage in the culture of these roots for the pear in real earnest, sparing no time nor expense, I could succeed much better. But, for reasons which may appear, I decline doing it.

Most persons interested in pear culture will recollect a discussion some few years ago between Mr. Stoms and the Hon. Marshall P. Wilder; the first contending that pears on these roots were short-lived and unprofitable, the latter showing quite plainly that they *had been* and *could be* worked on this stock with good success, and permanency by re-rooting. He does not, however, enter into the comparative advantages and disadvantages of the two roots for general culture, but confines himself to narrower questions. In closing, Mr. Wilder quotes from Mr. Berckmans, showing how the quince root *can* be made to succeed. Mr. Berckmans, it seems, had to learn the *art*, for while in Europe he says he did not know it, Van Mons and Esperin (with whom he was) discarding it. This art is comprised in six rules, which I condense thus: "Good, porous deep soil; Angers or Orleans quince roots; plant only those which succeed well on the quince; plant below the junction; keep the weeds down; low branches and judicious pruning once or twice a year." So it seems if

a man *will* succeed with the quince root, he must gird his loins to the work in earnest, and keep strictly within the letter of the law. In passing, I would observe that Mr. B. does not allude to high culture, considered so important by others, nor give a test to the unwary how he can know whether he has his trees on the Angers or Orleans root, or the common Portugal quince. He also recommends planting the junction three inches below the surface, while most others say two. But this is no great matter. As the trees come from the nursery it is difficult to do either, so high up on the stock are they frequently worked. Consequently we have sometimes *twelve to fifteen inches* to set into the soil, or cut off the greater portion of the roots. A deep soil is certainly necessary for this, if for no other reasons. But we dismiss these lesser matters.

Countless others, besides Messrs. Stoms and Wilder have discussed this subject—driving the quince root into close and exceptional quarters. No doubt success can be obtained; but is it desirable for the ordinary cultivator when excellent results—even the best—can be obtained on pear roots? We are told to set the quince roots deep, and curious to note, for the purpose of speedily giving them pear roots! But it is said they thus bear earlier. We are cautioned, however, against early bearing, and particularly against over-bearing! What then can we get but a few nice specimens of fruit, while the amateur looks more to quantity? And in the enumeration of the successes of the quince, we rarely hear of the proportionate loss of trees by winter-killing, by blowing off the junction, improper union, &c., and poor results from unsuitable soil, neglected or unscientific pruning, shallow planting and ordinary fertilization—many of which evils and circumstances do not apply to the pear on its own roots. On natural stocks the pear will bear a good deal of neglect and grow well, provided the soil is respectable. Unlike the quince root, it is not fastidious or dainty, forever framing excuses from improper treatment, and making new demands—like feeble children—on the attention of their nurses. It has a robust self-reliance, and

“Spreads and grows stronger with the length of days.”

In the use of the quince root for the pear, much stress is

laid (as above intimated) on the importance of re-rooting above the junction. This is well, for when it is done it of course ceases to be on the quince, has roots of its own, and is subject to new laws—that of the natural pear tree. But my limited experience shows it is not easily done. If it is not done, what is the history of the tree? Why, simply this: It may begin to grow well in a few years, and will perhaps show a few fruits. But, as observed, professional culture will not allow many to remain even if it should set full thus early. When the tree is seven or eight years old it may do to let it bear respectably full, and perhaps good pears are the result. The next year, however, if it set any, it will not be advisable to let them grow, but the year following it may. And thus we proceed—giving the liberty to bear in alternate seasons as much as it chooses. The usual natural life of the quince is about fourteen years. In case then the pear on the quince root does not throw out roots of its own, how many more years can we expect fruit from it? A pear on its own root at this age would probably be much larger than the quince, would have got into good bearing, and would be marching on to greater and better results, with a half a century before it, at the time of the death of the quince root. And all this with half the trouble and care. If the dwarf tree ultimately acquires roots of its own, it is not clear that much has been gained by early fruiting, as some claim. With the cultivation the farmer and general amateur gives his naturally-rooted trees, they bear as early as they ought, and some too early. If the liberal cultivator forces them into wood-making merely, and is obliged to root-prune for a crop, that is his fault. Trees from three to four years old from the nursery take on fruit-spurs almost immediately; and we may venture to let them bear a little as well as the dwarfs.

I have always looked upon the quince root with a degree of suspicion from the first time I purchased any. But hearing, five years ago, that the then famous Clairgeau was equally good on either stock, and wishing to get some good specimens as soon as possible, I procured two handsome dwarf trees, and gave them the best places I could. During the summer they leaved out and grew a little. In the autumn they were manured on the surface with night-soil. The next

year they grew only two or three inches apiece, though the heads had been well reduced. The third season one bore three or four very large pears, while the other set a few, but showed symptoms of death. These trees I had encouraged in every way, by manuring, mulching and cutting the junction for the development of natural roots; but now only one looks as if it would live, and has never in all the years made a foot's growth on any branch, while the other is no larger than when set out, and infinitely worse looking. Their slight growth has astonished me, seeing that the tops were so cut away when I received them. They must grow or die soon, as my patience is failing with them, and they cannot be humored much longer. Since setting these, I would observe, that cultivators have discovered that the Clairgeau is not fitted for the quince! The discovery came a trifle too late for me, though I had began to suspect the fact. It may be that these roots were neither Angers nor Orleans! I have now worked the Clairgeau on the pear stock with promising results. Had these trees been on their own bottoms, I should undoubtedly have had thrifty bearing specimens of this variety. Near by them stands a Winter Nelis on its own roots, set about the same time, in not quite so good a position, which is fifteen feet high, and never has had any special manuring of its own, and not the least care but occasionally to cut out or off a small crowded or rampant limb. It has not as yet borne, however, and I am glad of it, as I have smaller trees in fruit. If it should not bear, I will report it! The growth of this tree is remarkable, and the difference between the two in comparison is still more so.

Fourteen years ago, when I first began to plant, I purchased two dwarf trees of the Bonne de Jersey. The junction in this variety is reputed to be excellent. They were set in a position rather dry and exposed to the sun, in good loamy soil, naturally well drained. They started well, and in few years gave me good fruit. They soon, however, ceased to grow well, and I found it difficult to revive them. They were manured, pruned and cut at the junction for new roots, and the soil heaped well around them, but to little purpose. The two dry seasons of '64 and '65 kept them stationary. Now,

one of them, since the wet seasons, seems to be doing better, is bearing, and is firm in the earth, while the other is loose and feeble. I must confess, however, that the early treatment of these trees was not what it ought to have been, considering their roots and their position. Scions from these trees, set on a small pear stock, have made a vigorous tree twelve feet high, though in a bad position, and has for some time in alternate years, borne well. In fact, five years ago it produced more fruit in a single season than all that has ever been gathered from the two on the quince roots, though not so highly colored; and while the latter are quite uncertain as to longevity, the former will probably pass down to another generation in good condition. It may be said that my soil is not suitable for the dwarf; that I did not manure, pinch and prune sufficiently, and perform many other necessary conditions. All this may be true; but these are the comparative difficulties of which I am speaking. The standard does well, the dwarf does not; the one needs a loose rein, the other coaxing and goading. There is as much difference between them as between a horse and a donkey!

Among my trees of about twelve years of age, I have one bought for the Flemish Beauty, on quince. It was three or four years before it grew of any consequence. Soon bearing a few specimens, I found it to be the Henry IV. When out eight or nine years, it produced a satisfactory crop of excellent pears. But it soon declined. I manured, pruned, and cut the junction for re-rooting, and it started up very well. In 1864, that very dry season, it bore a profuse crop, which all fell without maturing. Since then, we have had one dry season and two wet ones; but the tree is feeble, and throws out no new shoots. Unless it re-roots, can it be saved? And can it be made now to re-root? In twelve or thirteen years it has yielded about a peck of pears. Ought this to be satisfactory? A Bartlett, on its own roots about the same time, with no better treatment, has averaged a bushel of fine fruit every year for the past eight or ten.

Seven or eight years since, I purchased two Urbanistes on quince roots, and gave them good positions. They have grown very moderately since, and have produced only two or three

specimens of poor fruit. One of them I worked with a seedling the last spring, which is growing well; but I do not depend upon it. The other refused to leaf out this season, and when taken hold of to try its firmness, it snapped off at the junction! The borer had been there. But that was partly my fault. Had it been on its own root, no doubt a thrifty tree would be in its place, with no hidden enemy at its root.

Twelve years ago I purchased a dwarf tree for the *Beurre Diel*. It grew very well indeed; but proving a worthless fruit I covered it with seedling pears upon which I was experimenting. It continued to grow well, and one of the seedlings fruited one pear. It was quite promising, and I was delighted. The next year it bore nothing, and I was disappointed. The year following it set fruit again; but lo! the tree was perishing; and now my seedling branches are doomed never to revive again. It had lived out the "lease of nature." Fortunately I have scions of these seedlings growing on pear stocks; but though I must wait longer than I anticipated for fruit, I have learned a useful lesson—never to trust alone a seedling on the quince root.

I have four trees of the *Duchesse*. The oldest ought to have grown very much more than it has, and given better results. The three younger ones look well *now*, but I have not much faith in them, though undoubtedly this variety makes the best junction. A small tree of the *Beurre Diel* it is impossible to start, now on its third summer.

Undoubtedly for the better growth of the quince root I need a lower and heavier soil, though many would not agree with me on this point. As it is, however, I cannot stand in my garden and place my eye on a single dwarf tree (perhaps excepting the *Duchesse*) upon which I can place any reliance, so capricious and treacherous they are. It is true the trees were not much loss considering their cost in dollars and cents; but they occupied the places for a long time where others might have done well and made ample returns. I consider myself fortunate only in this, that I purchased but few. Others in their zeal have bought them by the gross, and seen them linger and die by the hundred.

Some of the best cultivators differ widely in their treatment of and expectations from the dwarf. Mr. Wilder says re-rooting is important, if not essential. Mr. Austin, his townsman, says no; if he wants a pear on its own roots he plants it so, with ample room for its expansion. But how can Mr. A. secure longevity if his trees do not (like Mr. W.'s) strike pear roots and become standards? He plants deep to get rid of the borer; but my experience goes to show that the borer will get in even if the junction is covered. Mr. Berckmans says that trees on the quince root are less liable to blight than on the pear. This may be true; but if they strike new roots by being planted three inches below the junction, as he recommends, will they not then be as liable to it? A Western cultivator of the dwarf pear attributes blight to high culture. But this is what all demand for this class of trees. According to Mr. Wilder, Mr. Berckmans, and many others (as before intimated), we plant the dwarf, and as soon as may be bring it back to its own roots—thus sacrificing all advantages but a supposed early bearing to preserve the tree.

Quince roots for the pear in their first introduction among us were regarded as mere toys of the fancy gardener; were short-lived, and have never expanded into a necessity in the estimation of horticulturists in general—unless it has been within the last fifteen years. The success of some varieties of pears on this root, in certain localities (strong low lands), with the sanction of some prominent cultivators, gave them a fictitious value, false-bottomed as they were; and added to this, the love of novelties and the influence of fashion have conspired to make their sale very great, while the purchasers knew little of their uncertainty, the liberal manuring required, and the difficulties and labor of their cultivation. Tony Weller was not more adroitly induced to fill out a marriage warrant for his new wife, Mrs. Clarke, nor more disappointed ultimately than most of these cultivators have been and will be in the miniature bundles of their Pickwickian trees. Quite a general reaction is taking place, if I mistake not, in this popular frenzy of amateur cultivators—especially those of long experience; they regarding them in the end as unprofitable. Hence it is quite important that every pur-

chaser should consider the quality and position of his land, his time, means, objects, determinations, &c., before he chooses the quince root—forced in distant climes—instead of the native pear.

I should not have written the much that I have, with my comparatively small experience, had I not, in looking at some back numbers of the *Horticulturist*, and other journals, found articles from more extensive pear culturists urging objections to the dwarf somewhat similar to my own, and the hints and expressions of doubt which daily meet my ear.

FLOWERING TREES AND SHRUBS.

FROM THE GARDENERS' CHRONICLE.

MR. W. PAUL, an intelligent nurseryman, is contributing a series of articles on "Hardy Pictorial Trees," some of which we have already copied in previous volumes. All of them are highly interesting, but so many of the kinds he enumerates are not hardy in our climate, that his information, without noting all the sorts, might mislead cultivators in introducing them into their grounds.

His last paper, on Deciduous Flowering Trees and Shrubs, is, however, as well adapted to our latitude as that of Great Britain, and we copy the article entire, remarking, that although nearly or quite every variety he enumerates has been fully described by us in our articles on Hardy Trees and Shrubs, some eight or ten years ago, the information will remind many who have not our volumes at hand, of the most desirable "Pictorial" trees, and enable them to make their selections the coming autumn:—

As in my last paper, which dealt with evergreen flowering trees and shrubs, I shall here select and describe only a few of the choicest of the deciduous kinds.

ÆSCULUS HIPPOCASTANUM (the Horse chestnut).—Height, 60 feet. One of the grandest of flowering trees, to which the avenue in Bushey Park bears ample testimony. The

double-flowering kind (*Æ. H. florepleno*) is equally beautiful, and more suitable for many purposes, growing slowly, and seldom attaining to more than half the height of the former. The scarlet Horse chestnut (*Æ. H. rubicunda*) is of still slower and smaller growth, rarely exceeding 20 or 25 feet in height, and, from its symmetry and beauty, forms an admirable park tree.

AMELANCHIER BOTRYAPIUM (the Snowy mespilus).—Height, 30 feet. This is one of most beautiful of spring-flowering trees, growing well in common soil. The white blossoms are produced in such abundance as to completely cover the tree early in April.

AMYGDALUS COMMUNIS (the Common almond).—Height, 20 feet. Another spring-flowering tree, of great beauty; the flowers are pink, profusely adorning the tree in March and April. Hardy, free, thriving in any soil, and apparently indifferent to the smoke and confinement of large towns. The double-flowering almond is also a good hardy tree; the dwarf almond (*A. nana*), of which there are both red and white varieties, is very useful and pretty in the front of shrubberies, rarely exceeding 1 foot or 1 1-2 foot in height.

AZALEA.—See *Rhododendron viscosum*.

BUDDLEA GLOBOSA.—Height, 12 feet. This is a very showy plant, producing numerous globes of orange-colored flowers in the summer. It is unfortunately not very hardy, and except in sheltered situations is best placed against a wall.

CALYCANTHUS FLORIDUS (the Carolina alspice).—Height, 6 feet. The flowers of this plant are not striking or showy, but their delightful fragrance commends it for general cultivation. The leaves die off bright yellow. It prefers a peaty soil, but this is by no means indispensable.

CERASUS SYLVESTRIS FLORE-PLENO (the double French cherry).—Height, 20 to 30 feet. We have here one of the most beautiful of spring-flowering medium-sized trees, the branches in early spring being literally covered with large double white flowers. *C. vulgaris flore-pleno* (the common double-blossomed cherry) is also a beautiful tree, usually of somewhat less vigorous growth. There is also a beautiful dwarf variety, *C. japonica fl. pl.* rarely exceeding 4 feet in height,

with double white flowers, and a double rose-colored variety, well worthy of general cultivation for shrubberies and forcing.

CORONILLA EMERUS.—Height, 6 feet. This is a pretty dwarf shrub, the flowers yellow, tipped with red, produced in May and June. It is very hardy, thriving in any soil.

CRATÆGUS OXYACANTHA PUNICEA (the Scarlet thorn).—Height, 15 feet. No plant is more beautiful in early spring, the dark red flowers being produced in magnificent profusion. The species and varieties of *Cratægus* are almost endless, and nearly all are desirable, when space admits of their introduction. The best for ornamental planting are the double white (*C. Oxyacantha fl.-pl.*), the double pink (*C. O. punicea, fl.-pl.*), and the double crimson (*C. O. coccinea, fl.-pl.*) the last named promising to eclipse all others in point of effect.

CYTISUS ALBUS (the White or Portugal broom).—Height, 6 feet. This is desirable among white-flowering shrubs on account of the mass of flowers it produces in early spring. There is a variety (*C. a. incarnatus*) bearing white flowers tipped with pink, also very beautiful. The common laburnum (*C. laburnum*, height, 20 feet) belongs here, and there are many dwarf-growing varieties of great beauty, ranging in height from 1 to 4 feet; of these *nigricans*, *patens*, *purpureus*, *purpureus flore-albo*, *elongatus*, *supinus*, and *capitatus* may be regarded as the best.

DAPHNE MEZEREUM (the mezereum).—Height, 4 feet. Both the white and pink varieties of this plant are desirable on account of flowering in mid-winter.

DEUTZIA GRACILIS.—Height, 2 to 3 feet. A pretty dwarf shrub, of free, hardy growth, thriving in any soil; admirably adapted for the front of shrubberies. The white flowers are freely produced in early spring. *D. scabra* is similar in character, although of larger growth. *D. crenata flore-pleno* is very handsome, the flowers white, often tinged with rose color. All these are excellent for forcing.

FORSYTHIA VIRIDISSIMA.—Height, 4 feet. The flowers of this plant, which are greenish yellow, appear in great profusion

in winter before the leaves. Hardy, thriving in any soil. *F. suspensa* is also a good hardy climbing shrub.

FUCHSIA RICCARIONI.—Height, 8 feet. This plant is almost hardy, and if injured by frost will spring up from beneath the ground, and flower freely in autumn. The same may be said of *F. virgata*. Both bear red flowers, and are very graceful.

GENISTA TINCTORIA FLORE-PLENO.—Height, 1 foot. This beautiful little plant is profusely adorned with yellow flowers in early spring, and is well suited for the front of borders, and for rockwork. *G. purgans* is a very showy kind, and, as in the case of many species of *Cytisus*, forms a fine lawn tree worked on stems of the laburnum.

HIBISCUS SYRIACUS (*Althæa frutex*).—Height, 5 feet. There are few autumn-flowering shrubs so handsome as these, and they grow freely in any soil. There are many varieties with red, white, purple, and variegated flowers; some are single, others double.

LIRODENDRON TULIPIFERA (the Tulip tree).—Height, 60 feet. One of the grandest of park and lawn trees, but requiring considerable space. The leaves are large and curiously cut; the flowers, which are greenish yellow, of a deeper color inside, are produced in June and July.

MAGNOLIA CONSPICUA.—Height, 20 feet. This plant is usually placed against a wall, but in light loamy or peaty soils it thrives well in the open garden, where the masses of large white oval flowers make it a conspicuous object in early spring. *M. purpurea* and *M. Lennè*, the latter especially, are beautiful purple-flowered kinds. *M. Soulangeana* is also a desirable variety, the flowers being white tinged with purple.

PERSICA VULGARIS FLORE-PLENO (the double-flowering peach).—Height, 15 feet. We know not whether to admire these plants most as pyramids in the forcing-house or as standards out-of-doors; in both positions they are exquisitely beautiful. The double rose, double crimson, double white, and camellia-flowered are the best. A striped variety of great beauty was introduced from China a few years since, but the variegation has in many cases that we know of disappeared.

PHILADELPHUS CORONARIUS (the Syringa).—Height, 10 to 20 feet. This old-fashioned plant cannot yet be dispensed with;

it is indeed one of the most useful of shrubby plants. Among other kinds, *P. grandiflorus*, *speciosus*, *verrucosus*, and *Zeyheri*, are perhaps the best.

PRUNUS DOMESTICA FLORE-PLENO (the double-flowered plum).—Height, 20 feet. This is a useful early-flowering tree, and the same may be said of the cherry plum (*P. Myrobalana*). The double sloe (*P. spinosa flore-pleno*) is perhaps the most beautiful and useful of the plums, flowering early, profusely, and remaining a long time in flower. It is of smaller growth than the preceding, rarely attaining the height of 12 feet.

PYRUS SPECTABILIS.—Height, 30 feet. One of the most effective of spring-flowering trees. The flower-buds are deep red in April, changing to rose-color on expansion in May. Very hardy and free.

PYRUS MALUS RINGO.—Height, 10 feet. A beautiful medium-sized tree covered with pink buds, expanding white, edged with pink, in early spring. Very effective.

RHUS COTINUS (the Venetian sumach).—Height, 5 feet. The reddish feathery pedicels of this plant attract the attention of all observers, and are quite unique in appearance in the shrubbery and garden. Free, hardy, and highly ornamental. *R. typhina* (the stag's-horn sumach) is a singular-looking pinnate-leaved low tree, not without beauty.

RIBES SANGUINEUM (the red-flowering currant).—Height, 6 feet. One of the hardiest, finest, and loveliest of early spring-flowering shrubs; there are pink, red, white, and double red varieties, all worthy of universal cultivation. There are other species interesting enough, but hardly equal to the above for effect in ornamental planting.

ROBINIA HISPIDA (the rose acacia).—Height, 10 to 15 feet. A beautiful low tree, the branches of which are exceedingly brittle, and liable to be broken by the wind in exposed places. The flowers are rose color, produced in loose racemes from June to September.

RHODODENDRON VISCOSUM.—Height, 3 to 4 feet. Under this heading we class the azaleas of gardens; and where peat is of ready access, the Ghent azaleas are most desirable either in separate beds, or in the borders of the shrubbery. They are very showy and effective in early spring, the colors being

mostly yellow, buff, and orange, but there are also white, pink, and scarlet varieties.

ROSA (the rose).—Although roses fall naturally within our scope, space will not allow more than the briefest allusion to them. Standards in beds or lines on lawns, and dwarfs in beds or borders are equally in place. Their culture and lists of varieties are now matter of every day discussion.

SPIRÆA ARIÆFOLIA.—Height, 6 feet. This is one of the best, and perhaps the best, of the white spiræas; but *ulmifolia*, *Lindleyana*, and *prunifolia* are also very good. Of pink kinds we should select *S. bella*, *californica*, *callosa*, and *Douglasii*. All are hardy and free flowering, and will grow in almost any soil.

SYRINGA VULGARIS (the lilac).—Height, 10 to 20 feet. Among common flowering shrubs the lilac is deservedly a great favorite, and in addition to the old-fashioned sorts, *La Liberté*, *Dr. Lindley*, and *Charles the 10th*, are acquisitions. The Persian lilac (*S. persica*, 6 feet), and the Siberian lilac (*S. rothamagensis*, 8 feet), of which there are both red and white varieties, are also valuable where a lower growth is required.

VIBURNUM OPULUS STERILIS (the Gueldres rose).—Height, 10 feet. The beautiful balls of white flowers which this tree produces in spring give it a high rank among flowering shrubs. It thrives in the commonest soil, and should be planted freely, and cut into shape if it becomes straggling. *Viburnum plicatum*, of which the original tree is in these nurseries, and *Viburnum macrophalum*, are also of great beauty.

WEIGELA ROSEA.—Height, 4 feet. One of the handsomest of flowering shrubs, the flowers covering the branches with their rosy-colored blossoms in May. There are many varieties of this plant, all worthy of general cultivation; *amabilis*, *Stelzneri*, and *Van Houttei*, are perhaps the best.

KEYES' PROLIFIC TOMATO.

It is with great pleasure that we can announce at this early day the full confirmation of our description of this wonderful variety, which appeared in our March number, (p. 81.)

The announcement that a tomato had been produced which would ripen thirty days earlier than any other variety, appeared such an improbability that even the least sceptical in new things could not credit it. One of the best and most skilful cultivators, Mr. Peter Henderson of Jersey City, in a letter to us, dated July 8, upon the receipt of RIPE fruit which we sent to him from vines growing in the open air, writes us as follows, in regard to our assertion that it was thirty days earlier than any other tomato:—

“The extraordinary assertion that any tomato was thirty days earlier than another was enough to arouse all the scepticism of my rather sceptical nature. Now if I had told you that next season I would issue a rose of a blue resembling the color of *Salvia patens*, a verbena exceeding in golden hue the color of *Calceolaria rugosa*, would you have believed it without modification? I am afraid not. Still, in not doing so, I suppose you would only be showing good common sense; and for the same reason I refused to believe an assertion, which at that time I thought equally preposterous, but which now the evidence of my senses forces me to believe, only somewhat modified. Keyes' tomato will give you a world-wide reputation, for in Europe, where in most parts it can only be ripened in artificial heat, this ripening at a lower temperature will do away with that necessity.”

Mr. Henderson further speaks of the merits of the tomato, under date of July 8:—“I have been absent for a few days, but during that time I had further opportunities of seeing the new tomato, and, in all I have seen, am still more impressed with its great value. One merit that I had not observed before is, that *every flower sets fruit*, which is by no means the case with any other variety I have seen. Still, I do not think, from what I have seen, that it will ripen its *general* crop more than fifteen days earlier than the ‘New

York Early Smooth Red,' but if you had offered to wager me last fall, \$500 to \$1000, that it would have done that, I should have accepted the offer without hesitation. Its claims to earliness really astonished me beyond anything I have ever before seen; in fact I know no case where we have made such an immense 'jump forward' in earliness as you have done in the Keyes' Prolific tomato.

"I do not think that by sowing Keyes' tomato on the first of March, (the proper time) that it could be gathered ripe sooner than July 15, in this latitude. The ordinary sorts ripen from 1st to 5th of August—that is, the first single fruit, but there is no full crop until two weeks later. But to sum up, I think the Keyes' likely to be a great success—by its habit of growth it may be planted nearly twice as close as the other varieties, and in that way may be made immensely profitable as an early crop. Yours, respectfully, PETER HENDERSON, South Bergen, N. J., July 8, 1867."

Messrs. Landreth of Philadelphia, the well-known seedsmen, who know every variety and cultivate them in their extensive grounds for seed, also write us as follows:—

"Keyes' proves, as we think, a seedling, or derivative in some form, from the 'Extra Early' introduced by us, and so named many years ago. The foliage, though broader, and more robust, has the same habit, and the general character, clustering of the fruit, &c., clearly indicating its origin. We think it a VALUABLE acquisition, but it was an error to claim for it thirty days in advance of the Extra Early. It may be a week, and that is enough to give it value. Yours, &c., D. LANDRETH & Co., Bloomsdale, August 4."

