









Verbena teucrioides



Malva cretensis



Salvia patens

THE
FLORICULTURAL
CABINET,
AND
FLORIST'S MAGAZINE.

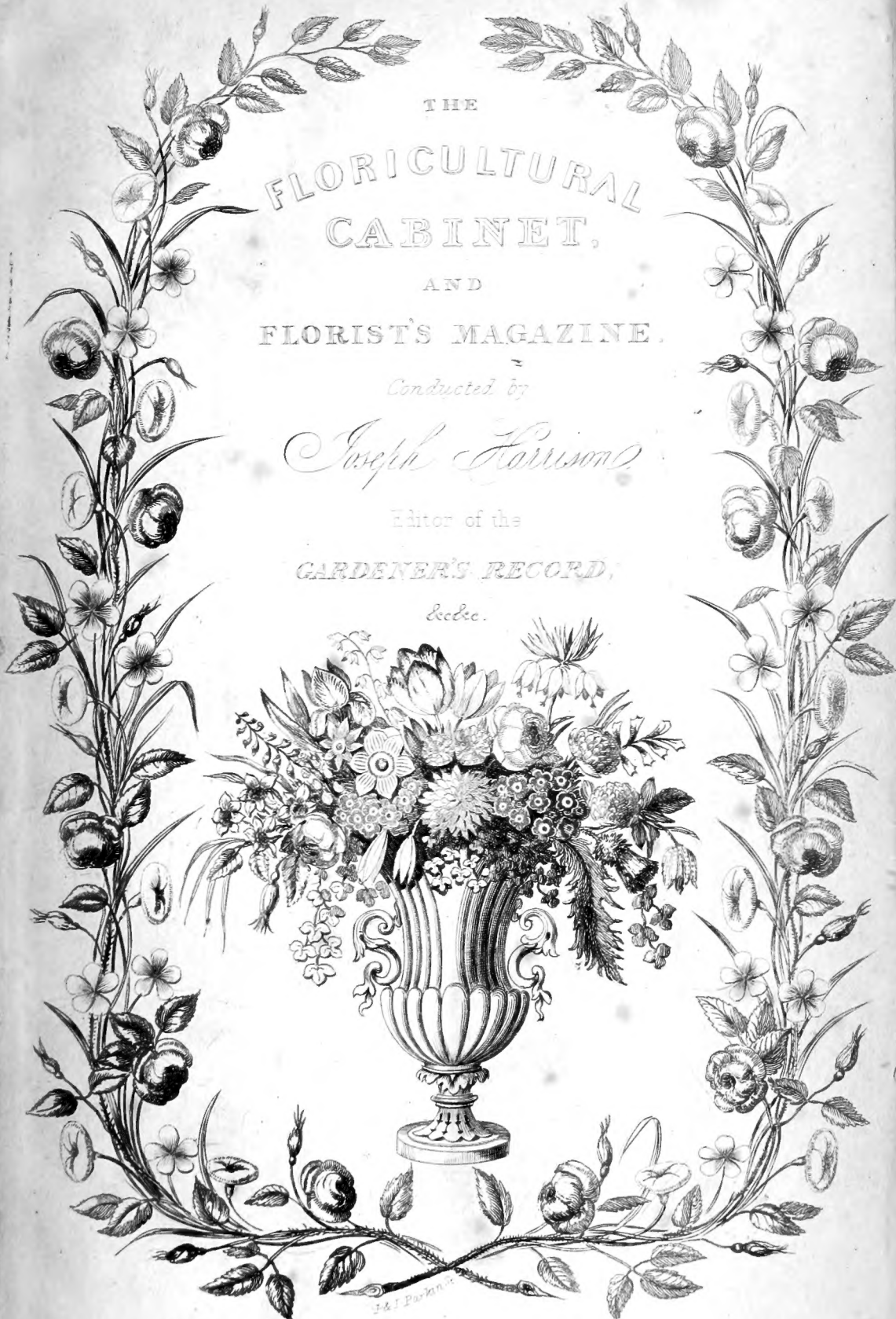
Conducted by

Joseph Harrison

Editor of the

GARDENER'S RECORD,

&c. &c.



