# AMERICAN FLOWER GARDEN COMPANION.

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THE

# AMERICAN



# FLOWER GARDEN COMPANION.



ADAPTED TO THE NORTHERN STATES.

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"Who loves a garden, loves a green-house too.
Unconscious of a less propitious clime,
There blooms exotic beauty, warm and snug,
While the winds whistle, and the snows descend."

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LANDSCAPE AND ORNAMENTAL GARDENER.



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# INTRODUCTION.

In introducing the present little treatise to the reader, it may be well to say a few words on the object, plan, and mode of execution of the work. The "Flower Garden Companion" is intended to aid those persons who are desirous to become acquainted with the culture of flowers. In its compilation the aim has been, to give within the compass of a convenient manual for reference, as much useful matter as possible relative to the subject. To this end, each topic has been separately treated and in as concise a manner as could be done with propriety: and indeed, in some cases with a degree of brevity that on the first reading, to the young practitioner, might produce a feeling of disappointment at the apparent deficiency of information; but, on a careful reading of the different articles it will be found that everything useful in so small a treatise has been spoken of; and that, in many instances, one article acts as a key to another.

In the outset, directions for laying out the flower garden are given, with remarks on various useful and ornamental appendages. In treating of this subject, I have confined myself to the general outline, without entering into minute details, which will much depend on location and circumstances, as well as upon the taste and means of the proprietor.

The remarks on the different stimulants requisite to plants, and how they act on the vegetable system ; with the observations on the leaf, root and bud, when fully understood, will be found useful to the young cultivator. The different methods of propagating plants have been treated in the simplest manner, in order that success may reward those who put them in practice.

The second "part" is principally occupied with directions for the culture of plants and shrubs. To each class a descriptive list has been appended, giving the color, height, and time of flowering, of such varieties as have been found to be best adapted to the American flower garden. It should be understood that location and the different treatment plants receive will have great influence on their color, height and time of flowering, which I have set down on a medium scale. I have introduced a monthly calendar at this part of the work, and some observations on

the variations of plants and flowers, as color, motion, and double flowers.

The green-house being so intimately connected with the flower garden, I have devoted a considerable space to that subject. Directions are given for the treatment of the different families of green-house plants, as the Camellia, Erica, etc. ; and descriptive lists of the most valuable varieties are subjoined.

The culture of plants in rooms, the management of cut flowers, and a variety of other matters having a bearing upon the subject of flower-gardening, constitute a miscellany which I trust will be found interesting and useful. At the end of the volume I have placed a glossary of the most useful terms in botany, (for which I am principally indebted to Stroud,) to enable young beginners to become acquainted with the terminology of plants.

Although the "Companion" is professedly adapted to the Northern States, it will be evident to the intelligent reader that, in regard to the growth and time of flowering of plants, some allowance must be made for the difference of climate in the various sections of those States. I have adopted the meridian of New York and Massachusetts in giving the time of planting and flowering ; where the season is earlier or later than in these States, a corresponding differ-

ence in the time of performing the various operations of the flower garden should be observed.

I must here beg leave to acknowledge my obligations to several practical gardeners and lovers of flowers for their kind assistance in framing the lists of plants and for useful hints for this little treatise, which I send to the world hoping it may have a tendency to throw some light on the culture of the flower garden; and should my feeble efforts in any way give a new impulse to the zeal already manifest in the culture of flowers, my earnest wishes will be fully answered.

EDWARD SAYERS.

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# PART 1.

## ARRANGEMENT OF THE FLOWER GARDEN, AND PROPAGATION OF PLANTS.

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## CHAPTER I.

### On Laying out the Flower Garden.

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#### Art. 1. — *General Remarks.*

The principal object of the "Flower garden" being to please the eye, it should in every department have a clean and healthy appearance, which greatly facilitates the health and growth of the plants and flowers that it contains.

The situation should be so selected, that all the kinds of plants are, as near as possible, accommodated to their natural location, which, by general observation, will be found to be of a more varied nature than can in any given spot be combined to suit the health and growth of such plants as are placed in the flower garden: hence the propriety of selecting a soil, that will suit most kinds; and in some cases, a proper soil, to suit those plants that will not thrive without their *peculiar* earth to support them.

A knowledge of these requisites, is in a great measure, the leading principle of what is called flower-gar-

dening; although in many cases, the mere act of culture is the only object in view, which has but little weight on the subject; for we can observe wild flowers growing luxuriantly in their natural state, without any other assistance than the hand of nature.

For a definition of the different modes and management of flowers, I refer the reader to their respective heads.

ART. 2.— *Laying out the Flower Garden and Planting.*

It is difficult to give a correct method, for laying out flower gardens, owing to the diversified opinions of different persons, which are much at variance with each other. Some say that nature should be copied, as much as possible, others that formal lines and geometrical figures, such as circles, ovals, &c., are best.

The principal object to be considered in laying out the flower garden, is the extent and location of the ground, and the taste of the owner.

At country residences, where a large extent is appropriated to this department, many convenient and pleasing appendages can be judiciously introduced; as rustic arbors, rustic seats, and rockery; and if water can be connected, it always gives a good effect. All such appendages, I recommend to be constructed in as natural a manner as possible.

The arbors should be covered with vines and creepers, and their form not be discovered until the person who is desirous to rest, after viewing the flowers in the other departments, happens to stroll into them by an easy walk: all such places should be constructed in the shade, for retirement, and not on a rocky eminence, under the influence of the burning sun, unless a fine landscape is

to be seen from them, and then an observatory is more proper.

In many cases, the flower garden will have a pleasing appearance, when various figures are cut in a well kept grass plat, where ease should invariably be attended to.

In laying out flower gardens, great care should always be taken, that there is a regular proportion of the beds and walks in the different departments; for it will have a bad effect if any thing is cramped. The walks should if possible be wide enough for two persons to walk abreast, in order to give a social effect, which should always be the first consideration in the flower garden. The beds should also be well proportioned, and not too much cut up into small figures, which when bordered with box edging, have the appearance of so many figures formed for the amusement of children more than for the purpose of growing flowers. There is also another great error sustained in this method, namely, the edging will retard the growth of the flowers by being close to them; for indeed there is nothing that so much exhausts the soil of nutriment, as box edging.

Every department should have an open, easy appearance and regular proportion.

I must also beg leave to caution my readers against the very improper method often practised of planting fruit trees in the flower borders and among shrubs: — the impropriety is very evident, if we take into consideration that many of the flowers must eventually be spoiled in gathering the fruit; besides the inducements presented for children to injure the flowers when in the act of robbing the trees of their fruit.

*If fruit is to be planted, a proper place should be selected; it should never be mingled among shrubs and*

*flowers;* unless the ornamental kinds, as the Siberian crab, Weeping cherry and the like; *and those have a better effect as a single ornamental object.*

ART. 3.— *Soil and Materials.*

The soil best adapted for the flower garden, is a *mellow loam* incorporated with some rotten manure, and a portion of dry sand, with a dry mellow subsoil.

A part of the ground should also be of a *boggy nature*, composed of black earth and decayed leaves, in a low situation, for the accommodation of such plants, as grow in a boggy soil; which are *Lobelias*, *Iris*, and the like.

The other materials, are gravel for walks, which should be rough for the bottoms to drain off the water from the surface, and fine gravel for the top in order that the walk may bind hard. Stones for the rockery should be of the roughest kind, that nature may be as much as possible imitated; and the materials for arbors and trellises and the like should be of the most simple construction.

ART. 4.— *General Planting of Shrubs and Flowers.*

THE best time for planting shrubs and flowers is in the spring, when the sap is beginning to rise. This generally happens in the month of April, and is, perhaps, the best time for performing such business.

In many cases, planting may be very judiciously and economically done in the fall, especially on dry ground, and where hasty improvements are to be made: much work will thus be forwarded before the coming spring.

The manner of planting may be simply stated in a few words, combining trees, shrubs and flowers. As almost

every species of plants have a conjunction of their roots, a few inches under the earth's surface, which, if I may be allowed the term, I will consider as the *crown of the roots:* let this be the criterion of planting, that the above mentioned part be placed a few inches below the surface, and not too deep, which, in many cases, destroys the plants, particularly those that do not freely root from the foot or the base of the stem, when their natural roots are destroyed by being placed in a situation injurious to them.

The proper manner of planting, or act of inserting the roots, so as to insure the growth of the plants, is simply to observe the nature of the fibrous roots and place them in their natural position in the soil.

Those plants that extend their roots far around the crown or centre, require a hole made to accommodate them, without cramping their roots; others that root downward in a perpendicular manner, as the Pæony and tuberous roots, and most kinds of bulbs, should be planted so that the roots find their way into deep, rich soil.

In the act of planting, place the crown of the roots an inch or two deep, and close the fine earth well about the fibres with either the hand or foot, observing well the nature of the roots: and if the ground is very dry in the spring, give a quantity of water to settle the earth about them.

### Art. 5.— *Location or Position of Plants.*

Plants in their natural state, have their peculiar location: it is also requisite to see them in perfection, to place them in similar locations, under the hand of the cultivator: hence, running vines, such as *Honeysuckles, Clematis, Bignonias,* and so on, are most proper for covering

arbors and trellises, Ivy and Virginian creepers for walls, tall shrubs for concealing old boarded fences, and unsightly objects, and the pretty dwarf flowering shrubs, as the *Double Almond*, *Mazeron*, and *Roses*, should be brought nearer the eye of the observer. Their position should also be such, as to give the effect of variety of color, and so arranged that a variety is always in blossom, which can be effected, by referring to the *descriptive list*, of the several varieties enumerated therein.

### Art. 6. — *Plan and Management of Trellises and Arbors.*

In many flower gardens, trellises, arbors, and summer houses, may be introduced to a very good purpose for concealing offices and unseemly appendages.

The form and disposal of these must greatly depend on the size and situation of the garden.

In city gardens, trellises are mostly introduced on entrances to the back offices, in which case, they are generally covered with the *Isabella grape*, or other running vines; as the *Honeysuckle* and *Clematis*. Such vines should always be pruned in the spring, and trained with the greatest care, to guide the summer shoots, which is often too much neglected, to the injury of the plants.

The summer dressing of vines, is simply to thin them out where too much wood is growing, and which would cause a general weakness in the vine; the next object is to train the young shoots, so that all vacant places are regularly covered. These remarks will be found applicable to all kinds of vines.

In flower gardens attached to country residences, the trellis is mostly applied to arbors, which ought to be of a rustic nature, and any form most convenient; formality

in their structure, spoils the good effect they would otherwise produce. I think that most of my readers will agree that they should be of an easy and rural character.

ART. 7.— *Forming and Planting the Rockery.*

The Rockery, is perhaps one of the best features of the flower garden and is particularly adapted to this climate : its location depends on taste and circumstances. In most cases, it is placed in a very conspicuous situation, as the front of the Green-house, principal entrances, and such like. By general observation, I have found that a plant thrives best on the rockery, when placed in a situation where the principal part of it is partially shaded by shrubbery or trees.

In extensive pleasure grounds the rockery has a good effect when placed distinct from the flower garden, and near a rustic arbor or ornamental bridge, or seat; and if placed by the side of a retired walk, near the lawn or grass plot, it has an easy effect. The form and dimensions, may be so as to accommodate the location it is placed in : a long oval line, or almost any form pleases.

The materials should be rough stones, and good rich earth; the base to be laid with stones, and then a quantity of soil : this method may be pursued until the whole is completed. When finished, it should have as much as possible a natural appearance, and ridge-like shape.

The plants best adapted for the rockery, are of the herbaceous kinds, as the *Phlox*, *Penstemons* and so on : all kinds of pretty native plants may also be pressed into the service of the rockery, as the *Asters*, *Wood Anemones*, Violets, and in fact all kinds of plants that will thrive on a rock should be planted indiscriminately,

without order, so as to form a variety of flowering plants, in every month of the season. Plants growing in this manner, always assume their natural habits and are fine specimens, for young beginners in botany, and the junior members of families that are studying that delightful science: perhaps there is no greater inducement to its researches, than a fine collection of hardy native plants on the rockery; especially if the beautiful tribe of ferns is to be studied, which will thrive well on rocks.

Planting the rockery, is merely attended with inserting the plants between the stones, in the soil in their natural situations; either on the sunny or shady side: if the rockery is covered with leaves and pine or hemlock brush in the winter, the plants will flower much better in the spring. Let it be remembered, that most native plants in woods, are indulged by nature with a covering of leaves in the winter, and therefore the utility requires no further comment.

ART. 8.— *Ornamental Waters and Bridges.*

There is nothing that I am acquainted with, that gives more ease, and has so fine an effect in the ornamental and flower garden department, as ornamental waters, in any form they can be introduced; it gives a relief to the eye, from too much sameness of the living part of the created world; and calls to mind, the utility that is derived from its presence as a medium conductor of food, to an organized kingdom. Independent of this, the cooling aspect it assumes, forms a fine feature in rural scenery.

No correct definition that I am acquainted with, can be given on the formation of ornamental water; therefore it must, like many other things, depend entirely on the

taste of those who wish to introduce it. In many cases canals have a pleasing effect as on extensive places where they are so managed as to be lost to the eye of the observer; in such cases the utility of canals is obvious to the intelligent observer.

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## CHAPTER II.

### On the Nutriment of Plants.

#### ART. 1. — *Preliminary Remarks.*

BEFORE I proceed to the culture of plants and flowers it will be proper to point out their different nutriments and stimulants and how they act on the vegetable system either in a congenial or injurious manner, which by a little observation will be found to be of a great importance in the culture of all kinds of plants and flowers :— to this I have also added some remarks on the development of the different parts of plants, as the seed, the bud, the root, the leaf, and the like which I consider essential to be known to the cultivator and I hope the subject will therefore be of some utility in this place.

These plants like all the other bodies which are organized, require an appropriate nutriment, for the germination of seeds and the further development of vegetable economy. The most superficial observer is aware that plants derive their principal food from the *soil* and *atmosphere*, although not in equal proportions. They also require different compounds, according to the nature of the soil in which they naturally grow: thus the *Cherry*,

*Peach* and *Nectarine*, are found to grow on a light dry soil, while the pear and plum, require a deep loamy soil; and aquatics grow altogether in water, as the *Valisnera Spiralis*, *Water Lily*, &c.: others, as the *Ferns*, live and flourish on the hardest rocks.

### Art. 2. — *Food of Plants.*

The principal food of plants is found to be either vegetable or animal substances in a decomposed state, which enter into vegetables by aqueous solution, and as it were compose a new vegetable in an organized state. This food is principally absorbed by the roots of plants; it is also inhaled by the leaves, its particles being often raised to a considerable height by the winds.

Earths, *as Clay*, *Lime*, *Flints and Magnesia*, are also absorbed by plants in solution; each particular variety will be found to contain these earths in different proportions, according to the preponderance of the soil in which they grow: hence by calcination of corn stalks, flint is found in the ashes, and is perhaps one of the finest finishers for steel.

Plants inhaling chalky soils possess portions of lime, and by analysis each variety will be found to contain a portion of solid substance, which they most readily imbibe by aqueous solution.

*Water.*— Some authors are of opinion, that water is the sole food of plants, who found their authority on the fact, that many kinds, and particularly bulbs, vegetate and produce their blossoms in that fluid; the reverse of this is however the case, as on calcination those plants are found to contain component parts, but the quantity of water necessary for different species is also very apparent; as some plants are found to thrive on the hardest rocks, and must obtain their moisture principally from

their leaves, to which it is first imparted from the atmosphere, whilst others are known to live wholly in water; consequently must be of a different nature in their solids.

*Atmospheric Air.*—"The atmosphere," says *Stroud*, "is composed of oxygen, carbonic acid, hydrogen and nitrogen gases, in different proportions; all these are to be found in vegetables, but they do not all seem to be vegetable food.

"That oxygen is necessary to vegetation, numerous experiments have proved, and few have been found to subsist long without it, when in a growing state; it is therefore plain, that plants inhale a considerable quantity of the gas.

"*Carbonic Acid.*—This is also beneficial to plants, particularly to the root; but if too large a quantity be applied, it proves injurious or fatal. Hydrogen and nitrogen are supposed to enter vegetables in combination with other substances, as when they are applied separately to growing plants, they refuse to inhale either of them, and death is the consequence.

"From these facts, it appears that vegetables have a power of extracting from the atmosphere, those parts which contribute to their growth and health, as well as from the soil, and of refusing to admit the constituents of either."

The above facts plainly show the utility and necessity of obtaining a proper air, requisite to the growth and health of the plant; whether in a frame or Green-house, the necessity is the same. When unwholesome air is present, the plant suffers in proportion to the portion of improper gas: the most delicate parts, as the flower, or young fruit, being first affected, generally perishes: the next is the tender leaves and branches, and so in succes-

sion; but in some cases, as tender annuals, foul internal air destroys the plant in its infant state.

To all plants in a growing state, a small quantity of external air should always be admitted, in order to rectify the internal air. This plan should be observed in the Green-house and other confined places.

### Art. 3. — *Light.*

"Fairest of beings! first created Light!
Prime cause of beauty! for, from thee alone,
The sparkling gem,—the vegetable race,—
The nobler worlds that live and breathe, their charms,
The lovely hues peculiar to each tribe,—
From thy unfading source of splendor, draw!
In thy pure rays, with transport, I survey
This firmament, and those her rolling worlds;
Their magnitudes and motions."

Light is one of the most requisite agents to the vegetable kingdom, as few vegetables (the Fungous excepted) are known to thrive and have their proper qualities without this stimulant.

The most common observer may have occular demonstration of this fact, by plants generally growing towards the light, in windows of houses and confined situations; and as soon as the plant is reversed, the position is reversed also. Leaves, flowers and fruits, are always more replete with their proper qualities, when in an exposed situation. This is observable in the tops of trees. It is generally understood by horticulturists, that no light as yet known artificially, will compensate for the absence of the sun. But, were I called upon to express my opinion on the subject, it would be this: that, as the sun is the sole agent of heat and light, its influence over those stimulants is predominant; hence, artificial light is partial to

more confined particles: furthermore, all artificial light which is caused by igniting any substance, contains a certain quantity of impure gas, which is evaporated, by ascending and mixing with the atmospheric air, and when condensed or confined, generally proves injurious, if not fatal, to the animal and vegetable kingdom: this is abundantly proved by the frequent instances we find recorded, of persons falling victims in consequence of burning charcoal in a confined room.

That vegetables lose their proper qualities, when deprived of the presence of light, is exemplified in the *Celery* and *Endive* when *blanched;* which is effected by excluding them from the light, in which case the vegetable loses its natural qualities in a certain degree. So tenacious of light, are most kinds of plants, that when deprived of this stimulant, they begin to assume a yellow appearance, and in time, when fully excluded, they turn to a clear white: it is also obvious that when they again receive a full share of stimulating influence, they resume their wonted appearance.

I shall conclude this subject by impressing on the mind of my readers, the utility of *light* to plants generally, and especially in frames and green-houses, in the early part of the season, when every opportunity should be taken to admit it. Let them also remember that in winter, owing to the short days, the due quantity of light cannot be given; this should always be taken into consideration by the cultivator.

### Art. 4. — *Heat.*

It is very evident to the most common observer, that a certain degree of heat is required by all plants to cause them to grow, in a healthy, vigorous state. As we

find that plants similarly situated, though *natives*, do not all vegetate at the same time: so also seeds require a different temperature of heat, to cause them to vegetate freely; hence it will be seen that all kinds of native seeds vegetate early in the spring, and many exotics, as the Coreopsis, Stock-gilliflower, Candy-tuft and the like: while the more tender kinds as the Balsam, Globe Amaranth and the like must be deferred to a warmer season. The same affinity is also observable in the circulation of sap in trees, as they are seen to put out their foliage and to commence in growth at different times in the same location.

Heat may be considered under two heads namely, sun heat or natural, and artificial as that applied by fire, fermentation and the like. Sun heat may be in all cases considered as natural to plants, although in many cases where plants are placed in very moist situations they are drawn weak when it acts too powerfully on them after much *wet*, and in such cases the leaves are seen to flag and shrivel up. Fire heat also when applied in too high a degree to plants, injures their constitution in a manner that they lose in a certain degree their natural strength or habit. Heat and moisture in all cases should be regulated as much as possible to correspond to the natural habit of the plants that are to be cultivated.

### Art. 5. — *Observations on the Roots of Plants.*

The roots of plants being intended by nature as channels by which the principal food is absorbed and conveyed to the different parts, and finally forms a part of the plant, should be very familiar to the cultivator.

By due observation it will be seen that the adaptation of plants to their proper soil is of the greatest importance,

as plants placed in a soil uncongenial to them, seldom thrive well, owing to improper food being absorbed by their roots: and in many cases, roots have been known to travel out of their proper position in quest of a more proper nutriment. The circulation of the sap in roots is different in different kinds, as may be exemplified by plants and shrubs beginning to put forth their leaves at various periods, in the same location. This fact may be proved by any intelligent observer who will notice the commencement of vegetation in native plants and shrubs, in any given part of the country, under the same circumstances and in the same location.

These plants are all fastened in the earth by the root, and all exposed to the same temperature and natural changes of moisture in the place where they grow: but their time of vegetation or circulation of sap, is in accordance to their peculiar nature, which varies a month or more. As soon as the soil is sufficiently warm to answer their economy of circulation, the process takes place.

### Art. 6, — *Observation on the Bud.*

The bud of plants is very aptly termed by the botanist, the *hybernacula* or winter quarters. It is formed in the summer, and properly fed and nourished by the descending sap. Buds may be considered under three definitions: first, buds which contain the rudiments and organization of fruits only, as the *Cherry*, *Plum* and *Pear;* second, buds which contain the blossom and wood-buds under the same covering, as the *Grape*, and most trailing vines; and thirdly, those which contain all the rudiments of a young plant in embryo, as the *Cherry*, *Plum* and *Pear*, which are called wood-buds.

Nature has carefully protected those precious appendages of plants, by covering them with a hard, scaly substance outwardly, and a woolly substance inwardly, to protect the more tender parts.

It will be found by a due observance of buds, that those which produce the fruit are the most delicate, and of course the most liable to injury by drought, cold and the many causes inimical to them; hence the *Peach*, and many other fruit trees require protection during the winter in the Northern States, particularly those that have been grown under glass, the buds of which are always more delicate than when the tree is wholly exposed.

The blossom-bud being injured in any way, either by cold or other casualty detrimental to it, is generally destroyed; but the wood-bud on the same tree or shrub, is not, although exposed to the same injuries; and in many cases, as the *Grape Vine*, the blossom-bud is blinded or destroyed by many causes detrimental to it, although the vine will perhaps break and grow in a very healthy manner.

### Art. 7. — *Observations on the Leaf.*

The leaves of plants being the principal organs of respiration, also contribute to their growth by their power of absorption; they are of the greatest importance in this operation. The surrounding air, whether internal or external, being absorbed by their agency, requires to be of a pure and wholesome nature, in order to keep them in a healthy, vigorous state. We are informed by botanists that the leaves of plants are synonymous with the lungs of animals, therefore, whatever disease is imbibed by them, enters into their system.

When too much heat and moisture are applied in

green-houses or frames, where plants are growing, it is imbibed by the leaf, and the consequence is, that the plant is elongated without its proper qualities, the leaves assume a feeble appearance, and are often totally destroyed, when the sun and air act on them sufficiently to nourish their more healthy parts. Leaves, when decaying, are most liable to breed many insects, as the Red Spider, Trip, and all other insects which are increased by decomposition; therefore decaying and dead leaves should, in all cases, be taken from plants in a state of vegetation.

In conclusion to what has been said on trees and plants, it appears evident that the *native* of all kinds of plants in the common idea, is the primitive, and is perpetual, and that every variety of improved quality, must originate from it, either by chance or luxuriant culture; and it is at the same time clear, that by crossing the primitive or native plants of any country, of the same natural order, new varieties, of improved qualities, are produced, congenial to the country which has given birth to such varieties. From the very best of experiments and authority, it has been proved that in raising plants either from seed, cuttings, grafting, or any other mode of propagation, those kinds that have been propagated in a hardy and natural manner, are the best qualified to withstand the natural changes of the climate; and that, although by nursing many tender plants, they are brought to great perfection with attentive culture, it cannot be recommended to answer in a general way.

Any intelligent observer will discover that plants of all kinds require to be so situated that the *sun* and *air* have, as much as possible, free access to every part of their leaves, fruit, and indeed, all parts of the plants; and that

any violence, either by severe pruning, disease, blights, unwholesome food or air that is present, acts on their system materially, either directly or indirectly.

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## CHAPTER III.

### On the Propagation of Plants.

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ART. 1. — *General Observations.*

To describe the many methods practised in propagating plants, would far exceed my prescribed limits, and be altogether foreign to this little *treatise*, which is intended to condense, as much as possible, the most requisite subjects to be known by those who are desirous to become acquainted with the culture of the flower garden. The propagation of plants may be considered strictly belonging to the nursery department, and would require more space than the contents of this book to fully describe; therefore, the subject has been confined to such methods as could be done with perfect ease by any person interested in the subject.

The plan, it will be perceived, is as much as possible condensed into regular methods — and those plants to be operated upon, are designated by their proper character in the *Descriptive List* of their respective departments, by which much space and repetition is in this place obviated.

Of all the different processes in Horticulture, *propagation or increase* is the most difficult, and consequently requires every attention of the operator. Cor-

rectness must be, in all cases, attended to, and a *neat* and *active* performance of the subject acted upon must be duly regarded, as in *amputution*, *insertion*, and the like principles, that will be requisite in the different operations.

### Art. 2. — *Propagation by Seed.*

The seed contains all the rudiments of the parent plant in *embryo;* and expands its functionary qualities, and is developed into a new plant when the necessary stimulants and nutriments are present either in a natural or artificial form. The propagation of any plant or seed out of its natural climate, is attended, in all cases, by artificial means and is, therefore, under the laws of culture.

*Proper location for seed.* — That most plants require a proper location is very apparent to the inquiring observer; some are found to grow naturally and thrive in water, as the *Water Lily*; others may be considered as amphibious, growing sometimes in and at others out of water, as the *Water Plantain*, *Harrowhead*, and the like; to the reverse of this, we find some plants living and thriving on rocks and such locations, where it is very difficult to receive water or food from any other source than atmospheric air. Other plants, we find, are natives of rich and fertile valleys; and some are ornamentally intended, by nature, as a fringe to the woods, by way sides, and the like; hence, a corresponding climate is always the best adapted and should be as near as possible obtained, to grow seeds and to propagate young plants to perfection.

By little observation, it will be seen that many seeds perish in their natural soil and climate, by accidental causes, and in some cases not one of a thousand vegetates, while if assisted by being placed in a proper situation, two out of three would grow; other seeds almost universally grow when they leave the plants in an accidental man-

ner. This fact is in the first case exemplified in large seeds, as nuts, and the like. The Hickory and Chetsnut are seen to bear bushels of nuts or seed, which fall from the tree and are dispersed on their natural soil, but rarely vegetate, owing to their not being imbedded in the earth deep enough to receive a regular and proper nutriment to cause them to grow. Most native annual seeds vegetate freely, their covers being thin and of a small size, by which they are easily imbedded in the earth to a proper depth to cause vegetation to proceed. The principal point to be attended to, in making seeds vegetate, is that they are sown in a soil where they can easily take root, and in a depth corresponding to their size; small seeds, as the *Poppy* and *Mignonette*, should scarcely be covered; and larger, as the *Balsam* and *Aster*, may be covered deeper; and so in proportion to their different size. In some cases frost destroys the vegetative principle of seed when it is not well ripened; or placed in a warm, moist situation, where it begins to grow at an unnatural season. But I have never known seed of any kind destroyed by cold when perfectly dry and well ripened. The necessary food and stimulants to cause seed to vegetate are heat, air and water.

### Art. 3. — *Propagation by Roots.*

*Increase of bulbous rooted plants.*— Bulbous rooted plants are increased by taking the offsets or side bulbs from the parent plant, as the *Hyacinth*, *Tulip*, and the like. The young bulbs are to be taken from the parent, and treated in every way the same with this exception, they do not require so much room to grow, as they will not flower the first season of planting. They must be separated from the parent with the finger and thumb, and care should be taken not to bruise them in the operation.

Some bulbs, as the *Garlic* and *Shallot*, form a truss of bulbs, from the centre of the plant, which is to be divided in order to form a new plant: others are increased from the tops, as the *Tiger Lily*; such are termed cauline bulbs, or bulbs of the stalk; they only require to be taken from, and treated as, the parent.

*Increase of tuberous rooted plants.* — The tuberous rooted are exemplified in the *Pæony* and *Dahlias;* the root forms a crown, to which are connected many tubers, which are to be divided with a sharp knife, in such a manner, as to leave part of the crown, with one or more eyes or buds to each plant; those parts are to be inserted in the ground, in the same manner and soil, and treated in the same way as the mother plant.

*Increase of fibrous rooted herbaceous plants.* — Fibrous rooted herbaceous plants are increased by dividing the crown, or main root, as the *Phlox*, *Rudbecca*, and perennial *Larkspur*. This method may be applied to most hardy fibrous rooted plants, in the month of September or beginning of May.

ART. 4. — *Propagation by Running Vines and Creepers.*

The *Potentella*, *Strawberry* and *Periwinkle* are examples of running vines. Such plants are increased by taking off their joints where they have rooted, and planting in the same manner and soil as their parent plants, in the month of September: this process may be greatly facilitated by covering the joints with fine earth and keeping them moist previous to their rooting.

ART. 5. — *Propagation by Cuttings.*

Many kinds of hardy shrubs are increased by cutting from the young wood of deciduous plants,

which is either performed in the fall or spring. The plants that are increased by this method, are the *Althea*, or *Rose of Sharon*, *Snowballs*, *Honeysuckles*, and most kinds of soft wooded plants. The manner of performing this work, is to prepare a piece of moist, shady ground, by digging and dressing the surface: when the ground is ready, the cuttings are to be prepared by cutting them one foot in length, and inserting them into the ground six inches deep; the rows should be eighteen inches apart, and the cuttings eight inches from each other in the rows. When the cuttings are inserted, the ground must be pressed hard to them by the foot, and raked off in a neat manner. The after management, is merely to keep the ground clean about the plants during the summer; and in the autumn they will be perfectly rooted. A moist northern aspect is the best location for this business.