Mr. D. Zingerbel of Needham has been supplying the market for weeks with Keyes' Prolific, the seeds of which were sown after the announcement of Messrs. Hovey & Co., in February, that they offered the seed for sale. He not only has had an abundance of fruit from the seedling plants, but the tops of the young plants, which he cut off and propagated from the cuttings, have been producing an abundance of fruit for a long time before August 12.

But our object, at the present time, is to detail a careful experiment made by an amateur, to test the exact earliness

of the Keyes' Prolific, rather than any other purpose, as its remarkable earliness will be apparent to every intelligent cultivator who has the plants before him.

Early in February seeds of the Keyes' Prolific, Tilden, the Cooks' Favorite, and Dreer's Extra Early were planted in pots in the greenhouse. They came up well, and were duly potted off, and removed to an old hotbed in March. Here they continued to flourish, treated in precisely the same manner, until the first week in May, when they were all turned out into the open ground in a light sandy warm soil. There were about sixty-five plants of each, and they were set out in rows, at the distance of eight feet, side by side. No frosts occurred in May, and they grew rapidly, the Tilden, the Cooks' Favorite, and Dreer's Extra Early spreading out and covering the ground with branches. Keyes' Prolific, on the contrary, was dwarf, compact and bushy, and almost at the root the flowers of the latter began to appear. Green fruit followed immediately, nearly every flower setting, and soon there were large clusters of a dozen or more; these were followed by other clusters, successively, all along the branches, completely covering the ground. By the middle of June they began to assume a yellow tinge, and on the 1st of July were red, and the 4th fully ripe. On that day we gathered fruit and sent them to Mr. Henderson, as above stated. From this time the sixty-five plants gave plenty of ripe specimens to supply a family every few days, and on the 12th of August HALF A BUSHEL was gathered.

We now go back to the Tilden, as that has been the variety with which the Keyes' has been compared. The vines began to flower a week or so after the Keyes', but no blossoms set, or but one or two, and no fruit larger than a walnut could be found on the whole row on the 4th of July, when we gathered the ripe Keyes'. Since then we have not seen any of the vines, but the amateur informs us that up to August 8th he had not gathered a ripe tomato, and only was enabled to find five or six on the whole sixty-five plants, on the 12th of August. Thus the first Keyes' was ripe July 4, and the first Tilden, August 8, making a difference in the earliness of the first tomato of THIRTY-FOUR days in favor of Keyes' Prolific.

When a half-bushel of the Tilden will be gathered we are now, August 19th, unable to state. The difference would appear to be full twenty days in the general crop. The Cooks' Favorite is a few days earlier than the Tilden. The first ripe fruit was gathered August 6th, and the first dozen, August 10th. This is an experiment, fairly tried by an enthusiastic amateur, to settle completely the doubts of himself and other friends who could not, like Mr. Henderson, believe the thing possible, only with the evidence of their own eyes.

As we get further information we shall communicate it to our readers, for we have a pride, as well as satisfaction, in bringing before the public new and valuable products, whether flowers, fruits, or vegetables. And, more than all, it is our intention, unless deceived by other parties, to state just what we believe to be the facts.

S I L E N E O R I E N T A L I S .

BY THE EDITOR.

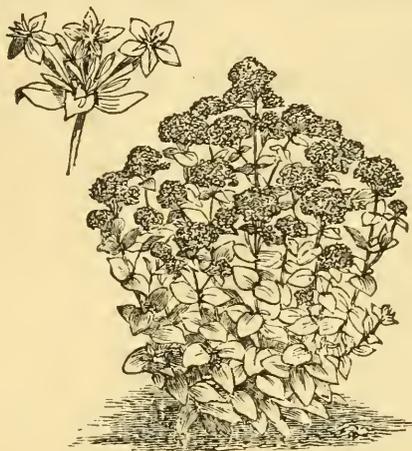
THE beautiful display of annuals by the Parisian seedsmen at the great Paris Exposition, the present season, and the attractiveness of the show, will undoubtedly revive, as it ought, the taste for annuals, which have been too much neglected in the rage for bedding plants.

We need not occupy space to detail the merits of many of the recent acquisitions, as they have mostly been noticed or described as they have been introduced. Notably, however, we may name the Double Zinnias, filling a place not before occupied by any of our annuals of similar style. Blooming before the asters, attaining a good size, and having flowers as large and as double as the dahlia, they produce a display during the whole month of August, which adds greatly to the effect of the flower-garden.

The double *Sanvitalia*, the double *Clarkia*, the *Tagetes signata pumila*, the dwarf *tropæolums*, the *datura*, and others which we have described or figured, are all, with many more,

fine acquisitions, and being of the easiest growth, and flowering all the season, give variety and decorative character to every garden.

A showy and effective annual of the same type as the above is the Oriental Silene, (*S. orientalis*, FIG. 9), which is the most showy of its class, having a compact habit, and every stem crowned with a corymb of very large delicate pink flowers, forming a mass of bloom of great elegance.



9. *SILENE ORIENTALIS*.

The seeds should be sown in the spring, and the plants have plenty of room, when they will branch abundantly, and bloom in perfection.

FLORICULTURAL NOTICES.

FINE SPECIMENS OF *LILIUM AURATUM*.—The Gardeners' Chronicle notices the flowering of two grand specimens of this lily, as follows: "A Nottingham correspondent describes one specimen:—'A few days back I saw in the collection of Archibald Turner, Bowbridge, Leicester, a specimen of *Lilium auratum*, which surpasses all preconceived notions of its beauty. The plant was some seven feet in height, and vigorous in proportion, so strong that the main stem had assumed what botanists call the fasciated form; that is, the flower stem had spread out flat, some two inches wide, and

upon this there were, at the least, forty flowers. If the plant, which is in fine health, but rather drawn, had sufficient strength to perfect the whole of the buds that have shown, some fifty or sixty will be brought to maturity.' This is indeed a remarkable specimen, far eclipsing any other previously recorded. We have since received the following account of another wonderful specimen of this lily, which is now in flower in M. McLeod's garden at Dalray, near Forres. Our correspondent says: 'I saw this extremely beautiful lily the other day, and may state that there are six stems from one root, the highest upwards of eight feet. The stems bear nineteen, eighteen, sixteen, eight, nine, and four flowers, respectively, making, in all, seventy-four. The flowers are all fully expanded, and some of them measure ten inches across.'" Our own specimens flowered well this year, producing seven flowers each, the stems growing five feet high. With good treatment we hope to come up to the fine specimens above noted, another year or two.

SUBTROPICAL GARDENING IN PARIS.—A correspondent, writing from Paris, 20 July, thus speaks of some of the plants used for bedding out:—Pampas Grass looks fine, isolated on the grass near the margin of a clump of trees. The Pampas is worth growing, for this purpose alone, even if it never flowered. Iresine pretty good in partial shade. Beds and borders of hydrangeas very fine indeed, and with more attention than they get in England. An immense mass of *Canna nigricans*, with edge of variegated *ageratum* is very imposing. *Clematis montana*, trained up the trees, has a charming effect. Beds of ferns, in shady places, are nice, and lines of white fuchsias are pretty. *Ferdinanda* is good. Some kinds of begonias are a total failure. A little way off single plants of *erythrina* look very striking. A bed of *Abutilon vexillarium* is very pretty and interesting, though not quite vigorous. *Colocasia odorata* is very fine and free and noble, especially when in the shape of old plants, where tall stems are employed. Isolated beds of bambusas are beautiful and striking, as are also *Acanthus lusitanicus*. *Delphinium*, pegged down among the phloxes is very good indeed. A large bed, having a groundwork of variously colored portulacas, and dotted with

Durantia Bumgartii, fol. var., has a charming appearance. Some other plants are noticed, but, as they had just been put out, they had not begun to make much show.

LANTANAS, AS SPECIMEN PLANTS.—M. Chaté, a Parisian cultivator, exhibited specimens at the Great Exposition. These were perfectly grown, about four to five feet in diameter across the head, and covered with pretty flowers, each plant having a clear stem a couple of feet high or so. The more delicately tinted varieties of lantana, grown in this way, look very well, and are worth attention as summer and autumn ornaments for the conservatory. Well grown through the spring, they may be placed in the open air in the end of May, allowed to grow away clearly, and come into flower about the end of July, when conservatory flowers are rather scarce. [We have often wondered why our skilful gardeners do not grow the lantanas as pyramids instead of the fuchsia, which does not stand the heat of the conservatory or the open air in summer. As an ornamental object they give more satisfaction than the fuchsia.—ED.]

NEW SPOTTED VARIETIES OF THE GLOXINIA.—The Eighth Series of the Paris Show, in July, was enriched with a large collection of extraordinary Seedling Gloxinias. They are as good as they are entirely new in style, and the admiration of all who saw them. This popular plant is, in fact, ennobled, and placed a step higher by their appearance. A few years ago, M. Vallerand, gardener to a gentleman at Bangival, raised a seedling, spotted in a way that reminds one of *Achimenes Ambrose Verschaffelt*, and from this all these exquisite varieties have sprung. If I say that some of them do not look like gloxinias at all, but like the flowers of a *dipladenia*, it may seem exaggeration, but it is nevertheless a fact; and as really good things are seen to spread, there will probably be, ere long, an opportunity of seeing them in England. No choice varieties of foxglove, or herbaceous *calceolarias*, ever seen, bear such handsome and delicate spotting, while the improvement in form is equally remarkable, the limbs of some erect varieties spreading out flat and waxy, till, in fact, it looks, as I have said, like a *dipladenia* in some instances. This is particularly the case with varieties

having a stain of rose at the base of each section of the limb, and which afterwards spreads out into a rosy suffusion towards the margin. Some varieties have the throat spotted; generally the throat is pure white, and the limb regularly spotted with rose or lilac; while a few are of a pure waxy white, and with a simple stain of rose, or purple, or blue tint, appearing at the base of each section of the limb; or the whole suffused with blue, in a peculiarly beautiful shade. But it is vain to hope to give you an idea of their beauty or color; suffice it to say, I have never seen it so refined and exquisite in any other plant than in some of the most recent varieties raised. When they get into commerce an increased stimulus will be given to the culture of the plant.

HIBISCUS SPECIOSUS.—This is a very showy species of the hibiscus, growing three or four feet high, the terminal branches producing racemes of very large crimson scarlet flowers. It requires to be wintered in the greenhouse, and repotted and grown in a slight bottom heat, or warm house, where it will bloom freely all the spring and summer, in the ordinary greenhouse, and, we doubt not, also in the open ground. The flowers are larger than the Chinese hibiscus, and more star-shaped, the petals being narrower. It is a very fine plant, and well worthy a place in every good collection.

947. *SYNADENIUM GRANTII* *Hook.* CAPTAIN GRANT'S *SYNADENIUM*. (*Euphorbiaceæ*.) Africa.

A stove plant; growing six feet high; with scarlet bracts; increased by cuttings; grown in light rich soil. *Bot. Mag.*, 1837, pl. 5633.

A vigorous and rather curious plant, allied to the *Euphorbias*, having thick fleshy foliage covering the stout stems, which attain the height of six feet. The flowers are inconspicuous; but, like the *Euphorbias*, are surrounded with scarlet bracts, which in this plant are very small, though brilliant colored. In large collections it will be desirable. We already have in our collection a plant which was given us, the origin of which is unknown, which we think belongs to this genus. The habit of the plant is slender, but it has the same foliage, only small, and the same scarlet bracts. It is a rather pretty plant. (*Bot. Mag.*, March.)

REVIEWS.

AMERICAN POMOLOGY. Apples. By DR. JOHN A. WARDER, President Ohio Pomological Society, &c. 1 vol., pp. 748. 290 Illustrations. New York: 1867.

THIS is the first volume of a work, long in preparation, upon American pomology. The author is well known as identified with the progress of Fruit Culture in the West; but the work is intended to be truly American in its character, and though especially adapted to the wants of the Western States, great pains have been taken to make it a useful companion to orchardists of all portions of the country.

As a work well adapted to the wants of the West, the author has accomplished a very acceptable task, but whether, as a real contribution to American pomology, it fills the place indicated by the title, admits of some doubt.

Twelve chapters are devoted to the subject of fruit-growing in detail. The intention of the author was only to describe the fruits of the country, but a request from numerous friends, to which he yielded reluctantly, induced him to alter his plan, and embody all the information at his command on the familiar and hackneyed topics which are discussed at every meeting of horticulturists all over the country.

The main feature of the work is the Classification of Fruits, that being, according to the author, "the great need of our pomology," and, as it appears, almost "a new idea to American readers." But its importance and growing necessity were considered sufficient to warrant the attempted innovation.

We certainly see very little that is new in this classification. Built upon that of German authors, or of Lindley and Hogg, so far as the apples are concerned, it has little or nothing scientifically new, and, like their systems, not much of practical value. If intended strictly for pomological writers it might help to identify kinds, but cultivators generally would, we think, be more mystified than enlightened in the attempt to study it out.

The great error, however, as a book of reference, is the absence of all authority for names. Instead of the proper

reference to previous authors to whom the author is indebted for many of the descriptions of fruits, he prefers to make a "general acknowledgment of the important assistance derived from many pomological writers of our own country and of Europe." This may all be very well, but we had rather know what the author has actually contributed of his own knowledge, that we may better appreciate his labors in behalf of American pomology. We have the record of other writers before us; and the value of this work will be estimated, not simply by the re-issue of what they have said, but by what the author has added of his own pomological information. The volume closes with a Catalogue and Index of Apples, giving size, origin, class, season, and quality. Would it not have been well, in this Catalogue, to have indicated where first noticed, or described?

Notwithstanding these defects, the volume contains a great deal of information upon the apple, which cannot fail to extend the culture of this valuable fruit, especially throughout the great West.

AMERICAN HORTICULTURAL ANNUAL, 1867. A Year-Book of Horticultural Progress, &c. Illustrated. Pamphlet, pp. 152.

THIS is the first of a series intended to enter upon an "unoccupied field," and form a kind of Year-Book, devoted to a Record of the Yearly Progress of Horticulture, to point out "our successes and our failures in the different departments."

The number of subjects embraced in the volume is quite too large to enumerate. Among the more noteworthy, however, are New Apples of 1866, New or noteworthy Pears, Hardy Grapes in 1866, Notes on Small Fruits of 1866, New Roses, tested in 1866, Rarer Evergreens that have proved of practical value, Hardy Herbaceous Perennials, New or less known Vegetables, &c. Much, or the greater part of this has appeared previously in our pages, but is here condensed for the use of those who like the rapid path to knowledge, and have no time or desire to obtain really valuable information. For this object the work is an acceptable addition to the redundancy of similar books.

Horticultural Operations

FOR SEPTEMBER.

FRUIT DEPARTMENT.

THE quantity of rain in this neighborhood has been unprecedented for August, and the gardens and grounds never appeared in better condition. Fruits have grown with great rapidity, and promise a good yield of fine fruit.

GRAPE VINES, in the houses to be forced early, will now have had abundant rest, and pruning should be done this month, and put in order for commencing forcing another month. Wash and clean the vines if there are any insects. Vines in the grapery and greenhouse will now have their crop mature, or already cut, and abundance of air should be given, night and day, to thoroughly ripen the wood. Stop the laterals occasionally. Vines in cold houses will now be ripening their crop, and will require plenty of air, as there is but little danger of mildew after this. Guard against cold dry winds, but give an abundance of air in all fine weather. Vines in the open air should be looked after; trim off superfluous wood, but do not expose the grapes to the hot sun.

STRAWBERRY PLANTATIONS may be made this month. Manure the ground well, and spade deep. Set the plants out carefully, and keep them well cultivated, and clear of weeds.

SUMMER PRUNING should be continued during the month. Pinch in all second growths to two leaves.

GATHER FRUIT in good season. Thinning should also be continued, that the main crop may be large and fine.

FLOWER DEPARTMENT.

The late rains have been highly favorable for bedding plants and annuals. The former have made a good growth, and with drier weather will make a grand display this month. If frost keeps off the season will be more satisfactory than usual. Look now after the houses, and see that the flues are in good order, and everything ready for housing the plants the last of the month, or as soon as there is danger from frost.

CAMELIAS will now be swelling their buds, and should be freely syringed once or twice a day. If they have been kept in a very shady position remove them where they will receive more sun, to well ripen the wood.

AZALEAS should be kept clear of thrips and red spider, by occasional syringing with "Tobacco Soap." Improve all leisure time to tie the plants into shape.

PELARGONIUMS should be repotted, if not already done. Shake out of the old soil and put into smaller pots. Keep in a close house or frame a few days till well rooted.

CINERARIAS should be propagated by dividing the old roots, and potting in light rich soil.

CHINESE PRIMROSES, for early blooming, should now have a final shift using light rich soil.

MONTHLY CARNATIONS, for winter blooming, should be potted this month.

PANSY SEEDS, for spring blooming, should be sown this month.

CHRYSANTHEMUMS, planted out, should be taken up and potted the last of the month.

HEATHS should be potted this month.

OXALIS, of all kinds, should be potted.

NEAPOLITAN VIOLETS should be potted this month.

HYACINTHS AND TULIPS, for early flowering, may be planted in September.

SALVIAS, and other similar plants, for winter blooming, should be taken up and potted.

BOUVEDIAS should be potted, giving them the protection of a close frame till well rooted.

CUTTINGS OF ZONAL GERANIUMS, VERBENAS, AGERATUMS, and similar plants, should now be put in.

HELIOTROPES should be removed to the house early, before cold, chilly nights occur.

ACHIMENES AND GLOXINIAS, done flowering, may be placed away on a shelf, underneath the stage

CALADIUMS should be dried off gradually, so as to thoroughly ripen the roots.

FLOWER GARDEN AND SHRUBBERY.

The fine weather has been very favorable, and the lawns are in fine condition—a carpet of verdure. Continue to roll and mow every fortnight.

LILIES, of the early flowering kinds, may now be taken up, or reset.

DAHLIAS will now be flowering freely, the late weather having been favorable. Cut away superfluous laterals, and keep the shoots well tied up.

PEONIES may be transplanted the last of the month.

RHODODENDRONS AND AZALEAS may be safely removed in September and October.

DAISIES should be removed to a frame, where they can be protected during winter.

CANNAS should be taken up before severe frosts.

ASTERS AND ZINNIAS, now flowering freely, should be tied up to neat stakes.

CARNATIONS AND PICOTEES, when well rooted, should be removed to frames, where they can be protected in winter.

NEAPOLITAN VIOLETS should be planted out in frames, in good rich soil.

EVERGREENS may be transplanted this month.

SUBTROPICAL GARDENING.

THE many descriptions and engravings we have given in our pages, of fine foliage plants, has undoubtedly indicated our interest in this class of vegetation, which is now so extensively used in France for garden decoration, and to a lesser extent in England. They have, in fact, changed the usual aspect of ornamental plantations, and the general employment of them has originated the term now well established of "Subtropical Gardening," not perhaps the best name, for many of the plants are by no means tropical, but one which, having been made use of, has become general, and perhaps is as distinctive as any other, for it certainly conveys the idea of a tropical vegetation, which it is the main object to imitate, and some of the most prominent of the plants are from warm and sunny climes.

In the Parisian gardens and public grounds the fine foliaged plants have quite taken the place of ordinary bedding kinds. The massiveness of their growth, the majestic aspect of their habit, the rapidity with which they attain large dimensions, and the ease with which they are kept over winter, and more than all their harmonious grouping with the heavy foliage of trees and shrubs, by which picturesque effects are more speedily produced, have justly given them a preference over the low flat uniform masses of herbaceous and similar bedding plants.

This common use of showy plants in the French gardens has consequently been imitated by the English, and particularly in and around London, where the climate is warm and more favorable than to the North. At Battersea the whole ground has been devoted to this purpose, and the effects have been so marvellous that similar plantations will be made wherever they will succeed. But even at Battersea unusual pains were taken to counteract the low temperature of the earth, by filling in the beds with brick rubbish for drainage, and raising the surface so as to obtain as much of the sun's

rays as possible. With all these aids a moderate degree of success has been attained, and this garden has been spoken of in the highest terms by competent judges. The Gardeners' Chronicle, of a late issue, thus notices the appearance of the grounds in this cool and moist summer:—

A ramble through the flower garden at Battersea Park, where the arrangements are always so admirably carried out by Mr. Gibson, is one of the annual floral treats of the metropolis, and one to which we always look prospectively with confident anticipation of seeing something good, and retrospectively with the most lively recollections of pleasurable anticipations fully or more than fully realized. This year we must confess to have started on our ramble with some misgivings about Subtropical Gardening, at least in certain of its phases, but they were soon dispelled by the bright pictures of exotic beauty which met the eye in every direction.

Subtropical gardening has indeed this season been put to a severe trial, but it has firmly held its ground. The moist sunless summer, and especially the chilly and often frosty nights, have been all against it; but notwithstanding these, and other adverse climatal conditions, we were glad to see that the effects produced are very little different from, and, as it appears to us, scarcely at all inferior to, those which have been realized in the more favorable seasons which have occurred since the movement was first inaugurated. Ferdinandas, Polymnias, Wigandias, Uhdeas, and such-like grand-leaved things, are growing freely; and though they have not attained the stature of other years, they have still sufficiently advanced beyond the range of growth presented by the ordinary vegetation of flower beds to yield the full general effect of which their stately forms are capable; while, on the other hand, the dripping season seems to have suited certain things, such as palms, tree ferns, dracaenas, and aralias, exceedingly well, and charming indeed is the effect presented by one or two specimens of *Seaforthia*, as seen springing from the velvety turf, and by a growth of tree ferns in a secluded nook, where the Bird's-nest *Thamnopteris* is scattered about beneath, as if it had sprung up self-sown. Cannas are this

year in all their glory, and in a group of the variety known as "limbata," the roots of which have passed two winters in the beds where they are now growing, they cannot measure less than twelve feet in height, presenting a grand mass of its broad and healthy foliage, waving with every breeze, and lit up with a profusion of its characteristic flowers.

Amongst the bright gems of former years, which this season must somewhat suffer by comparison, may be mentioned the charming setting of the ruby *Coleus Verschaffeltii*, in its border of silver *Centaurea*, a group which has usually been no less remarkable for its chaste and quiet loveliness, than for its perfectness of finish. The group is, indeed, there again, and the colors are very fairly developed; but *Coleus* has proved intractable as to growth, and the finish of perfectly balanced development is wanting. But then, to compensate for the less perfect condition of a few groups of tender subjects such as these, there are new groups and new effects brought out; and one of these is so startling in its quaintness, that we give it a foremost place amongst the happiest of Mr. Gibson's ideas. It seems hardly possible at first sight to realize that one is looking upon a group of living plants, so strange and unfamiliar do their forms appear in this new association. Let the reader picture to himself a circular raised bed of moderate diameter, five or six feet perhaps, having a large plant of *Echeveria metallica* in the centre, and six smaller ones standing at a little distance round about it. Then, close to the central plant, and fitting in beneath its leaves, a ring of single-stemmed plants of *Sempervivum arboreum*, other plants of which again alternate with the smaller *Echeverias*, but stand a little nearer the circumference. These quaint-looking fleshy forms of foliage, the green of the *Sempervivum* contrasting strongly with the glaucous, coppery-tinted, metallic hue of the *Echeveria*, stand up on little elevations in prominent relief, and the surface of the bed is hollowed out between them, and entirely clothed with the little close-growing *Sedum glaucum*, the circle being neatly margined with a broadish line of *Sempervivum montanum*, and outside that with one composed of a small, tufted-growing, encrusted *Saxifrage*. The bed thus filled presents a marvellous appearance, so

original is it in conception, so perfect in design and execution, wanting altogether the elegance we are so apt to demand in flower-garden groups, and yet most fascinating in its entire novelty of character and its striking associations of form and color. It is the crowning effort of 1867 at Battersea.

This is highly encouraging information to American cultivators, as it shows how much can be done in our quite tropical summer, compared with either Paris or London. It is we do not think too much to assert that, from June to September, almost any tropical plant will flourish as well in the open air in our summers as in its native clime. To find that so much success has been obtained in a climate where Indian corn or tomatoes will not ripen, or melons can be perfected in the open air, is surprising. Our own experience for two or three years, during which period we have grown palms and other tropical plants in the open garden, shows that astonishing results may be secured by devoting our attention to the "Subtropical Garden." Beds of huge cannas, ten feet high, bananas, with their huge leaves, caladiums, wigandias, and many others are now in our grounds, the middle of September, magnificent specimens, presenting masses of the richest foliage, "waving with every breeze," and the cannas "lit up with a profusion of its characteristic flowers."

We speak of this style of gardening now, though perhaps unseasonable, to remind all who have more or less of the plants suitable for the purpose, that every root should be carefully preserved in a warm dry place for another year. No greenhouse is required, but simply a dry cellar, where the frost does not penetrate. Here they keep well, and with the return of the season we shall have more to say upon the best method of proceeding, and the most desirable plants to produce the finest effects.

THE PUBLIC GROUNDS OF BOSTON.

BY BLAXTON.

BOSTON, so long accustomed to listen complacently to the praises of its *Common*, as beyond all question the finest public ground in America, should now—with its newly acquired *rural* territory—no longer remain content to live in this respect upon the reputation of generations past; but should be careful to lose no time in retrieving its former enviable reputation of being better provided than any other American city with public pleasure-grounds. The public grounds of Boston are now entirely outranked by those of New York, Philadelphia and Baltimore; and quite equalled by those of Washington. St. Louis has a park, in prospect—the gift of one citizen—of some two hundred acres; and we shall doubtless continue to hear of other of our sister cities, taking steps to secure this most beneficial and delightful feature of a great town.