London, Whittaker and C. Ave Maria Lane



THE
FLORICULTURAL

CABINET,

AND
FLORISTS' MAGAZINE.

JANUARY TO DECEMBER, 1839.

VOLUME VII.

CONDUCTED BY MR. JOSEPH HARRISON,

NURSERYMAN,

DOWNHAM NURSERY,

NORFOLK.

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PREFACE.

IT was with feelings of a most grateful character we presented the former Volumes of the Floricultural Cabinet to our Subscribers ; the continued, and increased support we have received during the course of conducting the present Volume, we are deeply sensible, lays us under additional obligations ; to say we feel thankful to our friends for the support afforded us, does not adequately express our feelings of gratitude ; we will however, by our utmost exertions, endeavour to prove it by doings in our next volume, having made arrangements for its improvement.

In the present volume we have acted upon the principle we set out with, to admit nothing into our pages but what we judged would be really useful to our readers, such will be our aim in future. In accomplishing our object we have been liberally supported by the communications of our friends, grateful to them for the past, we very respectfully solicit their continued aid.

During the past year we have observed that *Flower Gardening* has rapidly progressed, and the amusement of Floriculture has become a dominant passion in every part of Britain ; we rejoice in it, it is in strict accordance with our very ardent wishes as tending to the happiness of man, because Floriculture is not only amusing but beneficial ; it brings reason and observation into operation ; it is favourable to serious meditation ; it exercises the fancy in innocent and elegant occupation ; and braces the system by its beautiful tendency. Kings, Queens, Princes, and Nobles, have, and still do, stamp additional dignity

upon it by seeking recreation in its pursuit. To the young, we are fully persuaded, it is of lasting importance, it attaches them to home, and casts a charm over the place dedicated to floricultural pursuits, and gives them tastes and feelings which are usually retained through life. That our view of it, is in unison with the most intelligent of our own sex, we make our boast of, but more especially do we congratulate ourselves, when we find they are in accordance with the Ladies of our Country. So much is Floriculture held in esteem by the female sex, that amongst the many accomplishments which adorn them, a love of it is now considered a necessary one.

Its pursuit is now become so general, that it extends nearly to every cottage where it is practicable, and reaches to every Palace, and affords its votaries by its productions, what has been said to be, the purest of human pleasures. Of its enjoyment we have largely participated, and we are thus induced to attempt to contribute to its promotion, that others may more largely share with us of its benefits. To accomplish this, our future exertions will be uniformly directed, and we have reason to anticipate successful results, because by the operation of a supreme hand.

“ For us kind nature wakes her genial power,
Suckles each herb, and spreads out every flower !
Annual for us, the Grape, the Rose renew,
The juice nectarious, and the balmy dew ;
For us, the mine a thousand treasures brings,
For us, health gushes from a thousand springs.”

Downham, Nov. 20th, 1839.

THE
FLORICULTURAL CABINET,

JANUARY, 1st, 1839.

PART I.
ORIGINAL COMMUNICATIONS.

ARTICLE I.

REMARKS ON THE JASMINE.

BY CLERICUS.

THIS sweet emblem of amiability is always acceptable wherever we meet it. It graces alike the lowly casement of the lone widow, and the proud parterre of the rich and gay: the bosom of the village lass, and the oriental vase of the saloon. Its modesty pleases, and its fragrance charms, in all situations; like those with whose happy dispositions and amiable manners seem to make them the bond of society, by the grace and facility with which they accommodate themselves to all situations and circumstances. The pretty face of the Jasmine flower is only surpassed in loveliness, by the fair whose countenance is brightened by amiability.