### Art. 6. — *Propagation by Layers.*

The increase of plants by layers, is performed on most kinds of hard wooded plants in the autumn or early in the spring, as the *Rose* and *Double-flowering Almond*. The manner of performing this business, is to dig and prepare the ground about the mother plant; the young shoots are then prepared, by bending them down to the ground, in order to find the proper length required to be inserted; a sharp knife must be applied to the under part of the shoot at a joint, cutting, in a slanting manner upward, about half an inch in length: the part is then inserted in the soil, from two to three inches deep, in such a manner that the wound or cut is left open, and pressed perpendicularly into the ground: a hooked stick is then placed over the layer in

order to keep it in a proper position. This should be done to every layer, to prevent the wound from uniting, being the part from whence the roots will be made for the young plant.

*Carnations*, *Pinks*, and such like plants, are chiefly increased in this manner; the proper season for laying these is August and September. Many others, as the *Sweet William Pinks* and their natural family, may be laid by simply taking out the centre of the plant, and placing a quantity of earth sufficient to cover the side shoots, which will form a circle of young plants in a few weeks.

### Art. 7. — *Increase by Inoculation.*

Many trees and shrubs are increased by inoculation or budding; which is generally done to propagate such plants as do not thrive well by the methods heretofore described.

Inoculation may be very successfully performed on almost every variety of Roses, as the *White Moss*, *Unique*, *Tuscany*, and all the finest varieties, on the wild kinds or those of a strong habit.

*The Double-flowering Apple*, *Double Cherry*, and many ornamental trees, may also be inoculated on those of their natural family; and so also with all trees and shrubs that have large full buds. The best time for performing this operation is when the buds that are to be taken off from the choice kind are well ripened and the bark or rind leaves the wood freely: this will generally be about the latter end of July or beginning of August. The plants intended to be inoculated should also be in a healty state; and the bark should part freely from the wood, or the success will be doubtful; and here it is necessary to state,

that in many cases, inoculation is almost uselessly performed on trees and plants that are in an unhealthy condition; the bud inserted must eventually die for want of proper sap and nutriment.

Severe criticisms are often bestowed on gardeners, who adopt the plan of inoculation during the season, when the buds which are by them inserted die; which in many cases cannot possibly be avoided, if the plants are sickly, and do not have their requisite food and nourishment. This is often the case with the *Orange* and *Lemon*, which are inoculated and, perhaps, exposed to the sun, without water for many days, in which case the buds must eventually perish for want of nourishment. But I am now digressing, which I hope will be excused in this place, for without some remarks on the subject before me, it would be impossible to elucidate the most proper and necessary points.

*Act of Inoculation.* — At the proper season, when the plants to be inoculated are in a right condition, prepare for the operation by collecting healthy shoots of the summer's growth, of such kinds as are intended to be increased; when the shoots are taken from the trees, they are to be divested of their leaves, leaving a part of the forestalk to the length of half an inch; they are then to be kept damp until they are inserted, which should be as soon as possible after being separated from the trees.

There are many ways of inserting buds, but I shall confine myself to the most general and, I believe most successful method, which is performed by making an incision in the tree intended to be inoculated, in the form of a T, by first cutting through the rind, on the top, in a transverse manner, holding the knife between the fore

finger and thumb: the bottom incision is made by drawing the point of the knife downward an inch; the thin end of the haft is then to be applied to the top of the incision in order to part the rind from the wood, which is done by gently lifting the top and running the end of the haft downward to the end of the incision. The incision being made for the reception of the bud, the next thing to be done is to prepare the bud, by placing the the scion in the left hand, between the fore finger and and thumb, with the top end next to the thumb. The knife must then be taken in the right hand, and its heel placed half an inch below the bud intended to be taken off; it is then to be carefully drawn upwards half an inch above the bud, cutting it out with about half the wood and bark. This being done, the part is to be placed between the thumb and fore finger of the left hand, and the rind gently pressed back with the edge of the knife; when the wood is to be pinched between the thumb and knife and divided from the rind with the bud, which is to be inserted neatly in the incision of the tree, and bound with bass or other string.

# PART 2.

MANAGEMENT OF THE FLOWER GARDEN, AND CULTURE OF PLANTS — WITH DESCRIPTIVE LISTS.

## CHAPTER I.

**On the Culture of Annuals and Biennials.**

### ART. 1. — *Annual Flowers.*

ANNUAL plants are those of one year's duration only, and are renewed yearly by sowing the seed, as the *Lady's slipper* or *Balsam*, the *China aster*, *Mignonette*, and the like.

Annual Flowers do not, in many cases, *receive* that attention they really merit, which, I imagine, is chiefly owing to the trouble of renewing them yearly from seed, and the proneness of most kinds to depreciate into single flowers and inferior qualities ; however, the easy and speedy manner of growing them, and the pretty effect they give to the flower borders, when mixed with other plants, claim for them a place in the flower garden. Their qualities, like all other flowers and plants, can be retained, and in many cases even improved by attentive management. I shall therefore proceed to their culture, and add a descriptive list of the best and most appropriate kinds for the flower garden.

ART. 2. — *Growing Annuals in Hot Beds, for Planting out early.*

To have annuals flower early, the seed should be sown on a moderate hot bed early in the spring, for the purpose of transplanting in the flower *bed and borders*; for this purpose, prepare a hot bed in the beginning of March, in the following manner. Collect two good cart-loads of hot horse manure; or if of equal parts of leaves collected from trees in the fall and horse manure, the better; shake it up and mix it well together, at different times, until it gets into a state of fermentation, which will be in a few days, when the bed may be made in a sheltered situation; if protected by a board fence, the better.

Prepare the place for the bed by taking out one foot deep of soil, a foot wider at each side and the ends than the intended frame is in size. A two-light frame, four feet in width and six feet in length, will answer a good purpose; but in a small garden a frame half the size, with half the portion of manure, will answer.

Having the place prepared, make the bed by shaking the manure well together, in order to make it of an equal texture, beating it down with the back of the fork as you proceed — but never tread it with the feet, which is the cause of hot beds settling irregular. The bed being made, place the frame upon it immediately to draw up the heat, cover it well by night, and let it have the full influence of the sun by day, until the heat rises, when the bed may be earthed all over with about six inches of light, rich soil, which should be prepared previous to its being made: half rotten leaf mould and half mellow loam will answer a good purpose for compost.

When the bed is earthed, the frame may again be closed to draw the heat, and so soon as it rises, the seeds

of all kinds of annuals may be sown in shallow drills, and lightly covered with fine earth; care must be taken in this part of the process, to give air sufficient by night and day to let off the steam that arises, in order that the young plants may not damp off or be too much drawn in a weak and slender manner, especially when the heat begins to rise after earthing the bed, which will be in a few days. When the plants have come up, two extremes must be guarded against, namely: to be very careful that the young plants are not injured by the chill of night, or drawn too much by being confined: the heat of the bed and the external air must be the criterion to go by: the internal *air* of the frame should be kept as near as possible to the moderate degree of fiftyfive, by Fahrenheit's scale. As the warm weather advances, the bed may have more air by day and night, and be treated in every manner so as to harden the plants as they grow in size, and finally the lights may be left off night and day previous to the plants being transplanted in the garden, which may be done with most kinds about the first of May, and the *tender*, the twentieth of May. But where annuals are wanted to be very early in flower, they may be much forwarded by transplanting them out from the seed bed into another frame an inch or two apart, and then transplanting them into the flower garden when the weather is sufficiently warm.

ART. 3. — *Sowing the Seed in the natural Ground.*

The seed of annual flowers may be sown when the earth will work well, which will be from the middle of April to the beginning of May; this is the best time for sowing most kinds, and if two or three sowings are made at different times the better success may be expected.

The method of sowing is simply to make a small circle, with a stick, in the form of an O, about eight or ten inches in diameter, from an eighth to half an inch in depth, in the vacant places among flowering plants. Great care must be taken to cover the seed very lightly with fine, light earth, as the young plants are often much injured in making their way through the surface. If the weather is very dry, the places where the seed are sown may be watered in order to make the seed vegetate more freely. When the young plants are an inch or two high, they may be thinned to about two inches apart, and they may be in every way treated as other plants, according to their different habits.

### ART. 4. —*Descriptive List of Annual Flowers.**

In giving a List of Annual Flowers I have divided them into three classes; namely, *tender*, *less tender*, and *hardy*; a classification which will at once give the cultivator some knowledge of the most proper time of sowing the different varieties and whether they require any protection or not in any sudden change of weather that may occur after they are planted into the flower borders for flowering. I have omitted the time of flowering, which it would be an arduous task to give, in annual flowers, as they will flower earlier or later according to circumstanstances and seasons. In regard to colors, it is also difficult to give any distinctive character, as annual flowers of all kinds are very prone to depreciate and *run out* or sport from their variety of color: indeed the better way of giving a list to every kind would be *under the head of varie-*

* The list presented in this article, includes all the old and well known varieties. For a copious descriptive list of recently introduced annual flowers, see Appendix, Art. 1.

*ties*; however, I shall in a certain degree follow the general rule of giving the proper colors, and merely point out the varieties.

### TENDER ANNUALS.

*Amaranthus* tree, tricolor and bicolor.
globe, purple, red, white and striped.
coxcomb, com. large red, scarlet, yellow, &c.
common dwarf of colors.
spike flowered coxcombs, a variety.
*Browallia*, spreading and upright, blue flowered.
*Convolvulus*, scarlet, (ipomæa quamoclit) a climber.
*Egg plant*, white, yellow, red, and prickly fruited.
*Ice plant*, or diamond ficoidas, white and yellow flowered.
*Sensitive*, or *humble plant*.

### LESS TENDER ANNUALS.

*Amaranthus*, bloody leaved, with erect flowers, purple.
*Aster, China*, double, white, red, purple, brown, striped, &c.
*Basil*, common sweet, red and purpled flowered.
*Chrysanthemum*, double, white and yellow, plain and quilled.
*Convolvulus major*, pink, purple, and deep purple.
*India*, or *Chinese pink*, single and double, striped variously.
*Love lies bleeding*.
*Marigold African*, pale and deep yellow, plain and quilled.
French, yellow and crimson striped, velvety.
dwarf sorts of both African and French.
*Marvel of Peru*, white, yellow, red, purple and variegated.
*Nasturtium*, yellow and orange flower.
*Scabious*, sometimes made an annual.
*Stock*, com. ten week. red, scarlet, purple and white.
dwarf French fine scarlet, and varieties.
*Sweet sultan*, yellow, purple, red and white flowered.
*Xeranthemum*, or eternal flower, yellow, white, violet and purple.
*Zinnia*, yellow flowered, and red, many varieties.

### HARDY ANNUALS.

*Adonis*, pheasant's eye, or bird's eye, red and yellow.
*Alysson*, sweet scented, white flowering.
*Candy tuft*, white, red, crimson and purple.
*Caterpillar plant*, yellow, varieties.

*Catchfly, Lobel's* red, purple and white.
*Clary*, annual pink, purple and white topped.
*Convolvulus minor*, blue, white and striped.
*Cyanus*, or corn bottles, blue, red, purple, white and striped.
*Devil in a bush*, or Lady in the Green.
*Hawkweed*, red, pale and deep yellow.
*Ketmia bladder*, or flower of an hour, yellow.
*Larkspur*, tall, branching and rocket.
dwarf rocket, of varieties.
Neapolitan, branched and spotted.
*Lavatera*, or Cretan mallow, red, white and purple.
*Lupine*, sweet scented, yellow flowered.
common, blue, white, and varieties.
giant blue, and rose colored.
*Mallow*, curled leaved Syrian and Chinese, pink.
*Marigold*, giant, or large common double.
large cape, leafy, and naked stalked.
French and African varieties.
*Mignonette*, (trailing) or sweet scented reseda.
*Mulberry blight*, or strawberry spinach, red fruit.
*Pea*, sweet, purple, scarlet, white, pink and white or painted lady.
*Persicaria*, oriental, red flowered.
*Poppy*, tall, double purple, scarlet, carnation, &c.
dwarf, or corn poppy, double, a variety.
chelidonium, or horned scarlet, yellow.
*Snails*, hedge hogs and horns, yellow.
*Snapdragon*, annual Sicilian, white flowered.
*Stock*, (maritime) dwarf annual, or Virginian.
*Sun flower*, large double, pale and full yellow.
dwarf double ditto.
*Venus's looking glass*, blue, white and purple.
naval wort, common and Portugal, white.
*Xeranthemum*, or eternal flower, yellow.

### Art. 5. — *Biennial Flowers.*

Biennials are those plants which flower the second year from the seed and then perish : this definition, however, is not in all cases correct, for in some instances plants of this denomination are known to flower for three years after being produced from the seed. But as the term is generally used and in most cases may be considered as a

standard rule, I shall here retain it as the general head. The plants of this class are not numerous; they are exemplified in the *Foxglove*, *Campanula grandiflora*, the *Wallflower*, and the like — the method of culture is to sow the seed in the spring with the annual varieties, and let them remain in the beds or borders until they are of a proper size to be planted out in the places intended for their flowering, when they may receive the same culture as other plants growing by them.*

*Canterbury bells*, blue, purple and white flower.
*Carnation*, a great variety.
*Clary*, garden, a variety in leaf, purple.
*Honesty*, satin flower, or moonwort, purple and white.
*Mullien*, branching, phlomoide and sinuated, yellow.
*Penstemon*, (a biennial perennial) violet and plain.
*Scabious*, purple, black, red, white and striped, flower.
*Snapdragon*, red, purple, white, yellow, and variegated.
*Sweet William*, single and double, a variety.
mule, or sweet william pink, double red.
broad leaved, striped and red flower.

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## CHAPTER II.

### On the Culture of Perennials.

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ART. 1. — *Perennial Herbaceous Plants.*

Perennial herbaceous plants, are those which die down to the root yearly, the roots of which remain many years;

* For a descriptive list of tender biennials, see Appendix, Art. 2.

they are exemplified in the *Phlox*, *Golden rod*, *Asters*, and many other kinds of native plants.

There is no class of plants more deserving general culture in the flower garden than perennials, which, when once introduced, require but trifling attention ; their increase is also of the most encouraging nature which in most varieties is simply the dividing of or parting the roots in the autumn or spring as directed under the head of propagation. Herbaceous plants may be divided into three classes, namely : bulbous, as the *Tulip*, *Hyacinth*, and most *Lilies ;* tuberous, as the *Dahlia* and *Pœony ;* and fibrous, as the *Phlox* and *Perennial aster*. These separate divisions may be again divided into hardy and tender, with reference to the different climates to which they belong : for instance in bulbs, *Tulips* and *Hyacinths* are hardy — the *Jacobean lily* and *Feraria* are tender. In tuberous roots, the *Pœony* is hardy and the *Dahlia* is tender ; and in fibrous, most kinds are hardy, although in many cases they are killed by the winter and wet saturating their crowns, on which account it is necessary that they should be partially covered in the winter to guard them against being injured in that manner.

In planting Herbaceous plants the principal object to be borne in mind is their height, color, and time of flowering, in order that they may be so distributed in the beds as to form a pleasing variety, which can be effected by referring to the Descriptive List subjoined hereto.

In forming a Descriptive List I have been very particular in selecting such kinds as seem the most adapted to the purpose, and I have also chosen rather an extensive list in consequence of their being worthy of more general notice than has been taken of that department.

ART. 2. — *Descriptive List of Herbaceous Perennial Flowering Plants.*

| Botanical Name. | English Name. | Color. | Height. | Time of flowering. |
|---|---|---|---|---|
| ACHILLEA. | SNEEZEWORT. | | | |
| montana | mountain | | | Aug. |
| ACONITUM. | WOLF'S BANE. | | | |
| japonicum | Japan | Black | 6 | June, Aug. |
| album | white | White | 4 | July, Aug. |
| ACTÆA. | ACTÆA. | | | |
| album | white | White | 3 | April, June. |
| AMSONIA. | AMSONIA. | | | |
| salicifolia | Willow leaved | Blue | 2 | May, June. |
| latifolia | broad leaved | Blue | 2 | May, June. |
| ANEMONE. | ANEMONE. | | | |
| Pulsatilla | pasque flower | Violet | ½ | April, May. |
| hepatica | common hepatica | Blue | ½ | April, May. |
| ASCLEPIAS. | SWALLOW WORT. | | | |
| tuberosa | tuberous rooted | Orange | 2 | July, Aug. |
| incarnata | flesh colored | Purple | 2 | July, Aug. |
| decumbens | decumbent | Orange | 2 | July, Aug. |
| ASTER. | STARWORT. | | | |
| Novæ Angliæ | New England | Purple | 6 | Sept., Oct. |
| amygdalinus | almond leaved | Purple | | |
| BETONICA. | BETONY. | | | |
| officinalis | wood | Purple | 2 | July, Aug. |
| CAMPANULA. | BELL FLOWER. | | | |
| azurea | azure | Blue | 3 | July, Aug. |
| versicolor | various colored | Striped | 4 | July, Sept. |
| urticifolia | nettle-leaved | Purple | 3 | Aug. |
| persicafolia, pl. | peach-leaved | White | 2 | June, July. |
| CASSIA. | CASSIA. | | | |
| marilandica | Maryland | Yellow | 4 | Aug. |
| CENTAUREA. | CENTAURY. | | | |
| nigra | Black Knapweed | Purple | 2 | May, Aug. |
| CLEMATIS. | VIRGIN'S BOWER. | | | |
| integrifolia | entire-leaved | Blue | 2 | July, Aug. |
| erecta | upright | White | 3 | July, Aug. |
| alpina | Alpine | White | 3 | July, Aug. |
| angustifolia | narrow-leaved | Blue | 2 | July, Aug. |

| Botanical Name. | English Name. | Color. | Height. | Time of flowering. |
|---|---|---|---|---|
| COMMELINA. | COMMELINA. | | | |
| virginica | Virginian | Blue | ½ | July. |
| CONVALLERIA. | LILY OF THE VALLEY. | | | |
| majalis | major | White | 1 | July. |
| COREOPSIS. | COREOPSIS. | | | |
| grandiflora | great flowering | Yellow | 2 | July, Aug. |
| lanceolata | lance-leaved | Yellow | 2 | July, Aug. |
| auriculata | ear-leaved | Yellow | 2 | July, Aug. |
| tenuifolia | fine-leaved | Yellow | 2 | July, Aug. |
| CORONILLA. | CORONILLA. | | | |
| coronata | large-headed | Yellow | 2 in. | June, July |
| CYNOGLOSSUM. | HOUND'S TONGUE. | | | |
| omphaloides | comfery leaved | Blue | ¼ | July, Aug. |
| DELPHINIUM.- | LARKSPUR. | | | |
| grandiflorum | great flowered | Blue | 2 | Sept. Oct. |
| elatum | common Bee | Blue | 6 | June, Sept. |
| chinense | Chinese | Blue | 2 | June. |
| urceolatum | hollow-leaved | Blue | 2 | June, Sept. |
| DICTAMNUS. | FRAXINELLA. | | | |
| rubra | red | Red | 2 | Aug. |
| alba | white | White | 2 | Aug. |
| DRACOCEPHALUN. | DRAGON'S HEAD. | | | |
| denticulatum | Carolina | Striped | 1 | Aug. Sept. |
| variegatum | variegated | Purple | 1 | Aug. |
| virginicum | Virginian | Purple | ½ | Aug. |
| speciosum | showy | Pink | 2 | July, Aug. |
| EUPHORBIA. | SPURGE. | | | |
| Ceparissias | Cyprus | Purple | 2 | April, May. |
| ERINGIUM. | ERINGO. | | | |
| planum | flat-leaved | L. Blue | 2 | July, Sept. |
| GENTIANA. | GENTIAN, | | | |
| verna | spring | Blue | 2 | May, June. |
| GERANIUM. | CRANE'S BILL. | | | |
| iberium | Iberian | Blue | 1½ | June, Sept. |
| sylvaticum | wood | Purple | 1½ | May, June. |
| angulosum | angular | Blue | 1 | May, June. |
| HEPATICA. | HEPATICA. | | | |
| triloba | Early Anemone | Purple | ½ | April, May. |

| Botanical Name. | English Name. | Color. | Height. | Time of flowering. |
|---|---|---|---|---|
| HELIANTHUS. | SUN FLOWER. | | | |
| divaricatus | divaricate | Yellow | 6 | Aug., Oct. |
| var. pleno | double | Yellow | 3 | Aug., Oct. |
| giganthus | gigantic | Yellow | 10 | Aug., Oct. |
| HESPERIS. | ROCKET. | | | |
| matronalis | common | Purple | 4 | July, Sept. |
| HIBISCUS. | HIBISCUS. | | | |
| palustris | marsh | Pink | 4 | July, Sept. |
| var. albus | white | White | 3 | July, Sept. |
| militaris | smooth | Purple | 4 | July, Sept. |
| LATHYRUS. | LATHYRUS. | | | |
| latifolius | broad-leaved | Pink | 6 | July, Sept. |
| tuberosus | tuberous | Red | 2 | July, Aug. |
| LIATRIS. | LIATRIS. | | | |
| scariosa | scarious cupped | Purple | 3 | July, Aug. |
| pilosa | hairy-leaved | Purple | 3 | July, Aug. |
| spicata | long-spiked | Purple | 6 | Aug., Oct. |
| LINUM. | FLAX. | | | |
| perenne | Perennial Flax | Blue | 2 | July, Aug. |
| LOBELIA. | LOBELIA. | | | |
| cardinalis | Cardinal-flower | Scarlet | 3 | May, Oct. |
| siphilitica | blue-cardinal | Blue | 2 | May, Aug. |
| splendens | splendid | Scarlet | 3 | May. |
| fulgens | fulgent | Scarlet | 3 | May, Sept. |
| LUPINUS. | LUPINE. | | | |
| perennis | perennial | Blue | 2 | May, July. |
| polyphyllus | many-leaved | B. White | 3 | May, July. |
| LYCHNIS. | LYCHNIS. | | | |
| chalcedonicus | scarlet | Scarlet | 3 | June, July. |
| var. pleno | double scarlet | Scarlet | 3 | June, July. |
| var. alba | double white | White | 3 | June, July. |
| LYSIMACHIA. | LOOSE TRIFE. | | | |
| verticilata | whorled | Yellow | 3 | July, Aug. |
| ciliata | ciliated | Yellow | 3 | July, Aug. |
| stricta | upright | Yellow | 3 | July, Aug. |
| Nummularie | Moneywort | Yellow | 2 | July, Aug. |
| LYTHRUM. | WILLOW HERB. | | | |
| salicaria | common | Purple | 4 | Aug. |
| verticilatum | whorl leaved | Yellow | 3 | July, Aug. |

| Botanical Name. | English Name. | Color. | Height. | Time of flowering. |
|---|---|---|---|---|
| MONARDA. | MONARDA. | | | |
| didyma | Oswego tea | Blue | 3 | July, Aug. |
| clinopodia | wild-basil-leaved | P. white | 2 | July. |
| purpurea | crimson | Purple | 3 | June, Aug. |
| ŒNOTHERA. | ŒNOTHERA. | | | |
| Fraseri | Fraser's | Yellow | 1 | May, Oct. |
| PAPAVER. | POPPY. | | | |
| orientale | oriental | Red | 3 | May, June. |
| bracteatum | bracted | Red | 3 | May, June. |
| PARDANTHUS. | PARDANTHUS. | | | |
| chinensis | Chinese | Orange | 2 | June, July. |
| PENTSTEMON. | PENTSTEMON. | | | |
| campanulata | bell-flowered | L. purple | 2 | March, Oct. |
| pubescens | broad-leaved | Purple | 2 | March, Oct. |
| angustifolia | narrow-leaved | L. purple | 2 | July, Sept. |
| PHLOX. | LYCHNIDEA. | | | |
| paniculata | paniculed | Pink | 3 | Aug. Sept. |
| acuminata | Lyons | Red | 4 | July, Aug. |
| shepherdii | Sheperd's | | | |
| maculata | spot-stalked | Red | 4 | July, Aug. |
| carnea | flesh-colored | Pink | 1 | Aug., Sept. |
| sauveolens | white-flowered | White | 2 | July, Aug. |
| tardifolia | late white (sweet) | White | 3 | Sept., Oct. |
| pyramidata | pyramidal | Red | 4 | July, Aug. |
| scabra | rough-leaved | | | |
| subulata | awl-leaved | Flame | ½ | April, June. |
| listoniana | Liston | | | |
| stolonifera | creeping | Red | 2 | April, June. |
| POTENTILLA. | CINQUEFOIL. | | | |
| formosa | beautiful | Red | 2 | May, Sept. |
| atrosanguinea | dark crimson | Puce | 2 | May, Sept. |
| RUDBECKIA. | RUDBECKIA. | | | |
| purpurea | purple | Purple | 4 | July, Aug. |
| fulgida | yellow | Yellow | 2 | July, Aug. |
| SAPONARIA. | SOAPWORT. | | | |
| officinalis | officinal | White | 2 | July, Aug. |
| SAXIFRAGA. | SAXIFRAGE. | | | |
| crassifolia | thick-leaved | Purple | 1 | May. |

| Botanical Name. | English Name. | Color. | Height. | Time of flowering. |
|---|---|---|---|---|
| SMILAX. | SMILAX. | | | |
| herbacea | herbaceous | Green | 4 | July. |
| SPIRÆA. | SPIRÆA. | | | |
| filipendula | dropwort | White | 3 | June, Oct. |
| lobata | palmated | Red | 2 | July, Aug. |
| ulmaria | elm-leaved | White | 3 | May, June. |
| flora pleno | double-white | White | 2 | May, June. |
| STATICE. | SEA LAVENDER. | | | |
| armenia | | Pink | 1 | July, Aug. |
| THALICTRUM. | MEADOW RUE. | | | |
| cornuti | Canadian | White | 3 | May, June. |
| TRADESCANTIA. | SPIDERWORT. | | | |
| virginica | Virginian | Blue | 1 | May, Oct. |
| var. alba | white | White | 1 | May, Oct. |
| rosea | rose-flowered | Pink | 1 | May, Oct. |
| TROLLIS. | GLOBE FLOWER. | | | |
| europæus | European | Yellow | 2 | May, June. |
| VALERIANA. | VALERIAN. | | | |
| rubra | red | Red | 3 | July, Aug. |
| VERBASCUM. | MULLEN. | | | |
| purpurea | purple | Purple | 4 | July, Aug. |
| VERONICA. | SPEEDWELL. | | | |
| gentianoides | gentian-leaved | Dark blue | 2 | May, June. |
| siberica | Siberian | Blue | 3 | July, Aug. |
| hybrida | Welsh | Blue | 2 | July, Sept. |
| spicata | spiked | Blue | 2 | July, Sept. |
| latifolia | broad-leaved | W. blue | 2 | May, June. |
| teucrium | nigged-leaved | L. blue | 2 | June, Aug. |
| VIOLA. | VIOLET. | | | |
| odorata | sweet | Purple | 1 | April, May. |
| var. alba | white-flowered | White | ½ | April, May. |
| var. plena | double-white | White | ½ | April, May. |
| grandiflora | great-flowering | D. blue | ½ | May, Aug. |
| YUCCA. | ADAM'S NEEDLE. | | | |
| filamentosa | thready | White | 3 | Sept. |
| gloriosa | superb | White | 4 | Aug. |

## ART. 3.—*Descriptive List of Tuberous and Fleshy Rooted Perennial Plants.*

The tuberous and fleshy rooted perennial plants are exemplified in the *Pœony*, *Iris*, and *Hemerocallis* or *Day lily*. The culture is similar to the fibrous rooted herbaceous kinds, although they generally thrive and flower better in a moist shaded situation than any other, and are particularly adapted to the facing of shrubberries and large flower beds. They are propagated by dividing the roots, which see at page 33. In giving a description of a few varieties of these plants I shall not divide them into parts, but give the list entire and designate them in the margin.

| Botanical Name. | English Name. | Color. | Height. | Time of flowering. |
|---|---|---|---|---|
| PÆONIA. | PÆONY. | | | *Tuberous rooted.* |
| Whitleji | double-white | White | 2 | May, June. |
| Humei | double-crimson | Red | 2 | May, June. |
| fragrans | rose-scented | Red | 2 | May, June. |
| tartarica | Tartarian | White | 2 | May, June. |
| rosea | rose-colored | Pink | 2 | May, June. |
| tenuifolia | fine-leaved | Red | 2 | May, June. |
| paradoxa | paradoxical | | 2 | May, June. |
| albiflora | eatable-rooted | White | 2 | May, June. |
| officinalis | common | Red | 2 | May, June. |
| HEMEROCALLIS. | DAY LILY. | | | *Fleshy rooted.* |
| Japonica | white-flowered | White | 1 | Aug., Sept. |
| cærulea | blue-flowered | Blue | 1 | July, Aug. |
| flava | yellow | Yellow | 2 | June, July. |
| IRIS. | IRIS. | | | |
| prismatica | New-Jersey | Purple | 2 | May, June. |
| versicolor | various-colored | Striped | 1 | May, June. |
| pumila | Dwarf | Purple | ½ | April, May. |
| siberica | Siberian | L. blue | 2 | May, June. |

# CHAPTER III.

**On the Culture of Shrubs and Vines.**

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ART. 1. — *Shrubs.*

SHRUBS are either *deciduous* or *evergreen;* the former are exemplified in the *Lilac*, *Double-flowering almond*, and *Snowberry;* the latter, in the *Kalmia* or *American laurel*, and those plants that are always clothed with leaves, and hence the name evergreen.

Shrubs may be considered as the lower order of trees; they are a very useful class of plants for the flower garden, and are especially adapted to the embellishment of side entrances and many parts about town and country residences, where herbaceous and dwarf flowering plants cannot be introduced to advantage. In the flower garden department they form a prominent feature; they are planted in some cases in the centre of flower beds and borders, in other cases they form good facings to the larger kinds of trees that are planted as belts on the margin of pleasure grounds, &c.