The men of Boston are not wanting in public spirit, and almost every other metropolitan want is supplied to this fair city except the blessed boon of an ample tract of the beautiful region just inside the *old* Norfolk boundary, devoted forever to the enjoyment of the public, and, secondly, a free gallery of paintings and sculpture. I place the gallery last because its gems of art can be collected at any future time, as well as now;—whereas every day's delay diminishes the chance of the most suitable choice of ground for the park, and enhances its commercial value. Moreover, the park is a more useful and important public benefit than the gallery, since it is a powerful agent as well to strengthen the body as to refine and elevate the mind. But the importance of a *Park* for Boston is not generally felt. “We have our beautiful *Common* and the *Public Garden*, let us therefore with be content.” Such an answer to the question would be less unwise, were the *Public Garden* still open to the Back Bay and the Western breezes, or could it be proved that what was a sufficient common recreation ground for a city of fifty thousand inhabitants, is able to meet the wants and sup-

port the dignity of a city rapidly rising to a population of five hundred thousand. One acre of *park-ground* to every one thousand inhabitants is surely not too liberal a provision; and therefore, Boston needs a park of three or four hundred acres: for with the new through lines of communication with the West and the harbor improvements, and with additional space to invite population and to extend its good government over, it can hardly be doubted that Boston will continue to increase in population and wealth proportionately with the growth of the nation. The Common and the Public Garden must certainly enable us ever to boast of a remarkably fine down-town or mid-city open area, and therefore far be it from us to depreciate our present provision of public grounds; but although compared with "Union *Park*" at the South End, and with many a little enclosure in this country which is ridiculously sought to be dignified with the title of "Park," Boston Common may not improperly be called a small park,—yet compared with the larger open space with which we hope Boston may soon be endowed, its old familiar name is much more appropriate and not too modest. A park was originally a reservation of sufficient extent to preserve herds of deer in their natural habits, and to afford the amusement of killing them by the chase. A public park, properly so called, should give a good *idea* of such extent, and thus of the "open country," with hill and dale, if possible, and naturally growing shrubs and trees, and naturally flowing and expanding streams. If an American city possesses within its territory a tract of comparatively open ground having these natural advantages, it would commit a deplorable mistake in not securing it for its park—its common pleasure ground.

Without doubt it is now possible for Boston to obtain a park of great natural beauty; which although less extensive than the Central Park, and far less expensive in the necessary outlay for planting and adornment, will yet be far more charming to the eye of true taste and may be capable of affording quite as much enjoyment to the mere pleasure-seeker; and in addition to the Common and the Garden, will enable us to fully redeem our former foremost rank in respect to public grounds.

Baltimore and Philadelphia have both wisely and tastefully seized upon their most naturally attractive sites for their parks. Let us show equal wisdom and good taste in choosing the ground for our new park, and we shall delight in the contrast from the Common and Public Garden, which can neither of them gratify a craving for the sight of a natural group of trees, or a ledge of rock, or a bit of water not surrounded with a granite curb-stone:—the originally graceful undulations of the former have been abominably deformed, and its only nature-planted tree is shattered and well nigh gone: its westward view, too—once its peculiar charm—with the Brookline hills, the Charles and the sunset—is now lost. The Public Garden, which afforded us so admirable an opportunity for the exercise of either good or bad taste in a city garden, makes a fine display of contorted curves, a few rare shrubs and flowers, a piece of water hardly equalled in Europe or America for ugliness, and—our “Bridge of Size.”

THE PRINCIPLES OF ORCHID CULTURE.

FROM THE GARDENERS' CHRONICLE.

THE Botanical Congress held at the International show at Paris, in August last, discussed a variety of subjects, and papers were read before it by botanists and cultivators. Robert Warner, the successful orchid grower of London, contributed a paper under the above heading, viz., “The Principles of Orchid Culture,” and coming from one who has been so long interested in their growth, and made their habits a study, it forms one of the most valuable papers upon this important subject. Important because, without being diffuse, it states in the briefest manner the great principles which are to be observed in the treatment of these beautiful plants.

To enter into detail would require a volume, yet the skilful cultivator will understand from Mr. Warner's paper much that he might have written, and the inexperienced will be saved from error by following the rules which he has laid down.

Orchids are as yet but little cultivated in American collections ; yet there are a few real lovers of these plants, and they are destined, ere long, to be cultivated much more extensively than at present. Mr. Warner's paper will therefore be read with interest by those who are growing orchids, as well as by those who are intending to add them to their collections :—

It will be evident to those who have made the culture of orchids their especial study, that the general principles laid down in the following remarks have in some cases to be modified. It is, moreover, certain that such deviations can only be made by those who have had considerable experience in growing orchids.

It is equally certain that any one following well defined rules, when commencing any particular study, will be able to experiment with a fairer prospect of success than if he had begun without any settled plan of action.

It is indispensable that the orchid houses should be of a size and shape suitable for the sections proposed to be cultivated. For the northern countries of the continent of Europe, double-glazed houses are almost a necessity. In England they are not so essential, for the cold of its winter is less intense. In Italy they are not required, there the difficulty to contend with is the heat of summer, rather than the cold of winter. The width of the houses should not be less than ten feet or more than eighteen feet clear inside, the former should have one path four feet wide down the middle, and the latter should have a stage in the centre of five feet, with a path on each side three feet six inches, and side stages each three feet wide.

Houses for orchids should be low rather than high. The narrow house should not exceed seven and one half feet in height in the centre, and the wide one not more than ten feet six inches. Plenty of ventilation should be provided, both at top and bottom, but chiefly at top, and all openings should be fitted with perforated zinc, to keep out flies and bees, and also to perform the office of respirators. Good but not too thick shading is necessary. The heating power of the boil-

ers and pipes should be fifty per cent. more than is wanted for every-day use. All rain-water falling on the roofs should be collected into tanks within the houses, which tanks should be so placed that the water may soon become of the same temperature or even ten degrees warmer than the air of the houses.

For ordinary collections it will be generally sufficient to build two houses, one for the East Indian and another for Mexican and Brazilian species; for those requiring cooler treatment will do well in any low grapery where only sufficient fire-heat is used to keep out frost—the vines being trained rather thinly, so that only one layer of leaves shall come between the glass and the orchids. The details of cultivation of particular species are best described in Mr. B. S. Williams' "Orchid Manual."

I now come to the the time when purchases are to be made, and the first rule I lay down for beginners is,—never buy a diseased or weakly plant.

The second rule is, let all orchids, like other plants, enjoy warmth and some moisture during their growing season. It is quite a mistake to suppose that what are termed cool orchids are any exception to this rule—the chief difference being that they require a longer season of rest than others.

This brings me to the third rule, which is one of the most important, viz., let all orchids have a good season of rest. The cooler the climate of their natural habitat the longer season of rest they require. Some of the East Indian orchids require but little rest, but even these must have some, if plenty of flowers are wanted. The way of resting orchids varies considerably. With some, coolness of temperature induces rest, in others, the comparative absence of moisture; and, again, there are some that cannot be made to flower unless nearly burnt up by the direct rays of the sun.

The fourth rule is, let plenty of air be given,—a circulation of air at all times is desirable, even in winter; whether the air given should be hot, or merely warm, depends on the section grown, but in all cases draughts of cold air must be avoided.

The fifth rule is, let the utmost care and attention be given

to keep the plants free from all insect enemies, whether they attack the leaves by suction, or eat the roots, young growths, or flowers. Orchids are not more attacked by insects, than the rose, and some other beautiful garden flowers.

If the above rules are well followed success is certain, and in many cases the bulbs and leaves will be larger and stronger, and the flowers better and more numerous than in their native countries. It must, however, be borne in mind that orchids will sometimes die in spite of every care. The members of the human race who can tell the doctors how and where they suffer do not live long, and even an oak tree, though it may live a thousand years, dies at last.

POMOLOGICAL GOSSIP.

NEW STRAWBERRIES.—The new kinds, introduced this year, are more numerous than usual. What their merits will prove, remains to be ascertained; we notice a few of them:

NICAINOR.—A seedling of Messrs. Ellwanger & Barry, which was exhibited at the meeting of the Western Fruit-growers in Rochester, in June. It has been fruited six years, and pronounced by Ellwanger & Barry as a decided acquisition to the list of market strawberries. Plant very hardy and vigorous, surpassing, in this respect, every variety they have tested. It commences to ripen a few days before the Early Virginia, and continues up to the latest. Fruit hardly medium size, about three to three and a half inches in circumference, very regular and uniform in size, roundish conical, bright scarlet, and more firm and not so acid as the Wilson.

PERPETUAL PINE.—From France. It is stated by M. Gloede, the originator, to be “a real perpetual large fruited strawberry, of the Pine class, which, during three years of culture, not only bore an abundant crop in spring, but continued flowering and fruiting till late in the autumn.” It promises to be valuable, if a true perpetual kind.

CHARLES DOWNING.—A seedling, raised by J. S. Downer of Kentucky, from the Downer's Prolific. It was exhibited in New York the past season, and was commended by some of the committee, and by Mr. Downing, who thinks it will prove an acquisition. It is described as enormously large, twenty-eight berries weighing one pound. Solid, firm enough for market, scarlet, and of the finest flavor. The great vigor of the plant enables it to mature all its fruit to a large size. The only reason we have to doubt the statements of its value is the fact that it is called "enormously large," twenty-eight berries weighing a pound, when only twelve of Admiral Dundas, or fifteen or eighteen berries of the Hovey, weigh just as much as twenty-eight of this variety. If the other statements are like this its value is questionable. Twenty-eight berries of the Hovey fill a quart box.

DR. NICAISE.—This is a French variety, raised some years ago, and now first introduced. It is described in the Catalogue of M. Gloede as a large fruit, orange red, and of "mediocre" quality. Vines vigorous, moderately productive, and early. In Western New York it has borne very large fruit, measuring six and a half inches in circumference, from plants set out in September, 1866.

The newest varieties of foreign origin are as follows: Boule d'Or, Baron Deman de Linnick, Carniola Magna (De Jonghe), Kate, La Paysanne (De Jonghe), Sabreur, and several others.

KITTATINY BLACKBERRY.—We had an invitation to visit the Kittatiny Raspberry Plantations in New Jersey, from Mr. E. Williams, which we regret we were unable to accept. The united testimony of the gentlemen who made up the party, however, was, that the Kittatiny was "a first class berry."

THE SALEM GRAPE.—One of the seedlings of Mr. Rogers is stated to be the best American grape. We hope we may have an opportunity of testing this the present season, before accepting the statement. So far, we have been unable to find any one who has ever seen or tasted the grape. Who the "judges" are who have pronounced it the "best" we are not informed. Some cultivators have stated that it was the same as No. 22, which is a grape so much like No. 4 that it is difficult to distinguish them.

MADRESFIELD COURT BLACK GRAPE.—This is the name given to a new foreign grape recently exhibited before the Royal Horticultural Society of London. It is described as follows:—

This splendid new grape was exhibited to the meeting of the Fruit Committee of the Royal Horticultural Society on the 20th of August, and was most deservedly awarded a first class certificate. The bunches exhibited weighed from one and a half to two pounds each; they were beautifully and regularly grown, and quite of the same form as those of the Muscat of Alexandria, *i. e.* long and tapering, and well shouldered. The berries are large, longish, oval, like those of the Muscat, jet black, and covered with a fine bloom, like that on the fruit of Black Alicante. The stalk of the bunch is rather fine, erect, and of a reddish purple, that of the berry is stout and warted. The skin is tough and membranous; the flesh is firm and very juicy, rich and excellent, and has a distinct Muscat flavor. The leaves, which are bristly, deeply lobed and serrated, have reddish stalks and midribs like those of the Esperione.

This fine seedling was raised by Mr. Cox, gardener at Madresfield Court, Great Malvern, who has kindly furnished the following information respecting it:—"The grape in question," says Mr. Cox, "was raised some five years ago, and was the only one of a quantity of seedlings, which after fruiting, I considered worth saving. The parents were Muscat of Alexandria and Black Alicante, crossed both ways. I am therefore in doubt as to which kind produced the seed from which the present seedling was raised. The plant is of robust growth, and short jointed; the pip is prominent, and rather more pointed than that of the Muscat. The fruit sets as freely as that of the Black Hamburg, and ripens a fortnight later than that variety, and a like period earlier than that of the Muscat of Alexandria.

Judging by specimens of this seedling, which have been exhibited during the past two seasons, it promises to be one of the finest grapes yet introduced. For flavor it is nearly or quite equal to the Muscat of Alexandria; in appearance, size, color, and form it is all that can be desired; and there is a

firmness about the bunch, like that which belongs to the Black Hamburg, that betokens a fine constitution, and capability of being grown to a large size. The stout stalks of the berry, and its tough leathery skin, are also sure indications of its good keeping qualities. Of all the grapes in cultivation, Mrs. Prince's Black Muscat comes nearest to it.

GOLDEN HAMBURG AND MUSCAT HAMBURG GRAPES.—The excellence of these new grapes is shown, if any more testimony is needed, by the following notice:—At Danesbury, near Welwyn, these occupy the same house, and each is heavily laden with a most excellent crop. The Golden Hamburg, a truly “royal grape,” is a picture of luxuriance, bearing from sixteen to eighteen bunches upon a vine, each averaging some four pounds, the berries being of that pale yellow color which is so suggestive of crackling luxuriousness. The Muscat Hamburg is, if anything, more heavily laden than the Golden, individual bunches weighing, upon an average, from three and a half to four pounds. In form the bunches are short, but they are widely shouldered, and the berries are so freely separated as to suggest a capacity for long keeping. The Muscat aroma is as distinctly appreciable as the berries are otherwise Black Hamburg like in appearance; and the vines are capable of bearing a very heavy crop, with no signs of exhaustion.

COMPARATIVE TRIAL OF TOMATOES.

BY THE ROYAL HORTICULTURAL SOCIETY.

A late number of the Gardeners' Chronicle contains a report of a trial of the different kinds of American tomatoes, which just now, when there is so much interest felt in the new kinds, and the eagerness to get at their real value so great, that this report is particularly important at this moment. The report is as follows:—

The great interest which appears to be taken in America in the cultivation of tomatoes, and the numerous varieties

mentioned in their garden publications, suggested that it would be desirable to institute a trial of the different varieties at Chiswick. Accordingly, in the spring of the present year a large collection of varieties was procured from Messrs. Thorburn & Co. of New York, and grown for comparison with the sorts heretofore known in England. They have all been grown and fruited in pots under glass, and are really very handsome and ornamental when cultivated in this manner, the cherry and small-fruited sorts especially making really beautiful decorative plants.

The earliest variety is the Red Cherry (syn. Cherry-formed), the fruits of which are round, red, about the size of cherries, and borne in clusters of from six to ten fruits in great abundance. It forms a very handsome plant. The Yellow Cherry (syn. Small Yellow) is the same as the Red Cherry, except that the fruits are yellow.

The Pear-formed (syn. Pear-shaped) has the fruits from one and a half to two inches in length, red, of the form of a small pear, and borne in clusters, in great abundance. It is very handsome.

The Yellow Plum (syn. Plum-formed) has the fruits small, yellow, oval in shape like a damson, and very handsome.

The Round Red (syn. Extra Early Red, and Sims' Mammoth) is a few days later than the foregoing; the fruits are red, roundish, ovate, and smooth, about the size of a Washington plum. It is very prolific.

The Large Red Italian (syn. Orangefield) is the earliest of the large-fruited sorts; it is very dwarf and prolific, bearing fine fruit within six inches of the ground; the fruits are very large, red, corrugated, or ribbed. It is an excellent variety, and one of the best in the collection.

Keyes' Early Prolific is a tall-growing variety, with the leaves much more entire, and of a lighter color than in any other of the sorts. The fruit is medium-sized, pale red, corrugated, somewhat later than the Orangefield, and very productive. It is altogether a first-class variety.

The Grosse Rouge Hâtive is later than the Orangefield, and a stronger grower, but a fine and true variety.

The Great Mammoth (syn. Large Red) has smaller and more finely cut leaves.

The Large Smooth Red is synonymous with Powell's Prolific.

The Tilden (syn. Red Valencia Cluster, Lester's Perfected, New Giant, and Feegee Islands) is a strong-growing variety, much praised in America. The leaves are deep green. It is late, and not so prolific as the others.

The Large Yellow is the same as the Common Large Red, except that it has yellow fruits.

The Tomato de Laye (syn. Grenier, Upright or Tree Tomato) is of a stiff erect habit of growth, and will stand without stakes. The leaves are deep green, and the fruits are large, and slightly corrugated; but it is very late, and not suited for cultivation in this country, excepting in exceptionally warm seasons.

The Whortleberry tomato proved to be nothing more than the little black-fruited *Solanum nigrum*, a weed of our gardens.

In this report there are three statements which are very important:—

1st. That the Keyes' Early Prolific is "somewhat later" than the Orangefield, which is "the earliest of the large-fruited sorts." 2d. That the Keyes' is "altogether a first class variety." 3d. That the Tilden "is late, and not so prolific as the others."

When it is recollected that the Keyes' was not offered for sale until February last, and that after that period seeds were sent to England, which could not have been received there till nearly or quite March 1, and that the plants ripened fruit so abundantly that the above report was published August 31, it will be apparent that the Keyes' is a wonderfully early variety. Reports have reached us from all quarters in regard to its earliness. Mr. C. Downing, who annually makes careful experiments, states that it is "ten days earlier than any other." A writer in the Wisconsin Farmer says it is "seventeen days earlier than the Feegee," and Mr. Reihl of Alton, Ill., states, under date of August first, that it is "earlier than the Tilden or Brill's, and much more productive, and he prefers it for the market."

But we need not multiply evidence when all who wished to

have the earliest tomatoes, and plenty of them, have been perfectly satisfied with the great advance made by Mr. Keyes in his Early Prolific.

In regard to the Orangefield, an English sort, we have it now growing freely, and it is later by two weeks or more than the Keyes', showing that in open air culture it will not maintain the character given in the report. It corroborates what Mr. Henderson stated, that the low temperature at which Keyes' will ripen, renders it particularly valuable in England. It is undoubtedly owing to the cool, wet season, that the Keyes', in some localities in New England, has been later in ripening than last year. The vines have grown with great luxuriance, while in the South and West, where the season has been dry, it has proved all that Mr. Keyes stated in regard to its earliness.

WILD FLOWERS.

BY WILSON FLAGG.

SOME flowers are interesting because they are rare; some because they are common and familiar; some attract our attention because they are large, and others because they are small. We are obliged to confess that we are in the habit of admiring opposite qualities in very similar things. The Pineweed (*Sarothra gentianoides*) is interesting on account of its minuteness. We meet with it in dry pastures and roadsides, usually on a thin and meagre soil; for in a fertile soil the luxuriance of other vegetation overshadows and destroys it. Its chance for life exists only in those sterile places where plants of larger growth are starved down below their ordinary standard, or entirely extirpated. Then does this little plant obtain both freedom and space. The Pineweed never fails to attract attention by its multitudes of little starlike flowers covering each plant like golden spangles. On first beholding it, it seems to have no leaves, and reminds us of an *Equisetum*. The flowers soon prove that it is not a cryptogamous plant; and we find on examination certain little scaly appendages,

lying closely to the stem, which is as green as the leaf. The branches are numerous and many times divided. After the flower has perished, it is succeeded by an oblong red capsule, so that the plant is as pretty with its red fruit as with its yellow flowers.

The *Neottia* genus is represented in our fields by several species, which would not be readily distinguished by a careless observer. The English name of *Ladies' Traces* seems to have reference to the silk bindings attached to a lady's slipper, and which she winds round her feet and ankles. The spiral arrangement of the flowers, especially of the *Neottia gracilis*, might have suggested the name. The flowers of each species are purely white, fragrant like a hyacinth, in most of them spirally arranged and in some turned downwards. The *gracilis* is found early in dry lands, the other species are later and in low lands.

One of the brightest ornaments of the meadows in August is the Spiked Willow Herb (*Epilobium spicatum*), its tall spikes of purple flowers rising above the tallest grasses. Bigelow describes the flowers as blue at one time, and afterward as light bluish purple. Blue seems to me to form a very small part of their hues; but they may vary in color in different localities. The Willow herb remains a full month in flower, new flowers being constantly developed near the top of the spike, as those on the lower part fade. This is the only showy species in the vicinity of Boston, and the only one that would be valued as a vase flower.

The *Rhexica virginica*, called, at the South, Deer Weed, appears at the same time with the Willow herb, and though not so tall, is equally conspicuous for the beauty of its flowers, which are nearly crimson, with bright yellow anthers. These flowers are seldom sparsely scattered over a field, but are found mostly in assemblages occupying beds of considerable size, and attracting attention by their brilliant colors. The stem of the plant is square with winged angles, and of a reddish hue. The leaves of the same hue are hairy and the whole plant has an acid taste like woodsorrel.

The *Tree Primrose* (*Oenothera biennis*) is a plant that deserves more attention than it commonly receives. Many of

the genus are very beautiful. This species, so common by all our waysides, is as remarkable for the beauty of its flowers, which are of a pure sulphur color, and finely scented, as for the ugliness of its stalk, leaves and branches. One cause of the neglect bestowed upon this plant, is the habit of opening its flowers only after dewfall, or perhaps earlier in damp weather. Hence the name very generally applied to it of *Evening Primrose*. In this habit it also resembles the *Marvel of Peru*, (Four o'clock); also in the shape of its flowers. I have seen rows of these plants growing spontaneously by some rustic way-side, that made a very brilliant display of flowers about two hours before sunset.

The *Gerardia*, a genus of plants named in honor of John Gerard, an old English botanist and florist who first introduced them into English gardens, contains several very showy species that ornament our woods in August and September. One of the most conspicuous is the *Yellow Gerardia* (*G. flava*.) The plant is spreading and bushy, about a foot in height; the flowers large and yellow, and shaped like those of the *Foxglove*, which is a sort of horn or trumpet shape. Hence the name of *False Foxglove* often applied to the genus.

Another very common species in our woods is the *Bushy Gerardia* (*G. pedicularia*) deriving its Latin name from the resemblance of its leaves to those of the common *Pedicularis* (*Twistweed*.) The flowers of this species are very elegant in their structure, with yellow corolla approaching to orange. All the species that bear yellow flowers turn black in drying, stalk, leaves and flowers, and are seldom found growing outside of woods.

The neatest and most beautiful of the *Gerardias*, that grows in this vicinity, is an annual, with purple flowers (*Gerardia purpurea*). It is common in open and moist grounds, avoiding the woods, but thriving well in their vicinity. The whole plant is small, hardly more than four or five inches in height, with flowers about the size of those of the *Hedge Hyssop*. The perennial species with purple flowers that grows on the salt marshes is scarcely to be distinguished from the annual. Its leaves and stalk, how-

ever, are more fleshy, and its flowers more frequently spotted inside than those of the annual species.

The fourteenth class of the Linnæan arrangement contains a great proportion of what have been called personate flowers. The Mints, the Hyssop, the Gerardias and Snap-dragons all belong to this class. Of the Snap-dragons (*Antirrhinum*) our soil produces no very elegant species. The Canada Snap-dragon (*A. canadense*) is too minute to attract attention. It is a very slender annual, bearing its flowers in a loose terminal cluster, very small and light blue, with a slight glow of pink. It is abundant by roadsides, and sometimes makes a considerable show by growing in dense assemblages in the meadow. The other species has the vulgar misfortune of being yellow, commonly known as Toadflax (*A. Linaria*). This is common enough to be a pest. Still it has sufficient beauty to be admired, were it not for the rank, disagreeable odor that issues from the stem of the plant when broken. Bigelow thus explains the origin of the generic name of this class of plants: "The mouth of the flower is closed with a protuberant palate from the under lip, and gapes open upon lateral pressure, a character which has given the genus the name of *Snap-dragon*."

The Monkey Flower (*Mimulus ringens*) is worthy of attention, not so much for the beauty of its flowers as for the handsome appearance of the whole plant. The stem is erect and smooth, with opposite leaves, ovate and serrate. The flowers give the name to the species, having the upper lip of the corolla reflexed at the sides, and the lower lip, consisting of three lobes, much larger, giving a sort of grinning expression to the flower. The corolla is of a pale blue with a slight tinge of red. This species is conspicuous in wet meadows in the month of August.

Another remarkable specimen of the personate flowers is the Snake Head (*Chelone glabra*). It is not uncommon by brooksides and in wet grounds, and attracts attention as a botanical curiosity, rather than a beautiful flower. "The corolla is large, white, inflated, contracted at the mouth, not unlike the head of a serpent; the lower lip in three small segments, with two woolly stripes within." The name of the

plant is indeed quite significant of its general appearance, the flower resembling the snake's head, being at the termination of a long green stalk—three of these flowers often giving it a sort of gorgon-like aspect.

We must not overlook the *Prunella* (Self-heal) while treating of the personate flowers. Eaton says the name is a corruption of *Brunella*, a disease in the jaws and throat which it is said to cure. It is also called *heal-all*. It is remarkable how great a number of *panaceas*, if we judge by their names, are found among plants which are perfectly innocent of all bad qualities, and perfectly neutral in their remedial properties. Yet where can you find any really efficacious plant bearing any such reputation? Is this any reflection against the common sense of mankind? Or is it a proof that physicians know nothing? It would be most popular to adopt the latter conclusion, but the former is the most philosophical.

GENERAL BANKS PEAR.

BY THE EDITOR.

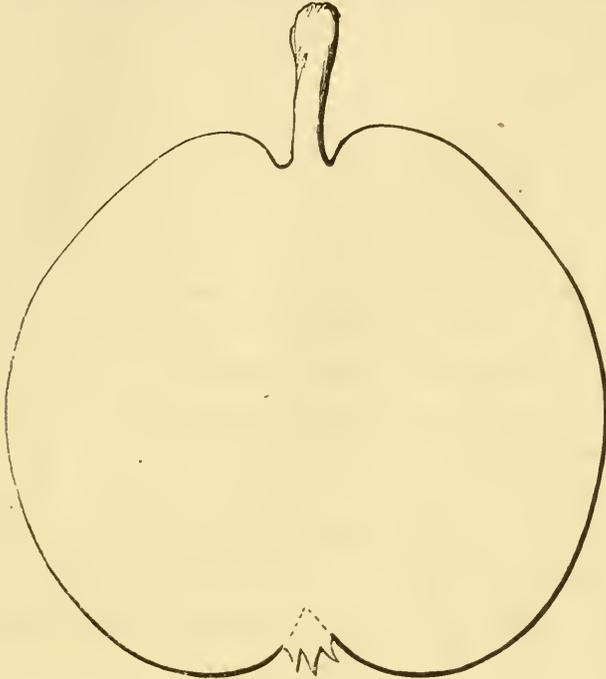
SOMETIME since we gave a brief account of Dr. Shurtleff's seedling pears, and we had previously figured one of his most promising varieties—the President.