The common Jasmine *Officinale*, which grows naturally at Malabar, is registered in the Hortus Kewensis as a native of the south of Europe; but I am of opinion that it did not leave the East until the taking of Constantinople by the Turks, whose fondness for flowers would induce them to transport it to the land they conquered in 1453. It certainly would not have passed unnoticed by Pliny, and other ancient authors, had it either grown naturally, or been introduced to that country previous to their

time. Dioscorides is the only Greek author that notices it; and as he has given no description of the plant or flower, but only tells us that the Persians obtained an oil from a white flower, with which they perfumed their apartments during their repasts, it is probable he only became acquainted with the jasmine during his attendance as a physician on Antony and Cleopatra, in Egypt, whose unbounded luxury would naturally call this essence from the land of odours.

At what time this plant first perfumed the British atmosphere, is uncertain, Mr. Aiton says, in 1548; but we consider it to be much longer acquainted with our soil, as it seems to have been so common in the time of Gerard as to have been considered a native plant by some persons. This excellent author says, "Jesemin is fostered in gardens, and is used for arbors and to couer banquetting houses in gardens; it groweth not wilde in Englande, that I can vnderstande of, though master Lyte be of a different opinion: the white jasmine is common in most places of Englande"

If we may believe a Tuscan tale, we owe our thanks to Cupid for the distribution of this pretty shrub. We are told that a Duke of Tuscany was the first possessor of it in Europe, and he was so jealously fearful lest others should enjoy what he alone wished to possess, that strict injunctions were given to his gardener not to give a slip, nor so much as a single flower, to any person. To this command the gardener would have been faithful, had not the god of love wounded him by the sparkling eyes of a fair but portionless peasant, whose want of a little dowry and his poverty alone, kept them from the hymeneal altar. On the birth day of his mistress the gardener presented her with a nosegay; and to render the bouquet more acceptable, he ornamented it with a branch of jasmine. The young nymph wishing to preserve the bloom of this new flower, put it into fresh earth, and the branch remained green all the year, and in the following spring it grew, and was covered with flowers; and it flourished and multiplied so much under the maiden's cultivation, that she was able to amass a little fortune from the sale of the precious gift which love had made her; when with a sprig of jasmine in her breast, she bestowed her hand and her wealth on the happy gardener of her heart. And the Tuscan girls, to this day, preserve the remembrance of this adventure, by invariably wearing a nosegay of jasmine on their wedding day; and they have a proverb which says, that a young

girl, worthy of wearing this nosegay, is rich enough to make the fortune of a good husband.

Let us then cultivate more abundantly what love has scattered so happily ; for the supple and pliant branches of the jasmine accommodate themselves to numerous situations in the shrubbery :

“ Here jasmines spread the silver flower,
To deck the wall, or weave the bower,”

They should be woven into the trellised arch or alcove, climb the palisades, rest on the branches of the broad-leaved laurel, cover the dead wall, and run gaily wild over the shrubs of the wilderness walks ; whilst obedient to the scissars of the gardener, they are formed into bushy shrubs and little trees, for the near approach to the dwelling, where in the morning and evening their star-topped tubes send forth a shower of odours that embalm, refresh, and purify the surrounding air.

“ Many a perfume breathed
From plants that wake when others sleep,
From timid jasmine buds, that keep
Their odour to themselves all day,
But, when the sun-light dies away,
Let the delicious secret out
To every breeze that roams about.”

T. MOORE.

From the tube of this eastern flower, the bee extracts its most exquisite honey ; and the painted butterfly is never seen to more advantage, than when resting on the delicate petals of the white jasmine.

When the jasmine was first introduced into France, it was supposed to require all the heat they could give it ; it next occupied a place in the orangery, and at length exposed to the open garden, where it thrives as freely as a native plant, and still holds the situation of a favourite with the Parisian belles, and is always the most saleable bouquet that is brought to the French market.

We have often been astonished that our cottagers, who possess little gardens, should not cultivate flowers for sale, particularly the jasmine, which is so hardy and so easily propagated ; and with which they might even form their fences, or suffer it to run over their hedges, without taking away any of their potatoe ground.