There are few countries that possess a more pretty collection of *native* plants than the United States, and indeed in Europe the first consideration on laying out flower gardens and extensive grounds, is, to prepare a piece of ground purposely for the *American flower garden;* however, the native shrubs and plants are much neglected in culture here, which I imagine is chiefly owing to their being considered too common, while those plants which

are brought from foreign countries are highly prized. Whatever may be the opinion of others, I cannot conceive that their being natives of this or that country can in any wise affect the real worth of flowers and plants, which in themselves are beautiful to every beholder, and are intended by nature as an embellishment to the vegetable. It is their finely woven texture and rich coloring that should engage our admiration, and not the country which has given birth to any particular variety. I hope therefore that in future the many pretty varieties of *native* shrubs and plants will find a place and be cultivated in the *shrubbery* and *flower garden* where they can with every propriety be introduced to a good purpose. *Indigenous* or *native* plants, having qualities adapted to the country, will assume a most pleasing character and be much improved by culture. In planting *shrubs*, like herbaceous and all other kinds of plants, the general rule must be to place them as much as possible in their most appropriate situation. For instance the pretty dwarf kinds, as the *Mezeron* and *Double-flowering almond*, are the most appropriate for small flower beds and the facings of the shrubbery; the taller kinds, as the *Lilac*, are generally planted to cover unsightly objects as old boarded fences and the like.

In giving a descriptive list of shrubs I have divided them into two classes, the *Dwarf* and the *Tall*, and have given their height, color and time of flowering as near as possible on a medium scale with reference to soils and locations where they are generally to be found growing as ornamental plants.

## ART. 2.—*Descriptive List of Dwarf Hardy Shrubs.*

| Botanical Name. | English Name. | Color. | Height. | Time of flowering. |
|---|---|---|---|---|
| AMYGDALIS. | DBL. FL. ALMOND. | | | |
| pumila | double-dwarf | Red | 3 | May. |
| AZALEA. | AMERICAN HONEYSUCKLE. | | | |
| nudiflora | naked-flowered | Pink | 3 | May, June. |
| viscosa | viscid | White | 3 | July, Aug. |
| calendulacea | orange | Orange | 4 | May, June. |
| alba | early white | White | 3 | May, June. |
| CALYCANTHUS. | SWEET SCENTED SHRUB. | | | |
| floridus | Carolina | Purple | 5 | May, Aug. |
| lævigatus | smooth-leaved | Purple | 6 | May, July. |
| CLETHRA. | CLETHRA. | | | |
| alnifolia | alder-leaved | White | 5 | Aug., Oct. |
| COLUTEA. | BLADDER SENNA. | | | |
| arborescens | common | Yellow | 6 | July, Aug. |
| pocockii | Pocock's | Yellow | 6 | June, Aug. |
| CORONILLA. | CORONILLA. | | | |
| emeris | Scorpion Senna | Red | 3 | May, June. |
| CORCHORUS. | JAPAN GLOBE-FLOWER. | | | |
| japonicus | Japan | Yellow | 5 | July, Oct. |
| DAPHNE. | DAPHNE. | | | |
| Mezerum | Mezeron | Purple | 3 | April, May. |
| var. album | white | White | 3 | April, May. |
| HYDRANGEA. | HYDRANGEA. | | | |
| quercifolia | oak-leaved | W. green | 3 | June, Sept. |
| radiata | ray-leaved | White | 4 | July, Aug. |
| HYPERICUM. | ST. JOHNS WORT. | | | |
| kalmianum | kalmia-leaved | Yellow | 3 | July, Aug. |
| frondosum | green | Yellow | 3 | July, Aug. |
| PHILADELPHIUS. | SYRINGA. | | | |
| coronaris | common | White | 6 | July, Aug. |
| variegatus | variegated | White | 4 | July, Aug. |
| grandiflorus | large-flowered | White | 3 | July, Aug. |
| POTENTILLA. | SHRUBBY CINQUEFOIL. | | | |
| fruticosa | trifoil-leaved | Yellow | 3 | July, Aug. |
| PYRUS. | PYRUS. | | | |
| japonica | Japan | Purple | 4 | April, May. |

| Botanical Name. | English Name. | Color. | Height. | Time of flowering. |
|---|---|---|---|---|
| RHODORA. | RHODORA. | | | |
| canadensis | Canadian | Purple | 3 | April, May. |
| ROBINIA. | ROBINIA. | | | |
| hispida | Rose acacia | Pink | 6 | May, Sept. |
| RIBES. | MISSOURI CURRANT. | | | |
| aureum | golden | Yellow | 6 | April, June. |
| RUBUS. | BRAMBLE. | | | |
| odoratus | flowering | Red | 6 | June, Aug. |
| SPIRÆA. | SPIRÆA. | | | |
| sorbifolia | pinnated | White | 4 | Aug. |
| opulifolia | Guelder-rose lv. | White | 5 | June, Aug. |
| hypercifolia | Italian May fl. | White | 6 | May, June. |
| chamædrifolia | germander-leaved | White | 2 | June, Aug. |
| trilobata | three-lobed | White | 3 | June. |
| lævigata | smooth-leaved | Red | 4 | May, June. |
| salicifolia | willow-leaved | Pink | 5 | June, Aug. |
| tomentosa | tomentosa | Pink | 5 | Aug. Sept. |
| STAPHYLEA. | BLADDER NUT. | | | |
| trifoliata | three-leaved | White | 6 | May, June. |
| SYMPHORIA. | ST. PETERS WORT. | | | |
| glomerata | common | Pink | 4 | Aug. Sept. |
| racemosa | Snowberry | Pink | 3 | July, Aug. |
| variegata | variegated | | 3 | July, Aug. |
| SYRINGA. | LILAC. | | | |
| purpurea | purple | Purple | 8 | May, June. |
| persica | Persian | Purple | 4 | May, June. |
| var. alba | white | White | 4 | May, June. |

## ART. 3. — *Descriptive List of Tall Shrubs and Dwarf Ornamental Trees.*

[Those marked thus * are used for single ornamental objects on lawns, &c.]

| Botanical Name. | English Name. | Color. | Height. | Time of flowering. |
|---|---|---|---|---|
| ÆSCULUS. | HORSE CHESTNUT. | | | |
| *coccinea | scarlet | Scarlet | 10 | June, July. |
| parviflora | small-flowered | White | 10 | June, July. |
| macrostachya | | | 10 | June, July. |

| Botanical Name. | English Name. | Color. | Height. | Time of flowering. |
|---|---|---|---|---|
| AMORPHIA. | Amorphia. | | | |
| fruticosa | shrubby | Purple | 10 | June, July. |
| CRATÆGUS. | Hawthorn. | | | |
| pleno | double | White | 10 | June. |
| *monogynia | one-styled | White | 10 | June. |
| *coccinea | scarlet-fruited | White | 10 | June. |
| EUONYMUS. | Spindle Tree. | | | |
| *americanus | Burning bush | Pink | 10 | June, July. |
| *fructu albo | white-fruited | White | 10 | June, July. |
| *atropurpurea | purple-fruited | Purple | 10 | June, July. |
| FAGUS. | Beech. | | | |
| *purpurea | purple-leaved | | 15 | |
| *cuprea | copper-leaved | | 18 | |
| FRAXINUS. | Ash. | | | |
| *pendula | weeping | | 8 | |
| HALISEA. | Snowdrop Tree. | | | |
| tetraptera | four-winged | White | 6 | April, May. |
| HIBISCUS. | Hibiscus. | | | |
| syriacus | althea frutex | Purple | 8 | Aug. Sept. |
| rubro pleno | double red | Dark red | 8 | July, Sept. |
| albo pleno | double white | White | 8 | July, Aug. |
| variegatus | striped-leaved | Striped | 8 | Aug. Sept. |
| LIGUSTRUM. | Privet. | | | |
| vulgare | common | White | 8 | June, July. |
| variegatus | striped-leaved | White | 8 | June, July. |
| SALIX. | Willow. | | | |
| caprea | great round-leaved | | 12 | |
| annularis | | | 12 | |
| pentandria | Bay-leaved | | 12 | |
| pendula | weeping | | 20 | |
| SHEPERDIA. | Buffalo Tree. | | | |
| eleagnoides | silver-leaved | White | 12 | April. |
| SPARTIUM. | Broom. | | | |
| scoparium | common | Yellow | 6 | May, June. |
| SOPHORA. | Sophora. | | | |
| japonica | japonicum | | | |
| VIBURNUM. | Viburnum. | | | |
| opulus | Guelder rose | White | 10 | May, June. |
| oxycoccus | cranberry-like | White | 12 | July. |

ART. 4. — *Hardy Running Vines, for Covering Arbors, &c.*

The *Honeysuckle* and *Clematis* are examples of running vines that are useful for the covering of arbors, trellises, walls, and the like. Vines are readily propagated by *layers* and *cuttings* which see under the head of propagation, page 33.

*Spring pruning and dressing Vines.* — All kinds of hardy vines may be pruned in a spring in regular manner, by cutting out all the dead branches and regulating the remainder in such a manner that they are at an equal distance apart, when they are to be nailed with shreds of woollen or leather, or tied in a neat regular manner with bass or other string.

*Summer pruning.* — The summer pruning may be commenced so soon as the young shoots are grown six or seven inches, by thinning them out in such a manner that they are at an equal distance apart, and allowing room for their future growth. The young shoots should afterwards be regularly attended to during the summer in pruning off all superfluous wood and training the remainder in a neat manner — not too thickly together, which is often the case and by which they are often much injured.

ART. 5. — *Descriptive List of Hardy Vines.*

| Botanical Name. | English Name. | Color. | Height. | Time of flowering. |
|---|---|---|---|---|
| BIGNONIA. | TRUMPET FLOWER. | | | |
| radicans | ash-leaved | Orange | 30 | July, Aug. |
| major | large-leaved | Orange | 30 | July, Aug. |
| CLEMATIS. | VIRGIN'S BOWER. | | | |
| virginica | Virginian | G. white | 15 | June, Aug. |
| flamula | sweet-scented | White | 15 | July, Oct. |
| verticilata | American | Purple | 15 | May, June. |

| Botanical Name. | English Name. | Color. | Height. | Time of flowering. |
|---|---|---|---|---|
| GLYCINE. | GLYCINE. | | | |
| frutescens | shrubby | Purple | 15 | June, Sept. |
| Apios | tuberous-rooted | Pink | 12 | Aug. Sept. |
| CAPRIOFOLIUM. | HONEYSUCKLE. | | | |
| Periclymenum | Eng. woodbine | Red | 18 | June, Sept. |
| variegatum | var. woodbine | Red | 15 | June, July. |
| sempervirens | trumpet | Scarlet | 18 | May, Aug. |
| quercifolia | oak-leaved | Yellow | 20 | May, July. |
| Fraseri | Yellow-trumpet | Yellow | 20 | May, July. |
| rubrum | red flowered | Red | 15 | May, July. |

## CHAPTER IV.

### On the Culture of the Rose.

#### ART. 1. — *Remarks.*

THE garden rose is one of the most pretty ornaments of the flower garden of its season, besides having many useful qualities for medicinal purposes, as lotions, conserves, and the like. In perfumery, it is also used in many ways, as waters, odors, and essential oils; which are extracted from it. The rose may be said to be unrivalled as a flower, when its almost endless varieties of color are taken into consideration, together with its fragrance and neat habit as a garden shrub: and many varieties are proved to be particularly adapted to the covering of trellises and arbors, as the running kinds of the *Multiflora*, *Grivelle*, and so on; and to these may be added the *China*

*tea-scented*, *Noisette*, and an innumerable tribe called the *China rose;* which, although they are considered as green-house plants, would endure the most severe winters in this climate, with a little protection, as directed under the proper head.

To take up much space in this place on the culture of the rose, would be altogether useless. It may be briefly stated that like most shrubs and trees, it requires, a deep, rich soil to enable it to grow to perfection. Many varieties, as the *Moss* and so on, thrive well on a stiff clay bottom. It is proper to state here, that, in many cases, I have found that laying the young wood of roses yearly answered a good purpose; particularly in the *Red moss* and those of a straggling habit: the rose being laid yearly, forms a neat compact stool of plants, which are always the most thrifty and flower the best.

*Propagation or increase.* — The garden rose is generally propagated by laying the young wood early in the spring.* To this may be added, dividing the young plants from the parent plant, and inoculating the finer varieties, as the *Moss* and others, into those of a strong habit.

Before I take leave of the subject of the rose, I beg to offer a few remarks on the more general introduction of its culture into the flower garden.

I know not of any denomination of flower gardens where the *Rose* should not find a prominent place. When seen around the farm-house or cottage situated on main roads, it enlivens the scenery of the country; and it should always be found in the choice collections of the amateur. I am persuaded the fair sex will always

* See "Propagation by layers," page 34.

encourage its culture, for the sake of its essential waters and perfumes for the toilet, as well as its modest beauty; to them, therefore, I need not say a word in commendation of its valuable properties. To the apothecary too I need not recommend a flower which is daily recognized as of professional utility; and the buds, as a prominent feature in the bouquet, at once show its importance as an ornamental flower; indeed, I know not of anything more beautiful in the vegetable kingdom, than a *Red moss rose* bud, about half expanded: its mossy *calyx* or covering, as a woven texture, is a perfect model of nature's production; and the petals or flower leaves exhibit the most beauteous traces of the finest tinges of her pencil.

In giving a descriptive list of roses, I have selected more numerously than I at first contemplated, in order to introduce them more generally in the flower garden department. In my list it will be perceived that the time of flowering has been omitted, which in most garden roses happens in the months of June and July, with the exception of the Chinese varieties, which should, I think, be pressed into the service of the flower garden, as much as possible. While I am on the subject of the rose, it will be proper to say that the finer hardy kinds should be inoculated on the native sweetbriar four or five feet high for the purpose of forming tree roses, which are the prettiest ornaments of the season for planting on grass plots and in centres of flower beds as prominent features; the severe winters, however, are an objection to this; but in many cases trees of this kind are successfully cultivated by bearing in the inoculated part and protecting it with straw or anything to guard off the sudden changes of the winter. I hope in a few years to see this subject successfully and generally attended to.

## ART. 2. — *Descriptive List of Roses.*

[Those kinds which are thus designated * are the most proper for small collections of the different colors. M. F. indicates the monthly flowering; in all parts of the Northern States, monthly roses require to be covered in the autumn to protect them during the winter, which see under article 12 of the chapter "On the Monthly Calendar." R. V. stands for running vines adapted for arbors and the like.]

### WHITE.

*White Moss.
*White Provence.
White of the seasons.
Spineless Virgin.
White Globe.
Snowball.

### LIGHT BLUSH.

Belle Auguste.
*Champney. M. F.
Double Sweetbrier.
New Double Sweetbrier.
Everblooming China. M. F.
Blush Belgic.

### DEEP BLUSH.

Blush, 100 leaved.
*De Meaux.
*Double Red Sweetbrier.
Dutch Cluster.
*Imperial Blush.
Pierson's Gigantic.
*Prolific.
Striped Mundi.

### LIGHT ROSE COLORED.

Bonaparte.
*Belle Aurora.
*Dwarf Dutch Cabbage.
*Damask.
Dwarf, 100 leaved.
*Early Ranunculus.
*Great Royal.
*Grand Monarque.
Greville. R. V.
Multiflora. M. F.
Noir Fonce.
*Red Moss.
Royal Cabbage.
*Ranunculus.
*St. Francis.
*Versailles.
*York and Lancaster.

### DARK ROSE COLORED.

*Agreeable Violet.
Aurora Brilliant.
Bishop.
*Brown's.
Burgundy.
*Cabbage Provence.
*Dutch Cabbage.
*Grand Triumphant.
*Imperial Red.
Maria Louisa.
Noisette. M. F.
*Nigritiana.
Ornament de Parade.
Queen.

CRIMSON.

*Belle Amiable.
Burning Coal.
*Crimson Velvet.
*Chancellor.
King of Mexico.
La Nigresse.
*Royal Agathe.
Red Mignon.
*Superb Crimson.
*Sceptre.

CARMINE.

Carmine.
*Carmine Brilliant.
Favorite Purple.
*Royal Bouquet.
Sabila noir.

YELLOW.

*Double Yellow, (Harrison's.)
Yellow Sweetbrier.
Austrian, (Red and Yellow.)
Belle Alliance.

RED AND VIOLET.

Amaranthe.
*Domini.
Dark Violet.
*Flora's Wreath.
Giant.
King of the Reds.
Nonesuch.
*Negro.
Ornament of the Reds.
*Purple Violet.
Shell.

DARK.

*Brunette Superb.
Double Velvet.
*Grand Pompadore.
*Hibernia.
*Imperial Blackest.
*Imperial Superb.
*Negro Panacea.
*Pluto.
Proserpine.
*Triumphant.

VERY DARK.

*African.
*Brussels.
*George the Fourth.
Iris Noir.
*Ombre Superb.
*Tuscany.
*Infernal.
*Bright Purple.
Cherry.

# CHAPTER V.

## On the Culture of Florist's Flowers.

### Art. 1. — *The Double Dahlia.*

As the Dahlia is known in the flower garden department as a flower of the first order, any thing that can be said of its beauty, would be altogether superfluous here. I shall therefore give a cursory notice of its culture, and annex a descriptive list compiled from some of the best varieties of the present time.

*Increase.* — The Dahlia is increased in the first instance, by seeds, from which most of the beautiful varieties now extant have been procured: the seeds should be sown early in April, in a pot of light, rich sandy soil and plunged into a hot bed. When the weather is sufficiently warm, (which is generally in the middle of May,) the plants may be planted out in the place intended for their flowering. If a hot bed is not in readiness, the seed may be sown in the open grounds the first week in May, and planted out as above directed.

*Increase by roots.* — This is effected by dividing them in March or April, or as soon as the eyes begin to push.* The roots being divided, pot them in a rich sandy loam, and plunge the pots into bottom heat, either in a hot bed or pit; or they may be placed in a green-house, or any convenient place, to forward them previous to planting them in their place for flowering, which may be perform-

* See "Increase of tuberous roots," page 33.

ed when the frost has disappeared, and the weather begins to be warm, which will be about the middle or latter end of May.*

*Soil and location.*—The Dahlia thrives best in a deep, rich, loamy soil, where its roots can strike deep, which is of great advantage to its flowering, *in a dry hot climate*, its location should be such that the plants enjoy a free exposure to the sun and air, and its adaptation should be so, that the height of the plant corresponds to its intended purpose, namely, the tallest kinds should be planted among the tall shrubs, in a small parterre, the dwarf kinds are most proper.

*To each plant a strong stake should be fixed*, to tie the plant to, and guard it from storms and the like.

In the autumn when the frost appears and kills the stalks, the roots are to be taken up, dried, and placed in boxes, with sand amongst them; or they may be deposited in the green-house under the stage or convenient moist place until the spring.

The roots of Dahlias being tender, the principal object is to keep the frost from them, in a moderately moist situation, at a temperature some few degrees above freezing point.

There are many instances of the Dahlia putting forth its flowers in June, while the same variety, in the same neighborhood, perhaps will not show a flower until September:— this is principally owing to the culture, and, generally, those plants first planted, flower the earliest. When the object is to have a few fine flowers for show late in the fall, late planting is the best, and but few flowers should be allowed to be on the plant at the time; all

*The time will vary in different climates; when the weather has settled warm, the business may be done with safety.

imperfect flowers should be taken from the plant as they appear, and the white and delicate mottled kinds should be shaded from the sun of mid-day. For an explanation of double flowers, colors and the like I refer the reader to the proper heads in the compendium.

### Art. 2. — *Descriptive List of Double Dahlias.*

The plants described in the subjoined list, were selected in the flowering season last year from the best collections in the neighborhood of Boston; and are kinds which produce fine flowers of their color and free bloomers. The list is more limited than might be expected, but it will be seen that the number of varieties will be sufficient for small collections. To the *connoisseur* it would be an arduous task to point out the many hundreds of varieties that are yearly introduced from seed from almost every part of the world, and which can only be designated by referring to numerous catalogues: the list here presented has therefore been chosen from the best known varieties adapted to the purpose of private collections. I have omitted the time of flowering, which will entirely depend on circumstances.

| Name. | General Character. | Height. |
|---|---|---|
| | WHITE. | |
| Bride of Abydos | fine white | from 4 to 5 ft. |
| Harding's Bride | white | " 5 " 6 " |
| King of Whites | delicate paper white | " 4 " 5 " |
| Exemplar (Widnall's) | white cupped petals | 5 " |
| | YELLOW. | |
| Golden Sovereign (Headley's) | rich gold yel. *perfect bloomer* | " 4 " 5 " |
| Solomon | deep yellow | " 4 " 5 " |
| William Cobbett | fine yellow | " 4 " 5 " |
| Gloria mundi | light yellow, *very fine* | " 4 " 5 " |
| King of the Yellows | fine yellow | " 4 " 5 " |

| Name. | General Character. | Height. |
|---|---|---|
| | YELLOW. | |
| Jackson's Rival | large yellow | from 4 to 5 ft. |
| Sulphurea elegans | sulphur-colored | " 4 " 5" |
| | PARTI-COLORED. | |
| Mary (Dodd's) | fine wh. laced with rosy lilac | " 3 " 4 " |
| Mary Queen of Scots (Dodd's) | clear wh. tipped with purple | " 3 " 4 " |
| Gem, or Royal Adelaide | white edged with rose | 4 " |
| Miss Broadwood | wh. purple tips, with dark centre | |
| Lady of the Lake (Wells') | white and lilac | " 5 " 6 " |
| Brown's Desdemona | white edged with pink, | " 4 " 5 " |
| Angelina | white edged with lilac | " 4 " 5 " |
| Conqueror of Europe | blush shaded with pink | " 4 " 5 " |
| Urania | pink with white centre | " 4 " 6 " |
| Village Maid | white edged with pink | " 3 " 4 " |
| King of Dahlias (Widnall's) | pure white edged with rose pink | 3 " |
| Queen of Dahlias | white edged with purple | " 4 " 5 " |
| Widnall's Rainbow | purple shaded with crimson and red | 5 " |
| | LILAC. | |
| Beauty of Camberwell | rosy lilac | " 4 " 6 " |
| Lilac Perfection | fine lilac, excellent form | " 3 " 4 " |
| Inwood's Ariel | mottled lilac, fine | " 4 " 5 " |
| Unicorn (Gaines) | rosy lilac | " 4 " 5 " |
| | PURPLE. | |
| Adventure (Toward's) | fine purple | 4 " |
| Clio (Widnall's) | rich purple | " 3 " 4 " |
| Dennisii | fine ruby purple | " 5 " 6 " |
| Lord Liverpool | fine dark purple | " 5 " 6 " |
| British Queen | fine rosy purple | " 3 " 4 " |
| Warminster Rival | bright purple | " 4 " 5 " |
| Barrett's Susannah | fine purple with cupped petals | " 4 " 5 " |
| Widnall's Juliet | fine light purple | " 4 " 5 " |
| | SCARLET. | |
| Countess of Liverpool | superb scarlet, fine form | " 6 " 7 " |
| Douglas' Glory | fine scarlet | 5 " |
| Rising Sun | large scarlet | " 6 " 7 " |
| Daniel O'Connell | fine scarlet | " 5 " 6 " |
| Dennisii coccinea | fine scarlet | " 4 " 5 " |

| Name. | General Character. | Height. |
|---|---|---|
| | CRIMSON. | |
| Mazeppa (Thorburn's) | shaded light crimson, fine | 4 ft. |
| Metropolitan Perfection | dark velvet crimson | from 5 to 6 " |
| Perfection (Widnall's) | superb rosy crimson | " 4 " 6 " |
| Sir Henry Fletcher | rosy crimson, fine | " 4 " 6 " |
| | MAROON. | |
| Granta (Widnall's) | fine cupped petals | 4 " |
| Coronet | large flower, very fine | " 4 " 5 " |
| | ROSE-COLORED. | |
| King Otho | bright rose | " 3 " 4 " |
| Zarah | delicate pink | " 5 " 6 " |

### ART. 3. — *Bulbous Rooted Plants.*

Under the head of "florists flowers," the *Tulip*, *Hyacinth* and *Ranunculus*, with the *Carnation* and *Pink*, may be considered the most prominent.

The above named varieties are known to be of value to the florist, and are often bought and sold for large sums of money; they can never however be said to be of an equal value, as forming a certain class of plants in the mingled group of the flower garden; the attention given to them in common with other flowers, brings them more in their primitive state than when they are under the culture of the professional florist, whose object is always to cultivate in such a manner, as that the natural course of vegetation is wrought up to a high state of being, which cannot be possibly continued without the strictest attention to the high order of culture, familiar to the connoisseur and florist. To point out the most proper manner of cultivating these flowers in beds by themselves, and fully to elucidate this intricate subject, describing the proper compost, &c., would require more space than the contents of this book. I shall therefore subjoin a list of

the most appropriate varieties, to be planted indiscriminately in the flower borders, and particularly recommend their more general culture, as flowers highly deserving a place in every flower garden, as the prettiest ornaments in the early part of the spring, when few other flowers are to be found.

*Management of bulbous roots.*—The management of bulbous rooted plants, is simply to plant the bulbs, such as *Tulips*, *Hyacinths*, and others, about the latter end of October, in the vacant places of borders.

The best method that I am acquainted with, is to plant the roots in small clusters of six or eight together, four inches apart, by making a hole two or three inches deep, into which insert the bulb about an inch under the earth's surface ; and if a little sand is put into the hole, it will be of utility to the bulb, as it will keep it from rotting. This manner of planting may be applied to *Hyacinths*, *Tulips*, *Narcissus*, *Crocus*, and *Snowdrops*. When the leaves of bulbs decay, they should be taken from the ground, and moderately dried in the sun, and put into boxes with sand until autumn planting, when the young or side bulbs are to be taken from the parent as directed in the "increase of bulbous rooted plants," and planted separately from the flowering bulbs.

### ART. 4. — *Descriptive List of Bulbous Rooted Plants.*

#### DOUBLE HYACINTHS.

DARK BLUE.

Cæruleus Imperialis, *purple*,
Duc de Normandie.
Datamus, *purple*.
L'Amitie, *very dark*.
L'Importante.
Mr Pitt, *dark*.
Noir Veritable, *black*.
Quirinus, *dark*.

Lord Wellington.
Hannibal.
Roi de Noirs, *dark.*
Trosbloem, Bouquet des Fleurs.

PORCELAIN AND PALE BLUE.

Admiral de Ruyter.
Belle Agathe, *pale.*
Comte de St. Priest, *pale.*
Globe Terrestre.
Habit Brilliant.
Joli Bouquet.
La Gentillesse, *pale.*
Nouvelle Mode.
Parmenio.
Parel Boot, *pale.*
Bouquet Constante.
Celestina.
Grand Roland, *pale.*

RED OR ROSY COLORED.

Amarante Trone, *red.*
Bouquet Tendre.
Duchesse de Parma, *fine pink.*
Habit Nuptial, *rosy.*
Illustre Pyramidale, *red.*
La Beaute, Supreme, *rosy.*
Madelaine, *rosy.*
Phenix, *red and green.*
Rex Rubrorum.
Waterloo, *fine crimson.*
Madame Elizabeth.
Gen. Moore, *cramoisi.*
Mathilda, *rosy.*

PURE WHITE.

Gloria Florum.
La Deesse.
Triomph Blandina.
Van de Kasteelen.

WHITE, WITH A YELLOW EYE.

Flavo Superbe.
Heroine.
Sceptre D'Or.

WHITE, WITH RED AND ROSY EYE.

A la Mode.
America.
Gloria Florum Suprema.
Og, King of Bashan.
Archduchesse.
Virgo Vestalis.

WHITE, WITH PURPLE EYE.

Bijou des Amateurs.
Constantia Elizabeth.
Prins von Nassau de Weilburg.
Herman Langue.
Passe Virgo.
Pourpre Royale.
Sophie.
Miss Kitty.

YELLOW, WITH VARIOUS EYES.

Gold of Ophir.
Louis d'Or.
Pure d'Or.
L'Or de Peru.
Grand Alexandre.

## SINGLE HYACINTHS.

### BLUE.

Appius, *very dark.*
Amicus, *dark.*
Le Crepuscule, *purple.*
L'Ombre, *dark.*
Madlle. de Vailliere, *fine purple.*
Pronk Jeweel, *pale.*
Madlle. Zoutman, *dark.*
Plutarchus, *dark.*

### RED ARD ROSY COLORED.

Amiable Louise, *rosy.*
Diademe de Flore.
Anna Maria.
La Beaute Inexpressible.
Lord Wellington, *rosy.*
Pyramide Royale.
Beaute Supreme.
Countesse de Laval.
Laborer.
Mars.
Rose Bouquet.

### WHITE.

Duc de Cumberland.
Grand Blanche Imperiale.
Heroine.
Pyramide Superbe.
Premier Noble.
Prince de Galitzin.
Roi de Bashan.
Vainqueur.
Flora Mundi.
Fortunatus.
Le Candeur.
Hercules.
Melpomene.
Prince de Ligtenstein.
Staatsraad.

### YELLOW.

Aurora d'Or.
Isabelle.
Sulpherina.
Toison d'Or.
Crœsus.
Le Chasseur.
Point de Jour.

### HYACINTHS, DIFFERENT VARIETIES.

Blue Grape.
Purple Grape.
White Grape.
Large Purple Feathered.
Large Nutmeg.

## TULIPS—EARLY.

### VARIOUS COLORS ON WHITE AND YELLOW GROUNDS.

Amiable Royale.
Cramoisi de Baden.
Duc Van Thol.
Duc de Holstein.
Keyser's Kroon.
Drapeau Royale.
The Monument.
Waterloo.

## BIZARRES.

BROWN AND VARIOUS COLORS, ON YELLOW GROUNDS.

Beaute Parfaite.
Chapeau Transparente.
Duchesse de Parma.
Duc de Richmond.
Gloria Mundi.
Gordianus.
Louis l'Effroi.
Lord Mayor.
Prince Ferdinand.
Roi de Golconda.
Vice-roi Von Ireland.