The Doctor has sent us three or four of his early varieties, which fruit in August, and, although excellent pears, we have not become familiar enough with their qualities to speak of them with the confidence which we can now of the Gen. Banks, (FIG. 10). This appears to be a meritorious seedling, belonging to the high-flavored or Bergamot class, and having something of the character of the Gansell's Bergamot.

We should like to see more of it, and give it further trial, but its qualities seem so well established, that we venture to describe and figure it. Our description is as follows:—

Size, medium, about two and a half inches broad, and two and a half inches deep; Form, roundish, broad at the crown,

obtuse at the stem; Skin, nearly smooth, dull yellowish green, broadly shaded with light red on the sunny side, slightly marked with green in the shade, and dotted with greenish specks; Stem, short, stout, about half an inch long, nearly straight, and obliquely inserted in a small, deep cavity;



10. GEN. BANKS PEAR.

Eye, large, open, and but little depressed, in a shallow ribbed or uneven basin; segments of the calyx stiff, narrow, entire, projecting; Flesh, yellowish white, fine, melting, and very juicy, with a rich Bergamot aroma; Core, rather large, somewhat gritty; Seeds, small, short, plump, angular. Ripe the early part of September.

FLORICULTURAL NOTICES.

948. SIPHOCAMPYLUS HUMBOLDTIANUS D. C. HUMBOLDT'S SIPHOCAMPYLUS. (Lobeliaceæ.) Peru.

A greenhouse plant; growing 3 feet high; with scarlet flowers; appearing in winter; increased by cuttings; grown in rich soil. Bot. Mag., 1867, pl. 5631.

“An elegant plant,” forming a bush two to three feet high,

with an abundance of long tubular flowers of a bright scarlet color, which appear in clusters towards the end of each shoot. Most of the *Siphocampyluses* are rather weedy plants, but this appears to be a really valuable thing, blooming as it does in winter, having all the attractiveness of the *salvia* with a woody habit. It will grow and flower freely in the greenhouse, and is quite a choice and valuable acquisition. (*Bot. Mag.*, March.)

949. *PEPEROMIA ARIFOLIA* VAR. *ARGYREA* Hort. SILVER-STRIPED LEAVED *PEPEROMIA*. (*Piperaceæ*.) South Brazil.

An ornamental foliated plant; growing six inches high; increased by division; grown in light peaty soil. *Bot. Mag.*, 1867, pl. 5635.

A very beautiful variety of the *P. arifolia*, varying only in having more silvery stripes in the foliage. It is dwarf in habit, and is well adapted for placing along the edge of a shelf, in the hothouse, where its beautifully marked leaves, and the long time they keep in good condition, render it particularly attractive and ornamental. The leaves, which are tufted, are four to eight inches long, roundish, heart shaped, rather succulent, concave, bright green, with white belts between the nerves above, and pale green below, stems red. (*Bot. Mag.*, March.)

950. *CORDYLINE AUSTRALIS* Hook. NEW ZEALAND TI-TREE. (*Liliaceæ*.) New Zealand.

A greenhouse plant; growing twelve feet high; with white flowers; increased by cuttings; grown in rich soil. *Bot. Mag.*, 1857, pl. 5636.

This is the true *C. australis*, the *Dracæna australis* of some gardens. It grows in abundance in New Zealand, and is nearly or quite hardy in the warm parts of England. It attains the height of ten to twenty feet, producing a large cluster of white flowers when of a proper age. At all times it makes an ornamental appearance, with its tall stem and head of thick drooping foliage, two feet long, and is a fine addition to every good collection of plants. (*Bot. Mag.*, April.)

REVIEWS.

AN ELEMENTARY TREATISE ON AMERICAN GRAPE CULTURE AND WINE MAKING. By PETER B. MEAD. With 200 Engravings. 1 Vol. 8vo., pp. 482.

GRAPE-growers have been aware for sometime that Mr. Mead intended to give us a Treatise on the Grape, and have looked with some eagerness for it. Not that they expected anything particularly new, but because of the interest the author has taken in grape growing, and his known ability to treat the subject in a practical manner. We need not say that we have a magnificent book—clean white paper—large bold type—fine engravings—a work, in fact, every way worthy of the subject of which it treats. If there is any disappointment at some of the author's conclusions, it will in a great part be made up in the attractive style in which the book is presented to the public. We ought to thank the enterprising publishers for the performance of their part of the task.

In the prefatory remarks the author, after alluding to the importance of grape culture, refers to the very common notion, that it will be carried to such excess that the crop will be comparatively worthless. This has also been said of the pear and strawberry, as well as other fruits, but for more than thirty years all these fruits have been growing dearer and dearer, till, in fact, only the more wealthy are able to buy those of superior quality:—

“Fears,” he says, “are sometimes expressed, that grape culture will soon be carried to excess; that the market will be overstocked, and prices consequently cease to be remunerative. More than fifteen years ago we heard the same fears expressed in very much the same terms; and to-day we have a sufficient answer in the fact that grapes are now selling for three or four times as much as they did fifteen years ago. This is readily accounted for in the simple fact, that the demand has kept steadily in advance of the supply, notwithstanding the largely increased area of cultivation. * * *

The man has yet to be born who will be able to purchase our best native grapes for less than fifteen cents a pound. We know that grapes can be profitably grown for much less than ten."

The first ten chapters are devoted to the culture of the grape,—the soil and its preparation,—manures,—laying out the vineyard,—planting,—training,—various systems,—Thomery system, &c. The various methods of training are accompanied with handsome engravings, fully illustrating each plan.

The next ten chapters are devoted to a description of varieties, in which the author divides them into groups, calling one the Isabella group, and the other the Catawba group. The Isabella, Concord, Hartford Prolific, Creveling, Adirondac, Israella, and Ives's Seedling, belonging to the first, and the Catawba, Diana, Allen's Hybrid, Delaware and Iona, to the last group. The other sorts, generally known, having, we presume, no characters in common with the above.

The remaining chapters of the first part treat of the details of vineyard culture. Part second treats of wine making.

The chapters containing descriptions of the different varieties are the least valuable portion of the volume. The repeated application of "vicious" qualities to grapes recognized and known as excellent, is in bad taste, and shows a prejudice which an author should be free from. His strong denunciation of certain varieties, such as the Concord, as being "offensive," &c., and stating faults which they do not possess, and his uncalled for and excessive praise of the Iona and Israella, diminishes the confidence of every cultivator in his judgment, and renders his estimate of all of no value.

We are not sufficiently acquainted with the latter varieties—no person is but Dr. Grant, for a peck of grapes we venture to say were never gathered off these vines out of the Iona vineyard—and they have not been sufficiently tried to give any decisive opinion of their adaptation to general culture, by which alone they can be pronounced important acquisitions.

If the author had been content to say the Israella and Iona are grapes of superior quality, and worthy of extensive trial,

we should have been satisfied ; but to say virtually that there are no good grapes but the Iona and Israella, and then to give a chapter on "taste as applied to fruits" to show that everybody who does not agree with him has no taste, is carrying the thing a little too far, and leads every intelligent cultivator to believe he must be well paid for puffing the Iona vineyard rather than truthfully describing their qualities. But we have not space for further remark. The volume is a handsome addition to our horticultural literature.

SQUASHES: HOW TO GROW THEM. A Practical Treatise on Squash Culture. By J. J. H. GREGORY, Marblehead, Mass. Pamphlet, pp. 70. New York: 1867.

THE improvement in squashes, and the recent increase in interest in their culture, has induced the author to present a more detailed statement than is now to be found. The introduction of the Marrow squash, and subsequently the Hubbard, has brought them into greater repute as a valuable esculent.

The work treats upon the selection of soil,—the manure,—preparing and applying it,—preparing the hills,—planting, &c., with the details of the erection of squash houses for keeping them,—care during winter,—a description of the various kinds,—insects, &c. All who are interested in squash culture will read this little work with profit.

General Notices.

MANURING CONIFERS.—I see that Mr. Frost says "he would not use manure for Pinuses." He may be right, but I have seen, or fancy I have seen, good well rotted dung do conifers a deal of good. Some three or four years ago I transplanted a large Silver Fir, ten or twelve feet or more in height. I did not take any more personal trouble about it, but left the operation to my gardener (who is only a common laborer) and to another

laborer. The plant was moved, and grew, but looked shabby and miserable all the next summer, when I had two barrow-loads of old cucumber frame dung pricked in over its roots, and gave it a good soaking of water, and I was surprised the next season to see how vigorous it became. I had an *Araucaria* and a *Cryptomeria* which did not grow or look as they ought, and I gave them a similar dose, and had every reason to be satisfied with the result. I never hear the question of using manure for Conifers discussed, without thinking there is a wide difference between the use and the abuse of everything. In growing timber I would discard the use of all artificial stimulants, but in growing garden trees, the judicious use of them now and then saves time, if it does nothing else.—(*Gard. Chron.*)

NIEREMBERGIA FRUTESCENS.—The next beauty was *Nierembergia frutescens*, which I have mentioned as so well shown at the Exposition. There are two plants of it at Verrières, which have been out all the past vile winter, and are now flowering freely, though not so luxuriantly as the plants which were kept in-doors. This is a plant which will please all classes of cultivators, being a beautiful object for the summer garden, quite as profuse in flower as the little *Nierembergia*, and with much larger and equally sweetly-colored flowers. But it rises when well grown to a height of eighteen inches or more, while it may also be employed in as dwarf a condition as could be desired. In the latter state it will be found quite a distinct thing for the flower garden, and as it has lived out near Paris, it may do so even more successfully in the south of England. It was first introduced into the fine Botanic Garden at Bordeaux, from whence M. H. Vilmorin brought four plants last October. Two of these were the plants that stood out, and as they were planted only in the first week of November, they of course, had not a very fair trial. The other two were propagated and cultivated in-doors, and from them have been raised the fine stock shown at the Exposition, and 2,000 plants in all, before the first of June. That is perhaps sufficient proof of the capability of the plant.—(*Gard. Chron.*)

PLANTING BULBS.—Bulbs must now be thought about. We wonder that crocuses and snowdrops are not oftener grown upon grass-plots. Planted about six inches from the border or gravel walk, they have then sufficient green around them to show off their charming colors in all their purity with an effect to which they can never attain with a background of earth. It is true that the scythe ought to be passing over the sward before the leaves have died down, and must not intrude here just at first. But what matter; a strip of long grass all round your neatly mown lawn will not be a very untidy margin to it, and will only be of very short duration. Probably the second, certainly the third mowing, may remove all traces of the lovely flowers that have jewelled your grass plot. They might also be used to grow up through grass edgings in large gardens with good effect. Of the large crocuses, a succession of yellow, white, and blue would look well, while the dwarf yellow crocus would alternate with the Siberian Squill charmingly.—(*Gard. Chron.*)

GOLDEN-LEAVED MINT.—I am surprised that this mint is not more extensively grown than it is for decorative purposes. When fully exposed in rather poor soil it is equally as effective as the Cloth of Gold pelargonium. It may be grown by the million, and propagated to any extent in spring, like the common garden mint. It forms an admirable line, and although common it has by no means a common appearance. Weather has no effect on it; on the contrary it appears to flourish when its companions suffer.—(*Gard. Chron.*)

WOODLICE.—I have discovered that these pests are fond of oatmeal. Therefore in order to trap them I got some glass bottles, and after breaking the necks off them, I let them down into my cucumber bed, pressed the soil firmly round them, and then sprinkled a little meal round the edge of the necks of the bottles, which must be made level with the surface of the bed. I also put a little in the bottom of the bottles, the result of which has been that next morning I had trapped some hundreds, and I continue to do so every night.—(*Gard. Chron.*)

PELARGONIUM CULTIVATION.—It may be worth knowing to many who have any small bed failure, or thin places in their beds, that many pelargoniums, as Mrs. Pollock, Golden Chain, Stella, &c., make excellent beds as cuttings, stuck in and left free to the sun, with only a little damping each night or morning; if put in close they are effective at once. For example, a bed of Mrs. Pollock, put in ten days ago, with an edging of Bijou, are now beautifully rooted, and, what is of more importance, they form an exquisite bed, finer than old plants, as the rich leaves pave the ground. For ribbons in spring, when one runs short of plants, they answer quite as well. Cuttings of Stella, taken off as long as can be spared, will form a showy bed in fourteen days.—(*Gard. Chron.*)

MACLEAYA CORDATA.—This is a fine plant in good soil, but comparatively poor in bad or very stiff soil. It is quite distinct in habit and tone, and sometimes goes beyond six feet high when in good soil. The flowers are not in themselves pretty, but the inflorescence when the plant is well grown has a distinct and pleasing appearance. It will prove a good thing for associating with other fine hardy plants suitable for making bold groups with some of the plants recently named, and with others, perfectly hardy plants, which I shall in due course deal with, I would guarantee to produce as bold and striking groups of vegetation as any ever seen produced either with us or in Paris, with costly and tender exotics requiring winter protection.—(*Gard. Chron.*)

NIEREMBERGIA FRUTESCENS.—Your readers will doubtless be glad to learn that this very interesting new species, referred to by your Paris correspondent in such favorable terms, promises to succeed admirably in this climate. It appears to have been introduced to Europe about four years since from the Andes of Chili, by M. Germain, an enthusiastic

French naturalist, and having stood three winters at Bordeaux without any protection, will probably prove nearly, if not quite, hardy in this country. It is perfectly distinct from any species hitherto cultivated, or introduced. Though attaining a height of from twelve to eighteen inches when raised from seed, and allowed to assume its natural form, yet when struck from cuttings it will flower freely in a small state. In habit it is erect, but only requires proper pinching in to make it as bushy as can be desired; and in the character and abundance of its neat linear foliage, it possesses a marked advantage over the older species. My plants are not yet fully in bloom, though showing buds, but I learn on the best authority, that its flowers are white, tinged with violet, the throat being yellow with deep violet rays, so that in color they are not very dissimilar to those of *N. filicaulis*, though considerably larger, as your correspondent states. Its name does not appear to be very happily chosen, as its suffrutescent habit is not so marked as to be characteristic, the well-known *N. filicaulis* being in fact shrubby in the greenhouse; but leaving that question aside, it is evident that we have in the present subject a most welcome addition to garden plants, and of which one may safely predict, that but a few months will be required for its diffusion throughout the length and breadth of the land.—(*Gard. Chron.*)

ARUNDO DONAX VERSICOLOR.—This is a wonderfully effective and beautiful plant, that is made little or no use of. Ere this I have spoken of several fine things for grouping together, or for standing alone on the turf and near the margin of a shrubbery border. This is as well suited for close association with the choicest bedding flowers, as an *Adiantum* frond is with a bouquet. It will be found hardy in the southern counties; and considerably north of London may be saved by a mound of cocoa-fibre or such, perhaps covered with an old piece of mat. In consequence of its effective and beautiful variegation, it never assumes a large development, like the green or normal form of the species, but keeps rather tidy and low, and yet thoroughly graceful and effective. Two feet, for instance, is about an average growth for a good plant in the open air, about London. It is of course suited best for warm, free, and good soils, and abhors the London clay, though it is quite possible to grow it thereon with a little attention as to preparation of the ground. But it is in all cases better to avoid things that will not grow freely, and gracefully on whatever soil we may have to deal with; and it is to those having gardens on good sandy soils, and in the warmer parts of England, that I would specially commend this grand variegated subject. For a centre to a close circular bed, nothing can surpass it in the summer and autumn flower garden, while, of course, many other charming uses may be made of it, not the least happy of which would be to plant a tuft of it on the green grass, in a warm spot, near a group of choice shrubs, to help, with many other things I shall name in good time, to fill up the gap between ordinary fleeting flowers, and the taller shrubs and tree vegetation that is now nearly everywhere observed. It is better to leave the plant in the ground, in a permanent position, than

to take it up annually. Protect the roots in the winter, whether it be planted in the middle of a flower bed or planted by itself in a little circle on the grass.—(*Gard. Chron.*)

MUSHROOMS are cultivated at Belvoir Castle, England, in back sheds; and the mode of culture is peculiar. The material consists mostly of horse droppings mixed with straw collected from the covered exercise house at the stables. The beds are formed of about the usual depth on the floor of back sheds against the wall. Along the front of the bed a sunk flue is carried, which economizes the heat that would otherwise be discharged through the chimney. The beds are covered with wooden shutters that proceed from the back wall, and rest upon either a wall or slab of wood beyond the flue. This simple arrangement ensures sufficient warmth and obviates the necessity of any other covering for the beds. The mushrooms soon spring up and a plentiful crop is gathered. Up to this point there is excellent but not exceptional culture. As soon however as the produce begins to fail, the beds are allowed to become rather dry, and are then stimulated to fresh production by the following treatment: They are thoroughly watered with strong manure water made from horse or cow's droppings. And into every four-gallon can of the water a good handful of common salt is thrown, and well stirred into and dissolved in the water, and applied with it. The mushrooms spring up as if by magic, and the same bed is renewed several times in this manner. Nothing could exceed the productiveness of the bed that was in bearing at the time of my visit, which, I understood, was producing its third crop.

I had previously tried manure-water with good results; but confess that I should have dreaded salt almost as much as lime, which is fatal to most forms of fungus life. Mr. Ingram, however, values the salt more than the manure, and says it will stimulate the growth of mushrooms in meadows, as well as in-doors. He also added that the French have long used saltpetre as an aid in mushroom culture, but that he never derived much benefit from it; but that salt is a sure stimulant for exhausted beds, and a certain producer of mushrooms. I have already tried it in a bed in full bearing, and also on an exhausted bed, with the best results, and advise your readers to do the same and report progress through your columns. Mr. Ingram also thinks that the salt improves the quality and flavor of the produce. The whole subject is full of interest, and opens up almost untrodden, cultural, chemical, and physiological fields of inquiry. Possibly it may turn out that the urine of animals, from the salts they contain, may prove almost as useful as stimulants to mushrooms as their droppings seem to be essential to their production.—(*Gard. Chron.*)

SELAGINELLAS.—Those who have not yet learned how to make the most of Selaginellas as decorative plants should pay a visit to the Sheffield Botanic Garden, where they may see how well Mr. Ewing has turned them to account. The north wall of his Victoria house is draped with them, several species being mixed up together, and the contrast of form and color is most pleasing.

Indeed, we have never seen so pretty an effect produced by these refreshing-looking plants in any other situation. The wall is faced with a six-inch layer of coarse peat and rubble, with a little moss outside, the whole being held in position by strong galvanized wire netting, with rather wide diamond shaped meshes; and the only attention required by the plants is a damping with the syringe daily.—(*Gard. Chron.*)

ACANTHUS LUSITANICUS.—As I have repeatedly said that we might have much of the better kind of effect in the flower garden with perfectly hardy plants alone, than with many that are employed at much expense, I shall follow up that statement by recommending, from time to time, such first-class hardy plants as I have ascertained to be highly suitable for the purpose, perfectly distinct, and easily cultivated. The plant now mentioned is in all respects fine. The leaves are bold and noble in outline, and the plant has a tendency, rare in some hardy things with otherwise fine qualities, and that is, to retain its leaves till the very end of summer, or rather of the season, without losing a particle of its freshness and polished verdure. In fact, the only thing we have to decide about the subject is, what is the best place for it? Now, it is one of those things that will not disgrace any position, and will prove equally at home in the centre of the mixed border, projected a little from the edge of a choice shrubbery in the grass, or in the flower-garden; nobody need fear its displaying anything like the wastiness that such things as the *Heracleums*, which have often been recommended for their leaves, do in the end of summer; and, in fact, there are few things turned out of the houses that will furnish a more satisfactory effect. I should not like to advise its being in the centre of a flower-bed, or in any position where removal would be necessary; but in case it were determined to plant permanent groups of fine-leaved hardy plants, then indeed it would be used with great success. Supposing we have an irregular kind of flower-garden, or pleasure-ground, to deal with (a common case everywhere), one of the best things to do with it is to plant it in the grass, at some little distance from the clumps, and near perhaps a few other things of like merit. It is better than any species of *Acanthus* hitherto commonly cultivated in botanic gardens, though one or two of these are fine. Give it deep good soil, and don't begrudge that attention, because it will not, like tender plants, trouble you again for a long time. How about a ring of it round a strong clump of *Tritomas* (*grandis* in the middle, and *glaucescens* surrounding it), the very dark polished green *Acanthus* being in its turn surrounded by that fine autumn flowering *Sedum*, called *Fabaria*? There would be nothing finer. I should have little difficulty in suggesting a dozen equally suitable uses for this fine plant, and it is only one of many kinds which I hope to speak of in due time. It is to be had now in London nurseries, and more abundantly in those of Paris.—(*Gard. Chron.*)

Horticultural Operations

FOR OCTOBER.

FRUIT DEPARTMENT.

THE month of September has been cool, but less rainy than August, and favorable weather for ripening up all kinds of vegetation. If severe frosts do not occur too early, the grapes will mature their wood much better than was expected.

GRAPE VINES, in the early houses, will begin to break this month, and, as the nights get cooler, a moderate heat should be kept up to secure a healthy growth. Syringe until the buds have all broken. See that the border is protected by warm manure from cold rains. Vines, in the grapery, will now be at rest, and all that is required is to give an abundance of air, to thoroughly ripen the wood. In cold houses the same attention will be required, unless the grapes are still unripe, when less air should be given, and the house closed early.

PEAR AND OTHER FRUIT TREES may be transplanted as soon as the leaves begin to fall.

CURRENTS may be safely transplanted this month.

FRUIT should all be gathered by the middle of the month. Nothing is gained by leaving pears upon the trees after the leaves begin to fall. Gather and put into barrels or boxes, in a cool cellar.

FIG TREES, planted in the open ground, should be placed in a warm cellar for the winter.

ORCHARD-HOUSE TREES should be kept rather dry until the time for removing to the house or cellar.

FLOWER DEPARTMENT.

The favorable weather has made the flower garden more beautiful than usual in September, but frosts may soon be expected, when all that is to be saved for another year should be taken up and potted, or removed to frames, according to their hardiness. Remove all tender plants to the house; but half-hardy things may be placed in frames, where they will keep better than in the house. Have all the large pots washed clean, and stake and tie all plants into shape.

CAMELLIAS should be neatly arranged, and if time, all the leaves should be washed, and the superfluous buds thinned off. Water liberally, but not too much. Give plenty of air, and keep cool.

AZALEAS should have a cool situation, in the airiest part of the house. See that they are free from insects.

PELARGONIUMS, which have been repotted, and are now beginning to grow, should be placed on a shelf, near the glass, watering cautiously and keeping the house cool. Young stock should have a similar place.

The scarlet kinds, if kept warm, will bloom abundantly all winter. Give the latter manure water occasionally. Fumigate for the green fly.

MONTHLY CARNATIONS should have a cool, airy place, and be neatly tied up to stakes.

CHINESE PRIMROSES should be put in a light airy place, near the glass, where they will have an abundance of fresh air.

CINERARIAS AND CALCEOLARIAS should be shifted into larger pots, and have a situation near the glass.

CYCLAMENS should be potted in good rich soil, and kept in a frame until cooler weather.

ORCHIDS should be more sparingly watered, and be kept cooler for a time.

CUTTINGS, of all kinds of bedding plants, should be put in now, being careful that nothing has been omitted of which a stock is wanted in the spring.

PANSY SEEDS may be sown this month.

HYACINTHS may be potted now for early blooming. Keep in a cool frame for a month or so.

CALADIUMS may be dried off now. Withhold water, and keep in a warm house.

CHRYSANTHEMUMS should all be removed to the house or cold frames. Water liberally, and use liquid manure often.

POINSETTIAS should be placed in the stove, or warmest part of the house, in order to have a good bloom.

CALLAS should have plenty of water, by placing pans under the pots, and keeping them filled.

GLOXINIAS AND ACHIMENES should be dried off.

OXALISES AND IXIAS should be potted soon.

JAPAN LILIES may be repotted this month, and placed in a cold frame.

ACACIAS, coming into bloom, should be freely watered.

MIGNONETTE, SWEET ALYSSUM, &c., should be kept in a cold frame, and not be over watered.

FLOWER GARDEN AND SHRUBBERY.

Keep the lawn mown as long as the growth is continued, and clean and rake the walks. Roll often, to keep a hard and smooth surface.

DAHLIAS should be taken up as soon as the tops are killed by frost.

BULBS of all kinds may be planted this month.

CARNATIONS AND PICOTEEES should be removed to cold frames.

DAHLIAS should be protected by frames.

SUBTROPICAL PLANTS, for the decoration of the lawn, such as Cannas, Wigandias, Tritomas, &c., should be taken up and placed in a warm cellar, or under the stage in the greenhouse.

HALF-HARDY PLANTS, of all kinds, should be protected from severe frosts by removing to a frame.

THE HYACINTH.

WITH the month of November we are reminded of the season of planting the Hyacinth and other Dutch bulbs, as they are generally called. According to the old writers—who, notwithstanding the progress in many branches of gardening, were nearly or quite as celebrated for their treatment of this plant as the best cultivators of the present day—from the 1st to the 10th of November was the special period to plant. 1st, because if planted much earlier the bulbs would be likely to grow and appear above ground before cold weather, and 2d, if planted too late the bulbs would be weakened by drying, &c. In our climate there is not so much danger from early planting as in England, where very severe weather does not occur—or not what we term severe—until midwinter, giving the bulbs time to push vigorously. Here, however, the winter weather occasionally commences early in December, and the ground is frozen so deep that all vegetation is checked before the shoots reach the surface. As a general rule, applicable here, from the 1st to the 20th of November is the best period for planting in beds or borders in the open ground.

The hyacinth is as yet scarcely appreciated by our cultivators generally—certainly not as a garden flower—for pots and glasses it is a favorite, though by no means as general as it should be. A few pots or glasses are filled where the number should be dozens, that a succession of blossoms may be kept up from Christmas to May. Nowhere but in Holland, are they fully appreciated. In Great Britain, within a few years, it has been much more extensively grown, and it is now common to have special exhibitions of this flower, which have been unusually attractive, and have brought them into more general cultivation. The hyacinth now takes rank with the finest florists' flowers.