In the market they would find one bunch of jasmine flowers would bring them as much money, as three cabbages or a bunch

of turnips. As long back as the time of Charles the Second, Evelyn says, "Were it as much employed for nosegays, &c. with us, as in Italy and France, they might make money enough of the flowers; one sorry tree in Paris, where they abound, has been worth to a poor woman near a pistole a year." And at the present time a great deal of money is made by the nurserymen in that neighbourhood, who trim them up with a head on a single stem, and then pot them, and send them to the flower market covered with blossoms, whereby they soon find customers amongst those who are wise enough to prefer familiar beauty to costly rarity, and you see it there flourishing equally in the cobbler's window and the palace balcony. The Turks cultivate the jasmine for the sake of the branches, of which the tubes of their summer tobacco-pipes are as invariably made, as those for the winter are formed of the cherry-tree.

As the jasmine does not ripen its seed in our climate, it is increased by laying down the branches, which take root in one year, which may then be cut from the old stock, and planted where they are to remain. It is also propagated by cuttings, which should be planted early in the autumn, and the earth covered with sand, ashes, or saw dust, to keep the frost from entering the ground.

In situations where it is necessary to prune this plant, it must never be done until the end of March, or when the frost is past. It should also be observed, that the flowers are always produced at the extremity of the same years' shoots, which are often cut off in the summer, by those that are ignorant of its nature; and thus the plant is deprived of the power of treating us with its fragrant flowers.

The common yellow jasmine, *J. fruticans*, is a native of the south of Europe, yet it did not reach this country so early as the white jasmine, as Gerard tells in 1597, that it had not been seen in this country; and Mr. Martin is therefore mistaken in his statement, that it was cultivated by Gerard in that year.

Parkinson tells us, in 1629, that the yellow jasmine, "will well abide in our London gardens, and any where else."

This shrub is easily increased by suckers or layers, but being deficient of odour, it is much less cultivated than formerly. Sheep eat the leaves and young branches of this shrub with great avidity.

The Italian yellow jasmine, *J. humile*, produces larger flowers than the common yellow jasmine, and is therefore preferred in

the shrubbery; where it requires a south aspect and sheltered situation. It was at first cultivated with us in 1730, but its native soil still remains unknown; it acquired its name from being sent out of Italy with orange trees, &c.

The ancients employed the berries of the jasmine, in their pretended divinations; and the oil obtained from the flowers was used in the baths of females.

CLERICUS.

ARTICLE II.

A SELECT LIST OF THE MOST BEAUTIFUL FLOWERING GREENHOUSE PLANTS, BY W.J.C.

SPRINGFIELD, NEAR CHELMSFORD, ESSEX.

I HAVE often remarked in most of the Numbers of the '*Floricultural Cabinet*' a vast amount of *Queries* unanswered, in several of which, I took great interest; but my hopes have been disappointed by their being neglected and passed over without any notice taken of them. Now, I think one of the best and surest plans to increase the circulation of the '*Cabinet*,' is, freely and punctually to answer every *Query* put in the preceding Number; by such means, the knowledge of the cultivation will be more diffused, and consequently, the love of floriculture will increase in an equal ratio with the success of the cultivator.

To remedy this defect, I shall at intervals inform your numerous readers of the mode I have adopted with respect to several *Queries*, that is, if you think it worth insertion; mind, I do not pretend to a thorough acquaintance with floriculture in general, only upon a few things I have been singularly successful.

I am glad you have adopted the plan of noticing the various plants in the hothouses and greenhouses round the metropolis, it gives your numerous readers an early and useful account of the latest and most beautiful productions, which increases amongst amateurs, the desire of adding to their collections plants of approved beauty; by the continuation of this plan, and adopting my suggestions respecting the *Queries*, you will oblige me, and a host of your readers.

For the information of your readers I enclose a select list of greenhouse plants, the beauty of which I can answer for, having

them in my possession, and exhibited at various shows : against those which require particular treatment I have marked a number, upon referring to the bottom of the list it will be explained.

W. I. C.

List of Greenhouse Plants.