## BYBLOEMS.

WHITE GROUNDS WITH SHADES OF PURPLE.

Duc de Lancaster.
Grand Tamedlan.
Holmes' King.
Incomparable Cyrus.
Koning Von Prussien.
Prince Mauritz.
Queen of the Moors.
Tour de Salisbury.
Violet ma Favorite.
Violet Washington.

## FINE CHERRY AND ROSE.

WHITE GROUNDS AND ROSY SHADES.

Cerise Superbe.
Cerise la Belle Forme.
L'Arbe de Diana.
La Couronne Imperiale.
La Grande Rose Royale.
La Ravisante, *striped leaved.*
Maria Stuart.
Ornament de Parc.
Ponceau Sanspareille.
Princesse de Austurie.
Queen of England.
Reine des Roses.
Rose Rebecca.

## FULL DOUBLE TULIPS.

Admiral Kingsbergen, *fine.*
Blanc Borde Pourpre.
Couronne Royale.
Couronne d'Or, *jaune flamee.*
Duc Van Thol, *very early.*
Duke of York, *violet and yellow.*
Pæony Gold, *fine yellow and red.*
Rex Rubrorum, *fine crimson.*
Yellow Rose, *sweet scented.*
Bijoux Imperiale, *jaune flamee.*
Sophie, *jaune flamee.*
La Cœur de Portugal, *tres belle.*
Ne plus ultra.

## PARROT TULIPS.

FRINGED EDGES; MOST BRILLIANT CRIMSON AND YELLOW, WITH SHADES BRIGHT GREEN.

Chevalier Vert.
Couleur de Cafe,
Luteo Major.
Margrave of Baden.
Yellow Sweet Florentine.

## CROCUS.

Cloth of Gold.
Large Blue.
Large Yellow.
Large White.
Large Purple.
White Scotch.

## FRITILLARIES.

Persian Fritillary, *curious.*
Meleagris, *checkered.*

## GLADIOLUS.

Alatus, *bright orange.*
Byzantium, *delicate purple.*
Carneus, *flesh colored.*
Cardinalis, *superb scarlet.*
Floribunda.
Fragrans Recurvus.
Hirsutus Roseo.
Psittacina, or Parrot like.

## LILIES.

Aurantium, or Orange.
Bright Scarlet Pompone.
Large White.
Double White.
Elegant Silver Striped.
Scarlet Chalcedonian.
Lilium Superbum.
Yellow Pompone.

## TURK'S CAP LILIES.

Caligula, *scarlet.*
Crown of Tunis, *purple.*
Double Violet Flamed.
Orange, La Parisienne.
Pure White.
White Spotted.

## POLYANTHUS NARCISSUS.

Bazelman Major.
Belle Legioise.
Bouquet Triumphant, *yellow.*
Dageraad, *yellow.*
Double Roman, *sweet scented.*
Glorieux, *yellow.*
Grand Monarque de France.
Luna, *white and citron.*
Morgenster, *entirely white.*
Reine Blanche, *white.*
Sultan, *white and yellow.*

## DOUBLE NARCISSUS.

Albo Pleno Odorato, *fragrant.*
Incomparable.
Orange Phenix.
Hundred Leaved.

## SINGLE NARCISSUS.

Hoop Petticoat.
Long Flowered.
Trumpet Major.
Poet, *with crimson nectary.*

### Art. 5. — *The Carnation.*

The *Carnation* is highly deserving a more general culture than has been bestowed on it. It requires some care and attention in its winter management, by protecting it in frames, as it seldom thrives when exposed to the inclemency of the winter.

The management I recommend, is to propagate the Carnation by layers, in August or September, immediately after they have done flowering; and when the plants are well rooted, which will be in four weeks, they are to be put into moderate sized pots, in a compost of two thirds loam, and a portion of sand and rotten leaf mould: when this is done they may be placed where they are not too much shaded, nor receive too much influence from the sun. The plants are to remain in this situation until the first frost appears, when they are to be placed in a cold frame, well lined on the outside with stable manure; in this situation during the winter, they must often be examined and divested of any dead leaves or filth they may collect; and air admitted every opportunity in fine weather. When the winter is over, the plants may be plunged into the proper place for flowering, which should be an exposure where the sun has not full influence over them: they may again be layered at the proper time and the same culture continued every year.

| Name. | Color. |
|---|---|
| Cartwright's Rainbow. | Purple Bizarre. |
| Davey's Royal Sovereign. | Scarlet Bizarre. |
| Farrar's Huntsman. | Scarlet Bizarre. |
| Lee's Duke of Kent. | Purple Bizarre. |
| High Admiral. | Scarlet Bizarre. |
| Orson's Anticipation. | Purple Flake. |
| Smalley's Foxhunter. | Scarlet Bizarre. |

| Name. | Color. |
|---|---|
| Young's Earl Grey. | Scarlet Bizarre. |
| Woodshead's Spitfire. | Crimson Bizarre. |
| Mount Etna. | Scarlet Flake. |
| Taylor's Birmingham. | Crimson Bizarre. |
| Pride of the Isle. | Purple Flake. |

## Art. 6. — *The Pink.*

The Pink may be considered as a hardy plant, with the exception of a little covering for the winter. It is propagated as the Carnation, either by piping or layers.

The best compost as recommended by Mr Miller who is much acquainted with the culture of Pinks, is as follows, for one barrow of fresh loam, 1-2 barrow of vegetable mould, 1-8 of sharp sand, 1-8 of well pulverized clay, such as is used for bricks laid up for the winter.

PURPLE LACED MELLERS.

| | |
|---|---|
| General Washington. | Highland Lad. |
| Daniel Webster. | Lafayette. |
| Miss E. Wilkins. | Roxbury Beauty. |
| Miss M. Rock. | General Warren. |
| Conqueror. | |

RED LACED PINKS.

| | |
|---|---|
| Cleopatra. | Nimrod. |
| Beauty. | Lord Nelson. |
| Blazing Comet. | Trafalgar. |
| Governor Everett. | Midshipman. |
| Cardinal. | |

BLACK AND WHITE STAR PINKS.

| | |
|---|---|
| Defiance. | Incomparable. |
| Beauty of Flora. | Independence. |
| Eclipse. | N. England Beauty. |

RED AND WHITE STAR PINKS.

| | |
|---|---|
| Fair Rosamond. | Sir John. |
| Reformer. | Liberty. |
| Fair Ellen. | Jolly Tar. |
| R. Wilkins. | |

### Art. 7. — *Polyanthus and Auricula.*

The *Polyanthus* and *Auricula* are pretty ornaments of the flower garden, when well cultivated: the management of both is similar to the Carnation, with the exception of their increase, which is effected by dividing the roots in the fall of the year. The manner that I recommend for the culture of these plants is, that they be raised in the first instance from seed, and the choice kinds be selected for culture.

The time to sow the seed is early in the spring in a northern aspect: when the seed springs up, the young plants must be carefully attended to until the autumn, when they are to be potted in the same manner as is recommended for the *Carnation;* and placed in frames as recommended for them; early in the spring the plants may be turned out in the natural soil in a moderate aspect, where they will flower in fine perfection.

POLYANTHUS.

Yellow or English Primrose.
Purple Primrose.
Double Lilac.
Double Crimson.
Double White.

POLYANTHUS OF VARIETIES.

Double cupped.
Yellow Cowlip.
Yellow Oxlip.

AURICULAS.

Large purple — white centre.
Purple — yellow centre.
Fine purple — crimson border and centre.
Pure Yellow.

## CHAPTER VI.

### On the Monthly Calendar.

ART. 1. — *Object of the Monthly Calendar.*

IN giving a monthly calendar, the principal object is to take a cursory review of the management of the flower garden, at the different seasons, which could not be, in any other way, done in so condensed a form, corresponding with the tenor of this book, which is as much as possible, to treat on every thing separately. The manner of propagating most kinds of the plants adapted to the flower garden, has been separately treated on in Part 1; and it now remains to speak of their general culture, as the seasons pass on from spring to summer, autumn and winter. In commencing this subject, I shall begin with the year; for, although in the month of January nearly all horticultural operations are suspended, it is customary to allot that month a space in the calendar.

ART. 2. — *January.*

In this month, little can be done in the flower department, except in the green-house, and taking care of plants in rooms, which I shall notice in their separate places. However, if the weather proves changeable, which is often the case, the coverings of the plants are liable to be misplaced by the wind and other causes that may happen; therefore it is proper to look over the garden, to see that all is in due order, particularly if *Carnations* and such like are covered.

Plants in frames also, as the *Carnation, Auricula, Polyanthus*, and the like, may be looked over and kept in order, by taking away any dead leaves or filth that may be collected in them; and if any depredations have been made by mice, rats, or other vermin, they should if possible be destroyed. If the weather proves mild, which is sometimes the case in this month, the glasses may be taken off in the middle of the day, and closed at night; care must be taken that they are not left open of a night, and the plants frozen, which is often the case.

### Art. 3. — *February.*

In this month, like the preceding, little can be done to advantage in the garden, except where any forest trees are to be pruned or cut down, which may be done to a good purpose and much forward the business of the flower garden in the coming spring; the frames should be attended to as previously directed, and the garden should often be looked over to see that the covering and the like is in due order.

### Art. 4. — *March.*

This month, if mild, begins the principal business of the flower garden. A hot bed may be prepared as before directed, (page 39,) for sowing annual flower seeds; biennials and perennials, that are intended for early planting, may also be forwarded by this method. The plants in frames may have more *air* given them, and every opportunity should be taken to forward them as much as possible for the planting out in the ground. The uncovering of many plants may be seen to near the close of the month, and all kinds of hardy shrubs and plants may be pruned and tied or nailed in a proper manner,

either to fences, walls or trellises, to which they are intended to be trained.

The latter part of this month, all dead stalks may be neatly cut from the plants and cleared from the garden, and the grass plot may be raked and divested of all the old dead grass, and any thing that may prevent the young grass from coming up in a regular manner; any parts of the walks that have been washed either by rain or snow water, should now be repaired and put into good order previous to the spring dressing. The pruning of trees and shrubs may be performed by simply, in the first case, divesting them of all dead wood, and thinning out all weak, superfluous branches, and those which cross one another. In the act of pruning, a few simple rules are to be regarded, viz: that all wounds or amputations be cut with sharp instruments, and left in a clean, slanting manner, that the wet may not collect on and rot the wound; the next thing is, that the plants be regulated in a manner that the *sun* and *air* have free access to every part of them; and thirdly, that their natural form and habit be as much as possible retained. In cases where plants are grown into a straggling habit, they may be headed in, to form a new head or crown. These remarks will be found to answer most purposes, if correctly attended to.

### Art. 5. — *April.*

April is the busiest month in the flower garden. As soon as the weather will admit, and the ground is dry, the pruning and cleansing of the plants and the garden should be finished.

The borders and flower beds may now be dug, and the box or other edgings mended or replanted, and every

thing must be done preparatory to transplanting perennials and sowing annuals.

In digging borders or flower beds, care must be taken that they are so dug as to lay rather the highest in the middle, by which the appearance will have a more pleasing effect and the water will drain from them in a regular manner. It must be recollected that wherever water is allowed to lay long on any plants, (except *aquatics*,) they are much injured thereby. The borders being dug, the places required to be planted either with shrubs or herbaceous plants, may then be planted after the manner described under the heads of planting and descriptive lists, where every information will be found relative to their proper position, and the manner of performing the work. When the borders are dug and planted, the grass plot, if any, and walks must be repaired and put in proper order.

If the latter part of the month proves fine, some seeds of hardy annuals and perennials may be sown, and the layering of plants, dividing roots, putting out cuttings, and the like, may be performed as directed under the head of "Propagation."

### Art. 6. — *May.*

Supposing the work be done as directed in April or the beginning of this month, the principal thing to be attended to is to sow all kinds of annual, biennial and perennial seeds, at three sowings this month: the hardy kinds at the beginning, the half hardy at the middle, and the tender at the end of the month. The beginning of the month box edgings may be laid, and all kinds of edgings, as *Moss pink*, *Iris*, *Stone-crop*, and the like, may be neatly repaired, and every thing completely

finished for the spring dressing. If the trees and shrubs have not been pruned and trained (which see under the proper head) as directed in April, no time should be lost in performing that work the early part of this month.

The middle or latter part of the month, all kinds of green-house plants may be plunged in the borders or flower beds as directed under their proper head. The *Dahlia*, *Jacobean Lily*, and all kinds of tender rooted plants, either tuberous or fibrous, may also be planted the latter part of the month.

Tender and hardy annual flowers may now be transplanted from the frames; the hardy at the beginning, and tender at the end of the month.

All kinds of flowers that are of slender growth should now be supported by tying them neatly to sticks; and every attention should be paid to the health of the plants and neatness of the garden.

### Art. 7. — *June.*

The principal business to be done in this month is hoeing and keeping the flower beds in order, often mowing the grass plot, and cleaning walks; indeed every department should at this time meet the most strict attention. And here let me remind the reader that one of the principal things to be attended to in flower-gardening, is to remove all weeds in their infant state; for at this stage they can be easily destroyed, but if allowed to grow and get strongly rooted in the ground, they exhaust the soil, as well as have a bad appearance. Hoeing, raking and destroying weeds are operations so simple and common as to render any directions on the subject superfluous; but its simplicity does not prevent it from being a most important subject. To avoid irksome minuteness,

I will merely remark that the most strict attention should be paid to keeping every part of the garden at all times neat and cleanly; and having once called attention to this point, I may not recur to it hereafter.

Particular attention must be paid at this time to the tying up all the slender plants to stakes or sticks; as the *Dahlia* and plants of a rapid growth. For this purpose neat sticks or stakes should be prepared, of a size in proportion to the height of the plant; for the Dahlia, sticks of about four or six feet planed off in a tapering manner, either round or square, and painted green, answer a good purpose; in the operation of tying up the Dahlia, care must be taken that the plant is not tied too tight, which is often the case and the consequence of which is, that the plant is nearly cut asunder and the first storm that comes blows it down. In tying up plants care must also be taken that they are not too much bundled together, which is not only unsightly to the eye, but is often the cause of the centre part of the plant being in a measure rotted, owing to the leaves being too much confined and not receiving the influence of the atmospheric air.

Attention must now also be paid to the training of vines as *Honeysuckle*, *Clematis*, and all such plants as are trained to trellises, arbors, &c.

Annual flower seeds may now also be sown for late flowering; and in moist weather any bare places in the borders may be planted and filled up with annuals to make every part have a regular and sightly appearance.

### Art. 8. — *July.*

Every favorable opportunity should be taken in this month to keep down weeds as they appear, and to tie up any plants that are of a slender habit. The *Dahlias*

should be carefully looked over and tied to their stakes to prevent them from being broken down by rains or heavy storms. Every attention must now also be paid to annuals by thinning out those that are growing thickly together, which in their infant state causes a weakness in their habitual constitution, and they rarely assume their wonted vigor in the flowering season; and the consequence is, that they never flower in perfection. — Any kind of bulbous roots, as *Tulips*, *Hyacinths*, *Crocuses*, and the like, that are to be taken up and replanted in the autumn, may be removed so soon as their leaves are ripe and decaying: for the method of performing this work I refer the reader to page 68.

It will be proper here to observe that there is an exception to the *rule* of taking up bulbous rooted plants in most kinds of Lilies, as the *White Lily*, *Orange Lily* and the like. Indeed, in many cases they are much injured by being often removed; the White Lily, seldom flowers well, if at all the first year of its removal; and many other kinds flower but feebly. The best method that I can recommend in the culture of Lilies is, to thin out the roots in such a manner yearly that the large flowering bulbs are three or four inches apart: the taking away the offsets and small bulbs in this manner gives those left to flower a chance to obtain the different nutriments and food in the grounds in which they are growing.

Great care must be taken this month of any green-house plants whether plunged in the ground or otherwise, by watering them moderately so that the earth they are growing in may be kept moderately moist. This is the most critical month in the summer for many kinds of green-house plants, particularly the *Erica* and *Camellia*, which are often so much injured that they never recover, owing

to the earth in the pots being allowed to be dried to *dust*. The consequence is that the roots of the plants perish by drought and the leaves turn yellow and fall off. Insects also attack the plants, which, being in a weakly state, by degrees dwindle and die. In all kinds of tender annuals and herbaceous plants which are perishing for want of water, attention may be paid to the watering at the roots moderately of an evening; but care must be taken not to overwater at this season, which will be unnatural and greatly injure them. *Moderation* must be the guide in this process as in all others of the same nature.

### Art. 9.—*August.*

Little is required to be done in this month besides keeping the flower beds and garden clean, tying up plants, cleaning walks, &c., of which I have already spoken. If any bulbous rooted plants, that are to be taken up still remain in the ground, their removal should no longer be deferred. The inoculation to be done on *Roses* or any choice plants should be attended to near the end of the month or as soon as the plants are in a proper condition to be operated upon; which see under the head of Inoculation, page 36. Any kinds of annual or perennial plants that have done flowering and are encumbering their neighbors may also be taken away or cut down, and the garden should at this time go through a regular hoeing, raking, and cleaning, which is very important at this season, and if neglected is many times the cause of much labor by weeds over-growing and spoiling the autumnal flowering plants.

### Art. 10.— *September.*

The beginning of this month all kinds of green-house plants intended to be taken up and potted, either for the green-house or rooms, should be attended to. For the manner of performing the potting of plants I refer the reader to that chapter " On the Management of Green-house Plants."— All kinds of annual and biennial flowers may now also be potted and placed in a situation where they can be partially shaded in order to encourage their rooting freely in the pots. For a descriptive list of the best kinds for this purpose I refer the reader to Articles 1 and 2 in the Appendix. Indeed any kind of plants intended to be taken into winter quarters should not be delayed after this time ; they are rarely well rooted and prepared for the sudden change.

There are but few things to be done in the flower garden that require more practical knowledge and are less understood than the taking from the ground and preparing plants for winter quarters. In this I would wish to be understood as referring to all kinds of annuals, biennials and perennials. In the first place it is an act of violence on nature to remove plants from the soil when they are established and in a vigorous growth, to a small pot of earth, perhaps of quite a different compost from that in which they have been growing ; besides they have in most cases their principal roots *cut asunder*, which have extended several feet in search of a proper nutriment ; consequently the natural channels that extract food for the plant are severed from it and its vigor is more exhausted than nourished ; the plant being thus enfeebled eventually loses a portion of its leaves, in proportion to the loss of such members ; and this again weakens it, owing to its losing in a certain degree its powers of imbibing the

moisture of the atmospheric air. In this case the plant has generally to undergo a change in habit and growth at a time when it is least prepared for it: namely, before the approach of winter, when it requires to be in full vigor, which can only be regained by the most attentive and natural management.

*Taking the plants from the ground and potting them.* — If possible an opportunity should be taken to take the plants from the ground or pot them, on a moist, humid day after a shower of rain. They should be taken carefully from the ground, and their fibrous roots as much as possible retained. Being taken from the ground they should be immediately potted, and well watered and placed in a situation where they are partially shaded and have a free circulation of air: it will be the better for them if they be placed under trees where the direct rays of the sun are withdrawn from them and a free circulation of air can act on them. In this situation the plants must be regularly attended to, by keeping the earth moderately moist in order that they may root freely in the new pots. All dead leaves should be taken from them as they appear, being often very injurious to plants potted in this way; for the decaying leaves being in a state of putrefaction, create an impure air, which is imbibed by the living leaves and sickens the plants.

When the plants are well rooted in the pots and begin to recover their strength, they are to be gradually exposed to the sun and their natural location, in order that they may recover their natural habit previous to their removal to winter quarters.

In this month the principal business in the flower garden is keeping it clean from weeds, gathering all kinds of flower seeds as they ripen, (which see in the Appendix,

Art. 3,) protecting plants of slender habits, training and tying vines to trellises; this is the proper time to divide and propagate many kinds of hardy herbaceous plants where wanted; and if any alterations or new arrangements are to be made in the flower garden, they should be immediately attended to.

### Art. 11.— *October.*

The principal thing to be attended to in the flower garden this month is, to give particular attention to the management of the green-house plants that are not taken into the green-house or rooms. Green-house plants should be protected at night after the first of the month in most parts of the Northern States: for the first frost which is always to be expected at this time, will much injure them if exposed, besides spoiling their appearance. Any kinds of hardy bulbs, as *Tulips*, *Hyacinths*, *Lilies*, and the like, may be planted from the middle to the end of the month, as directed under their proper head, page 68.

The *Carnation*, *Polyanthus*, *Daisy*, and any kind of half hardy plants in pots, that are intended to be protected through the winter in frames, should be placed in them and covered on cold frosty nights.

Every attention must be paid to the *Dahlia* and tender rooted plants that are injured by the early frost. It is a good method to protect them by laying some long manure or litter about the roots to guard them from being injured by the first frost.

### Art. 12.— *November.*

Supposing the green-house plants to be housed, their management will be found under the proper head of the Green-house department; but the half hardy plants in

the frames will require to be attended to by giving air, covering on cold nights and the like, as recommended under the head of "Frames." Great attention must be paid to the Dahlia, if not taken from the ground, that it be not frosted at the root. Indeed, it should always be the rule, even in mild autumns, to take the roots from the ground the first of this month. But if left after that time, a double covering should be applied. Little will require to be done in the garden except to clear away any kind of dead leaves or decaying plants which appear to be a nuisance; and everything may be prepared for the winter.

All kinds of hardy bulbs that were not planted the latter part of October, may be planted by the middle of this month, and if any new plantations either in the shrubbery or flower garden are to be made in the fall, they should not be omitted any longer than the middle of the month.

*Covering Plants and Protecting Shrubs.*—About the 20th of the month or as soon as the winter begins to close, which will vary from 15 to 50 days in the different parts of the States for which this work is intended to be adapted, will be a proper time to protect all kinds of herbaceous plants by covering them on their crowns with long manure, or if leaves can be obtained they will answer a better purpose. Tender kinds of shrubs as the *Double Hibiscus*, *Magnolia purpurea*, &c. may be protected by tying up the branches in a neat manner and covering them over with straw, and tying it neatly around them.

### Art. 13. — *December.*

Little can be done in the garden this month except it is a very mild season, when the covering plants and the like

may be done as directed in November. For the management of the Green-house and Frames I refer the reader to their proper heads.

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## CHAPTER VII.

### On the Variations and Diseases of Plants.

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#### Art. 1. — *Variations of Plaats.*

In order to diversify the subjects of the "Companion", I have introduced several that are not altogether pertaining to culture; but which may be interesting to those who are desirous to be made acquainted with the different qualities and variations of plants, as color, monstrous habits, motions, &c. An article upon the diseases of plants concludes this chapter.

#### Art. 2. — *Color of Plants and Flowers.*

Milne calls "color an attribute or sensible quality of of plants." There is nothing I am acquainted with in the vegetable kingdom, that is more changeable and deserving notice than the coloring of plants; which is different not only in flowers, but also in leaves, roots, seeds, bark, and indeed in every part of them. When the earth is clothed with vegetation in the spring, *green* is the predominant color; and so varied are the shades of this general vestment or clothing, that it is hardly possible to find two different varieties of plants of the same shade

of color. This general clothing of plants also undergoes many changes during the season from spring to autumn; the most general change that takes place, is, the expanding of the leaf of most plants, when the color is commonly of a light green inclined to a yellow; and the forests have at that time a tinge of yellow in their appearance; this coloring is soon changed into *a deeper green*, which, when the leaf is at its maturity, is then at its deepest color. From the maturity of the leaf to its decay, or dropping from the plant — which is shorter or longer in different varieties — a gradual change takes place from a deep green to a yellow, in most plants, and in some varieties it is again changed into a deep red or purple, as in most of the native shrubs, which is owing to the acidity they contain. Leaves of plants are also variegated or checkered in many ways with two or three distinct colors, which is exemplified in the *Amaranthus tricolor*, *Variegated Geranium*, and many evergreens, as *Hollies*, *Box*, &c. Some leaves of plants have distinct colors on each side, as the *Tradescantia discolor;* and in some cases the color of plants is entirely extracted and a white is substituted, which is caused by the absence of light and air as in the case of blanched *Celery*.

In the flowers of plants many changes are observable from their first expanding to their decay. With a very few exceptions the *calyx*, or covering of the flower is mostly *green;* there is, however, an exception to this rule in some few flowers. The *Ear-drop*, or *Fuchsia coccinea*, has a beautiful scarlet *calyx*, or covering, which is often taken for the flower cups, which are purple; and the changeable part of the *Hydrangea hortensis*, is nothing more than a changeable calyx or covering, the flowers being no larger than a pin's head. The petals or flower leaves

are the most changeable, as in most flowers, when they begin to expand, their petals are of a light green color, which, on being expanded and exposed to the atmospheric air, becomes *red*, *purple*, *yellow*, or any color natural to them: during which time it undergoes many changes. Flowers are also variable in their parts, as in most cases we find the anthers, which contain the pollen, are of a yellow color, and the styles, which support them, of a *hyalinus* or water color. The flower leaves or petals are also, in many cases, mottled or variegated, as in the *Geranium*, *Balsam*, *Camellias*, and many others.

In taking a general view of the colors of plants, it will be found that white is most common in the petals of spring flowers, as the *Snowdrop*, *Wood anemone*, *Cherry*, *Plum*, &c.; water color in the *styles* and *stigma* of flowers; yellow in the heads or anthers of flowers, and in the petals of most compound flowers, as the *Sunflower*, *Coreopsis*, *Hawkweed*, and most autumnal flowers. Black is most common in seeds and the bark of roots. Blue, red, and violet, in the petals of summer flowers, as the *Rose*, *Larkspur*, and many native plants. Red is also very common in acid fruits and berries, and green predominates in leaves and the calyx of plants.

In closing the present article, it is proper to add that the color of flowers varies from their natural or primitive according to the location they are placed in, and by observation it will be found that all kinds of fulgid flowers, as the *Double Lychnis*, *Roses*, or any high colored, require to be exposed to the sun and air: shade generally causes most flowers to lose their deep colors, except those of a pure white, as the *Lily of the Valley*, and and those which naturally grow in shaded locations.

### Art 3. — *Double Flowers.*

Double flowers are vegetable monsters; they are exemplified in the *Double Dahlia*, *Stock gilliflower*, *Rose*, and *Camellia*; they are, in most cases, the result of luxuriance in culture or other causes by which the organs of generation are transformed into gaudy *petals* or flower leaves; consequently, such flowers cannot possibly produce seed; their varieties have, therefore, to be prolonged by propagation of cuttings, roots, and layers.

Nothing is less constant in plants than double flowers, which is fully exemplified in the *Dahlia;* as we may see on the same plant, perhaps twenty flowers all differently formed; some nearly single, with the organs of generation, as the *male* and *female* parts, with a yellow centre; others approaching a semi-double and some a perfect double flower; until the variety is termed "*run out*," which is to say *returned to its primitive state of a single flower*. This sporting of flowers is very different in plants of the same family; for we see in some plants that almost every flower is perfectly double, as for instance in the *Dahlia:* the *Countess of Liverpool* generally forms a fine, clear, well-formed double flower; whilst others, as the *Queen of Dahlias*, has occasionally a fine double flower; others, on the same plant, are semi-double, and some nearly single. The same affinity is observable in many kinds of perennial plants, that produce double flowers.

In annual flowers, as the *Stock gilliflower*, the double flowers are more perfect, but the duration is shorter: one year only it can be said to continue, although it is often elongated by cuttings, which are mostly of a sickly appearance. Whatever may be the value of double flow-

ers, certain it is that they sooner or later will cease to be in existence.

The primitive or single flowers are the only varieties that can perpetuate the vegetable kingdom to the end of time. The economy of nature in this case, as in all others, has given a variation, that too much sameness may not cloy our pleasure. We for instance, in some double flowers, find them continue their perfect character for many years unaltered, as the *Double white Camellia;* in others we perceive a continual variation for a few years, as in the *Dahlia*, and then the primitive state again predominates; in other denominations of plants, as annuals, a yearly variation from the single to the double flower is observable, as in the *Stock gilliflower*; whilst the primitive or single flower at all times presents the same form and number of parts, and is perpetually renewed and continued in its natural habit and quality.

### Art. 4. — *Motion of Plants.*

"Motus, or motion; when applied to plants," says Milne, "the term motion is very limited, and expressive, not of an absolute change of place, but of direction." The most general motion of plants that takes place, as a natural change, is the well known fact that most trees, shrubs, and the lower order of plants, always incline toward the light. This fact is observable in woods, where trees grow close together, in which case their branches always incline towards the light and air, as the vacant places, and the outsides. Plants on the shelves of greenhouses, or in windows, always incline to the glass, and when their position is changed the leaves and minor branches change their position also, and incline to the light. If a number of plants are placed in a dark room,

in different parts, where there is a small window, each plant will be found to direct its position in a direct line to such window. In conclusion to this part of the subject, it may be proper to state that soft-wooded plants alter their position, on being changed, sooner than those of a hard-wooded kind; therefore, the time of regaining the position of any plant depends on its nature.

The movements or motions of the leaves of plants is exemplified in many different ways. If a branch of a grape vine is turned from its natural position where it grows, so as to turn the under sides of the leaves to the light, they will in a few days regain their natural position by being reversed on their footstalks. This movement is apparent also in the leaves of most kind of plants when reversed from their natural position, which they again resume in a shorter or longer time in accordance to their habit, as before stated. In some varieties of plants the leaves fold up close to the footstalk in the night. This motion is termed by botanists, "the sleep of plants," and is observable in some varieties of *Oxalis* and many of the winged leaved plants, as the *Acacia lophanta*, which folds its leaves close to the stem by night, and unfolds them at the approach of day. The same movement takes place if such plants are put into darkness in the day time. Some plants are known to close their leaves on being touched, as the *Sensitive plant;* and some leaves are put in motion by the most gentle breeze, as the *Aspen tree*, the leaves of which are always trembling on the tree, and hence the name *tremula*. In flowers a motion is observable in their folding and unfolding in different periods of the day; an example of this is observable in a pretty green-house plant, the *Oxalis versicolor*, which opens its flowers in the middle of the day, when the sun shines on

it and the heat is above sixty deg.; but closes when darkness comes on at night, and on the following day the same motion is observable if the sun and heat is congenial, but if not, the flowers remain folded. The most beautiful motion in flowers, that I am acquainted with, is exemplified in the *Edwardsia grandiflora.* This beautiful plant expands its calyx — which is cloven — when the sun shines strongly on it; from between the calyx, a drop of *nectar* or honey appears and becomes larger as the sun has more influence; the upper petals of the flower then ascend to catch the honey and protect the more delicate part of the flower, which in time fully expands; but so soon as the sun withdraws, the tender parts of the flower close and the upper petals descend with honey adhering to them, which amasses the whole flower in nectar, a rapid decomposition takes place, and in a few hours the flowers drop from the plants, and putrefaction immediately follows. This fact accounts for the difficulty of obtaining seed from the plant in question.