One of the leading cultivators of England, who has made the hyacinth a speciality, Mr. W. Paul of Waltham Cross,

and successfully exhibited many hundred pots of magnificent specimens, and who has done much to revive and extend a taste for the hyacinth, a year or more ago was invited to deliver a lecture upon this plant before the Royal Horticultural Society of London; the lecture being illustrated by a large quantity of these beautiful flowers. Mr. Paul having made the plant a study, and visited the famous bulb gardens of Holland, was enabled to give much valuable information in regard to its improvement, its propagation and its culture: as the most succinct and best statement of the present condition of its growth, we present the following extracts from this interesting lecture, which received the applause of his numerous and enlightened auditors:—

The Hyacinth (*Hyacinthus orientalis*) is a native of the Levant, whence it was introduced to England in 1596. The derivation of the word hyacinth is uncertain; it is of very ancient date; some derive it from Hyacinthus, the beautiful boy who was killed by Zephyrus, and from whose blood the flower sprang into existence by the command of Apollo.

The plant belongs to the natural order Liliaceæ or Lily-worts, to which also belong the Tulip, the Fritillaria, the Lily, the Tritoma, the Aloe, the Yucca, the Squill, and many other genera, some of which, if less attractive, are scarcely less useful and interesting. The plant is bulbous, and produces an annual stem or stems, adorned with rows of beautiful flowers, red, white, blue and yellow, of varied and distinct shades, pointing in all directions. In the climate of England, if planted in November, and left permanently in the ground, the flower-stems and leaves rise in March, flower in April, decay in June, and the bulb remains hidden in the ground till the following spring. I have said the plant was introduced from the Levant in 1596, but it was known to Dioscorides, who wrote about the time of Vespasian. Gerarde in his Herbal, published at the close of the 16th century, enumerates four varieties, the single and double blue, the purple and the violet.

In that valuable old book on gardening, "Paradisi in Sole Paradisus tenestris," published by John Parkinson in 1629,

there are mentioned and described eight different varieties. He tells us, some are pure white, another is almost white, but having a show of blueness, especially at the brims and bottoms of the flowers; others again are of a very faint blush; some are of as deep a purple as a violet; others of a purple tending to redness, and some of a paler purple. Some again are of a fair blue, others more matched, and some so pale a blue, as if even more white than blue; after the flowers are past there rise up great three-square heads, bearing round black seed, great and shining. So wrote Parkinson in 1629, and before you are sketches of the hyacinth of his day, single and double.

Here then is the type of those splendid Eastern flowers which decorate our halls, our conservatories, our parterres, with their gay and varied colors, and load the air with their delicious perfumes, at a time when winter still lingers upon our northern shores. It is interesting to compare the hyacinths of that epoch (1629) with those of 1864, and to mark the improvement. Two hundred and thirty-five years have elapsed since then; and this simple flower serves well to illustrate the great fact, that the original forms do not remain fixed and stationary, at least when brought under cultivation. While looking at the extremes, we must not, however, forget that there are intermediate stages which are for the most part lost to us. Nature will sometimes indulge herself with a leap, but as a rule her march is slow and gradual. It were idle to speculate as to how far these results are due to the inherent capacity of the flower for improvement, and how far to the intelligence and industry of man. I care not to adjust such a balance; man's intelligence and industry would have been but wasted had the flower been created incapable of improvement; the flower would probably have remained but little changed, but for man's labor. Were not man and plants created by the same beneficent hand?—and what more cheering prospect in protracted labor, what higher recompense for toil, than the knowledge that the objects we deal with are capable of improvement, and that by cultivation we are adding to the useful and beautiful in this kingdom of Nature? The horticulturist, once in possession of the wild

forms, finds it his business to cultivate and improve them. In order to accomplish this, he has in his mind an ideal of beauty, for the realization of which he works with head and hand. Now, while I do not claim for the horticulturist an immunity from the errors common to the laborer in other fields of art and science, I yet believe that his profession rests on a broad basis of experiment and fact. His object is to extend and beautify the useful and beautiful. Without entering into the abstract question, as to whether beauty is the result of mere habit and association, or whether there is an innate standard by which the senses are influenced, I am ready to admit that association, if merely an influence, is the strongest of all influences, if not equivalent to all other influences. It is certain that, in the cultivation and improvement of flowers, our ideal is not fixed and unalterable, but is constantly exalted as we advance. Show me the most beautiful flower, and I will presently conceive one still more beautiful. The ideal of to-day, once accomplished, leads only to a higher standard in the future.

Among the numerous varieties of hyacinths at present cultivated, are found not only various shades of color, but also flowers and spikes of different forms and proportions. Without presuming to define the exact height or breadth to which a good hyacinth should be restricted, I may perhaps be permitted to state that I have on several occasions taken the dimensions of that part of a spike covered with flowers which has pleased me by its symmetry, and I have invariably found six inches in length and eight inches in circumference, or similar proportions, to be the result. Such a spike is here singled out and placed before you. Am I asked, "Is this flower really improved, or only varied?" I answer, both;—if varied, improved, but improved also in other respects beside the increase in variety. The flowers, originally narrow, wrinkled, and pointed, are now broad, smooth, and round; the breadth and length of the spike and the size of the individual flowers are also increased; the colors are intensified. By the increase in size, the plant has become more highly decorative; the broader, smoother, and rounder petals also give a finish and brilliancy to the whole. To put these views in an exacter form:—

The original spike was short and narrow.

The improved spike is long and broad.

The original spike was feeble, drooping, and loose.

The improved spike is strong, erect, and compact.

The original form of the flower was square or polygonal and crumpled.

The improved form of the flower is round, or almost round, and smooth.

The original substance was flimsy and transient.

The improved substance is solid and durable.

The original colors were few, undecided, and dull.

The improved colors are many, decided, and clean.

These changes, then, are the work of the horticulturist, and if they be fairly and impartially considered, I think none will deny that he has reason to rejoice over the fruits of his labor. I claim for him no creative power, but merely the intelligent use of the powers given to him by his Creator, whereby he exercises a dominion, more or less, over all created things.

About the middle of the last century (1753) was published in England a Treatise on the Hyacinth, being a translation from the Dutch, by Bartholomew Rocque, a florist at Waltham Green. About this time also the practice of growing bulbs in water first obtained, and that prince of gardeners, Philip Miller, wrote a treatise on the subject. The importance of this branch of national industry, and the fortunes realized in its pursuit in Holland, induced men of talent and capital to engage in it, and as a consequence improvement went on more rapidly. Miller tells us, that in the early part of the last century, the Haarlem florists distinguished 2000 sorts. Since that period the number of sorts has probably decreased rather than increased; it is true that new kinds come forth every year, but their number is few, and certain of the old ones have disappeared before the severe tests of quality and fashion. In the most extensive bulb garden at Haarlem I found last year only 700 sorts, and probably not more than 200 of these are subjects of extensive commerce.

The multiplication and growth of hyacinths for sale, is principally carried on out-of-doors in the vicinity of Haarlem

in Holland. The sandy soil, and moisture of both soil and climate in that country, is peculiarly favorable to the growth of the hyacinth. In the month of June, at which time the bulbs are ripening, the earth heat appears to me greater than in any soil of which I have had experience in England. Hundreds of acres are there devoted to the culture of these and kindred plants, and the Haarlem Gardens are a gay sight from the present season of the year till far on in summer. The flowers of spring are principally crocuses, hyacinths, and tulips; those of summer, ranunculuses, anemones, ixias, iris, and others. Large warehouses are erected, with tables rising tier above tier, on which the bulbs are laid to dry when taken from the ground in summer.

But let me turn to the culture of this flower in our own country. Here the subject seems to fall naturally under two heads—out-of-door and in-door culture. When grown out-of-doors, the bulbs should be put in the ground late in October or early in November. The crown of the bulb should be placed four inches below the surface of the soil, and two or three inches of litter or manure should be strewed thereon as a protection against frost. The litter may be removed early in spring, so soon as the leaves have pushed fairly through the earth. It may be placed on again at night during frosty weather. A sandy loam is the soil in which these bulbs seem to grow and flower best, and if such is not the natural soil of the spot they are intended to occupy and adorn, it is well worth while to provide such as an artificial soil. If, during the season of flowering, a slight shading be provided, the quality and durability of the flowers will be increased. Hyacinths out of doors require no water, as the soil is sufficiently moist in their season of growth and flowering. When the flowering is over and the leaves show signs of decay, the bulbs may be taken up and laid by for a fortnight, embedded in the surface soil, after which time they may be gathered up, deprived of their roots and leaves, and placed in a cool dry shed or storehouse.

The in-door culture of the hyacinth in pots, rustic baskets, bowls and glasses, is largely carried out in this country. Indeed, our conservatories and halls would be shorn of their

brightest and sweetest floral embellishments in winter and early spring were the hyacinth and tulip withheld. Hyacinths potted in September may be brought into good condition of bloom before Christmas; and by potting fresh bulbs at intervals of a fortnight till the end of the year, a succession of flowers may be obtained till the middle or end of April, when other flowers will be bursting upon us from every nook and cranny of the well-stored plant-house. The best soil for hyacinths in pots is also sandy loam, enriched by the usual cool and solid fertilizers. Guano I have heard recommended under this head, and I am not sure that I have not in former times included it among permissible fertilizers. My later experience, however, is not in accordance with this view, as I have found it develop the leaf rather than the flower. When placing the bulb in the pot, the crown or apex should be just above the soil. The pots should be placed on the level soil, out of doors, and surrounded and covered over with a thick layer, say six inches, of cinder ashes, as an efficient protection against frost. They should not be left more than two months in this position, by which time the leaves and flower spikes will be pushing into life. Remove them then to a cold pit, greenhouse, or forcing house, according to the date at which they are wanted to flower. Deluge the soil with water, which repeat at brief intervals till the flowers are on the wane. Place the plants close to the glass, and admit abundance of air that the leaves may not be developed out of proportion. It may be well to bear in mind that the long slatterly leaves and attenuated stems sometimes met with in hyacinths, are due to the want of air and light. It is however necessary to say that the hyacinth, however skilfully grown, requires an artificial support for the flower stem, owing to the succulent and supple nature of the latter. For this purpose a piece of wire bent zigzag fashion, is the best contrivance I have hitherto been able to apply.

Hyacinths do not succeed well a second year in pots or glasses, but if planted out of doors they become highly decorative in the flower-garden.

The cultivation of hyacinths in glasses is a delightful recreation, and so accessible to rich and poor, young and old,

and fraught with so many pleasing incidents and associations, that I am not surprised to find this beautiful branch of in-door gardening very generally practised. Nothing is easier than to grow good hyacinths in glasses, provided the cultivator possesses himself of good sound bulbs. Nothing can be more interesting than to watch the development of root and leaf and flower. The springing up of the leaves in winter, when the vegetable world without is in a state of rest, is a refreshing harbinger of returning spring. The rapid rise of the flower spike is hardly a trial of patience to the least patient, and the flush of blossoms places in his hands a chaste and finished object of beauty:—

Well they reward the toil,
The sight is pleased, the scent regaled,
Each opening blossom freely breathes abroad
Its gratitude, and thanks him with its sweets.

I shall conclude this paper with a few short simple rules relating to hyacinths grown in glasses. These rules may be learnt in five minutes, and if followed, will, I am persuaded, be attended with satisfactory results.

1. If you choose your own bulbs, look for weight as well as size; be sure also that the base of the bulb is sound.
2. Use the single kinds only, because they are earlier, hardier, and generally preferable for glasses.
3. Set the bulb in the glass so that the lower end is almost but not quite in contact with the water.
4. Use rain or pond water.
5. Do not change the water, but keep a small lump of charcoal at the bottom of the glass.
6. Fill up the glasses with water, as the level sinks by the feeding of the roots and by evaporation.
7. When the bulb is placed, put the glass in a cool, dark cupboard, or in any place where light is excluded, there to remain for about six weeks, as the roots feed more freely in the dark.
8. When the roots are freely developed, and the flower spike is pushing into life, (which will be in about six weeks,) remove by degrees to full light and air.
9. The more light and air given from the time the flowers

show color, the shorter will be the leaves and spike, and the brighter the colors of the flowers.

Loudon, in the *Encyclopedia of Gardening*, truly says, in writing of the hyacinth, that "whether considered as a florist's flower, and planted in beds, or as a border flower in patches or in rows, is one of the very finest which exist. It is not only the most brilliant, beautiful and varied in point of color, but is as fragrant as the carnation. With all these qualities it is of the easiest culture, at least when good bulbs are procured." Since then, more than thirty years ago, the improvement in the flowers, as Mr. Paul has shown, has been very great, and the varieties now most esteemed, were then, with few exceptions, unknown. Still many, like *Grand Vainquier*, *Orondates*, *Bouquet tendre*, *L'Ami de Cœur* and several others are well known in most collections, for their free growth and fine flowers.

It is thirty years since we first cultivated the hyacinth to any extent, and we have never seen a larger or finer bed of flowers. One of its great qualities is its hardiness, no ordinary frost or cold weather injuring its blossoms. We well remember a snow storm in May, when the bed was in full bloom, and although the ground was covered with snow, and every stem with its profusion of bulbs was frozen quite stiff, they did not sustain any damage, and on the disappearance of the snow and return of a fine day the bed looked as well as ever. The same frost which often injures the foliage of some of the lilies leaves the hyacinth unharmed.

We need not further commend a flower so well deserving of attention. If it has not been cultivated as extensively as its merits warrant, it has been from a want of knowledge of its growth, or a proper appreciation of its beauties. We trust we have shown that there is nothing to prevent success in its culture, even by those who have little experience in gardening, and if the lecture of Mr. Paul does not give it every claim upon the attention of all who love elegant flowers, we should waste time and space in attempting to give any additional evidence of its merits as a garden or parlor favorite.

ORNAMENTAL FRENCH GARDENING.

FROM THE GARDENERS' CHRONICLE.

A correspondent of the Gardeners' Chronicle, who has been at Paris during the entire period of the Great Exposition, the past summer, and who has given a very good account of many of the beautiful plants which have been exhibited, extracts from which we have occasionally given in our pages, has contributed a most excellent paper, upon the prevailing mode of ornamental gardening around Paris. As we are sure it will be read with great interest by all who wish to have a full account of the different systems of flower gardening carried out around Paris, or who wish to avail themselves of the general hints applicable to all ornamental grounds, we copy the communication without further comment:—

This is the 27th day of August, and I cannot, perhaps, select a better time to tell all I can about the merits of the much talked-of system of flower gardening employed about Paris. To begin, we had better consider for a moment that the gardens of Paris are under different boards of management, if I may so speak. Thus the gardens of the Luxemburg, the Tuileries, and other palaces, with the Jardin des Plantes, have their own gardeners, and have nothing to do with what we may call the Municipality of Paris, nor are they supplied from its great nursery, La Muette. On the other hand, the Parc Monceau, the Bois de Boulogne, the great belt of gardens on each side of the Champs Elysées, and all the squares, &c., belong to La Ville de Paris, and are managed by it. As I have many large gardens to deal with in one article, the sooner we come to the vital points the better, and we will begin at the Luxemburg, with M. Rivière. This fine garden was cut to pieces last winter, and so much so that those who knew it a year or two ago would hardly recognize it now. But it is yet a noble garden, and for a geometrical one very pleasing indeed. I must pass by its fine collection of orchids, and some other interesting features, and come at once to the style of decoration, which is distinct, good, and well worthy our attention.

Continuous borders, not beds, run round the squares of grass, &c., and from the dawn of spring to the end of autumn, these are never without occupants, never ragged, never flowerless. It is not the old mixed border system, observe—far from it; nor is it the bedding one. It is a system of bedding and herbaceous plants mixed, but all changed every year. They steal out a spring flower this week, and put in a fine herbaceous or bedding plant, or strong growing florists' flower in its stead, and with the very best success. A stock of good bedding and herbaceous plants are always kept on hand to carry out this, and the placing of good kinds of herbaceous plants into fresh ground every year causes them to flower as freely as the bedders. But those borders also contain permanent things—lilac, bushes, roses, &c., which give a line of verdure, throughout the centre of the border, and prevent it from being quite overdone with flowers. Among those woody plants there were others very beautiful and very sweet, for many weeks, through the better part of the season, and those were low standard bushes of the common honeysuckle! Your readers would, perhaps, scarcely ever think of that for such a position; but alternating between a rose and a lilac, or other bush, and throwing down a head of free-growing and flowering shoots, I can safely say that I have rarely seen anything so pleasing in the flower-garden. Few arrangements can be more satisfactory than the mixture of phloxes, gladioli, *Oenothera speciosa*, fuchsias, pelargoniums, large yellow achillea, &c., in these beds at present and for months past. They also have the sub-tropical system at the Luxemburg, and rather more tastefully than elsewhere. Thus in one part may be seen a graceful mixture of a variety of fine-leaved plants with an edging of fuchsias, instead of the ponderous mass of 500 plants of one variety of canna, which you sometimes meet with in other places about Paris. M. Rivière is also fond of having mixed beds of ferns in the open air, and also isolated specimens of tree ferns, *Woodwardia* elevated on a moss-covered stand, &c., and their effect is very good. One thing, however, not in the flower-beds I must not pass by—the magnificent lot of large oleanders that are in flower here now among the orange trees and double pomegranates.

They are many of them perfectly furnished with flowers, have well-formed heads, and being from six to ten feet in diameter, look like beds of flowers rather than single petals. They are grown in large tubs, precisely like the orange trees, and stored in a great dark conservatory with them also. The culture of orange trees in tubs is at best but an awkward relic of Middle Age gardening, but the culture and keeping of these magnificent oleanders is really not only tolerable but admirable. They have many specimens here such as I have described. A bed of *Papyrus antiquorum* does well here, and looks refreshingly dark green and distinct.

From the Luxemburg we will next turn to the garden around the Louvre. Here again we have borders instead of beds to deal with, and the effect is beautiful and also capable of infinite change. This is the plan of the Louvre borders. It is a combination of circle, and mixture, and ribbon, quite unpractised with us. Along the middle of the borders we have a line of permanent and rather large-growing things—roses, dahlias, neat bushes of *Althæa frutex*, and small Persian lilacs. The lilacs might be thought to grow too gross for such a position, but by cutting them into the heart as soon as they have done flowering the bedding stuff starts with them on an equal footing, and the lilacs hurt it not by pushing out again, and making neat heads for taking a lead in the display of spring flowers. Thus they have all the central line of each border a line of green and pointed things, which always save it from over-coloring, and then underneath they lay on the tones as thick as could be wished. Around each bush or tallish plant in these borders are placed rings of bedding plants—*Fuchsia*, *Veronica*, *Heliotrope*, *Chrysanthemum grandiflorum*, *fœniculaceum*, &c., the outer spaces between the rings being filled with a few plants of a sort. Then follows a straight line of pelargoniums—red, white, and rose, mixed plant for plant, and forming a very pretty line. Outside of that a band of Irish ivy, pegged close to the earth, and pinched two or three times a year; and finally, on the walk side, an edging of the capital irons before described. As soon as one gets beyond the very primitive idea, that because one border is of a certain pattern the others ought to follow

it, this will be found a really good plan, and it is worth attention with us; by its means we may enjoy great variety in a border without any of the raggedness of the old mixed border system. Around most of the rose trees they place a ring of the gladiolus—a good plan where the plant grows well. Any person with a knowledge of bedding plants may vary this plan *ad infinitum*, and produce a most happy result with it wherever borders have to be dealt with. In the Tuileries we find much the same kind of garden, with a fine bloom of roses in summer, and more hollyhocks and althæas in autumn. So also in the Palais Royal we meet with the same style going around the squares, but it is only the Louvre strips that have the wide margin of dark green Irish ivy—a refreshing and neat finish.

In the private garden of the Emperor, at the Tuileries, the flowers are kept a good deal subdued, and some trouble is taken to develop the shrubs and stronger vegetation distinctly and well. The effect is very good from the windows, and the interior. Here again we see the ivy edging, twenty inches wide, well used. The flower borders touch the gravel walk, and are edged with Box, but on the gravel itself they lay down a beautiful dark green band of the Irish ivy, of course allowing, in the laying down of the walk, for the space thus occupied. The effect of the rich green band adds much to the beauty of the border.

Let us next turn to an entirely opposite style—that generally adopted by M. Barillet for the gardens of the city. It is often striking, often beautiful, and occasionally mean. It is striking when you see a host of that fine silvery tree, *Acer Negundo variegata*, arranged in one great oval mass, gay and bright, in the midst of a park laid out after the English fashion; it is beautiful when you see some spots with single specimens and chaste beds, every one differing from its neighbor; and it is mean when you meet with about 1000 plants of one variety stretched around a collection of shrubs, or flopped down in one wide mass in some of these beautiful little green pieces that spread out among the trees on the islands in the Bois de Boulogne. In the Champs Elysées there is a deal of this gardening, and much of it consists of

masses of monstrous ugliness, in consequence of what I will call overlumping to produce sensational effect. But, nevertheless, the general disposition of the ground prevents this from doing much harm, and it is withal a fine piece of pleasure ground this, which spreads along each side of the noblest avenue in the world. An odd single specimen of *Musa Ensete* looks very fine here now, and occasionally you may see a really tasteful thing—for instance, a mass of brightly and freely flowering portulacas surfacing beds with tall foliaged plants, &c. *Iresine* appears to be a failure here up to this date; doubtless it will as usual begin to put on a decent face as soon as it is time to clear off the beds. The hibiscuses are beginning to compensate for months of ugly stickyness by showing an odd blazing bloom, beautiful here and there, while begonias and not a few other things look miserable indeed. “This sub-tropical system will never do for England!” say some practical men. The truth is, it requires to be done very carefully here, and that there is a great mistake made by putting out a host of tender plants merely because—well, I can’t say why, unless it is to contrast healthy beauty with ragged ugliness. Their weakness is, that, like most people in this world, they do not know where to stop. You have in the Parc Monceau a group of *Musa Ensete* worth making a journey to see, and groups of *wigandia*, *canna*, and such *solanums* as *Warcewiczioides*, that are worthy of association with it; but you also see there groups and beds of begonias without a good leaf, let alone a particle of beauty: you see nasty scraggy stove plants, with long crooked legs, and a few tattered leaves at the top, and poor standard plants of the Sweet verbena at the same time. If it were an experimental ground one would not mind, of course; but this, in gardens where its omission would leave almost nothing to be desired, is almost too bad. In some respects this park is really unequalled, and therefore one regrets the more to see these blemishes. However it is only fair to say the season is considered exceptionally bad, and that may have caused some things to look so very poorly. *Musa rosacea* and *M. sinensis* flap their poor leaves about in the wind without being “kilt entirely,” but among all the

Musas give me *M. Ensete* for the open air or the cool conservatory. It blows and rains as hard in Paris as in London, but there was not to-day a rib of its beautiful wide leaves separated from its fellow, though there had been a storm of rain this morning enough to riddle the leaves of *Gunnera scabra*. Although it is vanity for us to attempt much with this subtropical gardening except in the milder parts, yet the hardiness and good qualities of this superb *Musa* cannot be too widely known, and those who cannot enjoy it in the open air in some sheltered spot during the summer, may plant it out with confidence as the grandest of all conservatory plants. The surfacing of the beds containing the large plants here, with such things as *Phlox Drummondii*, Sweet Alyssum, *Mignonette*, &c., is tasteful, and worthy of adoption with us. *Tupidanthus calyptratus*, growing here and there among a bed of Chinese pinks, illustrates the kind of thing I mean. It should be practised in most cases with this class of subtropical plants because the smaller plants keep the bed furnished till the big things have made leaf. In many cases—that of the *Ficus*, for instance—this surfacing vegetation will show well all through the season; in others, where the foliage is strong and dense, it may become useless after a while, and in all such we may of course use annuals and cheap stuff. The New Zealand Flax is often used with good effect, and all I have to say of it is, that there is not in cultivation a plant more useful for either conservatory, house, flower garden, or vase. The French know the value of this plant, and cultivate it by the thousand. With us it is, as regards the effects it is capable of, an unknown plant.

Wigandia Vigieri is on trial a good deal about Paris this year, and proves a good thing, though it does not quite equal the old one. A variety of the common tobacco, called *grandiflora*, is one of the most useful of all annual plants that furnish fine leaves; it grows to a great size, and is very effective. A very pretty effect is obtained in one place by alternating lines of *Mrs. Pollock* with lines of *Alternanthera*, several of each forming a band for a clump of shrubs. *Caladium bataviense* is very fine indeed in the open air, the bed surfaced with *mignonette*. Their rarest things appear to be

put out in this way: thus there is a bed of *Lomoria cycadifolia*, each plant with an old and fine stem; and this valuable and distinct tree fern apparently much hurt by the cold and stormy rains. There is a variety of perilla—"argentea crispa"—used, which seems capable of giving a dark olive effect, wherever such a sombre tone may be desired. *Artemisia Stelleriana* seems a fine, free, and decidedly silvery-leaved plant. Here, as in England last year, the best of the small fry of colored-leaved plants recently introduced is *Alternanthera paronychioides*; the second best, *A. spathulata*; the third best, *Telianthera ficoidea versicolor*. *Eranthemum tuberculatum*, a pretty white-flowering dwarf plant, is used, and flowers freely, but only succeeds well during warm seasons. I have, of course, taken observations of numerous other plants which I have not room to mention here, and will conclude by naming the best of the *Solanums* employed about Paris, for the genus is so full of wretched weeds, and plants useless as to the effect they produce, that your readers are more likely to make a mistake with them than with most families in this way:—

Solanum robustum.

- “ *macranthum*.
- “ *lanceolatum* (a free-flowering kind, blue.)
- “ *discolor*.
- “ *sisymbriifolium* (distinct.)
- “ *crinitum* (one of the very best.)
- “ *marginatum*.
- “ *Warscewiczoides*.
- “ *crinitipes*.