Acacia cordata	Bouvardia triphylla
“ pubescens	Brachysema latifolia
“ armata	Burchillia capensis
Alstrameria tricolor	Burtonia conferta(4)
“ pelegrina	Cactus speciosissimus
“ simsii	“ Jenkinsonia
“ aurea	“ Ackermania
“ psittacina	Calothamnus quadrifida
Amaryllis Johnsonia(1)	Chorizema cordata(5)
“ crocea vitalina(1)	“ ovata(5)
“ speciosa(1)	“ Henchmanii(5)
“ vittata(1)	Cistus creticus
“ formosissima(1)	“ speciosa
Anagalis monelli	Cliaanthus puniceus
“ grandiflora	Clerodendron speciosissimum
“ Philipsii	Crassula coccinea
Anomatheca cruenta	“ falcata
Anthocercis viscosa(2)	“ versicolor
Azalea indica alba(3)	Crotolaria elegans
“ Phœnicea(3)	Crowea saligna
“ Viscosa(3)	Cyrilla pulchella
Baurea rubioides	*Cyclamen coum
Beaufortia decussata	“ persicum
Berberis dulcis	“ europeum
Baronea pinnata	“ vernum
“ serrulata	Cytisus racemosus
Bossicea linophylla	Daphne odora
“ rufa	“ Cneorum

(1) Must be kept near the glass, and have rest during winter months.

(2) Will not bear much water.

(3) Require the tops to be near glass, which will cause them to bloom well, water freely.

(4) Near the side panes of glass in the house, so as it may have plenty of light and air.

(5) In the warmest part of the greenhouse, and must be kept from currents of air, also as near the side panes as possible.

*There is another Cyclamen still more beautiful than the above, called, C. repandum, but procured with great difficulty.

Daviesia acicularis(6)	Hoya carnea
Deutzia scabra(7)	Indigofera australis(10)
Diosma umbellata	Kennedia coccinea prostrata
“ imbricata	Linum flavum
“ ceratoides	“ trigynum
Durantia Elisii	Lautana sellowii
Erythina crista galli	“ mutabilis
“ laurifolia	Lechenaultia speciosa(11)
Epacris variabilis(8)	“ formosa(11)
“ impressa(8)	Loasa lateritia
“ nivalis(8)	Lychnis fulgens
“ grandiflora(8)	“ coronata
Eutaxia myrtifolia	“ Bungeana(12)
Fuchsia fulgens	Magnolia fuscata
Gardoquia Hookerii	Mannettia glabra
“ multiflora	Mahernia pinnata
Galphimia glauca	Metrosideros florabundus(13)
Genista canariense	Nierembergia Philicaulis
Glycine bimaculata	“ intermedia(14)
Gladiolus florabundus	Pittosporum Tobira
“ colvillii	Primelea decussata
“ cardinalis	Polygala oppositifolia
“ psittacinus	“ grandiflora
Gloxinea cautescens	“ speciosa
“ speciosa	Prostranthera violacea
“ alba	Puttenea stricta(15)
Grevillea buxifolia (<i>curious</i>)	Rhexia marinana
Hibbertia volubillis	Ruellia formosa(16)
Hovea celsi (9)	“ ciliata
“ purpurea(9)	Sedum Sieboldii

(6) Small pot and plenty of water.

(7) Almost hardy.

(8) All the Epacridæ require plenty of water at all times, in potting them very sandy peat must be used, chopped fine and not sifted.

(9) Plenty of water.

(10) Plenty of water.

(11) I have been very successful with these flowers, they must be kept as close to the glass as possible, not watered over the foliage. and plenty of light, not too much water, potted in very sandy peat chopped.

(12) Must be grown in rich leaf-mould with old saw-dust, and potted from large 48's to 32's, to 24's, and lastly, to 12's; mine was 9 feet high, with fifty-seven blossoms on.

(13) The smaller the pot the more abundantly will it flower.

(14) Must be kept separately as it is inclined to be infested with the Aphid.

(15) Small pot, plenty of water.

(16) Hottest part of the greenhouse, free from draft, and use but little water during winter.