### Art. 5. — *On Insects and Diseases of Plants.*

In treating of insects and disease of plants, I shall make some cursory observations on those kinds that are commonly injured, and give some remarks on the causes, and methods of evading them.

The most common disease of plants arises either from poverty or luxuriance; but the former is the most general.

Of all the insects that are found on plants, the *green fly* is the most common in the *flower garden* and *green-house.* In the *green-house* it is generally bred among Roses, Stock gilliflowers, Geraniums, and soft-wooded plants, at a time when they are making a feeble growth,

when the number of insect on the leaves soon sickens them and brings on disease in their system.

The remedy to destroy the *green fly*, in the *green-house*, is a fumigation of tobacco leaves. In the flower garden, on the Rose and those plants affected, by dipping the leaves or parts infested into a decoction of tobacco extracted from the leaves.

The next common insect that infests plants is the *red spider*, a small, minute insect, bred by dry harsh heat or internal air. Plants that are affected with this insect have a sickly appearance, and their leaves turn *yellow* and then *red ;* on the back of the leaf a fine *web* is seen, and the insect is readily seen through a magnifying glass, and sometimes by the naked eye. There is no insect that I am acquainted with so difficult to destroy as the red spider. In the green-house steam and moist internal air counteract its ravages, and if the flues are whitewashed over with lime and the sulphur of vivum, it will in a great measure destroy it: but sulphur should in all cases be very cautiously applied, as too great a quantity suffocates and scalds plants.

Many plants, as *Ericas* and *Acacias*, are very subject to a white scaly insect, which must be removed by taking it from the leaf either with the point of a knife or brush ; after removing the insect, take a wash made by a decoction of soft soap with a small portion of sulphur and tobacco juice, with which the parts affected are to be spunged over three or four times. *Oleanders*, *Camellias*, and many evergreens, are often infested with a large, black, scaly insect, which can be removed in the same manner as the before named.

There are many other insects that infest and injure plants, which are in most instances at first generated by

unwholesome air or some stagnation in the plant, which of course can be counteracted or avoided by keeping plants clean and healthy, the very best remedy against disease.

In many cases plants and trees are cankered by allowing the branches to cross and rub each other; and some throw out knobs or protuberances where they have been bitten by insects, or some stagnation has taken place in the sap. It is not always warrantable to say that such appearances are always injurious to the tree or plant, although, in most cases, their absence is better than their presence, and they may generally be compared to *wens* on the animal creation. They act as reservoirs of stagnated sap, which is mostly of an acid quality, and in some instances breeds insects, as worms, and the like. Indeed, such appearances are mostly the result of perforation by *flies* and other insects, made for a depository to hatch their young into life; therefore, the propriety of their removal is at once apparent.

# PART 3.

## CONSTRUCTION AND MANAGEMENT OF THE GREEN-HOUSE.

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## CHAPTER I.

### On the Construction of the Greenhouse.

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ART. 1.—*Location and Plan.*

THE Green-house being, at this time, an almost general appendage to the flower garden, particularly in city residences, where it is generally connected with the dwelling house, is the principal reason for introducing some remarks on the subject in this place.

The position of the green-house should, if possible, be such that it may face to the south, although a southeast or southwest aspect may answer; it must be a consideration with the owner, as to which is the most convenient place on the premises. In all cases it should be protected as much as possible on the northeast and cold quarters. and be exposed to the south and southeast. The site on which it is to be built must be dry, which facilitates the working of it in winter, and is most conducive to the health of the plants. The house may be of almost any plan; it will appear to good advantage with a circular front, although a straight one is the most general and answers

best. Thirtyfive feet long, and fourteen wide in the inside, is perhaps a good house; but when the length is greater the width must be in proportion. The front and end walls should be of brick and may be placed two feet above the surface of the earth; on the front wall, upright sashes from two and a half to three feet high, must be conveniently fixed so as to give air, either by sliding in a grooved chase, so that the whole or any portion of them can be taken out at either end, and air given if required, at any part of the front of the house; or they may be suspended on hinges to be lifted up at pleasure. The back wall must be carried to such a height that when the roof, which must be glass, is put on, it forms an angle of forty deg.; the ends, which should also be glass, will have a pitch accordingly; the roof should be composed of sashes four feet wide, the top ones to slide by pulleys and reels over the bottom. The rafters may be four inches wide on the outside, and bevelled to an angle inside; the panes should be five by seven inches, well glazed with a lap of not more than a quarter of an inch, the wood and all other materials require to be of the best quality.

### Art. 2.—*Mode of Heating.*

The house may be heated either by a dry flue, or hot water, but the dry flue is most general, and perhaps best.

*Materials for the flue.* — The materials are, about fifty fire bricks, for an arch over the furnace, six bars of cast iron for the grate, eighteen inches long, the ends of which must be two inches square and the other part two inches thick, and three fourths wide at the top, and half an inch at the bottom; which will allow a sufficient draught and room for the ashes to pass through.

The two frames required for the furnace and ash-hole

should be the same in size, twelve inches square, and from two to three inches wide, with iron doors hung in the usual way: next are two iron bars as supporters for the grate, which must be two feet long; the other materials are flue tiles, which should be twelve inches square and grooved; they can be had, of superior quality, at the *Salamander Works*, New York. Soft bricks and good mortar are the other requisites.

*Building the furnace.* — The furnace is the first to be attended to, which should be at least fifteen or eighteen inches below the level of the flue, in order to have a good draught. The size of the furnace must be thirteen inches wide, in order to give space for taking out the bars, when it is requisite to clean the furnace: the bars must rest on the two iron supporters, underneath which will be the ash-hole of the same dimensions. An arch of fire bricks must be turned over the grating, fifteen inches high in the centre.

There should be a neck of a curvilinear form, about three feet long, with a regular ascent of one foot, to cause a good draught.

*Position of the flue.* — The position of the flue should be such as to turn round the front of the house, from the northeast to the northwest corner, where the smoke should be carried horizontal from the neck before spoken of.

*Dimensions of the flue.* — In building the flue, I recommend for a foundation, that bricks be laid in mortar, to the width of twentyone inches from the wall; on this foundation, two courses of bricks must laid on their edges; one three inches, the other fifteen from the wall; leaving a space of four inches between each brick so as to form a pigeon hole under the flue: on these two courses, lay tiles for the bottom; then proceed with three bricks on their

edges each side the tile, which, when covered with the upper tiles, forms the flue, the inside of which will be twelve inches deep and eight wide.

### Art. 3.—*Walk and Stages.*

Adjoining the foundation of the flue, round the front of the house, I recommend a paved walk, of white marble, two feet wide, to be laid in an inclined manner of half an inch in eight feet, to the southeast or southwest corner, to carry off the water, which can be conducted through a pipe, three inches in diameter, to pass under the wall, into a reservoir; on the inside of the walk, a row of bricks may be laid in a standing direction, to keep the earth from covering the walk.

*Staging of the house.* — Over the flue, around the front, a stage may be built for the accommodation of small plants, consisting of four shelves; that near the glass to be eight, the second seven, the third six, and the fourth five inches wide; to descend towards the walk six inches; which will be two inches between each shelf. A stage should also be erected from the walk, to the back of the house, according to the following scale, viz: the first shelf next the walk to be four feet six inches from the front glass, its height three feet, and width seven inches; the second six inches above that, and the same width; the third and fourth, eight, fifth and sixth, ten, seventh, twelve, and eighth the remaining space to the wall. Their height, one above another, gradually to increase; so as to leave the seventh twelve inches from the eighth, which should be five feet from the top of the wall. In addition to the above, shelves may also be erected in other parts of the house, for succulent plants, as the *Cactus*, and dry stove plants, with many little things that may be added to suit the owner's taste.

Having completed the house, the next thing to be attended to is painting the wood work white,— the stage excepted,— the brick work and walls require whitewashing, for the benefit of the plants and its neat appearance.

### Art. 4.—*Repairing and Cleansing.*

Before entering on the subject of green-house plants, there remain one or two observations on the internal arrangement of the green-house, which, though not strictly pertaining to the subject of this chapter, may be brought in here with advantage.

To have the house in proper order for the reception of plants in the fall, it should be minutely inspected in the month of August each year, that all repairs which appear requisite may be done. The flue should be examined first, which requires that a few tiles be taken off the tops, in order to clean out the soot, which has collected during the winter; this may be done with a hoe and brush; the soot must be drawn to the place where the tiles are taken off; the flue being cleansed, it is next to be examined outwardly, the tiles properly replaced, repaired, and whitewashed; the back wall and every part of the brick work, must also be whitewashed, which will be of material benefit to the plants when growing in the house.

Lime washing improves the appearance of the house and is a great preventive against the many insects which always infest plants. If a portion of sulphur be beaten fine and mixed with the wash intended for the flue, the red spider, that minute pest to plants, will be greatly deterred from injuring those which are at the dry end of the house.

The furnace is next to be inspected and repaired. The internal part of the house being cleansed and repair-

ed, the roof should be inspected and all broken glass repaired. The wood work should be painted if required, and, in fact, every part put in perfect order.

When the house is filled with plants, great care must be taken not to allow any leaves or filth to collect, as it occasions an impure air, which often causes the plants to have a sickly appearance.

The leaves of plants being porous and having the power of absorbing the surrounding air in which they grow, it is evident that their health greatly depends on the pure state of it; consequently, care should be taken to obtain that which is most congenial, and which will be found to be a sweet and pleasant internal heat.

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## CHAPTER II.

### On the Management of Green-house Plants.

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ART. 1.— *Taking the Plants into Winter Quarters and Potting.*

IN treating of the management of green-house plants, taking them into winter quarters should be the first consideration; this must be attended to about the middle of September, although in many cases it may be deferred to the beginning of October, yet the latter month cannot be recommended, as in many instances plants are much injured by frost before that time.

*Potting the plants.* — Previous to taking the plants into the house, those that require repotting into a fresh compost should be attended to, in order that they may be well rooted and established in the pots, so that they may have a good appearance in the house ; many others that are not properly green-house plants, may be potted and taken in, to flower during the winter, as *Polyanthus*, *Primrose*, *Stock gilliflower*, *Carnations*, and others ; also many varieties of bulbous roots may be potted, as *Tulips*, *Hyacinths*, and *Narcissus*, which will flower and decorate the house in the winter.

Previous to taking the plants into the house, the pots require to be cleansed of all dirt or any substance attached to them ; all dead leaves should also, at this time, be taken from the plants : indeed everything should be done to bring them into the house as clean as possible.

ART. 2. — *Arranging the Plants in the House.*

To put the plants in proper order, requires some taste and judgment. Most plants have a peculiar location in their native state, therefore it is equally requisite that they have something similar in their artificial location.

The *Geranium*, or *Pelargonium*, may be placed in a situation as close as possible to the glass, where they can obtain the full influence of the sun. The *Camellia*, on the contrary, requires a shady situation, but should be so placed, that a free circulation of air can act upon it, which should be wholesome, or the flower buds will eventually drop off before they expand. All kinds of succulent plants, as the *Cactus*, and *Aloe*, should be placed on shelves in a warm, dry situation, where they can receive the sun and air which is at the east end. On the front shelves, small plants, of almost every kind, may be

placed, and particularly the hardy kinds, as *China roses*, *Bulbs*, and those of a dwarf habit. If this plan be observed their appearance will be graceful and pleasing.

Some taste is also required in arranging the plants in such a manner, that the whole form a mingled group, not too formal. Their various colors and forms should be so managed that there is not too much sameness, which will be the case if several plants of a similar kind are put together. Some plants, of tall habit, should be selected and placed separately, where they can be seen to good advantage.

### Art. 3.—*Watering the Plants.*

The best criterion for watering the plants, is to observe those which dry the earth in the pots soonest; such will generally require the most water; but there is an exception to this rule in the fleshy plants, as the *Cactus* and succulent tribe, which require water but seldom.

All kinds of evergreens, in a growing state, should be well watered: as the *Myrtle*, *Orange*, *Lemon*, *Laurestinus*, &c. *China roses* require often watering, and so do also the *Calla æthiopica*; however, if pans containing water are kept under them the better; though not generally recommended in a green-house.

In some cases plants are much benefited by watering them all over; this must, however, be done cautiously, and at a time when the water will quickly dry upon them; for if it is left on them too long, it greatly injures and prevents their respiration and perspiration.

The time of watering plants must depend on circumstances; the evening is the best early in the autumn, after a fine sunny day; but in the winter months, the morning is the best, for by watering in the evening, in winter, both

the house and plants are injured by being cooled too much. In most cases a waterpot with a rose, is most to be recommended, as it is not so likely to wash the earth out of the pots.

### Art. 4. — *Temperature of the House.*

Admitting air to the green-house requires some care and practical knowledge ; to do it properly, regard must be had to the nature of the plants, and the time of the year. When the plants are first housed in the autumn, the sashes should be wholly let down in the day, and the house closed at about half an hour before sunset.

As the winter approaches, and the air gets colder, it must be admitted more moderately in the morning, and the house closed sooner in the evening, in order to shut in the sun heat. The temperature of the house will depend on what state the plants are to be kept in.

The green-house is mostly considered as mere winter quarters for plants; to keep out the frost is considered sufficient; but, for my own part, I think the green-house should be made as inviting as possible in the winter, and the plants forwarded a little, and forced into flower for the gratification of those who visit. The house, under such circumstances, will require to be kept warmer than usual, by five or ten degrees.

The temperature of the green-house, is usually regulated by the thermometer of Fahrenheit, and the principal object is to keep it a little above freezing, say from thirtysix to forty deg., in a cold night; but to forward plants into an early flowering, from forty to fortyfive deg. is the lowest it should be allowed to fall to. The heat in the day time when the sun shines, may be allowed to rise fifteen degrees higher than at night.

In conclusion, I must again particularly recommend that the plants be kept cleansed from all dead leaves and other filth, that may either be attached to the pots or plants; the pots must be either washed or new ones used in shifting, about the beginning of March, so that they have a clean and healthy appearance; the shelves should be often cleaned during the winter, and the pots often moved to prevent water from collecting under them, which stagnates and injures the roots. It is also very requisite that a quantity of water, of a proper temperature, be always kept in the house for watering the plants, and to be at hand in case of fire. Every attention should be paid to the hottest end of the flue; no chips or shavings should be left near it, which, in many cases, I believe, has been the cause of the destruction of the house by fire. The house should be examined during the winter, and if any parts in consequence of the severe heat have given way, they should be immediately repaired.

ART. 5. — *Descriptive List of Green-house Plants.*

In forming a descriptive list of green-house plants, I have selected those kinds which are of easy culture, and free flowering. Some attention has also been paid to select such kinds as would give a variety of flowers during the season, with the addition of the list of the Geranium, Camellia, &c., that are to follow. No particular attention has been paid to those plants of a recent introduction, unless they have been proved worthy of notice as standard varieties; the principal object of the list being to describe such plants *only*, as are hoped to be worthy *always* of a place in the green-house. I have designated under their heads, the succulent plants, which require a dry soil and little water in the winter.

[Those marked thus * are running vines adapted to train on walls, pillars, &c. Those marked with initials B. E. are plants that thrive best in black peat earth or mould.]

| Botanical Name. | English Name. | Color. | Height. | Time of flowering. |
|---|---|---|---|---|
| ACACIA. | Acacia. | | | |
| verticillata | whorl-leaved | Yellow | 6 | March, April. |
| armata | simp-ld prickly | Yellow | 4 | March, April. |
| suaveolens | sweet-scented | Yellow | 3 | Feb., June. |
| decipens | paradoxical | Yellow | 3 | March, June. |
| longifolia | long-leaved | Yellow | 10 | March, April. |
| lophanta | two-spiked | Yellow | 8 | March, April. |
| AGAPANTHUS. | African Lily. | *Fleshy Rooted.* | | |
| umbellatus | large-flower | Blue | 3 | April, June. |
| variegatus | striped-leaved | Blue | 2 | April, June. |
| AGAVE. | American Aloe. | *Succulent Plants.* | | |
| americana | common Amer. | Yellow | 20 | March, Sept. |
| variegata | variegated | Yellow | 20 | March, Sept. |
| ALOE. | Aloe. | *Succulent Plants.* | | |
| Variegata | partridge-breast | Pink | 2 | March, Sept. |
| arborescens | tree | Red | 6 | March, Sept. |
| pumila | small cobweb | Green | 1 | March, April. |
| AZALEA. | Azalea. | B. E. | | |
| indica | Indian. | Scarlet | 4 | Feb., April. |
| *alba indica* | white | White | 4 | Feb., March. |
| *purpurea plena* | double purple | Purple | 4 | Feb., March. |
| *phœnecia* | purple | Purple | 3 | Feb., March. |
| BANKSIA. | Banksia. | | | |
| serrata | saw-leaved | Yellow | 12 | July, Sept. |
| grandis | great flowering | Yellow | 4 | May, Aug. |
| ericifolia | heath-leaved | Yellow | 6 | Jan. December. |
| speciosa | long-leaved | Green | 5 | May, Aug. |
| BUDDLEA. | Buddlea. | | | |
| globosa | round-headed | Orange | 15 | May, June. |
| BEAUFORTIA. | Beaufortia. | | | |
| decussata | splendid | Scarlet | 3 | May, July. |
| sparsa | alternate leaved | Red | 3 | May, July. |
| BOUVARDIA. | Bouvardia. | | | |
| triphylla | three-leaved | Scarlet | 2 | April, May. |
| versicolor | various-colored | Red | 2 | July, Sept. |

| Botanical Name. | English Name. | Color. | Height. | Time of flowering. |
|---|---|---|---|---|
| BURCHELLA. | Burchella. | | | |
| capensis | cape | Scarlet | 3 | March, June. |
| CACTUS. | Cactus. | *Succulent Plants.* | | |
| speciosissimus | beautiful | Crimson | 3 | July, Aug. |
| grandiflorus | night-flowering | White | 2 | June, Aug. |
| flagilliformis | creeping | Pink | 2 | March, June. |
| truncatus | truncatus | Pink | 1 | January. |
| Jinkensonii | Jinkenson's | Crimson | 2 | March. |
| CALCEOLARIA. | Slipperwort. | | | |
| integrifolia | entire-leaved | Yellow | 2 | May, Sept. |
| rugosa | rugose | Yellow | 2 | July, Sept. |
| Fothergilla | Fothergill's | Orange | ½ | May, Aug. |
| plalida | pale yellow | Yellow | 2 | March, May. |
| CALLA. | Calla. | | | |
| æthiopica | Ethiopian | White | 2 | March, June. |
| CORRÆA. | Corræa. | | | |
| alba | white-flowered | White | 3 | April, July. |
| speciosa | red-flowered | Red | 3 | April, July. |
| virens | green-flowered | Green | 3 | May, Nov. |
| *COBÆA. | Cobæa. | | | |
| scandens | climbing | Purple | 15 | May, Oct. |
| CORONILLA. | Coronilla. | | | |
| valentina | nine-leaved | Yellow | 3 | March, Nov. |
| CRASSULA. | Crassula. | | | |
| coccinea | scarlet | Scarlet | 2 | March, June. |
| versicolor | changeable | Variegated | 2 | March, June. |
| falcata | sickle-leaved | Scarlet | 2 | May, June. |
| CISTUS. | Rock Rose. | | | |
| ladaniferus | gum | White | 3 | May, June. |
| incanus | hoary-leaved | Purple | 2 | |
| CITRUS. | Orange Tree. | | | |
| myrtifolia | myrtle-leaved | White | 3 | April, May. |
| limonum | lemon | White | 12 | April, May. |
| aurantium | sweet | White | 15 | April, May. |
| nobilis | mandarin | White | 15 | April, May. |
| CYCAS. | Sago-palm. | | | |
| revoluta | narrow-leaved | | 3 | |
| DAPHNE. | Daphne, | | | |
| odora | sweet-scented | Purple | 2 | Feb., March. |
| *variegata* | variegated | Purple | 2 | Feb., March. |

| Botanical Name. | English Name. | Color. | Height. | Time of flowering. |
|---|---|---|---|---|
| DIOSMA. | Diosma. | B. E. | | |
| odora | sweet-scented | White | 2 | March. |
| capitata | pale purple | Purple | 2 | March, May. |
| hirsuta | hairy-leaved | Pink | 2 | March. |
| EPACRIS. | Epacris. | | | |
| grandiflora | crimson | Crimson | 2 | Feb., June. |
| pulchella | sweet-scented | Pink | 4 | April, June. |
| purpuracens | riged | Purple | 3 | January, March. |
| FICUS. | Fig Tree. | | | |
| elasticus | Indian Rubber | | 8 | |
| FUCHSIA. | Ear Drop. | | | |
| coccinea | scarlet | Scarlet | 3 | April, Sept. |
| gracilis | slender | Scarlet | 3 | April, Sept. |
| globosa | globe-flowered | Scarlet | 2 | April, Sept. |
| microphylla | small-leaved | Scarlet | 2 | April, Sept. |
| GARDENIA. | Gardenia. | B. E. | | |
| florida | Cape Jasmine | White | 4 | May, Sept. |
| radicans | rooting | White | 1 | May, Sept. |
| latifolia | broad-leaved | White | 3 | May, Sept. |
| GNAPHALIUM. | Everlasting-Flower. | B. E. | | |
| glomeratum | cluster-flowered | Yellow | 1 | March, June. |
| HELIOTROPIUM. | Heliotrope. | | | |
| peruvianum | Peruvian | Purple | 2 | March, Sept. |
| grandiflorum | large-flowered | Purple | 3 | March, Sept. |
| HOYA. | Hoya. | | | |
| *carnosa | fleshy-leaved | Pink | 4 | April, May. |
| HYDRANGEA. | Hydrangea. | | | |
| hortensis | changeable | Red, Blue | | April, Sept. |
| HYPERICUM. | Saint John's-wort. | | | |
| monogynum | Chinese | Yellow | 1 | April, May. |
| glandulosum | glandulous | Yellow | 1 | April, May. |
| ILLICIUM. | Aniseed Tree. | | | |
| floridanum | red-flowered | Red | 2 | March, April. |
| IRIS. | Iris. | | | |
| chinensis | Chinese | Blue | 1 | March, April. |
| susiana | Chalcedonian | Striped | 1 | Feb., March. |
| KENNEDIA. | Kennedia | B. E. | | |
| *rubicunda | dingy-flowered | Scarlet | 2 | Feb., June. |
| *coccinea | scarlet | Scarlet | 3 | Feb., June. |

| Botanical Name. | English Name. | Color. | Height. | Time of flowering. |
|---|---|---|---|---|
| LAGERSTRŒMIA. | LAGERSTRŒMIA. | | | |
| indica | Indian | Red | 5 | May, Sept. |
| LANTANA. | LANTANA. | | | |
| mista | nettle-leaved | Purple | 2 | May, July. |
| camara | various-flowered | Pur. Or. | 2 | May, July. |
| LAVENDULA. | LAVENDER. | | | |
| spicata | common | Lilac | 2 | April, May. |
| dentata | tooth-leaved | Lilac | 2 | April, May. |
| LINUM. | FLAX. | | | |
| trigynum | three-styled | Orange | 2 | Dec., March. |
| LOTUS. | BIRD'S-FOOT TREFOIL. | | | |
| jacobæus | dark-flowered | Black | 1 | March, Sept. |
| MAGNOLIA. | MAGNOLIA. | | | |
| purpurea | purple | Purple | 2 | March, April. |
| conspicua | downy-leaved | White | 3 | Dec., Feb. |
| grandiflora | laurel-leaved | | 4 | |
| METROSIDEROS. | METROSIDEROS. | | | |
| saligna | willow-leaved | Crimson | 4 | March, May. |
| lanceolata | spear-leaved | Crimson | 4 | March, May. |
| speciosa | showy | Crimson | 4 | March, May. |
| NANDINA. | NANDINA. | | | |
| domestica | panicled | | 4 | |
| NERIUM. | ROSE-BAY. | | | |
| splendens | double-hybrid | Red | 4 | May, Sept. |
| album | white-flowered | White | 4 | May, Sept. |
| variegatum | variegated | Striped | 4 | May, Sept. |
| OLEA. | OLIVE TREE. | | | |
| fragrans | fragrant | White | 3 | March, May. |
| PÆONIA. | PÆONY. | | | |
| arborea | tree | Purple | 4 | March, May. |
| papavera | poppy-flowered | White | 3 | March, May. |
| moutan | shrubby | Purple | 4 | March, May. |
| PASSIFLORA. | PASSION-FLOWER. | | | |
| *alata | wing-stalked | Varieg. | 15 | March, Nov. |
| *princeps | | | 15 | March, Nov. |
| *racemosa | racemose | Striped | 20 | March, Oct. |
| *cœrula | blue-flowered | Blue | 3 | May, June. |
| PASSERINA. | SPARROW-WORT. | | | |
| filiformis | heath-leaved | White | 1 | June, Aug. |

| Botanical Name. | English Name. | Color. | Height. | Time of flowering. |
|---|---|---|---|---|
| spicata | spiked | White | 2 | May, June. |
| grandiflora | great-flowered. | White | 1½ | May, June. |
| PITTOSPORUM. | PITTOSPORUM. | | | |
| tobira | Chinese | White | 3 | April, May. |
| undulatum | wave-leaved | White | 3 | April, May. |
| PLUMBAGO. | LEAD-WORT. | | | |
| capensis | cape | Blue | 2 | April, May. |
| POLYGLA. | MILK-WORT. | | | |
| myrtifolia | myrtle-leaved | Purple | 3 | March, April. |
| speciosa | showy | Purple | 3 | March, April. |
| PROTEA. | PROTEA. | | | |
| speciosa | splendid | Purple | 2 | March, June. |
| longifolia | long-leaved | Purple | 2 | March, April. |
| RHODODENDRON. | ROSE-BAY. | | | |
| arboreum | tree | Purple | 20 | March, April. |
| catawbiense | catawba | Purple | 4 | June, August. |
| ponticum | purple | Purple | 12 | March, April. |
| hybridium | hybrid | Pink | 6 | March, April. |
| Russellianum | Russel's | | 6 | March, April. |
| SERISSA. | SERISSA. | | | |
| fœtida | fetid | White | 2 | March, Sept. |
| STAPELIA. | STAPELIA. | *Succulent plants.* | | |
| grandiflora | great-flowered | D. Purple | ½ | Sept., Dec. |
| asterias | star-fish | P. Striped | ½ | May, Nov. |
| variegata | variegated | Y. Striped | ½ | June, Sept. |
| STRELITZIA. | STRELITZIA. | | | |
| regina | canna-leaved | Yellow | 2 | May, Sept. |
| THEA. | TEA-PLANT. | | | |
| verdis | green | White | 3 | March. |
| bohea | black | White | 3 | March. |

## ART. 6. — *Tender Bulbous Rooted Plants.*

The plants named in the following list are of easy culture, and deserve a place in the green-house; most of them are natives of the Cape of Good Hope or South America. They require to be placed in a warm part of the house, where they will flower to perfection; the front or east end is most proper. A compost of one third

good, sharp sand, one third rotten leaf mould, and the remainder good, fresh, black earth, from a dry location, should be prepared when the bulbs are to be potted in it, whilst in their dormant state, which is generally in the months of November and December; they may then be placed over the flue and watered sparingly until they begin to vegetate; it may then be more copiously applied, and the pots placed where they can receive the full influence of the sun. When the plants have done flowering, and the leaves begin to turn yellow, they are to be placed on some back shelf where they can ripen regularly; but little water is then necessary; in this state they are to remain in the pots until the time of repotting as before described.

| Name. | Color. | Time of flowering. |
|---|---|---|
| ALSTRÆMERIA. | | |
| Pelegrina | Striped | June, Sept. |
| Ligtu | Striped | Feb. Mar. |
| flookeri | | |
| flos Martini | W. Pur. Y. | Jan. |
| AMARYLLIS. | | |
| Johnsonii | Crimson | April, May. |
| formosissimus | Crimson | May, June. |
| vitata | Varieg. | May, June. |
| psittacina | Scarlet | May, Aug. |
| insignis | Scarlet | July, Aug. |
| equestris | Scarlet | Aug., Sept. |
| Belladonna | Flesh color | July, Sept. |
| ANTHOLYZA. | | |
| æthiopica | Orange | May, June. |
| vittigera | Orange | Jan. |
| BABIANA. | | |
| rubra cyanea | Red, blue | March, Ap. |
| plicata | Purple | March, Ap. |
| sulphurea | Yellow | March, Ap. |
| tubiflora | Yellow, red | June. |
| CRINUM. | | |
| americanum | | July, Aug. |
| Commelini | | June, Aug. |
| longifolium | | June, Aug. |
| amœnum | | June, Aug. |
| augustum | | June, Aug. |
| amabile | | June, Aug. |
| DIANELLA. | | |
| cœnila | Blue | May, Aug. |
| divaricata | Blue | July, Aug. |
| EUCOMIS. | | |
| punctata | Varieg. | June, July. |
| striata | | June, July. |
| GLADIOLUS. | | |
| versicolor | Varieg. | May, June. |
| cardinalis | Dark red | May, July. |
| psittacinus | Yellow | |
| HÆMANTHUS. | | |
| coccinius | Scarlet | June, Aug. |
| carneus | Red | June, July. |
| IRIS. | | |
| moræoides | | April, Aug. |
| persica | Varieg. | March. |
| IXIA. | | |
| crateroides | Crimson | May, July. |

| Name. | Color. | Time of flowering. |
|---|---|---|
| conica | Orange | May, June. |
| maculata | Varieg. | April, May. |
| leucantha | White, blue | April. |
| LACHENALIA. | | |
| tricolor | Varieg. | March, Ap. |
| quadricolor | " | March, Ap. |
| pendula | " | May, June. |
| OXALIS. | | |
| versicolor | Varieg. | Jan. Mar. |
| caprina | Red | Feb. |
| crenata | Red | March. |
| fabæfolia | Yellow | Oct. |
| rosacea | Pink | Feb. Mar. |

| Name | Color. | Time of flowering. |
|---|---|---|
| ORNITHOGALUM. | | |
| niveum | White | Aug. |
| flavum | Yellow | June, July. |
| altissimum | White | June, Aug. |
| PANCRATIUM. | | |
| augustum | | May, Aug. |
| amœnum | | May, Aug. |
| rotatum | | May, Aug. |
| speciosum | | May, Aug. |
| TRITONIA. | | |
| crispa | Flesh color | May, June. |
| crocata | Yellow | May, June. |
| rosea | Pink | June, July. |

## CHAPTER III.

### On the Culture of the Camellia Japonica.

#### Art. 1. — *Remarks.*

The *Camellia Japonica*, or *Japan Rose*, may be considered as one of the nobles of the green-house, during the period of its flowering, which happens — in a good selection — from November until April. No collection of green-house plants can be said to be complete or respectable, unless it contains from ten to fifteen varieties of these beautiful plants; they are all delicate and of the most finished cast. The foliage is glossy and of a perpetual green, which affords a striking contrast of shade with the flowers. When we consider its longevity, annual increase in

magnitude and blossom, together with its easy and simple culture under proper treatment, it is a most desirable plant. It should be cultured in the following manner:

In its location, either in the green-house or open air, during the summer season, it must be partially excluded from the burning rays of the sun, especially at mid-day, at which time it often burns and injures the leaves and also damages the plant; too much *fire heat*, in a confined situation, is also injurious to the Camellia, and frequently causes the buds to fall off before they expand; every opportunity should be taken to afford it plenty of air.