There are many others, but being planted late, they are not yet sufficiently developed. The fact is, what with *fêtes* and the garden of the Exposition, the people at La Muette have had great difficulties to get things planted at all this year, and therefore it is hardly a fair one in which to judge them.

POMOLOGICAL GOSSIP.

FINE PEARS AT THE SEPTEMBER EXHIBITIONS.—The Exhibitions of the Massachusetts Horticultural Society, and the Cambridge Horticultural Society, which took place in September, contained some of the most magnificent specimens of pears we have ever seen. Many of the varieties put up for competition were most remarkable for size and beauty. The Sheldon, Beurré Superfin, Howell, Merriam, and some others have given these varieties enhanced reputation. Messrs. Hovey & Co. had twenty very fine varieties, as follows: Swan's Orange, Sheldon, Beurré Superfin, Moore's, Howell, Doyenné Boussock, Bartlett, Seckel, Hovey (Dana's), Beurré Bosc, Paradise of Autumn, Urbaniste, Marie Louise, Andrews, Lawrence, Beurré Hardy, Doyenné du Comice, Pratt, Beurré d'Anjou, and Abbott, which obtained the first prize. Messrs. Davis & Bates, Cambridge, were second with several of the same kinds, and other sorts.

THE ISRAELLA AND ADIRONDAC GRAPES.—Very handsome specimens of these new grapes were shown at the exhibitions in September, but the Israellas were not ripe, while the Adirondacs were black and very sweet. It is at least one week or more later than the Adirondac. It is very compact in the bunch, and a good looking grape, but not quite so early as has been stated by Dr. Grant.

EXTRA CONCORD GRAPES.—Mr. D. Clark of Waltham exhibited remarkable specimens of Concord grapes at the Massachusetts Horticultural Society's Annual Exhibition, September 24. Three bunches weighed respectively 16, 16½, and 17 ounces, finely formed, with shoulders, perfectly black, with a superb bloom, and fully ripe. The quantity exhibited was more than a peck, and many of the clusters were nearly as large as those above named. They were deservedly awarded a silver medal. Mr. Clark also exhibited other specimens at the Middlesex Agricultural Society's Show at Concord, where his specimens carried off the first prize. Mr. Clark states that his vines are growing on a trellis, in front of a stone ledge, to which is attributed his success the

present year, when grapes generally have failed to mature. Such specimens of the Concord eclipse all other grapes of its season.

FRUIT PRESERVING HOUSES.—The Massachusetts Fruit Preserving Company are now taking in pears and other fruits on storage, for dealers and others, and we are glad to state that the fruit has kept to the entire satisfaction of those who have tried it. Bartlett pears, placed in the Fruit House, September 1, are now, October 15, in precisely the same condition as when put in, thus enabling dealers to furnish this favorite pear for three or four months. We doubt not that pears of all kinds will now be furnished at reasonable prices the whole winter. Heretofore they have been too dear for only the wealthy to purchase.

PEAR CORNELIS has been exhibited in great beauty the present year, and proves to be one of the few excellent pears from among the great number of Belgian kinds. It is nearly as large as the Bartlett, and fully equal to it in flavor. The tree is a very vigorous grower, and prolific bearer, and it ripens just after the Bartlett, thus keeping up the succession of good pears.

REMARKABLE CLUSTER OF WHITE NICE GRAPES.—We have from time to time recorded several accounts of splendid specimens of grapes exhibited at the English and Scotch Horticultural Shows the last few years. The following surpasses anything we have yet seen in the way of large grapes:—

Mr. Fowler, gardener to the Earl of Stair, Castle Kennedy, had the most extraordinary bunch of grapes for size and weight that has been exhibited in modern times. It all but rivalled the famous bunch of Speechly, at Welbeck, and was suggestive of it, in being suspended from an arched trellis, and rather too formally strung up, showing its enormous proportions. It weighed 17 lbs. 2½ ozs., and its name is the White Nice. The same grower had an enormous Black Alicante, with berries the size of Victoria Hamburg, and bunches compact and pyramidal to a fault, but they were red in color. Trebbiana, too, was the largest and best formed bunch of the kind probably ever exhibited. Black Hamburgs

were models in point of form, but deficient in color, and Muscats were particularly good, as also was the Golden Hamburg. If there was one thing more meritorious than another, it was a bunch of the Duchess of Buccleugh variety, from Castle Kennedy. It was much larger, both in bunch and berry, than any of this variety ever before exhibited, and as shown, too, in color, and in all points which are worth contending for in grapes, it merits a higher place than we were before inclined to give it.

MUSCAT CHAMPION GRAPE.—Messrs. Veitch again exhibited the Muscat Champion grape on the 17th September, a remarkably fine variety, with a Muscat flavor. It was raised between Mill Hill Hamburg and Cannon Hall Muscat, and succeeds in the same temperature as a Black Hamburg. The Fruit Committee confirmed their previous decision as to its high merit.

AMERICAN POMOLOGICAL SOCIETY.—The Ninth Session of this Society was held at St. Louis on the 12th of September. There was a very large and full attendance of cultivators from the Middle and Western States, and the display of fruits, particularly of grapes, is said to have been large and fine. A very large number of native wines were also exhibited, a trial of which was made, and a report submitted. We shall endeavor to give a summary of the three day's proceedings as soon as possible. Col. Wilder, the President, delivered an Address, a copy of which we have before us, but want of space compels us to defer any notice of it in this number.

WILD FLOWERS.

BY WILSON FLAGG.

IN my desultory essays on the wild flowers, I have omitted many species that are more worthy of notice than some that have been described. My object was not to write a treatise, but rather to notice some of the most popular species, and to describe their salient points in a few familiar and cursory

remarks. While preparing my manuscripts, therefore, it has been my aim to avoid errors, without endeavoring to give anything like fulness or precision of scientific detail. I could not carry out my plan of describing the wild plants in the order of their flowering; on the other hand I have sometimes described a species that flowers early, after the published description of later species. I have endeavored, however, to pursue the order of the calendar, as far as it has been practicable in sketches written on each month for the occasion. I will conclude the series with a few remarks on the flowers of autumn.

It is a matter of common observation that the compound flowers predominate in autumn above all others. The succory or chickory, the hawkweeds, the thistles, the bidens, the eupatcrium, the gnaphalium, and above all, the asters and golden rods characterize the landscape in September and October. These are generally very coarse plants with little beauty of foliage, though bearing in many instances, very brilliant flowers. Even the flowers of certain species of the thistle are not to be despised; and some are admired for their beauty of form and colors and their size, just as we admire a sun-flower, or a great dial-plate. The earlier compound flowers are more delicate in their structure than the later ones; as the season advances the species become more woody in their habit, to enable them to sustain the rough weather of autumn. The asters, for example, which are the latest and most enduring of all the genera, partake almost of the character of shrubs, having considerable of a woody fibre, and numerous branches, yet their flowers are far from being coarse, and many of them are very beautiful. Each flower is surrounded by a ray of petals or florets, very numerous and fine, and of such a length as to reduce the disc to a very unimportant part of the blossom. The American asters are all perennial, and do not equal the flowers of the annual German or China asters in the size and brilliancy of colors, but they exceed them in beauty of structure.

One of the largest flowering species in our fields is the New England aster, not very branching in its habit, and bearing its large flowers of a deep purple color in a crowded, cluster

at the top of the stem. This species surpasses the others in the depth and beauty of its coloring, but it is not the most attractive. The most interesting and beautiful of the American species in this vicinity, is the Blue flowered aster, (*A. cyaneus*) It is found on the borders of woods, partly under the protection of trees, seldom thriving well in the open meadow, where the other species are most abundant. The different species seem to be in many instances hardly distinguishable, or connected by so many intermediate varieties, that it is puzzling to determine whether any particular individual diverged from the one side or the other.

The largest and most conspicuous of this genus, is the Umbelled aster (*A. umbellatus*.) It grows to the height of several feet, and spreads out its branches like a tree, and is entirely covered with a profusion of delicate flowers, from half an inch to an inch in diameter, and varying in their colors from white to a very light shade of pink or of blue. There is no more conspicuous ornament of the landscape throughout the flowering season than this aster, including the numerous varieties into which it sports, crowding the lowlands and making them more attractive than even in June. Many of the plants attain the height of five feet, and spread out their branches so as to form a diameter nearly equal to their height, and covered with flowers.

Some of the white flowered species with minute crowded blossoms are an important ornament in the fields, on account of their profusion, though they attract but little attention. We must not omit to notice the Savory leaved aster (*A. linarifolius*) bearing a few very elegant purple flowers upon a rough woody stalk seldom a foot in height. This handsome species is found upon dry hills, protected by shrubbery. It is never abundant in deep woods. Although twenty species of aster are described by Bigelow, and several more by other botanists, it is difficult, except upon the most minute examination, to identify more than ten or a dozen plainly distinct species, and only a few of the whole number possess any elegance or beauty. Those qualities which have rendered the aster family the pride and glory of September are confined to a very few species. The remainder are coarse and inele-

gant plants without any properties to elevate them above the common weeds of the field and garden. It is remarkable that, while yellow is the prevailing color among the flowering plants of autumn, not a single yellow aster has yet been discovered. Their colors vary from the different shades of blue and purple to white.

After the asters the golden rods are the most conspicuous tribe of plants, during the early autumn. Dr. Bigelow, in his *Plants of Boston*, says of the golden rod, "This genus is exceedingly abundant in the United States, and with the genus aster predominates in August and September over all other vegetables then in flower. Among the species there is a vast variety of hybrids and subspecies which the labors of botanists have not yet been able to reduce under permanent characters, though names without number have been applied to fugitive varieties. The single species found in Great Britain is acknowledged to be one of the most difficult plants to define or understand. The same remark is applicable to a great part of the American species."

The most common and conspicuous of the golden rods is the *Solidago altissima*. It is abundant in the borders of fields and by rustic waysides; very tall, with its panicles of yellow flowers considerably subdivided, and like most of the species inclining to one side by the weight of its flowers. A very pretty species is the Grey golden rod (*S. nemoralis*) seldom more than a foot in height, with a panicle of bright yellow flowers, resembling a single nodding plume. It is very common in dry sandy plains where it seems to be in many cases almost the only vegetation, sometimes mixed about equally with the Savory leaved aster.

Another distinctly marked species is the Sweet scented golden rod (*S. odora*) containing an essential oil resembling anise, which is distilled and sold at the apothecaries' shops. The flowers of this species are not nodding. They are borne in a branching and flattened corymb, and are not highly colored. The Spear leaved golden rod resembles the *S. odora* in fragrance and exceeds it in the beauty of its flowers, borne in large flat topped heads, and somewhat earlier than the other.

The Marsh golden rod (*S. lævigata*) is the largest plant of the genus; but except in the luxuriance of its growth, which may be attributed to the fertility of the marshes where it grows, it differs not essentially from *S. altissima*. Widely as the golden rods and asters differ in their apparent and their botanical characters, there are some species that seem to belong about equally to either genus. Such are the *A. solidagineus* and *conyzoides*.

We must not omit to mention among the conspicuous flowers of autumn the *Coreopsis trichospenna*. It is abundant in wet meadows that lie open to the sun, and bears flowers that resemble the coreopsis of our gardens, but without its variegated colors. The coreopsis seems to be almost an aquatic, being generally found in habitats which are partly overflowed with water.

There is a minute plant which is abundant in the open fields in autumn, the principal beauty of which depends on its long stamens, the *Trichostema dichotoma*. It is an annual; the flowers are numerous and generally blue, but sometimes of a pale purple. The two long stamens, curling over the flowers, have gained them the name of Blue Curls. It is a plant that never fails to attract the attention of flower hunters.

Last of all appear the two gentians, *G. saponaria* and *G. crinita*. The last, the Fringed gentian, has been universally admired, and nearly eradicated by its admirers in the vicinity of Boston, who have plucked so many of them annually from the meadows, that in the towns within five or six miles of Boston, in localities where they were formerly abundant, only a few scattered individuals can be found. There are but few of our native plants that equal this gentian in beauty of structure and depth of color, being of a fine blue, with a fringed corolla. The Soapwort gentian is nearly as beautiful, bearing flowers of a deep blue, and nearly closed at the mouth.

General Notices.

CAMELLIAS.—Camellias in need of a shift should receive one now, an operation which should always be performed when the young shoots of the current season have ceased growing, and are showing the first symptoms of forming flower-buds. By shifting at this date the young shoots, having gained moderate firmness and consistency, are not likely to be injured in the process; besides which the shoots formed are not nearly so likely to push to an unnecessary length as when the trees are potted earlier, by which they would acquire renewed vigor through the roots running into fresh soil. Do not pot any, however, unless they are really in need of larger pots, as no greater mistake exists than to suppose that constant potting is needful to keep camellias in health and vigor. Once well potted, with proper after treatment, they will stand well for at least four years, and frequently six, without again requiring any attention of that kind. The proper soil for them is—and this is an important point in their successful culture—the thinnest possible parings from a good yellow loamy pasture, having abundance of surface herbage thereon. The life of this herbage must be destroyed quickly in any manner that will not cause decomposition, which must not be permitted. The killing process may be effected either by means of exposure to heat, or by drying sufficiently to ensure death. In this state chop the turves up only sufficiently small to ensure sufficient potting, adding one part of silver sand to every five of soil. Give only moderately large shifts, and press the compost firmly around the old balls, previously prepared by the removal of any loose soil, by means of a small rammer. Do not bury the face of the plant; on the contrary, rather allow the upper roots to become slightly elevated at their juncture with the stem. Keep the plants, when convenient, in a warm moist atmosphere for a time; syringe freely overhead, and constantly shade during intense sunshine.—(*Gard. Chron.*)

ECHEVERIA METALLICA.—I am pleased to see that Mr. Early speaks highly of this plant, for decorative purposes, as here it has been one of the most attractive plants which I have had this season. Its bright metallic tinged leaves, and singular appearance of growth, must at all times be looked upon with pleasure either in the flower-garden or conservatory. Many who have visited Osberton, this season, have expressed astonishment at seeing it thrive so luxuriantly so far north; some of the leaves measure 10 inches in length and 8½ inches in breadth. I also found this species of *Echeveria* in fine condition last week at Thoresby, where it flowers freely. It occupies two small beds, which have a very striking appearance. *E. glauca* has also done well with me this season.—(*Gard. Chron.*)

Societies.

CAMBRIDGE HORTICULTURAL.

THE SIXTH ANNUAL EXHIBITION of this Society was held at the City Hall, on Tuesday and Wednesday, October 1 and 2. The arrangements were similar to previous years, but, owing to the accession of members, and increase of cultivators, the tables were made wider to afford space, which was entirely filled with the finest specimens we have ever seen.

It would be almost impossible to enumerate the names of the various pears of superior merit which were placed upon the tables. We can only say, in general, that the Duchess, Beurre Diel, Sheldon, Beurre Bosc, Merriam, Beurre Superfin, Doyenne du Comice, Hovey, Seckel, Urbaniste, Marie Louise, Howell, Winter Nelis, Swan's Orange, Louise Bonne of Jersey, Easter Beurre, Lawrence, De Tongres, Moore's, and many others, were of the largest size, and without spot or blemish.

The grapes were unusually good, quite unexpectedly so, and well ripened specimens were exhibited of Concord, Adirondac, Allen's Hybrid, Framingham, Delaware, Isabella, and some others. Israella and Iona nearly ripe. Apples and peaches were shown in considerable quantity, and of excellent quality.

Of plants there was a grand display from the collection of Hovey & Co., comprising Palms, Yuccas, Agaves, Caladiums, Crotons, Dracænas, Marantas, Cycads, &c. &c., in all some 50 plants. Flower baskets and bouquets were sent from various cultivators, and the show was remarkably fine. Premiums were awarded to the amount of \$300 or \$400, but we have only space for a few of the more prominent, as follows:—

PREMIUMS FOR FRUITS.

PEARS.—For the best 15 varieties, to Hovey & Co., \$15.

For the second best, to J. C. Chase, \$12.

For the best 10 varieties, to A. Dickinson, \$10.

For the second best, to J. Nudd, \$8.

For the third best, to S. M. Davis, \$6.

For the fourth best, to S. Hill, \$4.

For the best 5 varieties, to Hyde & Watriss, \$5.

For the second best, to J. Eaton, \$4.

For the third best, to G. G. Gove, \$3.

For the fourth best, to C. A. Hall, \$2.

SPECIAL PRIZES FOR PEARS.—For the best 12 Duchess, to Stephen Hill, Brighton, \$10.

For the best 12 Beurre Clairgeau, to E. Davis, \$8.

For the best 12 Louise Bonne, to H. R. Kendrick, Brighton, \$7.

APPLES.—For the best 8 varieties, to Geo. Pierce, \$6.

For the second best, to Hovey & Co., \$4.

GRAPES.—For the best collection of Native kinds, 4 bunches each, to Davis & Bates, \$6.

For the second best, to S. W. Dudley, \$4.

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PREMIUMS FOR PLANTS AND FLOWERS.

PLANTS.—To Hovey & Co., for collection, \$10.

CUT FLOWERS.—For the best, to Hovey & Co., \$4.

For the second best, to F. Beeker, \$3.

At the close of the Exhibition the special prize fruits were sold for the benefit of the Society. The dish of 12 Duchess brought \$15.50, and the second, \$10. Altogether, the exhibition was a complete success, and maintained the reputation of Cambridge for its fine pears.

Massachusetts Horticultural Society.

THE THIRTY-NINTH ANNUAL EXHIBITION was held at the Society's Hall, on Tuesday, September 24, and continued until Friday evening the 27th. The plants and flowers, and the larger part of the fruits, were arranged in the large hall, the vegetables occupied the lower hall, and the grapes were placed in the Library. Every available space was filled and the tables completely covered with the finest specimens.

The display was every way creditable to the Society, and we think we can safely say a more magnificent collection of plants, both as regards size and variety, was never made in the country. The advance over previous years was apparent to every visitor, and the size, beauty and finish in the style of growth of the caladiums, marantas, dracænas, and ferns, reflected great credit upon the contributors. The fruits, especially pears and apples, were very large, and very handsome, and the absence of ordinary specimens gave the whole collection a rich and superb appearance. Grapes were inferior, owing to the wet and cool summer. We give as detailed an account as our space will permit.

PLANTS IN POTS.—These were all very fine, and many of them remarkable specimens. H. H. Hunnewell, Esq., sent a very large *Colocasia macrorhiza* variegata, with several of the leaves conspicuously blotched with white; *Dracæna stricta*, an erect leaved species, very handsome; *Agave filifera*, a strikingly handsome kind; also, a large *Pandanus variegatus*, *Dracæna terminalis*, *Yucca variegata*, *Maranta zebrina*, a fine large *Cissus discolor*, *Dracæna indivisa*, caladiums, &c.; and some capital ferns, among which were *Dicksonia antarctica*, *Lomaria gibba*, *Alsophylla australis*, the Climbing *Lygodium*, &c.

From Hovey & Co. came a collection of remarkable caladiums, measuring four to five feet high, and four feet through, among the number the elegant *C. Chantinii*, *Belleymeii*, *Wightii*, &c.; a superb *Seaforthia elegans*, eight feet high; the curious leaved *Philodendron pertusum*, *Cyperus alternifolius*, *Dracæna braziliensis*, *Veitchii*, *indivisa*, *Draco*, *umbracaulifera*, *Cooperi* (beautiful) *terminalis*, &c.; a very large *Latania borbonica*, *Theophrasta imperialis*, *Yucca variegata*, *pandanuses*, including *P. elegantissima*, a large *Hibiscus Cooperii*, marantas of several kinds, including the rare *M. rosea*

picta; *Agave filifera* and *A. medio picta*, several begonias, lycopods and ferns, among the latter, *Lomaria gibba*, very beautiful; large *Coleus Verschaffeltii*, *Colocasia atrovioleacea*, and several other fine plants.

Jona. French sent some excellent plants, among them the variegated pineapple, *Croton pictum*, *Maranta fasciata*, Variegated Hoya, *Caladium argyrites*, *Dracæna cannæfolia*, the pitcher plant, (*Nepenthes*) *Cissus discolor*, and several ferns, among them a large *Adiantum cuneatum*, and *Pteris tricolor*. F. Parkman, E. S. Rand, Jr., J. McTear, H. Grundel, and W. C. Strong, had small collections.

BOUQUETS, CUT FLOWERS AND BASKETS were numerous and fine. Messrs. Hovey & Co., F. Parkman, Jos. Breck, W. C. Strong, Geo. Craft, J. McTear, and others, kept their stands well filled during the entire exhibition. The gladiolus of Mr. Craft were exceedingly fine, and included a great number of seedlings. The bouquets of Messrs. Hovey & Co., M. P. Wilder, Jos. Breck, and J. E. Westgate, were well done.

DAHLIAS were better than usual, and very handsome flowers were contributed by E. Flynn, Lawrence, C. J. Power, Framingham, Hovey & Co., and B. D. Hill.

PREMIUMS FOR PLANTS, FLOWERS, &c.

GREENHOUSE PLANTS.—For the best 20 plants, to Hovey & Co., \$20.

For the next best, to Jona. French, \$25.

For the next best, to H. H. Hunnewell, \$20.

VARIEGATED LEAVED PLANTS.—For the best ten, to Hovey & Co., \$10.

VARIEGATED LEAVED PLANT.—For the best single specimen, to H. H.

Hunnewell, for *Colocasia macrorhiza variegata*, \$5.

For the next best, to J. French, \$3.

CALADIUMS.—For the best ten, to Hovey & Co., \$10.

FERNS.—For the best ten varieties, to H. H. Hunnewell, \$8.

For the best six varieties, to Hovey & Co., \$5.

For the next best six varieties, to J. McTear, \$3.

LYCOPODS.—For the best six, to Hovey & Co., \$5.

For the next best six, to H. H. Hunnewell, \$3.

MARANTAS.—For the best six, to Hovey & Co., \$5.

BEGONIAS.—For the best six, to H. H. Hunnewell, \$5.

For the next best six, to Hovey & Co., \$3.

PLANTS IN FLOWER.—For the best six, to Hovey & Co., \$5.

SPECIMEN PLANT.—For the best, to Hovey & Co., for *Cyperus alternifolius*, \$5.

HANGING BASKET.—For the best, to Hovey & Co., \$5.

CUT FLOWERS.—For the best and best kept, to Hovey & Co., \$16.

For the next best, to Jos. Breck, \$14.

For the next best, to F. Parkman, \$12.

For the next best, to J. E. Westgate, \$10.

For the next best, to E. Flynn, \$8.

For the next best, to E. Wasson, \$6.

For the next best, to J. Comley, \$4.

GLADIOLUS.—For the best, to Geo. Craft, \$6.

DAHLIAS.—For the best twenty-four flowers, to C. J. Power, \$5.

For the next best, to Hovey & Co., \$4.

For the next best, to E. Flynn, \$3.

HAND BOUQUETS.—For the best pair, to J. McTear, \$6.

For the next best, to J. Nugent, \$2.

PARLOR BOUQUETS.—For the best pair, to M. P. Wilder, \$6.

For the next best, to J. Breck, \$4.

Numerous gratuities were also awarded for Plants, Flowers, &c.

LARGE BOUQUETS.—For the best, to Hovey & Co., \$10.

FRUIT.—The fears that the crop of pears would be limited, and the specimens inferior, were quite premature, if the exhibition is any indication of their growth. A collection of larger, fairer or better specimens was never put upon the Society's tables. Some kinds were astonishingly large, and the number of competitors for the single dishes more numerous than ever. Of extra fine specimens, taken at random, we noticed Marie Louise from H. Vandine; Beurré Diel, J. C. Chase and J. H. Stanley; Louise Bonne de Jersey from J. C. Chase and J. Haley; Urbaniste, J. Nudd; Bartlett, A. Dickinson; De Tongres, J. Haley; Merriam, A. J. Dean, M. P. Wilder and Hovey & Co.; Sheldon, Hovey & Co. and B. Foley; Doyenné Boussock, M. H. Simpson and Hovey & Co.; Lawrence, F. Clapp; Doyenné du Comice, J. S. Farlow and Hovey & Co.; Hovey, F. Dana; Seckel, A. Dickinson; Beurré d'Anjou, J. H. Poor; Swan's Orange, McDermot; Fulton, Jos. Stickney; Duchess, S. Hill, G. S. Curtis and Capt. Austin; Beurré Superfin, J. A. Stetson, Capt. Austin and Hovey & Co.; Moore's, Hovey & Co.; Abbott, M. P. Wilder and Hovey & Co., and many other sorts of equal merit.

Apples were remarkable, and the collections of twenty and fifteen were all good, and some of them extra. Foreign grapes were very fair, though not so good as we should expect. The best were from M. H. Simpson, who had superb Cannon Hall; Wm. Gray, Jr., who had Buckland Sweetwater; R. S. Rogers, Bowood Muscat; H. S. Mansfield, Black Hamburg; C. M. Atkinson, Mrs. T. A. Ward and others. Native kinds were inferior with few exceptions; scarcely any were ripe. D. Clark, Waltham, had Concords, the finest we ever saw, weighing 16 and 17 ounces, each bunch perfectly black. Davis & Bates had several kinds, among them Adirondac, quite ripe. S. G. Damon sent Israella, small bunches, very compact, not quite ripe; Iona, Rogers Hybrids, Rebecca and Delaware, were not ripe.

PREMIUMS FOR FRUITS.

APPLES.—For the best twenty varieties, to F. & L. Clapp, the Lyman plate, valued at \$20.

For the next best, to A. Clement, Dracut, \$15.

For the next best, to Hovey & Co., \$15.

For the best fifteen varieties, to J. Eustis, S. Reading, \$12.

For the best ten varieties, to J. W. Foster, Dorchester, \$8.

For the next best, to C. N. Brackett, Newton, \$6.

For the next best, to Francis Skinner, Newton, \$5.

For the best five varieties, to John B. Moore, Concord, \$6.

For the next best, to Geo. Pierce, Arlington, \$5.

For the next best, to W. A. Crafts, Brookline, \$4.

For the best dish of Apples, to F. and L. Clapp, for Gravenstein, \$5.