Selago Gilliesii	Swansonia coronillæfolia rosea
Scylla heterophilla	“ “ alba
Solanum spinosum	Tecoma australis
Springelia incarnata(17)	“ capensis
Stenochilus maculatus	Templetonia glauca
Streptocarpus Rexii	Tropeolum tricolorum
Sutherlandia frutescens	

N.B. Should any of your readers require the color of the flowers, I will send you a list as soon as I have leisure; my next communication will be on the Cold Pit, one of the most useful structures known, I have one on a principle of my own in which I have placed my Camellias, but as it is an experiment, I shall not notice it until I see how the plants have weathered the winter.

W.I.C.

ARTICLE III.

ON RAISING SEEDLING HEARTSEASE.

BY A. E., HOXTON.

I BEG leave to submit to the readers of the Floricultural Cabinet the mode by which I have raised seedling Heartsease. In saving the seed it is quite necessary that it should be gathered from first rate flowers, and that no common or small flowers, should be grown in the garden, or if possible near the plants from which the seed is to be gathered. The pods containing the seed must be taken from the plants, when they have grown to their full size, and before they are quite ripe, spread on a large cloth and placed it in a sunny aspect, as if you waited till they were quite ripe, the seed vessels fly open, and disperse the seed, so that it is quite necessary that the cloth on which you spread the seed to ripen should cover a good space, otherwise you will lose half your seed. It will be quite ripe in August and September. The end of January I make a hot bed with stable manure, and place on it a small one-light frame; when the heat has declined, I put a layer there inches deep of fresh loam and rotten leaves, (of each an equal part) well mixed together, and then sow the seed; when they

(17) Plenty of water—near the glass—peat with sand chopped fine.

come up I give them all the air I can in fine weather, keeping the same shut in frosty weather, and at night.

In May, they have got large enough to plant out. This season I planted under a row of standard apple and pear trees (having first dug in some decayed vegetable mould) and though under the shade of the trees, I have had all the autumn, and to the present time, one mass of bloom, bidding defiance to the season, and hardly what may be called an indifferent flower, and among them, at least a dozen of those of first rate.

I grow a great profusion of border flowers, but the first flower that strikes the attention of any visitor, and particularly females, is the Heartsease; to me, the watching of the first bloom, with the expectancy of rearing something new, creates a much greater pleasure than viewing a bed of known good flowers.

If any flower is required to show what can be done by cultivation, let it be the Heartsease; take the plant growing in its natural wild state on the West of England mountains, and compare it with the present garden flower. It is my opinion that the cultivation of this beautiful plant will be greatly improved, and in a few years will far surpass those of the present day.

A. E.

ARTICLE IV.

ON THE FOOD OF PLANTS

BY TERRA.

WE are lost in wonder and astonishment when we contemplate the means by which plants are supported and the different soils that are requisite to bring the different species to perfection, some delighting to grow in rich soils, others on barren wastes, some in warm countries, others in the higher latitudes, all receiving that nourishment which is best suited for the propagation of their species, and in those places that are best adapted to their nature. When we consider a plant as an object possessing vegetable life, that it is organized, possessing an apparatus, by means of which its several functions are exercised; that light, air, and moisture, are essential to its existence, and that no sooner is life extinct, than the laws of chemistry, which hitherto were over-ruled by that principle, exert their influence;—it is decomposed, and having

passed into its original elements, is fitted for becoming the support of other organized beings.

In these respects plants bear a close analogy to animals; like them too, they are possessed of that inconceivable power, by which means they are enabled to assimilate, or change into their substance, a variety of extraneous matter. In common with animals, they have the power of increasing their species: and many of them possess spontaneous motion, or irritability. Indeed, the lowest link in the chain of vegetable beings, approaches so closely to that which holds the same in the animal kingdom, that a well defined line of demarkation has in vain been sought for.

It has occupied the attention of philosophers for a long period to discover the real nature of the food of plants, nor to this day is the problem satisfactorily solved. It would, however, lead me far beyond the limits which I have proposed to myself in this outline to notice the conflicting opinions of those who have investigated this difficult subject; let it suffice to observe, that the most generally received is, that water, together with carbon, (the base of charcoal,) either in solution, or combined with an acid gas, constitute the principal food of vegetables; and that the application of manure, consisting of decaying vegetable and animal matter, to the soil, is the only means within our power, of supplying the plant with the latter of these essential principles.