### Art. 2. — *Propagation.*

The methods of increasing the Camellia are various, viz. by cuttings, layers, buds, and inarching the finer sorts on the single flowering red.

The most successful and generally adopted plan, is however, to propagate the single red, by cuttings from off the young wood, which should be taken from the plant in September or October; and rooted either under hand or bell glasses. The method of performing this is to prepare a sharp sandy loam, which is put into pots, or on a bed, with a quantity of old tan underneath; the cuttings are put into the pots in the usual manner. When the cuttings are well rooted, which will be in two or three months, they may be put into small pots of light earth, or sandy loam, mixed with a quantity of black earth or sandy peat. They should remain in these pots until they are filled with roots; they are then to be shifted into pots of a larger size, for the purpose of inarching; the best time for this is the latter end of February or beginning of March, and the scion may be taken from the mother plant in August, if well united.

ART. 3. — *Management in the Green-house.*

The Camellia should be placed in the house so as to be partially shaded from the sun; and if on the ground where some sand has been placed, the better. They will require a moderate watering, in order to fully expand their flowers; and if moderately syringed in fine weather at sun rise, they will be much benefited in their flowering: but care must be taken that it is not done too copiously, for if the water remains too long on the buds, it often causes them to fall off; if they are kept too dry, especially when much fire heat is applied, they will also fail. The leaves should be often sprinkled, morning and evening, as they absorb a considerable quantity of nutriment; being elastic, the leaves of the Camellia perspire less than than those of deciduous plants, and consequently act as a reservoir of nutriment, as we see by experiment; if a Camellia loses its leaves death often ensues, which is not the case with deciduous plants and shrubs. I have had evident proof that by refreshing Camellias in this way, it gives health and vigor to them, and, at certain seasons, causes the sap to descend, and buds will burst forth from the bare parts of the plant even when it has been divested of all the fibrous roots but a short time before. And further, this process is essential to the flowering of the plant. I have seen instances of large flowers being produced from plants almost rootless; the watering, or sprinkling over of these plants, may be done more or less according to the season, and the state of the internal air in the situation in which they are growing.

In the spring, when the flowering is over and the plants begin to grow, refresh them often at their roots, as they require a considerable quantity of water when in a growing state.

Care should be taken, not to water the top of the plant while in flower, when the sun shines on it, which causes the blossoms to have spots on them, by the water collecting on their petals and especially on the white kinds. This process may be omitted in cloudy weather, as they will not be in a proper state to imbibe the water; the plants will not dry their foliage or buds, in consequence of which the moistened buds will, in a measure, decay, and the calyx fall off when the flower expands; this appears to be owing to that part being moistened too long, which prevents respiration, in consequence of which it becomes inert, and putrefaction follows.

The heat of the house should be moderate, from forty to fortyfive deg., and at all times a wholesome and mellow internal heat and air, should be the principal aim of the manager; extremes of either are always injurious.

### Art. 4. — *Repotting the Plants.*

Shifting or repotting the Camellia may be performed any time after they have done flowering, which is generally in the month of March; in doing this, care must be taken to give plenty of drainage, in order to let off the water, which sometimes settles at the bottom and saturates the soil, and the consequence is the roots are often rotted off. Broken pots will answer the purpose for drainage.

The soil best adapted for the Camellia, is a good, mellow loam, with a portion of black earth, well mixed together; if the loam is not of a sandy nature, some good sharp sand may be added, to make it more porous, for the fibrous roots to grow and work more freely in.

When the plants are potted, they are to be located in

such a manner that they may have the full benefit of the air; if they are too much confined, they often become very weak; they seldom set their flower buds strong and vigorous, and, indeed, it often causes them to lose their buds, and, if not this, to flower weakly. The plants at this time require plenty of water, to cause them to grow freely and strong. As early as the weather will permit, the plants may be taken from the green-house, and placed in their summer situation, which should be in a north or northeast aspect; where they are fully exposed to the air and not under the drip of trees or buildings.

### Art. 5. — *Descriptive List of Camellias.*

[Those marked thus † are best adapted to rooms.]

| Botanical Name. | English Name. | General character of the flower. |
|---|---|---|
| | WHITE. | |
| †alba plena | Double white | prime white, beautiful shape. |
| †fimbriata | white fringed | margin of petals beautifully fringed. |
| †flavescens | Lady Harris' | compact white with a tinge of blush on |
| candidissima | double white | fine form. [the petals. |
| | STRIPED. | |
| †variegated | double striped | clear red, striped with white. |
| imbricata | imbricated | double crimson, spotted with white. |
| Chandelerii | Chandeler's | dark red, with white spots. |
| Colvilea | Colvil's | white, blush spotted or striped. |
| †Eclipse | Pressis | double white, striped with pink. |
| Punctata | | fine white, blush spots or stripes. |
| Cambellii | Cambell's | double white, spotted with pink. |
| altheaflora | Althea-flowered | dark red, with white spots. |
| elegans | English | rose, spotted with white. |
| | RED. | |
| †Myrtifolia | Myrtle-leaved | double light red, beautiful form. |
| Anemoneflora. | Anemone-flow'd | double dark red, very fine flower. |
| Cliveana | red | double dark red, very fine flower. |
| reticulate | red | red, shaded with crimson. |
| Floyii | Floy's | fine red, extra fine flower. |
| Hendersonii | Henderson's | light rose, beautiful form. |
| rubro pleno | double red | fine large red. |

## CHAPTER IV.

**On the Culture of the Geranium, China Rose and Erica.**

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ART. 1. — *The Geranium or Pelargonium.*

THIS beautiful tribe of plants are mostly natives of the Cape of Good Hope, and their elegance, when in a flowering state, particularly recommends them to every lover of flowers: indeed, no green-house is perfect without a good collection of them.

The general management of the *Geranium* is something different from the *Camellia*, although they will both thrive well in the same house, and with the same heat; but their location should be different, as they require to be situated so as to obtain the influence of the sun and air, and as near the glass as possible; if this is not done the wood will grow weak and succulent, and consequently will seldom flower strong and healthy.

*Propagation or increase.* — The Geranium is increased by cuttings in the months of August and September, or at any time when the young wood is well ripened, or by its roots being cut into joints and inserted in a pot of compost and treated the same as cuttings.

The compost best adapted for this purpose, is one third sandy loam, one third peat, with a little rotten leaf mould, and some river sand.

When the compost is prepared, begin to propagate by cutting the ends of the cuttings to a joint, transversely and in a clean manner; then take the pot, which should

be six inches deep, and six wide at the top, and fill it two inches from the bottom with broken pots, beat fine with a hammer; after which the remainder should be filled up to the rim with the soil, into which the cuttings may be inserted half way in a neat manner; the pots are then to be shaken gently to close the earth to the cuttings, after which they may be gently watered, and the pots plunged into the ground to the rim, in a shady situation, under a wall or fence. They will require to be watered when the soil appears dry: in four weeks, if carefully attended to, they will be rooted and fit for potting off.

*Potting the young plants.* — When the cuttings are well rooted, they must be potted singly, into smalls pots, three inches deep, and the same in diameter. The manner of performing this work is to put two or three small pieces of broken pots at the bottom and on them a small portion of rotten leaves, and fill up with the same soil, as before recommended for the cuttings. When they are well rooted they may be taken into the green-house.

The principal object in growing the *Geranium* being to have a strong dwarf plant for flowering, care should be taken not to over water it nor keep it too warm. It should be always kept entirely dry about the roots and in small pots during the winter season. When the plant is grown four inches high, the heart is to be pinched out in order to make it form a bushy head.

About the latter end of February, or beginning of March, *Geraniums* may be shifted into the pots they are intended to flower in; for this purpose the soil should be similar to that recommended above, with this exception, that more rotten leaf mould, or manure be added, which causes the plants to flower finer. They require as much air to be given them as possible, and more water as the weather grows warm.

## Art. 2. — *List of Geraniums.*

WHITE OR BLUSH, WITH DARK LINES OR SPOTS.

*Beauty of Brooklyn.
*Americanum.
*Admiral Codrington.
*Brightoniensis.
*Micans.
*Fosterianum.
*Macranthon.

LILAC BLUSH, WITH DARK LINES AND SPOTS.

Louis Philip.
Armesbury.
*Ontario.
Boll's Humii.

ROSY RED OR PINK, WITH DARK LINES AND SPOTS.

Queen Emma.
*Anne Boleyn.
*Clintoniæ.
*General Washington (new.)
*Lord Munster.
*Queenii.
*Roseum Multiflorum.
*Copliœ.
*Cleopatra, (new.)
Juliet.

BRIGHT RED, WITH DARK LINES AND SPOTS.

Platagenet.
* Latilobium.
Paganini, (new.)
*Youngii.
*Rubescens.
*Seneca.

BRIGHT CRIMSON AND PURPLE, WITH DARK LINES AND SPOTS.

*Eminet.
*Brundenelliæ.
Perfectum.
*Reuben Apsley.

PURPLE AND PUCE, WITH DARK LINES AND SPOTS.

*Glorianum.
*Blue Beard.
*Drakiæ.
*Albinotatum.
*Juno.
Lady Combermere.

DARK SHADE, RED OR CRIMSON, WITH DARK LINES AND LARGE SPOTS.

*Tory.
*De Vere.
*Earl Gray.
*Grandissimum.
William the Fourth.
*Fastuosum.
*Hosackii.

BRIGHT RED OR CRIMSON, WITH BLACK LINES AND SPOTS.

Admiral Nelson.
Ne plus ultra.
Flagons, or Lord Yarborough.
Romeo.

ORANGE, CRIMSON OR SCARLET, WITH BLACK LINES AND SPOTS.

*Princess Augusta.
*Brown's Lady Gore.
De Burghæ.
*Russellianum.
Queen Adelaide.
*Daveyanum.

RED, WITH DARK CLOUDED, PURPLE, CRIMSON.

Obscurum Grandiflorum.
Beauclarkii, (Duke of St Johns.)
*Jenkinsonia.
*Yeatmanianum.

VARIOUS.

*Scarlet Superbum.
*Scutulatum.
*Sanguinium.
*Quercifolium Superbum.

[N. B. Those marked thus * in the preceding list are select varieties.]

## Art. 3. — *The China Rose.*

The *China Rose* should always be found in a collection of green-house plants, amongst which it sustains a prominent character; and the high estimation in which the buds and flowers are held in the winter, enhances its value. Independently of this, it is one of the best plants to decorate the flower garden in the summer, and is almost perpetually in flower; with the exception of some of the tall growing kinds, which are ornamental in covering arbors, trellises, and the like.

*Increase.* — The China Rose may be increased either by cuttings or layers, in the manner described for green-house plants. It thrives well in the temperature of the green-house, and its location should be on the front stage near the glass, as being the most appropriate.

The soil best adapted for the China Rose, is a compost of one fourth of sand, taken from a road side, (where it has been drifted or washed by water;) one fourth of well rotted leaf mould; and two fourths of the top sod of a pasture of naturally rich, mellow loam, where sheep or other animals have been for some time. This forms an excellent compost for the China Rose.

### Art. 4. — *List of China Roses.*

In giving a list of *China Roses*, no descriptive character can, with any propriety, be given; most of the varieties being of a light or dark red, with the exception of those that are either white or yellow, which are so named to enable those desirous of purchasing, to become fully acquainted with their characteristic of flowering. I have therefore designated the color by the abreviations, D. for dark, L. R. for light red, B. for blush, and W. for white.

[Those marked thus * are choice kinds.]

*Undulata, D.
India minor, L. R.
*White China, W.
*Sanguinea, D.
Lawrenceana, L.
Duc de Berri.
*Belle de Monga, D.
*Amaranthe, D.
Bourbon.
*Barclayana, D.
Incarnata, D.
Duchess de Parma.
Champneyana, B.
Multiflora, B.
Grevillea, L. R.
Odorata, or tea scented, B.
* " Lutea, Y.
* " Alba, W.
* " Rubra, R.
" Golcondi, R.
Noisettiana, or Noisette.
* " Purpurea.
" Coccinea, L.
" Lutea, Y.
*Bengalensis.
Boursaltii.
Banksia.
" Lutea, Y.
Cherokee.
*Jacksonia.

### Art. 5. — *The Erica.*

The Erica is one of the prettiest families of plants cultivated in the green-house; and its culture is highly deserving of more general attention than has hitherto been bestowed upon it. However, there are many pretty varieties finding their way into the collections in the vicinity of Boston, which I hope will still continue to receive additions. The plants are neat and pretty in habit; and when in flower form a *lively contrast with other plants of the green-house:* they are indeed, a class of plants that

are grateful to the common observer — claim the strict attention of the ameteur — and are worthy the most minute examination of the curious and refined. In a good collection they possess many shades of color, as *white*, *green*, *red*, *pink*, &c.; and in some instances they are variegated or checkered in a very pretty manner. The manner in which they flower is also various; as, in clusters, spikes, and in numerical order which are designated as *biflora*, *triflora*, and so on; and in different habits as pendulous, erect, &c. The formation of the flowers also varies and has a definitive character, as that of *tubiflora*, *curviflora*, and the like regular forms. But their intrinsic value is only to be discovered by examining the flower *minutely*; when the neat form and prettily contrasted colors always reward those who bestow such pains with a rich treat of one of nature's most finished copies.

In the bouquet, the Erica is not surpassed by any flower of its season; and no flower keeps longer as a *cut* flower in water.

To my fair patrons I must recommend the more general culture of this pretty family of plants; and, hope the little treatise to follow will at least assist those who are derous to cultivate them in their *management*, which when better understood, I am convinced will greatly add to the interest already manifested in the Erica.

### Art. 6. — *Its Culture and Propagation.*

The culture of the *Erica* is, by many persons, considered very difficult, although, when practically understood, it may be said to be very simple. Soil, situation, and temperature, must be in accordance with the nature of the Erica, or it will never flourish and flower well. All kinds of the Erica require a black *peat* or bog earth to

flourish to perfection; for the roots of the plants being fine and thready, cannot perforate into a heavy loam or close soil; and, on the other hand, a very spungy soil would be quite as uncongenial to its nature. In fact, two kinds of soil are requisite to grow the different varieties to perfection: the small, dwarf kinds require a dry peat, obtained from high, dry ground; and the tall, luxuriant kinds, a soil obtained from a low, moist ground; this is readily accounted for, as the dwarf varieties are found naturally growing on high ground, and the taller varieties on low grounds, but the nature of the soil is very similar. The situation of the Erica should always be that of a cool, shaded place. If the plants are exposed to the sun in summer, they will suffer at the root; and placed where they receive too much fire heat in the winter, the leaves will be injured. The Erica should be moderately watered; it should never be very dry at the root or very moist: if the roots are allowed to be entirely dried, the plant will sicken accordingly — if too moist, they will make a slender, feeble growth at the leaf, and decay.

The Erica is propagated from seed, which I recommend to be sown in the month of December, or so soon as it is ripe, in a pot of black peat earth, and placed in the greenhouse. Care must be taken that the seed is not covered too deep; if a quantity of white sand can be procured and placed on the top of the earth, the better. When the seed is sown, the top of the pot may be covered with glass, until the plants make their appearance, when it may be removed from them.

In the spring, when the plants are grown an inch or two in height, they are to be potted off, in small pots, for flowering, which will be, in the dwarf varieties, in the following spring; — the larger kinds will not flower until the second year.

The propagation by cuttings is performed by filling pots of soil as before directed, and covering the top with white sand. The cuttings may be taken from the plant at a time when the young wood is grown an inch or two long, which will generally be in the month of September. They are to be taken off at a joint, the lower leaves taken off with a sharp pair of scissors, and the cuttings neatly pricked into the sand and covered with a bell-glass; the bell-glass must be regularly taken off every day and rubbed dry with a cloth, in order to remove any moisture, and prevent their being damped off. When they are well rooted, they are to be potted off, in a small pot, as recommended for seedlings.

### ART. 7. — *Descriptive List of Ericas.*

[Those marked thus † are to be found in most collections and seed freely.]

| Botanical Name. | English Name. | Color. | Height. | Time of flowering. |
|---|---|---|---|---|
| ERICA. | HEATH. | | | |
| †grandiflora | great-flowered | Yellow | 3 | May, Sept. |
| †cruenta | bloody-flowered | D. Red | 2 | May, Sept. |
| ignescens | fiery | Red | 1½ | March, June. |
| †tubiflora | tube-flowered | Pink | 2 | April, July. |
| Hibbertia | Hibbert's | O. Yellow | 2 | June, Sept. |
| †colorans | coloring | W. Red | 2 | April, June. |
| verdis | green-flowered | D. Green | 2 | May, Sept. |
| Massoni | Masson's | R. Green | 3 | July, Oct. |
| †bicolor | two-colored | G. Red | 2 | March, Oct. |
| †ventricosa | Porcelain | Fleshed | 1 | April, Sept. |
| Atonia | Aiton's | W. Purple | 2 | June, Sept. |
| †baccans | Arbutus-leaved | Purple | 2 | April, June. |
| biflora | two-flowered | White | 1 | April, June. |
| †ardens | glowing | Scarlet | 2 | April, June. |
| †arborea | tree | White | 4 | Feb., June. |
| rubens | red-flowered | D. Red | 1 | June, Sept. |
| †gracilis | gracile | White | 1 | Feb., June. |
| †persoluta | garland | Purple | 1½ | Feb., May. |
| †australis | Spanish | Purple | ½ | March, July. |

| Botanical Name. | English Name. | Color. | Height. | Time of flowering. |
|---|---|---|---|---|
| †Mediterranea | Mediterranean | Purple | 4 | Feb., May. |
| vagans | Cornish | Red | 1 | July, August. |
| formosa | beautiful | Red | 2 | June, Sept. |
| †pubescens | pale-downy | Purple | 1½ | Feb., Dec. |
| †concinna | blush | Flesh color | 2 | Sept., Oct. |
| coccinea | scarlet-flowered | D. Red | 1½ | Jan., Sept. |
| Leeana | Lee's | O. Yellow | 2 | Jan., August. |
| blanda | charming | L. Purple | 1 | April, Sept. |
| Cliffordia | Lady Clifford's | White | 1 | April, May. |
| elegans | elegant | Green | 1 | March, Nov. |
| triflora | three-flowered | White | 1 | May, June. |
| rubella | thrift-flowered | Pink | 2 | June. |
| floribunda | many-flowered | Purple | 1 | May, June. |
| imbricata | imbricated | Pink | 1 | May, August. |

# PART 4.

## THE FLOWER GARDEN MISCELLANY.

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## CHAPTER I.

### On the City Flower Garden.

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The flower garden attached to city residences, — when well managed, — embraces many useful features relative to health and pleasure, and in every way conveys to the proprietor a moral lesson in natural history of the most refined nature. I trust that every intelligent person is aware that the continual working of the ground, attached to city residences, is, in every way, conducive to the health of the inmates, by dispelling and rectifying the impure vapor, arising from smoke and other causes, that condenses and settles on the surface of the ground; which is purified if the earth is frequently turned up; and, in conjunction with this, the benefit arising is of common interest, in proportion to the quantity of ground kept in such order, in any city or town.

Phytologists and philosophers inform us that the vegetable kingdom exhales certain gases conducive to the health of mankind; and hence we infer the utility of trees and plants in cities, especially when we take into consideration their beauty and cooling shade.

Nature, the best criterion, convinces us of the use of plants and flowers, the earth being covered in a measure with them, no doubt for the wise purpose of the welfare of the animal kingdom.

In order to derive pleasure from a fine collection of flowers, it is necessary to pay proper attention to their varied and perpetual flowering; so much the more inviting would they appear to the admirer; and the sure guide to this gratification, is to furnish the flower garden with a suitable collection of plants. These are *the inducements* to the culture of the city flower garden; and that a *moral lesson* may be derived from flowers, is proved, from the researches of the most learned philosophers, to the untaught prattling of the humble cottage.

The fragrance of the *Rose* is admired by all; its structure gives a pleasing lesson to the young botanist or naturalist; to the artist it furnishes a superior copy for many purposes; and the apothecary extracts many essential oils and waters from its petals, which are also used in a dry state, as conserves and for various other purposes. Nor is the *White Lily*, in its purity, less deserving a place in every city flower garden. Its fragrance, together with its pure white petals, is produced from bulbs, which are valuable in cases of swellings and wounds.

Flowers contain also, in their primitive state, *male* and *female* parts, covered with the petals or colored leaves, which are in their infant state; enveloped in a *calyx*, or outer covering, by which they are protected or supported when expanded; most flowers have also an equal proportion, and an exact number of parts, in many thousands of blossoms; and in these there is every thing to please, and nothing to offend, the most refined or chaste observers.

In concluding this subject, it may be necessary to offer a few remaks on the management of the city garden. I earnestly recommend it to be kept neat and clean, in order to promote the health of the plants and their owners. It should be often worked, to create a clear, sweet, healthy air; and at different times fresh mould should be added, to give new vigor to the plants; much manure is seldom requisite, as city gardens are often too rich, owing to the quantity of lime, ashes, and the like, incorporated with the soil.

The *grass plot* requires to be often mowed for convenience, neatness, and the well being of the grass.

The plan of the garden I recommend to be such as to give ease with variety; so as to accommodate various plants and shrubs; the walks to be of clean gravel, with an edging of box or neat dwarf plants — as the *Thrift*, *Dwarf Iris*, *Moss pink*, and such like.

The *trellises*, *arbors*, *walls*, *fences*, and so on, should be covered with *vines* and *creepers*, so that the whole may have a corresponding appearance.

In laying out flower gardens, let them be so managed that many kinds of flowering shrubs may be introduced; for this purpose beds should be appropriated. The most common error in laying out city gardens is, that they are too much cut up into small figures, and consequently shrubs, so essential to give a variety, cannot be admitted. Nothing should be cramped, but every thing should have an open, easy appearance, in the flower garden. (See Part 1, Chapter I, "On Laying out the Flower Garden.")

## CHAPTER II.

### On the Native American Flower Garden.

NATIVE plants and flowers are those which are found growing spontaneously, without the aid of culture; perhaps no country has a finer or more numerous collection of hardy flowering plants than the United States; indeed, no collection can be said to be complete, without the *American Flora*, which has engaged the attention of horticulturists to such an extent in Europe, that grounds have been prepared and adapted for American plants; and it is greatly to be hoped that the present good taste for gardening in this country, will be the means of introducing the many pretty varieties of flowers that are to be found in every part of the Union; particularly the beautiful *Azelias*, *Kalmias*, *Rhododendrons*, and many others, that are much wanted in the flower garden.

It would far exceed my prescribed limits to give a descriptive list of the many varieties of plants that deserve a place in the native flower garden. I have, therefore, given a list of those which most deserve notice; and, as in every section of this country, there are to be found native plants adapted to their peculiar situation, I recommend that such as are pretty be selected and planted as similar as possible to their natural location. This method will at once create a taste for cultivating native plants and flowers, and facilitate a practical knowledge of their habits and location, in a natural state. Nothing can be a more inviting appendage to the country residence, where a suffi-

cient quantity of ground can be appropriated, than a plot converted into an American flower garden; especially on the banks of *rivers* and *streams*, as those of the Hudson, and many others, from which water might be introduced. In such situations, every variety of native plants might be commodiously planted, and grown to a high state of perfection.

The best method of laying out such gardens, is to manage the water so as to form a narrow strip or stream two or three feet deep, and if a natural stream can be had, the better: at the end an artificial pond might be made at a trifling expense, for growing the *Water Lily*, and *Native Aquatics*; and also for the purpose of introducing gold and silver fishes.

The south margin of the stream might be advantageously planted with native flowering shrubs, as the *Azelias*, *Kalmias*, *Spireas*, and those that are found growing in such situations: the margin of the pond should be planted with drooping willows and trees of a pendulous habit for shade, under which a rustic seat might be properly placed for the accommodation of those who desire to view the sporting fishes, and other interesting objects by which they are surrounded. Attached to the pond or streams, I recommend a well arranged grass plot, with a few figures cut therein, which should be planted with native herbaceous plants, and dwarf shrubs. On the margin of the grass plot, a serpentine or some well contrived walk, bordered with shrubbery, leading to a rockery, *of a semi-circular form* on the north side, and almost straight on the south. A rockery so situated, might be planted with various perennial and annual plants, and dwarf shrubs, which would there find a natural aspect and location. On the circular side of the rockery, divided by a walk, a

broad belt might be planted with different kinds of native shrubs, as *Rhododendrons*, *Kalmias*, *Azelias*, *Andromedas*, and *Spireas*.

In some convenient place near the rockery, a *rustic arbor* may be very properly placed, and covered with native vines and creepers, for the accommodation of visiters, and the junior members of the family who wish to study botany. The plants should be properly labelled with the botanical name on one side of a neat tally, and the native state on the other. For the better accommodation of those who collect native plants, they should be furnished with "*Nuttall's Genera of the Plants of North America*," a work which in a very concise and correct manner, gives the habit, time of flowering and location of all native plants, and should be in possession of every lover of botany.

## CHAPTER III.

**On Plunging Green-house Plants in the Flower Borders.**

The flower garden may be greatly beautified in summer, by plunging into the borders and beds, many varieties of green-house plants, in their different compartments, in order to give a diversity of foliage. The plants are also much benefited by this method. Being placed in the ground in this way, their roots are in a better situation

and receive a more regular supply of moisture than could possibly be applied to them in their former position.

The best time and manner of performing this, is to turn out some of the most hardy kinds in the beginning of May, as the *China Rose*, *Laurestinus*, *Myrtle*, and the like: the more tender kinds, as the *Geraniums*, *Fuchsias*, and others, may remain until the middle or latter part of that month, at a time when the frosts are over. This process, like many others, must be managed agreeably to the situation of the country in which it is to be performed, and the nature of the season at the time of doing the work, which a judicious person will at once discover, as a practical knowledge is worth volumes of theory.

Care should be taken to place every plant, as near as possible, in a situation the best adapted to its nature. The *Camellia*, *Daphne*, *Nerium*, and most kinds of evergreens, thrive best in a shaded situation; others thrive and flower more effectually in an exposed location, as the *Geranium* and most kinds of fulgid flowers.

Some taste is also required in placing the plants where their habit will have the desired effect; some require sticks to cling to, and should be placed in the centre of small figures, as the *Thunbergia alata*, and *Maurandia Barclayana*, and all convolvulous plants: others are more proper for the facings of borders and clumps, being of a trailing nature, as the *Verbena melindris*, and *Verbena capitata*. Vines and creepers are best adapted to the covering of arbors, trellises, and so on.

The *Thunbergia alata*, *Maurandia Barclayana*, and the like climbing plants, may be trained to appear to advantage on trellis of an ornamental form, as that of a *fan*, *balloon*, or *pyramid*, which should be of a size corresponding to the place they are planted in.

There are many kinds of plants belonging to the green-house that ought to be propagated either in the fall by cuttings and remain in the house through the winter, or to be propagated early in the spring, for the express purpose of ornamenting the flower garden in the summer; as, the different varieties of the *Heliotrope*, the *Fuchsia* or Ear-drop, the *Verbena*, and soft, free-flowering plants, which should be plunged out of the pots;— they should be mixed indiscriminately among the other plants in the vacant places;— however, in some cases they are planted separately in beds by themselves, as in small figures on grass plots, where they have a very pretty effect in the flowering season.

All plants set out not to be taken up in the autumn for the green-house or rooms, should be plunged into the ground out of their pots. But those intended to be taken into winter quarters, as most kinds of evergreens and the like, should be plunged in the pot into the ground. Being plunged in the pot, the strong, luxuriant growth they would acquire, will be in a measure repressed, owing to the roots being curtailed; whilst if turned out of the pot they would extend their roots some distance in the soil, and when taken up in the fall, the roots would be severed and the plants weakened so as to require some time to recover.

The management of green-house plants in this way is simply to water them when they need, and prune any straggling branches that appear during the season.