For the next best, to J. B. Moore, for Hubbardston Nonsuch, \$4.

For the next best, to W. Heustis, \$3.

For the next best, to Geo. Pierce, Arlington, \$2.

PEARS.—For the best twenty varieties, to Hovey & Co., \$25.

For the next best, to Davis & Bates, Cambridge, \$20.

For the next best, to H. Vandine, Cambridge, \$16.

For the best fifteen varieties, to J. C. Clark, \$15.

For the next best, to Jos. Stickney, Watertown, \$12.

For the next best, to Wm. R. Austin, Dorchester, \$10.

For the best ten varieties, to A. Dickinson, Cambridge, \$10.

For the next best, to J. Haley, Cambridge, \$8.

For the next best, to J. Nudd, Cambridge, \$6.

For the best five varieties, to J. L. De Wolf, \$6.

For the next best, to J. Eaton, Cambridge, \$5.

For the next best, to S. G. Damon, Arlington, \$4.

SPECIAL PRIZES.—For the best and largest Duchess pears, to Wm. R. Austin, Silver Cup, \$25.

For the best twelve Bartlett pears, to A. Dickinson, Cambridge, \$5.

For the best twelve Doyenne Boussock, to M. H. Simpson, Saxonville, \$5.

For the best twelve Beurre Langelier, to M. P. Wilder, \$5.

For the best twelve Beurre Bosc pears, to J. Eaton, Cambridge, \$5.

For the best twelve Seckel pears, to A. Dickinson, Cambridge, \$5.

For the best twelve Swan's Orange pears, to A. McDermott, Boston, \$5.

For the best twelve Louise Bonne pears, to J. C. Chase, Cambridge, \$5.

For the best twelve Urbaniste pears, to J. C. Chase, Cambridge, \$5.

For the best twelve Beurre Diel pears, to J. B. Stanley, Chelsea, \$5.

For the best twelve Beurre d'Anjou pears, to J. R. Poor, Somerville, \$5.

For the best twelve Sheldon pears, to B. Foley, \$5.

For the best twelve Glout Morceau pears, to J. C. Chase, Cambridge, \$5.

For the best twelve Doyenne du Comice pears, to J. S. Farlow, Newton, \$5.

For the best twelve Beurre Superfin pears, to W. R. Austin, Dorchester, \$5.

For the best twelve Lawrence, to F. & L. Clapp, \$5.

For the best twelve Marie Louise, to H. Vandine, Cambridge, \$5.

For the best twelve Belle Lucrative, to H. Partridge, \$5.

For the best twelve Merriam, to A. J. Dean, \$5.

For the best twelve Winter Nelis, to Davis & Bates, Cambridge, \$5.

For the best twelve Dana's Hovey, to F. Dana, \$5.

For the best twelve any other sort, Mt. Vernon, to Walker & Co., \$5.

PEACHES.—For the best four varieties, to Lewis Wheeler, Cambridge, \$5.

For the next best, to Asa Clement, \$5.

PLUMS.—For the best four varieties, to Mrs. T. W. Ward, Canton, \$5.

GRAPES, FOREIGN.—For the best three bunches of Black Hamburg, to Mrs. T. W. Ward, \$5.

For the next best, to R. S. Rogers, Danvers, \$4.

For the best three bunches of any White Muscat, to M. H. Simpson, \$5.

For the next best, to H. S. Mansfield, \$4.

For the best two varieties, two bunches of each, to M. H. Simpson, \$5.

For the next best, to E. H. Luke, Cambridge, \$4.

For the best six varieties, two bunches of each, to Wm. Gray, Jr., Roxbury, \$5.

GRAPES, NATIVE.—For the best collection, four bunches, to Davis & Bates, \$20.

For the best six bunches of Delaware, to W. H. Wilcox, \$4.

For the best six bunches of Diana, to F. Dana, \$4.

For the best six bunches of Isabella, to J. V. Wellington, Cambridge, \$4.

For the best six bunches of Concord, to J. B. Moore, \$4.

For the best six bunches of Hartford Prolific, to B. B. Davis, \$4.

For the best six bunches of Rebecca, to Geo. Davenport, \$4.

For the best six bunches of Iona, to S. Capen, \$4.

For the best six bunches of Israella, to S. G. Damon, \$4.

Numerous gratuities for fruits were also awarded.

VEGETABLES.—The display of these, as usual, was very fine. The tomatoes were extra, the cauliflowers handsome, and the potatoes of large size, and in great variety. Our space will not admit of any further notice than to say the whole display was highly creditable, and the specimens well deserving the premiums awarded.

Horticultural Operations

FOR NOVEMBER.

FRUIT DEPARTMENT.

OCTOBER has been a pleasant month, and the absence of severe frosts has been highly favorable to the maturity of all fruits, and the ripening of the wood. Grapes have not ripened well in New England, owing to the rainy and cold summer, but in the West it is said the crop was never finer.

GRAPE VINES, in houses for an early spring crop, will now begin to bloom, and will require more attention. Air should be given moderately, and a good temperature kept up. Maintain a moderately moist atmosphere by sprinkling the walks. See that the border is well protected from frosts and cold rains, as a vigorous root action is essential to success. In greenhouses and ordinary graperies the vines will now be at rest, and an

abundance of air given to thoroughly mature the wood. Vines in the open ground may be pruned, and towards the close of the month may be laid down and protected with a covering of earth, or light half-rotted manure.

FRUIT-TREES should now be transplanted, proceeding with the work when the weather is dry and favorable, and protecting with a good covering of manure.

TRAINED TREES, on trellises or walls, should now be tied in or nailed, improving the fine weather for this work.

STRAWBERRY BEDS will require some attention. Go over the vines and clean out all weeds while the weather is favorable, and if there are any vacant spaces, fill up by transplanting young strong vines. Covering should be put off as long as the weather is good.

ORCHARD-HOUSE TREES should be sparingly watered, and removed to their winter quarters, before severe weather.

GROUND, intended for spring planting, should now be prepared by trenching, or thorough spading.

COLLECT LEAVES for winter covering, and collect and prepare manure for spring.

FIG TREES AND GRAPES, in pots, should be removed to a warm cellar, or placed in a cool grapery, or greenhouse.

TAR, or otherwise protect apple trees from the cankerworm grub. They begin to ascend the tree after the ground freezes.

FLOWER DEPARTMENT.

In gardens the least protected plants and flowers are still (October 22) in full bloom, untouched by frost, a later period, we think, than for many years. The freshness of the summer garden has consequently prevented the usual preparations in October for planting bulbs, &c. But frosts will soon destroy everything, and the work should be completed while the ground is dry and the weather favorable.

The conservatory should now be put in the best order, and with a proper supply and variety of plants, should be made very attractive at this early season. A few early camellias and dahlias, with the usual stock of chrysanthemums, primroses, eupatoriums, &c., ought to make it gay. A few cold frames will enable the gardener to keep back his plants, and supply a succession for a long time. Where there are cold graperies these are admirable places for geraniums, fuchsias and similar plants.

CAMELLIAS should now be neatly arranged, as much as possible by themselves, and, if necessary, the leaves should be washed or syringed thoroughly. Stake the plants up, if they need it. Thin out superfluous buds, syringe in fine weather, and water occasionally with liquid manure.

AZALEAS should be kept quite cool, unless wanted for early flowering. Water sparingly, but do not let the plants suffer. Improve the leisure time to tie the plants into shape, if not already done.

PELARGONIUMS will require attention. It is very important that they should be kept in a cool house, near the glass, giving an abundance of air

at all times, and water sparingly, the object being to get a good stocky well ripened growth before they begin to grow much in February. Repot specimens as soon as they require it, and encourage young stock by a suitable shift.

CINERARIAS AND CALCEOLARIAS should be kept in a cool house or frame, near the glass. Fumigate, if there is any green fly.

CHINESE PRIMROSES, as they come into flower, will require more water. Shift into larger pots, if needed.

FERNS will not require so much water at this season.

MONTHLY PINKS, now blooming freely, should be watered with liquid manure. Do not over water them.

EPIPHYLLUMS, now coming into bloom, should have a warmer house, and be more freely watered.

CALADIUMS should be dried off, and stored away in a warm dry place.

CALLAS will need an abundance of water. Place pans underneath the pots, and keep them filled.

GERANIUMS, of all the scarlet and bedding sorts, petunias, verbenas, &c., should be propagated at this season for spring stock.

BOUVARDIAS should have a good warm situation, and plenty of water while in flower.

CYCLAMENS may be kept in frames, or removed to the house, and placed on a shelf, near the glass.

PANSY SEEDS should be sown now, for early spring bloom.

BULBS, of all kinds, should be planted for a succession of bloom.

JAPAN LILIES may be potted and placed in a frame, or under the stage, till they begin to grow.

FLOWER GARDEN AND SHRUBBERY.

The lawn is yet green and fresh, and should be mowed as long as there is any growth. Keep all falling leaves swept up clean, and prepare to give the shrubbery and trees a light dressing of old manure.

HYACINTHS, TULIPS, and other bulbs, may be planted now.

JAPAN AND OTHER LILIES should be planted while the weather is fine.

DAHLIAS should be taken up, if not already done.

GLADIOLUS, of all kinds, should be taken up and dried off in the sun, the foliage cleaned from the bulbs, which may be put away in a cellar, free from frost.

DAISIES should have the protection of a frame.

PERENNIAL PLANTS, of all kinds, may be divided and reset.

PEONIES may be transplanted.

FRAMES, containing plants, should be well aired every day, covering at night only when there is danger of frost.

NEAPOLITAN VIOLETS, in frames, should be secured from frost when the weather is severe.

PROTECT ALL PLANTS with a thin covering of leaves, or coarse strawy manure.

AMERICAN POMOLOGICAL SOCIETY.

THE Eleventh Biennial Session of this Society was held at Saint Louis, according to adjournment, on the 11th of September last, and continued its labors for three days, adjourning to meet at Philadelphia in September, 1869, the day to be at the discretion and appointment of the President.

The attendance of members was large, and the exhibition of fruits, particularly grapes, quite extensive. The President congratulated the members upon the very great variety of fruits on exhibition. The display exceeded his expectations. At no previous meeting of the Society had he ever seen so varied and excellent a display of fruits as he found on the present occasion. Of grapes no less than 600 samples had been placed on the tables of the convention; of apples there were 802 contributions; of pears, 745, and of peaches, 212; making an aggregate of 2,139 samples exhibited, besides contributions of small fruits.

It was our intention to have been present at the meeting, the only one, with a single exception, we have not attended since the organization of the Society; but circumstances beyond our control, in addition to the almost absolute necessity that we should be present to aid in the Annual Exhibition of the Massachusetts Horticultural Society, prevented us, as it did nearly every pomologist in our vicinity, from being absent so long as the journey would require. Messrs. Wilder and Manning were the only delegates or members, much to our surprise, from Massachusetts.

Great credit is due to the President, Col. Wilder, for his enthusiasm and zeal in hurrying home from abroad, and travelling some thousands of miles in order to be present, and preside over the deliberations of the Convention. Both Mr. Wilder and Mr. Barry deserve great praise for their sacrifice of time, as well as their valuable counsels at the meeting of the Society.

It will be our object, as in years past, since the organization of the American Pomological Society, to give a complete

synopsis of its doings as soon as the official report reaches us ; from the great haste in which the ordinary reports are made, before time can be had for revision of the remarks of the members, material errors have occurred, and we prefer, and doubt not all pomologists prefer, to get the official accounts, before we place upon record the doings of an association, whose judgment ought to exert an important influence upon the reputation of our fruits.

We have, however, before us one official document,—the Address of President Wilder, printed from the original copy, and revised and corrected—which we propose to notice, and make some brief extracts from the interesting mass of information, as well as valuable suggestions, which he has brought together in some sixteen or twenty pages.

It might appear to many that the repeated addresses of the President must be of similar import, and contain but little that is new ; but to others, and to those who know the vast amount of facts which accumulate with an experienced collector and careful observer, there is always an abundance of new facts presenting themselves, and new ideas suggested in the cultivation of a varied collection of fruits, either of large or small extent. These facts and ideas form the basis of a most interesting document on the progress of pomology in the United States, and go far to establish it as the important science that it really is. The chaos of thirty years ago no longer exists, and right glad must the cultivators of this generation be, that the few enthusiastic men who originated the association cleared the way and reduced their labors to the simple work of selecting from the good, the bad having already been rejected beyond hope of resurrection. A fearful list of names is that of the pears, in the Catalogue of the Society, which the President, as well as ourselves, has spent almost a lifetime in proving, only to be discarded after a dozen years of continued care, anxiety and labor in bringing them to maturity, and testing their qualities. How many valuable years have been saved to those who now take up and continue the work.

The President's address commences with a brief sketch of the History of the Society, and the work it has accomplished

since its organization, and in connection with these he makes reference to former suggestions, and their practical results.

The origin and history of the Society is perhaps known to only a portion of the members who acted at the inception of the organizations, which were subsequently merged into one.

“The first national assemblage,” Mr. Wilder says, “solely for the consideration of pomological subjects, was convened at Buffalo, N. Y., on the first of September, 1848, by the New York State Agricultural Society. The session lasted three days, and the meeting resolved to perpetuate itself by an annual meeting, under the name of the North American Pomological Convention.”

The call for this meeting was issued as early as June, and generally circulated among pomologists throughout the country, but subsequently another call was issued for a meeting in New York, under the auspices of the American Institute. This convention met on the 10th of October, 1848, and adopted the title of the “American Congress of Fruit-Growers.” After a session of three days it adjourned to meet in New York in October, 1849. Of the subsequent history of the Society the President speaks as follows:—

“But it was plain that, for the decision of a Pomological Convention to carry due weight, there must be but one, indeed, that there could be but *one national* convention; and, accordingly, at the next meeting of the North American Pomological Convention, in Syracuse, N. Y., September 14, 1849, resolutions looking to a union of the two conventions, introduced by Dr. Herman Wendell, were unanimously adopted; and a committee, of which Dr. Wendell was at the head, was appointed to attend the meeting of the Congress for that purpose. The proposition for union met a hearty response from the Congress, which appointed a committee, headed by Mr. Downing, to confer with that from the North American Pomological Convention. At this conference the utmost harmony and good feeling prevailed; and it was agreed, with the largest spirit of fraternity and good will on all sides, that the North American Pomological Convention should surrender its organization, and that the two associations should be consolidated as the ‘American Pomological Congress.’

At this meeting a few concise by-laws were established, the select list was enlarged, a list of new varieties which promise well was adopted, and a beginning was made of a rejected list, by discarding, as unworthy of cultivation, twenty-seven varieties of apples and ninety-nine varieties of pears.

“The first meeting of the united conventions was at Cincinnati, in 1850; the president, however, owing to a death in his family, was unable to be present, and Dr. W. D. Brincklé was chosen president. Since this meeting the sessions have been held biennially, the next being at Philadelphia, in 1852, when Dr. Brincklé having declined a re-election, the former presiding officer was again called to the chair. At this session, the death of Mr. Downing, which occurred a short time previously, was noticed by a eulogy delivered by the president, at the invitation of the Horticultural Societies of Pennsylvania and Massachusetts. A Constitution and By-Laws were also adopted, and the name was changed to the ‘American Pomological Society.’ The session of 1854 was at Boston; 1856 at Rochester; 1858 at New York, when a large number of names was added to the rejected list, making, with seventy-two pears discarded in 1854, and a few at other sessions, in all six hundred and twenty-five varieties of fruits. The session of 1860 was at Philadelphia; 1862 at Boston, when the present plan of the Society’s Catalogue was adopted; and 1864 at Rochester.

“In this brief outline of the history of the Society, I have indicated the more important measures which have been from time to time adopted for the promotion of its objects, in addition to the discussion of the various kinds of fruits at our meetings. These discussions have, at the last three sessions, been materially abridged, leaving the catalogue to be perfected by the labors of the Special Committee in arranging and condensing the information furnished by the Local Committees. This is undoubtedly our best policy; and although, to the true pomologist, the study of the characteristics of varieties possesses a fascination hardly less than that of the delineations of human character to the novel-reader, I would recommend, that, in future, still more time should be given to the subjects of culture, diseases, insects, the origin

of varieties, the ripening and preservation of fruits, &c.; and to this end it is suggested that, in introducing new varieties, only those which give promise of peculiar excellence should be mentioned."

Mr. Wilder then proceeds to discuss the "Production of New Varieties," "The Characteristics of a Good Tree," "Characteristics of a Good Fruit," "The Preservation and Ripening of Fruit," in which he alludes to Professor Nyce's System as the desideratum so long hoped for, now so well proved by the Massachusetts Fruit-Preserving Company of Boston that he does not go into details. In this connection he truly says,

"The preservation of fruit by drying, canning, etc., appears to me worthy of our attention. Apples and peaches are preserved by drying to a large extent in our country, and grapes and plums on a smaller scale; but I see no reason why they may not be prepared here in sufficient quantity to render us independent of foreign countries for our supply, especially on those parts of the Pacific coast where the European grape flourishes, and the hot, dry summers are similar to those of the countries from which we receive our raisins and figs. Indeed, the making of raisins has already commenced in California."

"The Grape" next occupies attention, after which comes a "General View of the Work of the Society," and we occupy the limited space we have to spare with a brief extract, showing what it has accomplished since its organization:—

"In taking a general view of the work of this Society, we cannot but be struck with the richness, the embarrassing richness, I may say, of the material presented to us. In making up our Catalogue, we have been obliged, in every species, to omit, for some slight deficiency, varieties possessing so many good qualities as almost to grieve us to pass them by. It has been objected to Pomological Conventions, that the testimony to the qualities of the different sorts of fruit is so conflicting as greatly to impair their value; but we believe that, to one accustomed to weighing the evidence, the marvel will be, not that there should be discordant testimony, but that, in our vast country, with its endless diversity of soil

and climate, there should be so many kinds whose uniform excellence is either attested unanimously, or with barely exceptions enough to prove the rule. There may be some here who remember a motion, at the first meeting of the Congress of Fruit-Growers, for a committee to report a list of one hundred varieties of pears for general cultivation. The proposal was received with surprise at its audacity, if not with a stronger feeling at its folly; for had we not been told, by novices who thought they had got hold of an idea which more experienced cultivators had failed to discern, that there were not above twenty pears of any merit? Yet the list of twelve pears accepted at that meeting had, in 1856, only eight years after, grown to ninety-four, recommended for general cultivation either on pear or quince, or as promising well.

“The progress we have made is nowhere more forcibly shown than by the fact that, while thus increasing our list, the standard of excellence has not been lowered, but raised. Twenty-five years ago every new fruit of good quality was at once recommended for more or less extensive cultivation; if a good bearer, it was so much the better; if a hardy and vigorous tree, better still; but quality was all that was deemed indispensable: while to-day a fruit must combine, in a good degree, all these, and many other points, or be at once passed by; and many of those then thought most desirable are now on the rejected list. We hear no more of varieties which, though not of sufficient excellence for extensive cultivation, were yet so good that ‘a single tree should be in every large collection.’ A sort worthy of no more extensive cultivation than that is not worth growing at all, unless it may be, as in a museum, for its historical value.

“Our Society has brought together, from more than thirty States and Provinces, the most intelligent, experienced, sagacious, and skilful cultivators, who have taught each other, and made the knowledge of one the property of all. Its example has led to the formation of similar associations in England, France, and Belgium, and of local associations in our own country. It may fearlessly ask to be judged by its published proceedings, which, in their reports of discussions, reports of committees, catalogues, and papers on various

pomological subjects, embody, in a condensed form, such a mass of information on this science, the best thoughts of the best cultivators throughout our land, as is possessed by no other nation on earth. Instead of the fifty-four varieties recommended in 1848, our Catalogue now contains the names of five hundred and sixty-one fruits; viz., 178 apples, 122 pears, 43 cherries, 55 peaches, 6 nectarines, 11 apricots, 33 plums, 3 quinces, 18 native grapes, 22 foreign grapes, 18 currants, 13 gooseberries, 12 raspberries, 2 blackberries, and 25 strawberries; and the list of one hundred and twenty-six varieties, rejected in 1849, has grown to six hundred and twenty-five; viz., 126 apples, 351 pears, 5 apricots, 32 cherries, 2 grapes, 31 plums, 3 raspberries, and 75 strawberries; making a total of *one thousand one hundred and eighty-six varieties of fruit* on which the Society has set the stamp of its approval or rejection."

PUBLIC PARKS.

BY BLAXTON.

AN American in Europe can hardly fail to compare the city in which he is temporarily sojourning with his native, or his favorite, city at home. He sees much which he would be far from wishing to belong to the city of his affections,—yet he sees many a noble pile of ancient architecture, such as he wishes he could see arise, or beginning to arise, at home; and galleries of art, and charming public pleasure-grounds, which he wishes his fellow-citizens could possess, and thereby their refinement and enjoyment be promoted; and he consoles himself with the reflection that time will probably give to us in America equally beautiful specimens of the fine arts—albeit it is hardly possible to imagine a Gothic cathedral erected in America, and certainly wholly impossible that one should be more than commenced in his day; and although there are certain pictures and statues in Europe which our dollars could hardly enable us to possess before we have

adopted Monsieur Chevalier's suggestion of fighting Europe, and have finished the fight victoriously. But while walking in the cool shade of a public park or garden—whither he has escaped from the heat of the neighboring walls and pavements, or enjoying the refreshing sight and sound of its dashing cascade or full and foaming fountains, or while floating in one of the barges of its lake, or looking on the crowds of happy faces and remarking how rare it is to see one among the frequenters of these pleasant places who is not of a cheerful countenance,—a more practical thought occurs to him than that of building a cathedral, or robbing Europe of a Raphael, or of Michael Angelo's Moses, or of the treasures of the Vatican; the agreeable assurance, namely, that we can, in a very few years, make our cities to rival those of Europe in the beauty of their pleasure-grounds; as New York has proved even when the ground chosen is only a sterile, rocky waste,—and how much more easily, and at how much less cost, when, as is the case with Boston, land beautifully and boldly undulating, and at the same time abounding in natural wood and water, may be obtained. The intelligent European, (who, however, has not enjoyed the advantage of travel in America,) with whom our compatriot chances to fall into conversation in the foreign park, remarks that he presumes the American city parks must be peculiarly charming with their fine old relics of the primeval forest; and he is much surprised when the American regretfully, and with shame, informs him that his fellow-countrymen have not generally had the intelligence to provide public parks for their rapidly growing cities, or the good taste thus to secure for the public enjoyment the fine old oaks and elms of our suburban pasture-fields and meadows;—that, until lately, American cities, with the sole exception of Boston, have given no thought to that inestimable blessing of large towns—public parks.

Thus the writer was more than ever impressed, during a recent stay in Europe, with the wisdom, and the duty incumbent upon us in this country, of providing ground for our city parks, to be improved gradually with the increasing wealth of the community;—just as we must first organize

our Board of Directors and secure a building—or a room—and a good painting, or two, as the commencement of our galleries. But the gallery should be second in the order of our acquisitions: we should devote ourselves first to the park, and secure the best ground before it become too much improved and occupied for other uses, and its natural beauty lost by being shorn of its woods or by the levelling of its undulations. It is in *natural* beauty, probably, that our parks—with the exception of the New York Central—will rival those of the European cities, rather than in the created attractions of architectural or geometric gardening and hydraulic displays. The more natural advantages—woods and water, and picturesque diversity of surface—the ground contains, the more charming will be the park and the cheaper its formation, and the cheaper too, probably, the cost of the ground—since it is a combination of high and low ground—rocky hill and watery meadow—which is most to be desired for this purpose, and which at the same time is least valuable for building upon.

We should look upon our city's territory as a wealthy proprietor looks upon a farm or tract of ground which he intends to newly lay out, partly as a farm and partly as park or pleasure-ground. He carefully surveys the length and breadth of his lands, and with the aid of the landscape gardener studies the capabilities of his ground, and selecting the most desirable site for his house decides upon the route of approach to it from the highway, and encloses the park around it. So with our cities, we should *study the ground*, and choose and secure the most *picturesque* portion, possible,—with due regard to centrality of position—for our park. Having done this—secured the ground—we must consider how we can best reach it from the *built-up* portion of the town;—and the construction of at least one handsome avenue of approach to it should be considered a part of the park improvement; and, if practicable, it will be found desirable to approach it by two special streets, one a wide and perfectly macadamized and shaded avenue leading from the favorite *resident* quarter of the town,—the other a general and central thoroughfare leading from the business district, which would

probably become the principal street for shops. The park would thus—at the termination of two such lines of approach—be most conveniently situated.

THE CATAWBA GRAPE IN ROCHESTER, N. Y.

BY AARON ERICKSON, ESQ.

YOUR notices of grapes in this month's (November) Magazine, induces me to give you an account of one vine in my own garden.

It is generally conceded that our climate is not suited to the Catawba grape, yet I have one vine in my garden, now twenty-three years old, that has not failed but twice in this time to ripen fully, or reasonably well, a full crop of fruit. This season has been unusually favorable in this section, and every variety of hardy grape has ripened well. The Catawba, on my vine, attained the deep dark purple of the Kelly Island and Pleasant Valley fruits, and the clusters and berries were at least one-third larger.

I gathered the fruit from my Catawba vine about the first instant, and weighed correctly, and had from this one vine one hundred and forty-two pounds, and this too after the chickens had gathered many clusters within their reach, and after I had cut several superior clusters for presents, and a few for family use.

I hesitate not to say, that this vine ripened this year over one hundred and fifty pounds of fruit, nearly all of which I have now nicely put away for winter. If this statement should appear large, I ask you to make me a call next October, when, if I still live, I will agree to show you two hundred pounds on the same vine.

In my relaxations from business I have found both health and pleasure in the cultivation of the grape, and have many fine and productive vines. I have three fine Concord, five years old, that "Mr. Clark of Waltham" *cannot beat*.

Don't be startled. I have six *Delaware vines*, from which

I gathered this season over two hundred pounds of well ripened fruit, exceeding, in the size of clusters, anything I have ever before seen of this variety of the grape.