## CHAPTER IV.

### On the Management of Cut Flowers.

It being now an almost universal practice to have *cut* flowers in rooms as natural ornaments, some hints relative to the management of them may perhaps be of service to their fair patrons. To preserve cut flowers, such as the *Dahlia* and succulent kinds, in a fresh manner, and to keep them from wilting and fading in summer, when cut from the plant they should be immediately immersed in clean water, by which the pores will be filled with water and exhaustion prevented, and consequently the flower will remain in a fresh state.

*Packing cut flowers.*— In packing cut flowers to go some distance in the winter season, I recommend to put them in a wooden box of a size corresponding to the quantity to be packed, the inside of the box to be lined with cotton wool, and the flowers to be laid loosely in the box, beginning at the bottom with the hardiest kinds, placing them in such a manner that the flowers are upwards and that the leaves intersect them; arranging the whole so that one part will spring lightly on the other in case of a sudden jerk in travelling: in this manner, proceed with the whole to the top, which cover with a lid lined with cotton wool like the sides. In this mode of packing, the wool serves to keep out the cold, and gives way to the flowers that press it without bruising or injuring them.

For the preserving of flowers in rooms, I extract the following from Sweet's Hot-house Manual, which is the only article I have seen in print and the best method I can recommend on the subject; he says,

"Many persons have expressed a wish to be acquainted with the best method of preserving cut flowers for a length of time in water; this we have never seen satisfactorily explained, though it is a very simple question: the only method we have seen adverted to, is to frequently change the water; this of itself is scarcely of any essential benefit: the only method is to cut off half an inch or an inch of the stem that has been in the water, according to the length of it; this will again open the pores that have become closed with glutinous matter that has exuded from the stem when first cut, and the pores being stopt, very often before the stem is placed in the water, frequently occasions rapid withering: by cutting the bottom of the stem, the moisture immediately begins to flow upwards and the branch soon recovers its vigor: the stems of flowers are also frequently kept in water until the bottom begins to rot and decay; those, if cut above that, will also recover again, and when placed in fresh water will frequently continue fresh for some time afterwards. Flowers bought in shops and markets, are often dried at the bottom, before restored again to the water; the bottoms of the stems of these should therefore be always cut before immersed in water again. Specimens of plants coming from a long distance are frequently much withered when they arrive; they should therefore be enclosed at the bottom in wet moss, tied round them before they are packed in a box or basket; we have frequently had them arrive much withered, and find the best way of recovering them to cut the bottom of the stem or branch,

and place their ends in about an inch of water in the bottom of a large bread pan, or some such vessel, and sprinkle a little water on their leaves, and they will in general be all fresh in the morning: the vessel must be covered close with a wooden, or other cover, that fits close, and excludes the air."

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## CHAPTER V.

### On the Management of Plants in Rooms, and of Bulbs in Pots and Water Glasses.

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ART. 1. — *Result of Mismanagement.*

IN order to be as explicit as possible on the management of plants in rooms, I refer the reader to the first part of this book and to carefully peruse the articles on the food of plants and the necessary *stimulants*, as *heat*, *light*, *air*, *&c.*, with the remarks on the *bud*, the *root*, and the *leaf:* which will give some useful hints on the tendency of plants to the presence of such natural food and stimulants as contribute to their health and well being.

After a careful reading of those articles it will be seen that the management of plants in rooms is not so difficult a task as is generally supposed, and that much of the assiduous attention paid to them is more conducive to their sickness than their health and vigor.

In most cases, plants are taken into rooms at an early part of the autumn on the approach of the frost, and are

subjected to a sudden and injurious change of air, temperature and treatment. From receiving what nature bestowed upon them, as the dew, the sun, and air, they at once become objects of the tender and diligent attention of their fair cultivators, who foster them in a close room, watering them frequently at a time when they require to be hardened to withstand the severity of the coming winter. Under this management the natural growth and quality of the plant is reversed, by its being forced into a *weak, slender* habit and *constitution*, and the consequence is that having put forth its vigor at a time unnatural to vegetation, its property is partly exhausted and a weakness ensues from which it cannot possibly recover till its whole system undergoes a renovation, which will take a year at least, and in some cases the plants never can be brought again to their proper *healthy* state.

ART. 2.— *Management of the Plants.*

Previous to the plants being brought into the room they should be divested of any dead leaves, repotted and cleaned as directed under the head of green-house plants in the green-house department.

Much of the health and thriftiness of the plants will depend on their being so situated that they can enjoy the light from a window, and if in a situation to receive the morning and mid-day sun the better. The best manner of arranging them is on a *semicircular stage* with running casters to it by which it can be moved to any part of the room at pleasure; and as light will have no beneficial effect on plants at night, the stage may be removed to any part of the room the most convenient and corresponding to their nature. The dimensions and construction of the stage should be in proportion to the size of the win-

dow, and should be so made that the lower shelf is on a level with the bottom of the window, in order that the plants placed on it may receive the light. The plants should be placed on the stage in a manner that they can all receive the light from the window. They should often be turned, as all plants always incline to the light, and being reversed they reverse their position also, and hence they are by this method kept in handsome form, and every part of them will have an equal share of vigor.

Every opportunity should be taken to let in fresh air to the room, through the window in fine, soft weather, and in any other manner in cold weather. So essential is fresh air to plants that the least possible quantity let in mixes with the impure air and greatly rectifies it — and of course the more pure the air the more healthy is the plant. Indeed cleanliness and wholesome air are the two principal things to be attended to in this case.

*Watering plants*, is by many persons considered as a very difficult point in growing plants in rooms; however, a few practical hints on the subject will I think so simplify it, that any person may water plants with the greatest advantage. The rule is that all plants indicate when water is necessary to be applied by their drying the earth in pots. If the plants suffer for the want of proper moisture, they lose their leaves and breed *scaly insects*, *red spiders*, &c., (for a more particular notice of which, see the article on diseases of plants, Part 2, Chapter VII.) On the other hand, when they are overwatered, the earth in the pots continues in a moist state, and from the effect of saturation often *sours*, which is very injurious to the plants. Most kinds of fleshy plants as the *Cactus*, *Aloes*, and the like, require but little water in the winter. *Camellias* and hardy evergreens require but lit-

tle water in the winter months, and more when the flowering season comes on. Most plants in a growing state require to be often watered, but at the same time they should be as much as possible situated so as to receive the atmospheric *air;* and it should be at all times a consideration not to allow plants of any kind to grow but as little as possible in rooms or in a confined situation.

ART. 3.— *Growing Bulbous Rooted Plants for Rooms.*

In the latter part of November, a compost of mellow loam mixed with a little sand and leaf mould may be prepared for potting such bulbs as Hyacinths, Narcissus and those kinds required to be grown in rooms. The pots may be filled with the above compost, and the bulb placed in the centre by pressing it down in the earth so that its crown is level with the earth; the pots must now be placed in a situation where they do not receive much light, as bulbs always strike root much better in darkness than when fully exposed to light. Little water will be required to be given until the bulbs begin to grow, when the watering may be gradually increased as they increase in height, and when the flowers show they may be copiously watered. When the plants have done flowering they may be placed in the ground as soon as the weather will admit, to renovate their strength.

ART. 4.— *Growing Bulbs in Glasses.*

Hyacinths and Narcissus may be grown to good advantage in glasses in rooms. The best time to commence this business is in November: the glasses may be filled with clear water and the bulbs placed in them; they should then be placed in a light, airy room where the temperature of air is moderate, in order to start them in a vigorous

manner; as often when they are placed where they are started into growth too rapidly they are drawn very weak and flower badly. In the process of growing bulbs the water should be changed every three or four days and the fibrous roots rinsed in clean water, as any putrid substance or impure matter that either collects about them or is in the water is likely to injure them in the process.

If the weather is mild when the flowering is over, they may be managed like those in pots, by planting them in the flower beds to regain their vigor.

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## CHAPTER VI.

### On the Management of Garden Frames.

In flower gardens where choice collections of plants are always fostered, it is proper to have two or three garden frames for the protection of the half hardy kinds of herbaceous plants, as the *Carnation*, *Polyanthus*, *Auricula*, &c. The frames for this purpose may be of almost any dimensions, but those of a moderate size are the best — say of three lights, from nine to twelve feet long, and from four to five feet wide. The location of the frame should be where it can have the full influence of the sun; it should be well protected from the cold winds by a board fence or otherwise. Care must be taken that the place is chosen where it is perfectly dry, or the snow water running into it will rot and destroy the plants.

Having the ground and frame thus prepared, about the middle of September a lining of leaves or manure may be placed around it, of about two or three feet wide. In the bottom of the frame, some cinders or ashes may be laid, to keep it dry and to keep the worms from working up the earth among the pots. Place the plants in a regular manner in the frame, the largest at the back and the smallest in the front; be careful that they stand level, in order that when watered the water may not wash off at one side.

The management of the frame in the fall is simply to water the plants when they require it; to pick off all the dead leaves, and keep it in every way neat and clean. The sashes must be regularly taken off in the morning and closed at night, on fine days, until the cold weather appears; when they must be left on at all times; excepting fine, mild days, when they are to be taken off in order to air and strengthen the plants.

When the weather sets in severe, the frame must be lined all around two or three feet thick, and as high as the glass, with *hot* horse manure; and the lights must be regularly covered at night with shutters, boards, mats, or the like, and uncovered in the morning unless the frost is too severe, in which case the covering may be kept on all day.

During the winter the interior of the frame should often be looked over of a fine day, and divested of any dead leaves or other nuisance. As the spring advances, more air may be given, and the plants hardened by degrees to plunge into the flower garden, as directed under the proper head.

# CHAPTER VII.

## On Spring and Fall Management.

### Art. 1. — *Spring Management.*

When the snow begins to disappear in the spring, the shrubbery and flower garden may be often overlooked, and some of the plants and shrubs that have much covering over them, may have a part of it taken off: for it often happens that plants being too much covered at this season of the year, make a feeble growth and are much weakened and injured thereby when fully exposed; we should therefore uncover all kinds of plants and shrubs by degrees as the spring advances, for by either exposing them too soon, or keeping them covered too long, we cause them to make a weak and tender growth.

When the snow is all gone, the garden may be cleansed of all kinds of covering and rubbish that have collected during the winter, and everything should have a neat, cleanly appearance. The grass plot may also have a good raking in order to remove from it all the dead leaves and decaying substances, which often deter the the young growth of grass from coming up in a regular manner: and the consequence is that it seldom has a handsome appearance during the summer season.

*Pruning and training.* — The earliest opportunity should be taken to prune and train all kinds of shrubs, vines, creepers and the like. In this operation a few leading principles are requisite to be known, and the

thing is so simple and easy that any intelligent person can perform it in the most accurate manner.

The first thing to be observed in pruning any kind of trees or shrubs is, to take particular notice of the natural shape or habit of the plant to be pruned. This will be found to be different in almost every different kind of plants; for instance, in some plants we find them naturally to assume an upright habit; in others a straggling, and in some a weeping: the first is exemplified in the *Rose of Sharon*; the second in the *Rose* and *Snowberry;* and the third in the *Weeping willow*, *Cherry*, and the like.

To retain these habits and improve the symmetry of plants, in such a manner that the *sun* and *air* may have as much as possible a regular access to every part of them, is the leading principle of pruning: for although in many cases the natural habits of shrubs and plants are cramped into unnatural forms, in order to give variety of effect, it cannot be recommended to be followed as a general rule; for whenever the natural habits of trees or plants are distorted into unnatural forms or positions, it has more the appearance of mockery than reality. *Nature in this and every other case should be as much as possible copied and assisted, but never cramped into unnatural forms and positions.*

The natural habits of the plant being noticed, the next thing is to examine and cut out all the dead wood. In this operation the pruner must not be deceived and disfigure the plant by cutting out such shoots as will be required to be left to fill the vacancies of the dead wood in the growing season. The dead wood being taken out, the next thing is to prune the plant in a regular manner by cutting out all the weakly shoots and thinning in such a manner that the sun and air have a free access to every

part: all long straggling shoots should be taken off that the shrubs or vines may have a regular compact appearance. In performing this operation, sharp knives and instruments should be used that the wounds may be cut clear and heal freely.

*Training* all kinds of vines, as *Honeysuckles*, *Clematis*, *Bignonia*, and the like, may be done with despatch in order that everything may have a neat and cleanly appearance. The training of vines is simply done by tying them neatly with bass or other strings, in such a manner that every part is equally divided at a regular distance, and to allow a sufficient space for the summer-wood to grow and be trained between the shoots laid in at this season. In training vines and shrubs, regular systems are often adopted to a good purpose as ornamental, for which I refer the reader to that head in page 133, where the different methods are described.

ART. 2. — *Fall Management and Covering Plants.*

We should be cautious that the early frost does not destroy the *Dahlia* roots and tender green-house plants before they are covered or housed: I mention this the more particularly as it is very often the case, especially with young beginners in flower-gardening, that tender plants are left too long unprotected, and thus are much injured, if not totally destroyed.

The potting of plants, putting them in the frames, and the like, are spoken of under their proper heads in the Miscellany, to which I refer the reader.

The covering or protecting plants should be attended to so soon as the frost begins to be severe. The Box edgings may be protected by seaweed, hemlock brush, or other light covering. Merely to keep off the sun from

scalding Box edging will be sufficient, as it is more injured by the sun thawing and bursting the sap vessels than by being severely frozen; and hence it is that the leaves of Box edgings have a scalded appearance in the spring.

The same rule that is here given with regard to Box edging, is applicable to covering most other plants. The principal object is to protect them from the sun: for it is not the severe frost that injures them, so much as the sun, which when it exerts its full power on them, bursts their veins in a frozen state and causes the plants to sicken, and in many cases to die. Many plants, as bulbs and herbaceous plants, are often materially injured in the spring by being in a warm state and commencing growth when excluded from air; and when uncovered, the leaves made are tender, and suffer very much on being exposed to the sun and air.

If any *China roses*, tender vines or the like are to be left out during the winter, they must be protected, either by bending them down and covering them with soil, or by strawing them up in a neat manner, — first tying up the branches, and then snugly covering them with straw.

In many cases the flower borders, if not in too conspicuous a place, would be much better if the stalks of herbaceous and other plants were not cut down in the fall; for there is no better protection than the stalks of plants, and especially if leaves can be obtained from woods or elsewhere and put around the crowns of the plants, in which case the stalks will keep the light leaves in their places until the snow binds them down. Recollect that nature has given leaves and stalks to plants as a natural covering, and therefore they are best adapted to the purpose.

# CHAPTER VIII.

## On the Shrubbery.

THE shrubbery is so nearly allied to the flower garden that in a work professedly treating of the latter, a particular notice of the former subject is required. Indeed, it is rarely that the flower garden has a good and natural appearance without the presence of the shrubbery, either as forming an outline on the margin, or occupying a prominent situation at one end for the convenience of a shady retreat or other useful purpose. Upon a careful observation of the general methods of laying out flower gardens, it will be seen that there is too much sameness in their appearance, arising from the neglect to appropriate a part of the ground to the shrubbery. This I imagine to be chiefly owing to the *geometrical* or Dutch system being mostly followed in the laying out of flower gardens: and hence a system has been adopted that is altogether proper and natural to a foreign climate, but has little claim upon good taste in this country, where climate and local circumstances are so opposite. It is a well known fact that the Dutch are the most successful cultivators of the Tulip, the Hyacinth, and most other kinds of bulbous rooted plants, in the known world; and it is also known that the soil and situation in which they are grown are of a humid nature, which is congenial to most kinds of bulbous rooted plants. Such local circumstances, united with industry and intelligence, have

put the Dutch in possession of an annual income from flower roots of a very large amount, which it is probable will not be equalled by any other country for ages. But the climate of *America* is not favorable to the culture of bulbs to a great extent, owing to the soil and atmosphere being dry: on the other hand, hard-wooded shrubs of most kinds, are well adapted to our soil and climate, and flourish in almost any part and place in the Northern States. The native varieties of shrubs, as *American Honeysuckles*, *American Laurel*, *Andromedas*, and the like, are particularly adapted to the shrubbery, and are highly deserving a more general introduction into it.

I recommend that shrubbery be more frequently planted on the margin of lawns, the outsides of the flower garden, and indeed in all kinds of foregrounds and side entrances to residences of almost any denomination. To residences on the main road and in the immediate vicinity of cities, shrubbery can with every propriety be introduced on the side wings of the lawn and carriage roads: and in many cases if a belt or border of some seven or eight feet wide of shrubbery be planted in front next to the road that passes such places, it would add much to the beauty and value of the property. In many places of this description the front entrances are planted altogether with forest trees, as the *Balsam Fir*, *Sugar Maple*, *Horse Chestnut*, and the like tall-growing kinds, which when grown to the full size give a heavy and gloomy appearance where a lively variation should have the precedence. There can be no objection, however, to a few ornamental trees being planted in front of such houses or even mingled with the shrubbery, and particularly if so managed as to form a *screen* or *outline* to pro-

tect the building from the cold winds, when trees so situated serve the double purpose of shelter and ornament.

In planting shrubs of every denomination, the general rule must be to place the plants so that their habit and appearance will be really ornamental and at the same time subserve (or at least seem to) some useful end: for instance, the taller kinds, as the *Lilac*, *Snowball*, and the like, are the most proper to cover board fences, and the back part of shrubberies; the more dwarf kinds, as the *Double Almond*, *Roses*, *Mezeron* and so on, for the front or facing. There is also some taste required in mixing the varieties of foliage and habits of the different kinds to be planted, which can only be acquired by a due observance of shrubs when in full foliage. The planting should be so managed that when grown up the outline is natural, that is to say, not too formal; but here and there a little broken by some tall shrub growing above the rest.

In the front of such plantations a part of the ground should be planted with herbaceous and other kinds of plants, which when nicely mingled with the shrubs form a pretty contrast in the flowering season. Indeed the margin of a shrubbery is the only situation where such plants will flourish and show to good advantage, besides giving a fine finish to the whole.

For the manner of planting shrubs, I refer the reader to an article on that subject in a former part of the book; (Part 2, Chapter III.)

## CHAPTER IX.

### On Potting and Repotting Plants.

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ART. 1. — *Potting Green-house Plants.*

[THE following directions for potting green-house plants are equally applicable to hardy plants, &c.]

Potting green-house plants is mostly done a short time previous to taking the plants into the house, which is generally the beginning or middle of September. In performing this business, the first thing to be attended to is the procuring of clean pots, compost, &c. to be used. The compost that will answer most plants, consists of about two thirds of good mellow loam taken from the top sod of a pasture or other place where sheep, oxen or other animals have lain and enriched it: this should be taken off about six inches deep and laid in a heap some time in order that it may rot and incorporate together. The loam may be mixed with one third of well rotted leaf mould, or other rich old manure that will mix and incorporate with the loam; — if the loam is not of a sandy quality, a little sand may be applied in order to give a little drainage to the plants to be potted in it. For some families of plants, as the *Erica*, *Diosma*, &c., a black peaty or bog earth is the most proper and must be obtained from the sides of woods, natural bogs, &c.

Having the soil prepared, the potting may be commenced by carefully turning the plants out of the pots, and paring off with a sharp knife part of the roots matted

around the ball. This done, select a pot of a size to allow some fresh compost to be put into the bottom and side; then pot the plant, thus: — lay a few pieces of pots or other crockery at the bottom of the pot to act as a drainage; place two or three inches of the compost over the crockery in the bottom of the pot, and then place the plant with the ball in the centre of it, filling the sides between the pot and ball with compost, when the pot may have a gentle shake with the hands to settle the earth about the ball and roots of the plants. The plants may then have a gentle watering, and be placed where they are to remain until they are taken into the green-house.

ART. 2.— *Potting of Plants taken from the Ground.*

The beginning of September is the best time to take from the ground and pot such plants as are intended to be taken into the green-house or rooms. In performing this business the plants must be taken as carefully as possible from the ground with a portion of earth about their roots and potted in the same manner as directed above; but their treatment requires to be something different by placing them in a shady situation after being potted, in order that they may root the more freely into the new soil that they are potted in. When the plants begin to make new roots into the fresh soil, they are to be divested of any dead leaves that may be about them, and more exposed to the sun previous to their being removed to the green-house or rooms.

ART. 3. — *Potting of Young Plants from Cuttings.*

All kinds of young plants, as *Geraniums*, *Roses*, and the like, propagated from cuttings, should be potted

in small pots as soon as they are well rooted. Having your compost and pots (which should always be small for this purpose) prepared, commence the business by carefully turning out the cuttings with the ball of earth entire; when the plants may be divided with as much earth as possible about their fibres, and potted in the same manner as directed for the above. The plants when potted off should be placed in a frame, where their rooting freely into the soil in the pots, may be facilitated by covering them when the sun shines strongly on them. If a frame is not at hand, the plants may be placed in a shady situation until they are well rooted.

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## CHAPTER X.

### On the Culture of the Pansy or Heartsease.

THE *Pansy* having become so favorite a plant in the flower garden, I shall devote a small space to remarks on its culture.

To obtain new varieties the same process as with other flowers must be resorted to, namely; selecting out the best kinds and impregnating one with the other in order to mix the colors and obtain those which are considered by florists the best marked flowers, which are those with a clear, dark ground, and well shaped petals

that are regularly margined or laced either with white or yellow; but white is the most delicate and is considered the best.

Having procured the seed, it may be saved to the spring, when it may be sown either in a *pot* of light, rich earth, or in a frame. As soon as the plants are grown to a moderate size, they are to be pricked out either into beds or borders of rich earth of a moist, loamy nature; in many cases they are planted as a bordering for flower borders, — and when they are of a good width they have a very pretty effect in the flowering season. But the more proper way is to plant them in four-feet beds, and if a little shaded from the noonday sun the better.

The *Pansy* is in most cases hardy; however, if the choice and tender kinds are a little protected in the winter, they will flower much better in the spring following. The general manner of planting the Pansy is to prepare a piece of ground in the usual way for planting and divide it into four-feet beds with eighteen-inch alleys; and plant the seedlings across the beds about a foot apart each way; and they are to be in every way treated as other flowers. When the plants are fully grown or fit for transplanting, they may be mixed with other flowers in the borders for flowering, and a little shaded from the mid-day sun, which generally runs the delicate colors of them.

The *Heartsease*, or *Pansy*, of choice kinds may be potted and protected in frames during winter, or they may be planted in the soil in frames and covered; and indeed the more choice kinds may be with every propriety placed in the green-house to flower early, where they will have a pretty appearance.

I quote the following article from Harrison's Floricultural Cabinet, (for Oct. 1837,) as containing some excellent directions for the culture and propagation of the Pansy. "The compost I use is one fourth maiden loam, two fourths black garden mould, and one fourth rotten dung. When the bed is prepared, I draw lines longitudinally from one end of the bed to the other, by which lines I set the plants in rows. A bed four feet wide will allow of four longitudinal rows of plants; there should be one foot allotted to each plant in the rows. I always choose short strong plants, which are small in circumference, When I have finished planting, I procure some hoops and mats, for the purpose of shading the plants for a few days, until they have fully established themselves. As soon as the season of propagating commences, which I consider about the first of July, or if a late season it may be delayed till the first of August; I proceed cutting off the strongest shoots, observing to cut them off at a joint, and then putting the different varieties into separate vessels of soft water, for a few hours, which I find greatly to promote their striking. The cutting bed is composed of about one third pit or river sand, to ensure a closeness round the cuttings; then the cuttings of each variety are planted separately and numbered, and are allowed to remain in that situation until the following spring, when they are taken up and planted in beds. It greatly improves the flowers, if the plants are watered with liquid manure, twice or three times a week; it is necessary to to keep a watchful eye upon the plants that are left for seed, for it will disperse itself in a few minutes after it is matured."

# THE PRAIRIE.

[SELECTED.]

THE Prairie was clad in its richest array,
Its brightest of scarlet and gayest of green;
And the sun seemed to pause in his luminous way,
And to sparkle with joy o'er the beautiful scene.

The flowers, though florists will hardly agree
To a doctrine so strange and so novel to them,
Were blushing, and loving, and making as free,
As if each had a heart in its delicate stem.

Every gay little bud, had a smile for her peers,
Though the violet certainly looked rather blue;
And the blush of the rose seemed to glow through her tears;
But perhaps as 't was early the drops were of dew.

Had you seen them, dear Myra, you never again
Would be sceptic enough to deny that a flower
Had tender sensations, and pleasure and pain,
And sweet recollections of sunshine and shower.

The wild deer was gracefully bounding along,
And tossing his anthers so proudly the while,
That the gay little blossoms he cantered among,
Were restrained by good manners alone, from a smile.

The Prairie bird strutted about with the air,
Of a tragedy king, or a comedy lover;
While a pair of fond turtles, an amorous pair,
Were quietly cooing a love lecture over.

And music, such music! the air bore along,
As it swept the green hillocks, and shook the lone tree;
The Prairie bird's note and the mocking bird's song,
And the hoot of the owl, and the hum of the bee.

And the cracking of twigs as the wolf trotted by,
And the bark of the hunter's dog far o'er the plain ;
The report of the rifle, and the fawn's plaintive cry,
And the dirge of the crow, and the shriek of the crane.

And the cattle bell tinkling, just heard far away,
And a farmer's boy whistling, the time to beguile ;
And a voice in my heart, what it was I can't say,
That was warbling of Myra and love all the while.

And I thought how delightful a change it would be,
When disposed to forsake the clay form I inhabit,
To live upon dew like the delicate bee,
Or to gallop through grass like a deer or a rabbit.

Or to a chaste bud with an aspect of snow,
Or a dandy of flowers, a gaudy gay fellow ;
On the wide sunny Prairie to dance and to bow,
With a mantle of green and a trimming of yellow.

And I thought, but I happened just then to awake,
How the best settled intellects sometimes will rove ;
And yet 't is a pleasant excursion to take,
With Mab o'er the Praries when one is in love.

# GLOSSARY.

A, in composition, signifies without, as *Aphylla*, without leaves; *Acaulis*, without a stem, &c.

Acaulis; having no stem. *Gentiana acaulis, Cnicus acaulis.*

Acuminatus, pointed sharp. *Erica acuminata.*

Acutus, sharp, pointed, acuminate. *Rumex acutus.*

Alatus, winged; having membraneous appendages. *Passiflora alata.*

Alburnum, the white wood near the bark of trees.

Albus, white. *Populus alba, Azalea alba.*

Amabilis, amiable; pleasing. *Crinum amabile.*

Amphibium, amphibious; growing either in or out of the water. *Polygonum amphibium.*

Angustus, narrow, straight, slender. *Kalmia angustifolium, Linum angustifolium.*

Apex, the summit; generally applied to anything terminating in a point.

Apiculatum, (*apis*, a bee,) resembling a bee; as the flowers of *Delphinum elatum*, or Bee Larkspur.

Aquaticus, (*aqua*, water,) growing in water. *Poa aquatica*; Water Lily, &c.

Arbor, a tree.

Arboreus, shrubby; woody. *Daturea arborea; Erica arborea.*

Ardens, bright; glowing; burnished. *Erica ardens; Pelargonium ardens.*

Argenteus, silvery; white and shining like silver. *Protea argentea.*

Armatus, armed with spines, aculei, &c. *Acacia armata.*

Articulatus, jointed. *Cacalia articulata.*

Asterias, (a star,) stellate. *Stapelia asterias.*

Atropurpureus, compound of black and purple. *Camellia atropurpurea.*

Augustus, imperial; grand; magnificent. *Pelargonium augustum.*

Australis, southern; coming from the south. *Erica australis.*

Azurea, (azure, sky blue,) sky blue colored. *Campanula azurea.*

Barba, a beard; a species of rigid pubescence. *Chironia barbata; Dianthus barbatus.*

Bicolor, (com. *bis* and *color*,) two colored. *Erica bicolor; Pelargonium bicolor.*

Biennis, of two years duration. *Gaura biennis.*

Biflorus, (com. *bis* and *flos*,) two flowered. *Narcissus biflorus*; *Erica biflora.*

Borealis, northern. *Linnea borealis.*

Bractea, an ornamental leaf, exemplified in the Lime or Basswood, and *Poinsettii pulcherimus.*

Cæruleus, sky colored. *Trachelium cæruleum.*

Campanulatus, (*campana*, a bell,) bell shaped. *Ipomœa campanulata.*

Capitatus, growing in a head; a species of inflorescence. *Verbena capitata; Diosma capitata.*

Cardinalis, principal; chief; also scarlet, from the color of a cardinal's robe. *Lobelia cardinalis.*

Carneus, (*carnis*, flesh,) flesh colored. *Veronica carnea.*

Carnosus, (*carnis*, flesh,) fleshy; plump; thick; pulpy. *Hoya carnosa.*

Catharticus, purgative. *Rhamnus catharticus.*

Ciliatus, (*cilium*, the eye-lid,) edged with hairs like an eye-lid. *Erica ciliaris, Diosma ciliata.*

Coccineus, scarlet; a deep scarlet. *Salvia coccinea.*

Color, hue; a sensible quality distinguishable by the eye.

Colorans, (*color*,) a term used to express mutability and diversity of color. *Erica colorans.*

Coma, a head or tuft of hair; a terminal bractea, forming a tuft as in *Eucomis punctata; Lavendula spicata.*

Communis, common; general. *Pyrus communis.*

Compactus, close; compact; solid.

Concolor, one colored. *Erica concolor; Lilium concolor.*

Conspicuus, clear, apparent; excellent; very grand. *Erica conspicua.*

Corculum, (dim. of *cor*, the heart,) a little heart; the embryo of the future plant, contained in the seed.

Cordatus, (*cor*, the heart,) heart-shaped. *Diosma cordata.*

Cornutus, horned. *Erica cornuta.*

Corolla, a little crown; chaplet, or garland; *the painted leaves of a flower.*

Cortex, the outer rind or covering of trees and plants.

Coronatus, (*corona*, a crown,) resembling a crown. *Lychnis coronata; Erica coronata.*

Corymbus, a cluster of ivy berries.

Crassifolius, (*crassus*, thick; fleshy,) fleshy leaved. *Saxifraga crassifolia.*

Crispus, crisped; curled; crumped. *Ixia crispa.*

Cruentus, bloody; red like blood. *Erica cruenta.*

Cupreus, (*cuprum*, copper,) copper colored. *Iris cuprea.*

Cyaneus, of a bright blue color. *Arista cyanea.*

Cylindricus, (*cylindrus*, a cylinder or roller,) cylindric. *Gnaphalium cylindricum.*

Deciduous, subject to fall. A tree is deciduous when the leaves fall off in autumn.

Decorus, handsome; graceful. *Protea decora; Erica decora.*

Decussatus, (*decusso*, to divide crosswise.) A plant is decussate when its leaves point in four directions only, or crosswise. *Veronica decussata.*

Defoliation, (*de*, from, and *folium*, a leaf,) the shedding of leaves.

Dentatus, toothed; having notches like teeth. Mostly applied to the margins of leaves. *Lavendula dentata; Aspidium dentatum.*

Didymus, (twins,) two united. *Monarda didyma.*

Dipetalus, two petalled. *Pelargoninum dipetalum.*

Discolor, (*two* and *color*,) two colored. *Tradescantia discolor.*

Divaricatus, growing in a disorderly manner; inclining. *Phlox divaricata.*

Dulcis, sweet; nectariferous. *Inga dulcis; Solanum dulcimera.*

Echinatus, covered with prickles. *Pelargonium echinatum.*

Edulis, eatable; good for food. *Boletus edulis; Passiflora edulis.*

Elegans, elegant; handsome; neat; fine. *Erica elegans; Eupatorium elegans.*

Ensiformis, sword-shaped. *Mimosa ensifolia.*

Equestris, (*equus*, a horse,) having the fancied resemblance of a horse's head. *Amaryllis equestris.*

Erectus, erect; upright; aspiring. *Clematis erecta.*

Erubescens, blush colored. *Erica erubescens.*

Eximius, choice; excellent; noble. *Gnaphalium eximium.*

Falcatus, (*falx*, a hook or sickle,) hooked; bent like a sickle. *Asparagus falcatus.*

Ferrugineus, iron colored; rusty. *Lasiopetalum ferrugineum; Rhododendron ferrugineum.*

Filamentosus, (*filum*, a thread,) thread-shaped; producing filaments. *Yucca filamentosa.*

Fimbriatus, fringed; flounced. *Gentiana fimbriata; Camellia fimbriata.*

Flagelliformis, *flagellum*, a whip. *Cactus flagelliformis.*

Floridus, florid; gay; fresh. *Gardenia florida.*

Fœtidus, of a rank smell. *Pothos fœtidus; Cerissa fœtida.*

Folium, a leaf of a plant.

Formosus, beautiful; handsome; ornamental. *Ruella formosa; Potentilla formosa.*

Fragrans, having a smell, either agreeable or disagreeable; but generally applied to the former. *Olea fragrans.*

Fruticosus, (*frutex*, a shrub,) shrubby. *Althea frutex.*

Fulgens, shining; glittering; resplendent. *Lobelia fulgens; Salvia fulgens.*

Genera, pl. of Genus.

Genus, a kindred; a race; a family.

Gibbosus, (*gibbus*, bunched out, gouty,) abounding with excrescences, particularly at the joints. *Pelargonium gibbosum.*

Giganticus, giant-like; huge. *Colotropris gigantea.*

Glandulosus, furnished with glands. *Hypericum glandulosum.*

Glomeratus, (*glomero*, to gather into a round heap,) collected together in a round assemblege. *Gnaphalium glomeratum; Mesembryanthemum glomeratum.*

Gloriosus, superb; grand. *Yucca gloriosa.*

Gracilis, slender; weak; lank. *Jasminum gracile; Fuschia gracilis*

Grandis, great; lofty; sublime. *Tectona grandis; Banksia grandis.*

Grandiflorus, (*grandis*, great, and *flos.*) *Cactus grandiflorus.*

Granulatus, (*granum*, a grain of corn.) Resembling a grain of corn in any part. *Saxifraga granulata.*

Gratus, grateful; agreeable. *Lonicera grata.*

Hepaticus, (*hepar*, the liver,) liver colored; lobed like the liver. *Anemone hepatica.*

Hibernacula, winter quarters; a part of the plant which protects the embryo herb; *the covering of a bud.*

Hirsutus, rough; hairy; shaggy. *Epilobium hirsutum; Viola hirsuta.*

Hispidus, rough; bristly; rugged. *Robinia hispida.*

Hortensis, (*hortus*, a garden,) pertaining to or growing in gardens. *Anemone hortensis.*

Hybridus, (a mongrel,) bastard; partaking of the nature of two species. *Erica hybrida.*

Ignescens, (*ignis*, fire,) fiery; ardent. *Erica ignescens; Pelargonium ignescens.*

Imbricatus, tile-like; laid over one another. *Aloe imbricata; Diosma imbricata.*

Immersus, immersed; growing under water.

Incanus, hoary; mouldy; colored. *Cistus incanus.*

Incarnatus, (*in* and *caro*, flesh,) flesh colored. *Erodium incarnatum.*

Indigena Planta, a native of any country is indigenous to it: home bred. *American laurel* and *Honeysuckles* are examples of indigenous plants.

Infundibuliformis, (*infundibulum*, a funnel,) funnel shaped. *Erica infundibuliformis.*

Inodorus, having no smell. *Allium inodorum; Syringa inodora.*

Integra, entire; whole. *Clematis integrifolia.*

Involucrum, (*involvo*, to envelope,) wrap or fold in.

Laccatus, (*lac*, milk,) milky; also, improperly lake colored. *Gladiolus laccatus.*

Lævigatus, (*lævis*, smooth.) *Prinos lævigatus; Calicanthus lævigatus.*

Lanatus, woolly; covered with a downy pubescens resembling wool. *Stachys lanata; Geranium lanata.*

Lanceolatus, (*lanceo*, a spear or lance,) lance shaped. *Acacia lanceolata.*

Latifolius, broad-leaved. *Kalmia latifolia.*

Liber, the inner bark of trees and plants.

Liliacea, plants resembling the lily.

Linguus, (*lingua*, a tongue,) tongue shaped. *Aloe lingua.*

Lobatus, (the flap of the ear,) lobate. *Pelargonium lobatum.*

Lophantus, a crest or mane. *Acacia lophanta.*

Maculatus, spotted; speckled. *Arum maculatum.*

Major, the bigger; greater. *Tropæolum majus.*

Mammillaris, (*mamilla*, a little breast.) *Cactus mammillaris.*

Maritimus, growing near the sea. *Crambe maritima.*

Maximus, greatest; the superlative degree of dimension. *Convolvulus major.*

Meleagris, a *Guinea* fowl; speckled. *Fritillaria meleagris.*

Micans, glittering; shining. *Lavatera micans; Pelargonium micans.*

Microphyllus, small-leaved. *Edwardsia microphylla; Fushcia mycrophylla.*

Minor, (com. of *parvus* little) less; smaller. *Convolvulus minor.*

Monophyllus, one-leaved. *Kennedia monophylla.*

Monstrosus, monstrous; out of ordinary course of nature. *Hyacinthus monstrosus.*

Montanus, (*mon*, a mountain,) growing on mountains. *Veronica montana.*

Moschatus, having a musky smell. *Rosa moschata.*

Multiflorus, (*multus*, many and *flos*,) many flowered. *Rosa multiflora, Jasminum multiflorum.*

Muscosus, mossy; resembling moss. *Rosa muscosa; Moss Rose.*

Nanus, dwarf, of humble growth. *Philadelphus nanus.*

Naturalis, agreeable to nature.

Nectarium, (*nectar*, honey,) the part of a flower or plant that contains honey.

Niger, black; dark colored. *Orobus niger.*

Nobilis, notable, grand. *Laurus nobilis.*

Nocturnus, (*nox*, night,) night flowering; night smelling. *Œnothera nocturna; Cestrum nocturnum.*

Nummularius, (*nummus*, coin,) round like a piece of coin. *Lysimachia nummularia.*

Obtusus, blunt; obtuse.

Octagonus, eight angled. *Cactus octagonus.*

Odor, smell, either good or bad, but mostly applied to such as are grateful. *Daphne odorata.*

Orientalis, eastern. *Gnaphalium orientale, Papaver orientale.*

Ovatus, (*ovum*, an egg,) egg shaped. *Phlox ovatum.*

Pallidus, pale; of a dusky white color. *Crocus pallidus; Calceolaria pallida.*

Palustris, (*palus*, a marsh,) growing in marshes. *Caltha palustris; Hibiscus palustris.*

Paniculatus, (panicula,) panicle flowered. *Phlox panicula.*

Parvus, small; insignificant.

Pastoris, (*pastor*, a shepherd,) of a shepherd. *Bursa pastoris.*

Pavonius, (*pavo*, a peacock,) spotted with gay colors as a peacock. *Gorteria pavonia.*

Pedunculus, (*pes*, a foot,) the proper footstalk of a flower.

Pencillatus, (*pencillum*, a painter's pencil,) painted as if with a pencil; delicately painted, as the lines or spots in the Pelargonium.

Pentagonus, five angled. *Cactus pentagonus.*

Pentapetalus, five petalled, flowers having five distinct petals or flower leaves.

Persolutus, accomplished; elegant. *Erica persoluta.*

Pictus, (*pingo* to paint,) painted. *Pelargonium pictum.*

Planta, a plant.

Plumatus, (*pluma*, a feather,) feathery, downy. *Erica plumosa.*

Polypetalus, many petalled, as the Rose and Dahlia.

Præcox, early. *Calycanthus præcox.*

Princeps, chief; principal. *Passiflora princeps.*

Prostratus, prostrate; lying flat. *Disandra prostrata; Banksia prostrata.*

Pulchellus, pretty; neat; elegant. *Cyrilla pulchella.*

Pumilus, dwarf. *Iris pumila.*

Purpureus, purple colored. *Aster purpureus.*

Pyramidalis, (*pyramis*, a pyramid,) pyramidal; tapering. *Phlox pyramidalis.*

Quadrangularis, four angled; square. *Passiflora quadrangularis.*

Quinquefolius, (*quinque*, five, and *folium.*) *Ampelopsis quinquefolia.*

Racemosus, (*racemus*, a cluster of grapes,) flowering and growing in clusters. *Symphora racemosa.*

Radicans, (*radix*, a root,) rooting; producing claspers resembling roots. *Bignonia radicans.*

Ramus, a bough or branch of a tree.

Reniformis, (*renis*, the kidneys,) kidney shaped. *Pelargonium reniforme.*

Repens, creeping. *Ranunculus repens.*

Retortus, (turned backwards,) bent back; twisted. *Erica retorta.*

Revolutus, rolled backwards. *Cycus revoluta.*

Ringens, grinning; gaping. *Mimulus ringens.*

Rivalis, of or pertaining to a river. *Mimulus rivalis.*

Roseus, rose colored. *Ixia rosea.*

Rotatus, (*rota*, a wheel,) wheel-shaped. *Pancratium rotatum.*

Rubellus, somewhat red; redish. *Erica rubella.*

Rubens, ruddy; blushing. *Crassula rubens.*

Ruber, red. *Valeriana rubra.*

Rubicundus, deep red; also, ruddy. *Kennedia rubicunda.*

Rugosus, rough; wrinkled; furrowed. *Calceolaria rugosa.*

Sanguineus, blood-colored. *Geranium sanguineum.*

Scariosus, having longitudinal incisions or channels. *Liatris scariosus.*

Sempervirens, ever-green. *Lonicera sempervirens.*

Sparsus, scattered; spread abroad. *Beaufortia sparsa.*

Spicatus, (*spica*, a spike,) spike-flowered. *Liatris spicata.*

Splendens, glittering; splendid; beautiful. *Lobelia splendens.*

Stamina, the male organs of a flower.

Sterilis, barren. *Fragaria sterilis.*

Stoloniferus, creeping. *Phlox stolonifera.*

Striatus, channelled; also, striped. *Geranium striatum.*

Strobilus, the Artichoke; the cone of a Fir.

Suaveolens, (*suavis*, sweet,) smelling sweet; more commonly applied to strong scented. *Phlox suaveolens.*

Sylvestris, (*sylva*, a wood.) *Anemone sylvestris.*

Tardiflorus, (*tardo*, to be long in coming; and *flora.*) *Aster tardiflora.*

Tenellus, slender, delicate. *Aster tenella.*

Translucens, (*translucco*, to shine through.) *Pelargonium translucens.*

Tremulus, trembling; shaking. *Populus tremula.*

Truncatus, (*truncus*, cut short, maimed,) leaves, roots, &c. are called truncate when they terminate bluntly as if cut, or bitten off. *Cactus truncatus.*

Tubiflorus, (*tubus*, a tube,) tube-flowered. *Erica tubiflora.*

Umbellatus, (*umbella*,) umbellate. *Agapanthus umbellatus.*

Undulatus, (*unda*, a wave,) waved; when the margins of the leaves, or petals are larger in proportion than their disks. *Pittosporum undulatum, Amaryllis undulata.*

Variegatus, (modern Latin,) having an intermixture of colors. *Iris variegatus, Pelargonium variegatum.*

Vernus, pertaining to the spring. *Phlox vernus.*

Versicolor, changing color; particolored. *Iris versicolor; Oxalis versicolor.*

Verticillatus, whorl-flowered. *Acacia verticillata.*

Viridis, green; flourishing. *Lachenalia viridis.*

Vittatus, (a fillet, or ribbon) ribbon like. *Amaryllis vittata.*

Volubilis, twining round other bodies. *Hibbertia volubilis.*

# APPENDIX.

## Art. I. — DESCRIPTIVE LIST OF ANNUAL FLOWERS.

[The first column gives the common name, the second the botanical, the third the height in feet, the fourth the color. Those marked thus * are climbing plants. Those marked thus § are delicate annuals, and should be sown in hot beds in April and transplanted into the open ground the end of May, or beginning of June.]

| | | | |
|---|---|---|---|
| Mexican Ageratum | Ageratum mexicanum | 1½ | Blue. |
| Sweet Alyssum | Alyssum maritinum | 1 | White. |
| Grand flowering Argemone | Argemone grandiflora | 2 | White. |
| Aster White | Aster hortensis fl. alba | 1½ | White. |
| —— Purple | var. fl. purpurea | 1½ | Purple. |
| —— Red | var. fl. rubro | 1½ | Red. |
| —— Lilac | var. fl. carnea | 1½ | Lilac. |
| —— Red striped | var. fl. obscura | 1½ | Striped. |
| —— Purple striped | var. fl. striata | 1½ | Striped. |
| —— Quilled red | superba rubro | 1½ | Red. |
| Animated Oats | Avena sensitiva | 2 | Green. |
| §Blue Amethyst | Browallia elata | 1 | Blue. |
| §White do. [flower | alba | 1 | White. |
| §Scarlet Cacalia, or Tassel | Cacalia coccinea | 2 | Scarlet. |
| Venus' Looking Glass | Campanula speculum | 1 | Purple. |
| *Balloon Vine | Cardiospermum halicacahum | 6 | White. |
| Great American Centaurea | Centaurea americana | 2 | Pink. |
| Purple Sweet Sultan | moschata | 2 | Purple. |
| Yellow Chrysanthemum | Chrysanthemum fl. lutea | 2 | Yellow. |
| White do | coronaria | 2 | White. |
| Beautiful Clarkea | Clarkea pulchella | 2 | Purple. |
| Dwarf Convolvulus | Convolvulus minor | 1 | Tricolor. |
| *Great Pu. Morning Glory | purpurea | 10 | D. blue. |

| | | | |
|---|---|---|---|
| Blue Commelina | Commelina cœlestis | 2 | Blue |
| §*Two col'd Orange Gourd | Cucurbita bicolor | 10 | Yellow. |
| §*Orange Gourd | aurantina | 10 | Yellow. |
| §*Large Bottle Gourd | lagenaria | 10 | W. Green. |
| Elegant Coreopsis | Coreopsis tinctoria | 3 | Yellow. |
| Elegant Escholtzia | Escholtzia californica | 1 | Yellow. |
| Variegated Euphorbia | Euphorbia variegata | 3 | White. |
| Branching Larkspur | Delphinium consolida | 2 | Various. |
| Double do | var. pleno | 2 | Blue. |
| ——— Rose do. | var. rosea. | 2 | Rose. |
| ——— Dwarf rocket do. | ajacis | 1 | Various. |
| Beautiful Ketmia | Hisbiscus trionum | 2 | Striped. |
| African Hibiscus | vesicarius | 2 | Yellow. |
| Azure Blue Gilia | Gilia capitata | 2 | Blue. |
| Double Balsams, mixed | Impatiens balsamina | 2 | Various. |
| ——— Rose colored | fl. rosea | 2 | Rose. |
| ——— Variegated | variegata | 2 | Striped. |
| ——— Purple | purpurea | 2 | Purple. |
| ——— Pure white | alba | 2 | White. |
| ——— Crimson | rubro | 2 | Red. |
| *Scarlet Morning Glory | Ipomea coccinea | 10 | Scarlet. |
| *Crimson Cypress | quamoclit | 6 | D. Red. |
| Sweet Peas, Painted Lady | Lathurus odoratus | 4 | Fleshed. |
| *White Sweet Peas | alba | 2 | White. |
| *Purple do. | fl. purpurea | 2 | Purple. |
| *Scarlet do. | fl. rosea | 2 | Scarlet. |
| *Striped do. | fl. striata | 2 | Striped. |
| Red Lavatera | Lavatera trimensis | 2 | Red. |
| White Lupins | Lupinus albus | 3 | White. |
| Yellow do. | luteus | 2 | Yellow. |
| Large blue do. | hirsutus | 2 | Blue. |
| Rose do. | varius | 2 | Rose. |
| Ten weeks' Stock gilliflow'r | Mathiolus annua | 2 | Red. |
| Purple Ten Weeks' Stock | fl. purpurea | 2 | Purple. |
| White do. | fl. alba | 2 | White. |
| Scarlet Malope | Malope trifida | 2 | Scarlet. |
| §Ice Plant | Mesembryanthemum | 1 | White. |
| §Sensitive Plant | Mimosa pudica | 1 | Pink. |
| Marvel of Peru | Mirabalis jalapa | 2 | Red. |
| Red and yellow striped do | fl. rubro flava | 2 | Striped. |

| | | | |
|---|---|---|---|
| Red and white striped do | fl. rubro alba | 3 | Striped. |
| Yellow Virginia Tobacco | Nicotiana rustica | 3 | Y. Green. |
| Trailing Nolana | Nolana prostrata | 1 | Blue. |
| Grand flow'g ev'g Primrose | Œnothera grandiflora | 3 | Yellow. |
| Red and white evening do. | rosea alba | 1 | R. White. |
| Hybrid Evening Primrose | Œnothera hybrida | 1 | Pink. |
| White evening do. | tetraptera | 1 | White. |
| Lindley's evening do. | lindleyii | 1 | P. White. |
| White Officinal Poppy | Papaver somniferum | 4 | White. |
| Double white fringed do. | fimbriatum ple. | 3 | White. |
| Double carnation do. | nigrum pleno | 3 | Various. |
| Double rose do. | rhœas pleno | 2 | Various. |
| §Scarlet Pentapetes | Pentapetes phœnica | 2 | Scarlet. |
| *Scarlet flowering Bean | Phaseolus multiflorus | 12 | Scarlet. |
| Red Persicaria | Polygonum orientale | 6 | Red. |
| Marvel of Peru | Petunia nictagynaflora | 3 | White. |
| Sweet scented Mignonette | Reseda odorata | 1 | Cream. |
| Wing leaved Schizanthus | Schinzathus pinnatus | 2 | Various. |
| Double purple Jacobea | Senecio elegans | 2 | Purple. |
| Double white do | fl. alba. | 2 | White. |
| §White Egg Plant | Solanum melongena | 2 | |
| Vanilla scented Stevia | Stevia serrata | 1 | White. |
| African Marigold | Tagates erecta | 3 | Yellow. |
| Orange Africa do. | var. | 3 | Orange. |
| French do. | patula | 2 | Blue. |
| *§Winged Thunbergia | Thunbergia alata | 4 | Y. Purple. |
| *Great Nasturtium | Tropæolum majus | 4 | Orange. |
| Hearts' ease | Viola tricolor | 1 | Various. |
| Golden Eternal flower | Xeranthemum lucidum | 3 | Yellow. |
| Red Zinnia | Zinnia multiflora | 2 | Red. |
| Yellow do. | pauciflora. | 2 | Yellow. |
| Violet do. | elegans | 2 | Violet. |
| Elegant red do. | var. rubro | 2 | Red. |

## Art. II. — DESCRIPTIVE LIST OF BIENNIAL FLOWERS.

[Those marked thus § are delicate, and require to be housed in the winter.]

| | | | |
|---|---|---|---|
| Rose Champion | Agrostemma coronaria | 2 | Red. |
| Double light blue Columbine | Aquilegia vulgaris | 2 | L. Blue. |
| —— dark blue do. | fl. azurea | 2 | D. Blue. |
| —— dark purple do. | fl. purpurea | 2 | D. Purple. |
| —— white do. | fl. alba | 2 | White. |
| §Bloody Wall Flower | Cheiranthus cheiri | 2 | Yellow. |
| Carnation Pink | Dianthus caryophyllus | 2 | Striped. |
| Broad leaved Pink | Dianthus latifolius | 1 | Pink. |
| Chinese imperial do. | chinensis | 1 | Red. |
| Sweet William, of sorts | barbatus | 2 | Varieg. |
| Purple Fox Glove | Digitalis purpurea | 4 | Purple. |
| White do. | alba | 4 | White. |
| Yellow do. | lutea | 3 | Yellow. |
| §French Honeysuckle | Hedysarum coronarium | 4 | Scarlet. |
| Canada Hedysarum | canadensis | 5 | Purple. |
| Honesty, or Satin Flower | Lunaria biennis | 4 | Purple. |
| White Mallows | Malva fl. alba | 2 | White. |
| §Persian Stock Gilliflower | Mathiola odoratissima | 2 | L. d. |
| §Russian do. | var. | 2 | Red. |
| §White wall leafed do. | glabrata alba | 2 | White. |
| §Purple Prussian Gilliflower | glabrata purp. | 2 | Purple. |
| §—— Twickenham do. | incana purp. | 2 | Purple. |
| §Scarlet Stock Gilliflower | var. coccinea | 2 | Scarlet. |
| §Queen's do. | var. alba | 2 | White. |
| Tree Primrose | Œnothera biennis | 4 | Yellow. |
| Purple Topped Clary | Salvia sclarea | 4 | L. Blue. |
| Long flowered Verbascum | Verbascum micanthrum | 5 | Yellow. |

## Art. III. — LAYING OUT GARDENS AND ORNAMENTAL PLANTATIONS.

*On Planting Ornamental Trees to protect Buildings and to give effect to Landscape Scenery.* — Without taking into consideration the value of forest trees, as regards the several uses they are applied to as timber, (which will undoubtedly increase as the towns and cities on the seaboard increase in population; and whilst the *axe* continues to diminish the timber forests of the country,) the planting of ornamental forest trees is really useful as relates to the domestic comfort of the inmates of dwellings, that are protected and ornamented by them; by affording shade in the summer and protecting the building from the cold blast of winter. Ornamental plantations of this kind also give a mellow and finished cast to the surrounding scenery, and impress the traveller with an idea of the additional value of property, arising from an enterprising and intelligent community. And although much has been yearly doing in every section of this country, in the improvement of ornamental plantations, there are two considerations which seem to leave much to be done in that interesting subject: namely, the former idea of laying bare certain districts by cutting down almost every forest tree; and the rapid growth of enterprise and commercial wealth being the cause of numerous dwellings of the first order to be built in the the vicinity of cities in rapid succession, within these few years, in situations which can only be ornamented with trees by a progressive culture which depends much on management.

The principal object of this kind of planting being

real utility blended with a picturesque effect, a certain knowledge of the different trees to be used is requisite to obtain the desired purpose ; as that of their *port* or habit, natural locations, the soil and favorite situations in which they thrive and form into the most beautiful structure and foliage. Having ascertained these prerequisites, which can easily be done by any intelligent observer taking the trouble to make a general survey of the trees growing in the neighborhood in which he intends to plant, — when their healthy or meagre habits may be practically ascertained in a more correct manner than from any theoretical essay that can be given by the *pen*, — the next thing to be considered is the soil and location of the ground to be ornamented, which should be in accordance with that of the most thrifty trees in their natural sites or place of growth. For let it be recollected, that the most beautiful kind of trees, when assuming a sickly appearance, greatly depreciate the good effect of ornamental plantations of this kind — whilst, on the other hand, those of less beauty, when in a healthy condition, perhaps serve to make a fine contrast in the general group. There is some taste also required in the arrangement or planting the ground, which must be kept in view with the natural habit of the trees before examined ; which should be grown to their natural magnitude, so that some idea can be formed of the future appearance of the improvement about to be made, as well as the first planting or present appearance.

Having ascertained the nature of the soil and location intended to be planted, and made a selection of such trees as seem to be suitable to the intended object, the next thing to be attended to is that of planting them in their proper places, where they can thrive and have a free, easy and useful appearance. In effecting this part of the bu-

siness, the most exposed situations at the north and northwest quarters should be planted in a neat and economical manner.

If a building is to be ornamented, the first consideration is in planting on the north and northwest quarter to break off the cold winds and protect it from storms. All kinds of unsightly objects that are in view should be concealed, and the whole group should have a fine picturesque effect at a distant view. This may be accomplished by a little attention to the before named requisites.

Whilst on the subject of ornamental plantations, I cannot refrain from making some remarks on the great neglect of a subject that is so apparently *the very nerve of useful improvement* in almost every country, and more especially in this where shelter and shade are accomplished by no other means in so advantageous a manner as by the presence of ornamental trees. The neglect of planting appears to be in a measure owing to the too prevalent idea of a speedy return for money expended on general improvements ; but it must be recollected that every person who plants in this manner is almost certain to realize his first cost by the improved appearance given to his property which stamps a value as it were in the same manner, as if the trees were useful for the purpose of timber. There is also a kind of social effect given to the traveller when he passes through a country where buildings of this kind are ornamented by the presence of trees intended to give shelter and shade ; and indeed I know not of any legacy that can be transmitted from the father to the son, of a more useful and affectionate nature, than a fine grove of trees planted and reared by a careful and diligent hand. If such useful records were to be handed down

from one generation to another, the bleak barrenness of landscape scenery, which is now in many places apparent, would be transformed into pleasing groups of ornamental plantations that indicate social comfort and intelligence.

*Choice of Trees for Ornamental and Landscape Plantations.*—Much art is required in selecting trees for planting ornamental grounds; as parks, lawns, foregrounds to country residences and such ornamental plantations. The planter should in this case duly consider the appearance such plantations will have when growing to maturity; as the design will then have its full effect. Present appearances have, in many cases, but little to do with the future, which is the grand object of landscape gardening.

The first consideration is the nature and quality of the ground to be planted, together with the different aspects and locations; these things must invariably be considered in order that trees which will thrive best may be selected for planting, and have a pleasing appearance. To accomplish this, such *only* should be chosen as are known to thrive in similar situation and soil. *Native* forest trees will be found, in most cases, to answer the best purpose for the park and exposed plantations (with the exception of some few varieties of foreign trees) their natural properties being particularly adapted to this climate; consequently, they always assume a healthy appearance, which is the greatest consideration in landscape scenery; as ornamental trees when in a sickly state, destroy that pleasing effect they are intended to produce.

In selecting trees from a nursery or elsewhere, attention should be paid to choose those that are of a well formed and regular growth, and from a situation where they have had free exposure to the sun and air: trees

grown too close together are always of a more tender nature than those in exposed situations, and are not so fit for being removed to an exposed place.

If trees are to be selected for planting of a large growth, care must be taken to choose them in such a manner that their present and future place of growth correspond. Trees from different situations are found to have entirely different properties; for instance, the oak, maple, elm, and indeed all kinds of trees where grown in an exposed situation are found to have protecting properties, corresponding to their natural location: their bark is of a thick, coarse nature, their roots are numerous and extend some distance into the ground, their tops and branches thick and spreading; this is natural to trees growing in an exposed situation; on the contrary, those in growing woods or confined places, of the same denomination as the above, have their bark thin, their branches few and on the top of the tree, their roots few in number and of a weak, slim nature. These facts should engage the attention of the planter, in order that the removing may be done in such a manner that their present and future soil and situation correspond.

I particularly recommend the planter clearly to investigate this subject, which is perhaps the best method of learning the physiology of plants; natural cases are always the surest guides to perfection. Nothing can be more pleasing to the horticulturist, than to reflect on the beautiful economy of nature, which imparts to the vegetable kingdom different qualities in the same genus of plants placed in different situations. The animal kingdom is in some respects similar, although more limited, which is accounted for, when we consider that they have a sensitive power and motion, and thus seek protection

from storms and sudden changes of heat and cold. But the vegetable creation in all its natural locations is stationary, and consequently it has to endure the changes of the elements in its primitive place of growth.

Thus it appears, that trees and vegetables when removed, require to be placed as much as possible in the same aspect and in similar location as they were in their infant state. And it should be the principal object of the arboriculturist to observe this rule as much as possible.

*Natural habit or foliage of trees.* — The planter should only investigate the habit of such trees as are intended to be planted, and those that are of a large size and exposed so that the sun and air have access to every part of them. Such as are too much crowded together, will not attain a correct habit, as may be seen in the oak when growing in confined places in woods and groves; It is then tall and slender, and has but few side branches, but when it is exposed it forms a neat tree of a hemispherical figure; — the hickory in open, exposed places takes a very beautiful semi-elliptical shape; — the conical form is seen in the tulip tree and button-ball when exposed; — the balsam fir forms a fine pyramid of living green; — and the Lombardy poplar is portrayed as a complete spindle shape. To these many intermediate habits may be seen, as in the elm, ash, walnut, and chestnut; but any person who is interested in this part of ornamental planting, having duly investigated the above mentioned, will at once discover the habit of every tree sufficiently to be master of adapting them to the most suitable places. Practice here is the sure guide to perfection.

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