[Mr. Erickson is an old correspondent and friend, and withal a lover of good fruit and fine plants, and his large garden shows his enthusiasm for each. We doubt not he has done, and will do all he asserts, and will show us, or any one who will call on him next year, two hundred lbs. of Catawba grapes on his vines. Mr. Erickson is not a man to say and not do.

With all this assurance that he will fulfil his promise, we hardly think he could equal Mr. Clark's Concord. Still, we shall believe he has; and, if so, we can only say, nobody in Western New York can excel Mr. Erickson.

We are glad to have such statements from amateurs like Mr. Erickson—for if, from the leisure moments of an active business he can do so much, why should not those who make the culture of the grape a specialty do as well, or better? The reason is, there is no such thing as fail—in what Mr. Erickson undertakes.—ED.]

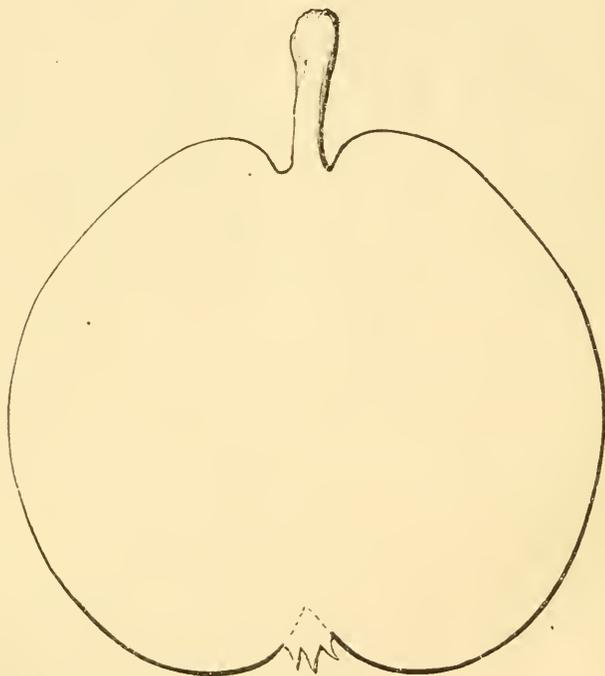
THE PEMBERTON PEAR.

WE have, from time to time, called attention to Dr. Shurtleff's Seedling Pears, and a year or more ago described and figured one which we thought valuable, called the President. For three or four years he has exhibited many new kinds, among them one which he called Gen. Banks. This we thought well of when we first tried it, and the past autumn we had another opportunity to try it again. It proved so very satisfactory that we described and figured it a short time since, (p. 308.)

We now learn from a note, recently received from Dr. Shurtleff's son, that the name has been changed to the Pemberton, for the reasons which are stated in the subjoined communication.—ED.

Dear Sir,—My father, Dr. S. A. Shurtleff, wishes me to say that the seedling pear, once exhibited as Gen. Banks, had its name changed, at the particular request of several pomological friends.

This pear is a seedling *of* a seedling, the parent tree having been raised in Boston, at my father's residence, on Pemberton Hill, now Pemberton Square. The tree was transported to Brookline twenty-nine years since. The fruit was of the Bergamot character, but only moderately good. This present seedling is from that. To perpetuate the birthplace of the parent, and the origin of the offspring, the name of Banks has been changed to Pemberton, and it will hereafter be known as the *Pemberton pear*.



11. THE PEMBERTON PEAR.

If not too much trouble would you be kind enough to state the change of the name in some future number of the Magazine, and oblige Dr. Shurtleff.—Yours, very respectfully,
AUGUSTINE SHURTLEFF. *Brookline, October 25, 1867.*

To prevent any error, we reproduce the engraving, (FIG. 11,) and description :—

Size, medium, about two and a half inches broad, and two and a half inches deep ; Form, roundish, broad at the crown, obtuse at the stem ; Skin, nearly smooth, dull yellowish green, broadly shaded with light red on the sunny side, slightly marked with green in the shade, and dotted with greenish specks ; Stem, short, stout, about half an inch long, nearly straight, and obliquely inserted in a small, deep cavity ; Eye, large, open, and but little depressed, in a shallow ribbed or uneven basin ; segments of the calyx stiff, narrow, entire, projecting ; Flesh, yellowish white, fine, melting, and very juicy, with a rich Bergamot aroma ; Core, rather large, somewhat gritty ; Seeds, small, short, plump, angular. Ripe the early part of September.

POMOLOGICAL GOSSIP.

AMERICAN POMOLOGICAL SOCIETY.—We have received a note from F. R. Elliott, the Secretary of this Society, saying that any information relative to new seedlings ; the comparative value of different kinds ; diseases of the same ; sorts adapted to the various kinds, as also specimens of apples, pears, grapes, or drawings or descriptions of the same, will be very desirable to enable him to incorporate the information into the forthcoming Biennial Report. These should be forwarded at once to F. R. Elliott, Cleveland, Ohio.

PEARS IN ILLINOIS.—The Southern Illinois Fruit Growing Society held a meeting at Alton, and discussed the various fruits. As an estimate of the value of pears in that region, as compared with Massachusetts, we copy the following discussion about pears. So much has been said about the local character of many pears that we think the information interesting, as showing there is little or no difference, except as regards liability to blight.

The Madeleine cracks, as it does here, the Dearborn delicious, the Vicar poor, except when well grown and ripened, the Louise Bonne poor and imperfect, on poor soil, as it is here, Swan's Orange magnificent, &c. &c. We extract the Report:—

DISCUSSION OF THE PEAR.

Madeleine—With Mr. Brown, one of the very earliest. The tree acquires a large size before bearing. With Mr. Baker and Mr. Carpenter it always cracked badly.

Beurré Giffard—Said by Mr. Brown to excel the former in size and quality, the fruit being generally perfect, and bringing the highest price. Tree, a slow grower, but early coming into bearing.

Bloodgood—Was also better than the Madeleine. With Mr. Baker it was the best early pear. Bears well; a little rusty, but rich and good; earlier than Tyson, but two weeks later than Madeleine. Mr. Carpenter would always plant it as an early variety; his trees were dwarf.

Doyenné d'Été—With Mr. Wright was a very fair bearer, and brought a good price, on account of earliness; trees smaller than others of same age.

Tyson—Was esteemed by Mr. Baker far more than Madeleine. Tardy coming into bearing. Testimony as to its blighting conflicting. At Kirkwood, Mo., it blighted more, but at Lockport, Ill., less than any other variety.

Seckel—Never known by Judge Brown to blight, while the Vicar of Winkfield and Glout Morceau were much subject to it.

Dearborn Seedling—Also exempt from blight, according to Dr. Morse. Bears every year a full crop of delicious little pears.

Vicar of Winkfield—Was universally branded as a pear of poor quality and imperfect appearance. Never known to be shipped to market. Its period of ripening was its only salvation. Mr. Earle thought it purely a cooking pear, and it was stricken from the list, and added again as a cooking pear.

Louise Bonne—Seemed to be almost worthless at Anna, the fruit being altogether imperfect. Col. Forbes, who picked in good season and ripened in cellar, received \$2.50 per box for it, while the Bartlett sold for but \$2, three weeks before. He considered it a first-class pear. With Mr. Clark and Mr. Colter it had been satisfactory. Mr. Wright had sold it for more than he thought it was worth; while Judge Brown found it very productive, and was not sure but that, when

properly ripened, it was the best pear in his orchard. The books all say it must be picked early; he thought this a mistake. The tendency of the tree is to a rapid growth towards the leading shoots, and it requires severe heading down to make a comely tree. With many present the tree dropped its leaves before ripening its fruit, which was very astringent. Mr. Earle suggested that the cause of Judge Brown's success lay in the fact that his trees retained their foliage, his soil being quite rich. It did well at Champaign also, and he believed this pear required a very high cultivation. With Dr. Childs they had failed in his orchard, though a single tree in his yard had succeeded admirably—a case well illustrating its wants. A motion to strike it off the list was lost.

Swan's Orange, [Onondaga.]—Conceded to be a magnificent fruit, and of delicious flavor, but very subject to rot at core. Early picking partially did away with this. Great difference in time of ripening with different persons, which was accounted for by mode of culture and richness of soil. Motion to strike it off the list lost.

Glout Moreceau.—Tree said to be very vigorous; handsome but subject to blight. Late coming into bearing. Fruit keeps well even to Christmas with a little care. A neighbor of Mr. Childs, who used leaves and brush to keep the weeds down, had found it the most profitable variety. Rather astringent, but scarcely so when the skin is removed.

Buffum—After being recommended as a delicious and profitable pear was placed upon the list.

Easter Beurré—Was found to do very well in Union County, though it did not in the North. Mr. Earle, while showing samples, recommended it as a very remunerative pear. It has been tried by Judge Brown, Mr. Wright and Mr. Carpenter, and would keep till March and April. Dr. Hull of Alton considered it the best single pear. It was added to the list.

Shaw Montelle—A French pear, recommended by Judge Brown, was added to the list.

Beurré Diel—Was also added. After some discussion as to the relative value of rich and poor soils for the pear, it was

generally conceded that the trees are longer-lived in rich soils, though more subject to blight; while on the other hand they came into bearing much earlier on poorer soil.

Beurré Gris d'Hiver—Not having been tried, was stricken off the list and recommended for trial, together with the Beurré Clairgeau, Beurré Bosc and Clapp's Favorite.

White Doyenné—General experience that it cracked badly, though in Rock Island County it was said to do well. Stricken off the list.

SIX BEST VARIETIES.

The Society recommends the following as the six best varieties for market: Bartlett, Belle Lucrative, Duchesse d'Angouleme, Howell, Lawrence and Bloodgood.

THE VICTORIA NECTARINE.—A correspondent of the Gardeners' Chronicle says Mr. Rivers may well be proud of this nectarine. "I gathered it as late as the 4th October, fine and delicious specimens of it from a tree against a south wall. The flavor was most exquisite. The fruit, however, was not so large as that of his 'Pineapple Nectarine,' hardly, which for size and beauty might vie with almost any peach. It is luscious beyond description." The Victoria is a recent seedling of Mr. Rivers, and has not yet, we think, been fruited in our gardens. It is well worthy of trial.

CHAUMONTELLE PEAR.—This fine old sort, which is scarcely cultivated in American collections, is a superb pear in the Island of Jersey. Four specimens have recently been exhibited there, which weighed, together, 96¼ ozs. The heaviest weighing 30½ ozs. Have our California or Southern cultivators tried it? Where it succeeds there is no better winter pear.

LILIUM TENUIFOLIUM, OR THE SCARLET MARTAGON LILY.

BY JOHN LEWIS RUSSELL.

IN the July number of this magazine may be found an excellent and instructive paper by the Editor on this truly

fine plant, from Siberia. It claims that the lily "is a recent acquisition, and has now flowered for the first time in this country." To state a matter of fact, rather than to claim any merit in the transaction, I am induced to make the following statement:

By referring to Volume X. of Hovey's Magazine, for the year 1844, on the 116th page, we find that "a letter was read from Professor Fischer of St. Petersburg, which accompanied a donation of seeds for the Society. The seeds were placed in the hands of Professor Russell, to be assorted and reported upon at a future meeting." And on the 152d page of the same volume, we find in the notice of the Doings of the Massachusetts Horticultural Society on March 2, 1844, that a "Report was read from Professor Russell on the seeds received from Professor Fischer of the Botanic Garden of St. Petersburg, which was accepted, and voted to be published in the Transactions of the Society."

The list of seeds, of which I have a copy now lying before me, contained, among other novelties, *Lilium tenuifolium*. On sowing some of these, with other botanical sorts, I was so fortunate as to raise two or three plants; and on changing my residence, on leaving Hingham, I entrusted the young plants to my friend, Mr. John Richardson of Dorchester, whose skill, taste and care in what is strange, rare and beautiful, is well known to many amateurs. I well remember his surprise and admiration, as expressed to me on visiting him after its flowering, which occurred on the second year after he received the bulbs, and which was in the summer of 1851. A bulb which he presented me from the lot has regularly flowered each summer ever since, charming and graceful, and of a superb color, the finest, richest martagon style, and of *petite* proportions. I have only saved it, making no increase, not even by seeds, and in vain attempting to hybridize from or upon it. Mr. Richardson, however, has been more fortunate; it seeding freely, and sowing itself; the old roots producing "four, five or six blooms."

The figure in the July number is excellent, and gives one a good idea of this novelty.

I am glad to find that my *Lilium* protege has come into favor, and that bulbs are advertised in the Catalogues, although in some instances at the price of five dollars each.

A call on Mr. Richardson last May, gave me a chance to see this lily grown in pots, and full of buds and with seedling plants around it. *Hyacinthus romanus*, and *racemosus* and some others were growing in fine clusters from bulbs raised from seed sown by me, in December, 1846. From these lots, (one subsequently received) I also raised some odd and inelegant *Columbines*, and a single White rose, after the style of the Scotch roses (*Rosa Biebersteinii*) which was lost after a few years blooming, and some plants of such botanical interest that they would be considered no more than weeds by florists.

[We are pleased that Mr. Russell has reminded us of the early addition to our gardens of this lily, and calling our attention to the fact that he raised it from seed several years ago. In our notice of this lily, at page 200, we should have mentioned this, but with the German description of it before us, we had forgotten about its introduction, through the Massachusetts Horticultural Society. Mr. Richardson, to whose care Mr. Russell entrusted his bulbs, has flowered many new things, and raised many fine seedling plants of various kinds, but he so rarely calls the attention of cultivators to his rich acquisitions that they are only known to a circle of enthusiastic amateurs.—Ed.]

FLORICULTURAL NOTICES.

THE FEATHERED CRIMSON CELOSIA OR COXCOMB, is one of the most beautiful of annuals for late summer decoration of the garden. Some very handsome specimens were recently exhibited by Mr. Harris, gardener to H. H. Hunnewell, Esq., who sent a brief notice of it to the Chairman of the Committee on Flowers. We have had a small engraving of

it prepared to present with Mr. Harris's note, but unfortunately it was not completed in season for this number. It will appear in January.

FINE ANNUALS.—Among the hundreds of Annuals grown on the large Seed Farm of Messrs. Carter & Co., near London, for the purpose of seeds, the following are particularly mentioned as prominent and valuable :—

The Tropæolums, or Nasturtiums, as they are called, cover acres of ground, in glowing scarlet. Among them a new climbing or rather trailing sort, called Glory, was most conspicuous, owing to the dazzling effect of its vivid scarlet blossoms; while in the Tom Thumb class, King of Tom Thumbs stood in the first rank. *T. compactum coccineum*, orange scarlet, is also very dwarf and good. Nearly every shade of color is to be seen among them; one has a bluish tinge; bright orange or yellow sorts might also be found in abundance. *T. compactum luteum* is a dwarf and good sort for beds; the blossoms are bright yellow, with a small blotch of a darker color in the centre. *Lobelia erinus speciosa* is perhaps the most useful annual which we have for flower-garden decoration; color and habit being every thing that could be desired; some recommend it to be grown and increased from cuttings, but this is unnecessary, as it comes true from seeds, and the plants are more healthy and not so apt to die off in patches as when they are grown from cuttings. The double-flowered *Sanvitalia procumbens* promises to be a useful bedding plant, habit the same as the old *S. procumbens*, but the flowers are larger, beautifully double, and are produced in great abundance. *Viola cornuta*, when seen in quantity as it is here, reminds one on looking at it at a little distance off, of the blue waters of the Mediterranean. It certainly deserves all that has been said in its praise. We mention it here among the annuals, as it can be successfully grown from seeds, but it can be increased by means of cuttings or divisions, and it is perfectly hardy (in England.) *Tagetes signata pumila* must be pronounced to be a very ornamental annual; indeed, in many gardens it takes the place of the *Calceolaria*. Among Everlastings, *Helichrysum atrosanguineum nanum* is a beautiful variety, with deep

crimson double flowers, which continue in beauty the whole season. The new Scarlet Sweet Pea Invincible is a really beautiful variety, which appears to have the property of continuing longer in flower than others, and it is equally fragrant. It is really a very desirable ornamental pea, which is sure to become a favorite when its merits have become more fully established. The miniature French marigolds are very compact, and seldom exceed six or seven inches in height; one, the Miniature Orange, bears heads $1\frac{1}{2}$ inch across, and is very free growing; but still more showy are the Dwarf Gold Striped varieties, which produce a profusion of rich brownish crimson heads, striped and edged with golden yellow, and measuring when well grown about $2\frac{1}{2}$ inches in diameter.

Among the integrepetala Class of Clarkias there is a showy one called carnea, of a deep flesh color; a fine double white; a dwarf variety, called Tom Thumb, with large rose colored petals; and marginata, deep rose, with light edge. Of Annual Chrysanthemums the New Double Golden is free blooming, dwarf, and very double; whilst among those exhibiting several colors on the same flower, Burridgii, white, crimson, yellow and dark brown in concentric circles is most beautiful. Some of the flowers measure $2\frac{3}{4}$ inches in diameter. Many other better known kinds are named as making a superb show, but the above are especially valuable.

BAMBUSA JAPONICA VARIEGATA.—This is a beautifully striped variety of the Japan Bamboo, a species of grass or rush, attaining the height of about one foot, with elegantly striped foliage, white and clear green. Its habit is compact and neat, and as an elegant object for vases and hanging baskets, or the open garden in summer, being hardy, it is a grand acquisition.

BEGONIA PEARCEI is a very distinct and pretty species, with dark green and velvety leaves, and yellowish veins. It is dwarf in its growth, and produces a profusion of conspicuous yellow blossoms, on slender stems, valuable for the open garden in summer, or hothouse in winter, flowering freely all the season.

General Notices.

TOMATOES.—In a recent number we copied an account of the comparative merits of tomatoes, as tried in the Horticultural Society's garden at Chiswick. The following additional information on some sorts is given under date of October 30:—

Keyes' Early Prolific is a tall growing variety, with the divisions of the leaves larger and fewer in number, and also of a lighter color than in the other sorts; the fruit medium size, roundish, pale red, but slightly corrugated, somewhat later than the Orangefield, but very productive, and altogether a *first class variety*. The Tilden, or Red Valencia Cluster, is a strong growing variety, which appears to be highly esteemed in America. The fruits are large, full, roundish, slightly corrugated near to the stalk only, of a deep red color, and the leaves are deep green; it is rather late, and is not so prolific as others, but very excellent.—(*Gard. Chron.*)

AUTUMN LEAVES.—Wishing to produce something out of the common way, in table decoration, the other day the idea occurred to me of using dead leaves in lieu of flowers, and the result was so successful that I am induced to send you a short description of the arrangement. The flat part of a Dobson's dinner vase was filled with moistened sand, and round the glass stem was twined a slender branch of *Lonicera aureo reticulata*, whose pretty green and yellow leaves droop downwards. The outer edge was formed of hardy ferns, next to them a few leaves of Mrs. Pollock. Flower of the Day, or Lady Plymouth, geraniums, their light tints contrasting with the brilliant orange and scarlet of the Sumach *Rhus*, large and small. Almost black are the curled *Perilla* leaves, and quite white the tender sprays of variegated Balm; the fashionable brown comes from off yon tall poplar tree that is slowly dying; and the Virginia creeper produces the newer shade the French call *Bismarck en colière*. A stiff Hartslonge supplies the verdant green, and light fronds of Maidenhair add gracefulness to the group; stiff and straight are the branches of green and white Periwinkle; and *Amaranthus* yields a melancholy red, while in the striped *Iresine* is seen the color of Bordeaux vine; but between these two the ragged *Cineraria maritima* looks light and downy. There a few of the sere yellowed leaves of Laburnum, all speckled as they are, a branch of snowy *Gnaphalium* near the spray of purple beech, the shaded *Liquidambar*, and the pure crimson of the long narrow Coxcomb leaf, need only the hardy Ice plant, a dark olive *Camellia* or Myrtle leaf, with a spike or two of Juniper and Mountain Heather to complete as bright a cluster as ever wax lights illuminated, though not one flower or berry rises from out our autumn bouquet.—(*Gard. Chron.*)

MINIATURE VINES IN POTS.—When at Birkenhead Horticultural Show, the other day, I saw several pots of Black and White grapes exhibited, from one foot to one foot six inches in height, with two or more bunches of fruit on each. The grower of them is Mr. Wm. Henderson, gardener to Hon. L. Hurman, Newcastle, Ballymahon, Ireland. The cuttings were taken from old plants in February, and planted in 4-inch and 6-inch pots, and the grapes were ripe for table in the following February—a great acquisition to dinner-table decoration, being both useful and ornamental.—(*Gard. Chron.*)

Massachusetts Horticultural Society.

Saturday, June 1, 1867.—An adjourned meeting of the Society was held to-day,—the President in the chair.

The following members were elected: G. A. Hunnewell, Geo. E. Allen, E. W. Dennison, Geo. C. Rand, S. K. Roberts.

Meeting dissolved.

July 6.—A stated quarterly meeting of the Society was held to-day,—the President in the chair.

L Wetherell, from the Committee for that purpose, made a Report on the Tobacco Soap, with numerous testimonials, showing its value, and on motion of C. M. Hovey, it was

Voted, That the Silver Medal of the Society be presented to Mr. Jaques for his discovery of this "Soap."

F. C. Child and F. R. Gilkey were elected members.

Adjourned one month, to August 3.

August 3.—An adjourned meeting was held to-day,—W. C. Strong, Vice-President, in the chair.

Adjourned one month, to September 7th.

September 7th.—An adjourned meeting of the Society was held to-day,—the President in the chair.

A Committee of Five was appointed to nominate officers for the ensuing year, viz., H. Davis, F. Parkman, E. S. Rand, Jr., F. Burr, Jr., and C. N. Brackett.

Members elected, W. P. Walker, P. P. P. Ware, Wm. F. Hall, E. Chapin, A. B. Shedd, E. Warren, Stiles Frost.

Meeting dissolved.

Horticultural Operations

FOR DECEMBER.

FRUIT DEPARTMENT.

NOVEMBER was decidedly winterish, with the temperature at 16°, and one week of good cold weather. It now appears to be moderating, and December will undoubtedly be milder. With such weather cultivators were taken by surprise, and we presume many winter vegetables were more or less injured. If the weather continues open, every thing to be done in the way of protection better be attended to immediately.

GRAPE VINES, in the very early houses, will soon have set their fruit, and the temperature should be slightly increased; the house may also be kept more moist, by frequent sprinkling of the walks, giving, in fine weather, liberal supplies of air, and maintaining a good heat in the border by additional covering of manure or short hay. Avoid too high a night temperature until the days grow longer. Grape vines, in the greenhouse or grapery, may be pruned this month, and cleaned and washed. Vines in cold houses should be laid down and covered, if not already done. Hardy vines should be laid down and covered in the same way, when it is convenient to do so.

FRUIT TREES of all kinds should be washed with whale oil soap, or a similar wash, to keep the bark clean and fresh. Manure should also be applied now, giving each tree a barrowful or more, on the surface, immediately around the tree.

STRAWBERRY BEDS should be covered as soon as the ground begins to freeze.

ORCHARD-HOUSE TREES may be protected in deep frames, laying the trees on the sides of the pots, or they may be put into a cold cellar.

GROUND for spring planting may now be trenched and prepared.

FRUIT-TREES, in pots, for early bearing, may be removed to the greenhouse or grapery the last of the month.

FLOWER DEPARTMENT.

The cold weather of November has left the garden bare of all vegetation, and where there are no houses there will be little more to do till spring, other than to prepare ground. In greenhouses, however, there is an abundance of work. All the plants should be looked over often, cleaned and washed, and, if they require it, staked up and put into shape. As the chrysanthemums and other early flowering plants go out of flower they may be removed to a frame, and their places filled with other things. Bulbs, planted early, will soon be in flower, and many small plants from frames will be ornamental for a month or two. This is a good time to examine the plants, and see what kinds will require repotting next month, and to make preparations for sowing many sorts of seeds which will be

required for early flowering in the open ground. Look after insects, and fumigate when troublesome.

CAMELLIAS will now be flowering, especially if the house is kept at a moderate temperature. Such as are wanted late in the season should be kept in a cool house. Syringe the plants freely in fine weather, and water more liberally at the root, as the buds begin to develop. Improve the leisure time to stake and tie the plants into handsome form.

AZALEAS will soon commence flowering. See that the plants are free from insects, particularly the thrip, which is very troublesome. Water sparingly until the plants begin to flower, and syringe often. Stake and tie out such as are intended for specimens.

PELARGONIUMS should be kept cool, and rather dry for awhile, until the plants have a thick, heavy, short foliage. Keep near the glass. Repot and tie out plants intended for specimens, and prepare to repot all young stock the last of the month.

CALCEOLARIAS AND CINERARIAS should have a good place on a cool shelf. Shift as soon as the pots are filled with roots.

ORCHIDS should be kept rather dry, and somewhat cooler than last month.

FERNS should be more sparingly watered at this season.

FUCHSIAS should be repotted, shaking out of the old soil, and placing in smaller pots. Head in the branches, and syringe often.

JAPAN LILIES should be potted, and kept in a cool house or frame.

ZONALE GERANIUMS should be repotted, and young stock encouraged by a shift into the next size.

MONTHLY CARNATIONS should be grown in a cool house, and have moderate supply of moisture. If they need it shift into larger pots. Now is a good time to put in cuttings.

MARANTAS, which have been at rest for a few weeks, should soon be repotted, dividing the fleshy roots carefully, if new stock is wanted. Use coarse peaty soil and sand.

GARDENIAS should be kept rather dry and cool, unless wanted to force in a strong heat.

ROSES, taken up from the open ground, should now be pruned and placed in a good position on a light shelf or stage.

CALLAS should have an abundance of water.

CALADIUMS should be kept quite dry, and in a warm place, near the flue or hot water pipes.

BOUVARDIAS, and similar free growing plants, flowering abundantly, should have occasional waterings with liquid manure.

PANSY SEEDS should be sown for an early bloom. Sow in pans, and place on a cool shelf.

BEGONIAS should be kept rather dry for a few weeks, unless there is a good warm house to grow them.

HEATHS should be kept cool, and carefully watered.

Make preparations for propagating next month, and potting off stock already rooted.