The earths, which are only finely divided flint, limestone, alumine, or earth formed from clayslate and analogous rocks, and a few others of less common occurrence, do not constitute any portion of the food of plants, the use of them being merely to afford a medium in which the proper food should be administered; and their fitness for the purpose, depends both on the proportion in which they are combined, and the state of division which they have attained. Thus, a soil is composed principally of silex, that is, earth of flints, particularly if some portion of it be not in a state of minute division, will not be sufficiently compact to retain for any length of time, a proper degree of moisture. A soil consisting of nineteen parts out of twenty of siliceous sand, has been found to be perfectly barren, yet so small a portion of finely divided matter, as one part in twelve, it is asserted, is sufficient to adapt it to cultivation. The qualities whereby this sand may be recognised, are, that it does not effervesce in acids, that it is

harsh when rubbed between the finger and thumb, and it cuts glass if rubbed against it.

Alumina, so called, as constituting the base of alum, occurs generally in the form of stiff retentive clay; without a certain proportion of sand, it will scarcely admit water, and consequently an unfit medium for vegetables; but it does not occur in a state of absolute purity and minute division, and though it frequently requires an additional portion of sand, to render it a proper stage for vegetables, but I am not aware of its being absolutely barren. The agricultural character given of this clay, in Conybeare and Phillips's invaluable work on the Geology of England and Wales, is, that "it chokes the plough, and it rolls before it, in a broken and muddy state; after rain, it is not slippery, but adheres to the shoes; after drought, it presents cracks nearly a yard in depth and several inches in breadth. According to Townsend, it is sometimes called wood grower's land, because, although it is productive of the finest elm, oak, and ash timbers, it requires chalk before it can produce good corn; yet on Epping forest, Windsor forest, and much of the New Forest, the oaks are finest where clay is mixed with sand." It does not effervesce in acids, and when in a state of minute division, is unctuous and impalpable to the touch. It is known by the terms, argillaceous, clay, stiff retentive clay, &c.

Calcareous earth results from limestone or chalk; in the former case, the soil is always mixed with other ingredients, and is naturally suited to agricultural purposes, hence the extraordinary fertility of many of the Irish counties. In the latter, it is occasionally very indifferent even in England, but on the continent, according to Cuvier and Brongniart, "sterility is one of its most decided characters, and Champagne is mentioned, as being, in some cases, absolutely uninhabitable." It is easily distinguished from the last, by its effervescing in acids. Besides these, there are six other enumerated by chemists, only one, (magnesia) is found in sufficient quantity to modify in any considerable degree the general nature of the soil.

It therefore appears that pure silica, alumina, or lime, are not capable of supporting vegetation. It is the opinion of an eminent French chemist, that the most fertile soils will be generally found to consist, as nearly as possible of four parts of clay, three of sand, two of calcareous earth, and one of magnesia.

TERRA.

ARTICLE V.

ON CHINESE GARDENS.

(Continued from Vol. VI. page 169.)

WHERE the ground is extensive, and many scenes are introduced they generally adapt each to one single point of view; but where it is confined, and affords no room for variety, they dispose their objects so, that being viewed from different points, they produce different representations; and often such as bear no resemblance to each other. They likewise endeavour to place the separate scenes of their compositions in such directions as to unite, and be seen all together, from one or more particular points of view, whence they may be delighted with an extensive, rich, and variegated prospect.

They take all possible advantage of exterior objects, hiding carefully the boundaries of their own grounds; and endeavouring to make an apparent union between them, and the distant woods, fields, and rivers; and where towns, castles, towers, or any other considerable objects are in sight, they artfully contrive to have them seen from as many points, and in as many various directions as possible. The same they do with regard to navigable rivers, high roads, foot-paths, mills, and all other moving objects, which animate and add variety to the landscape.

Beside the useful European methods of concealing boundaries by ha-has, and sunk fences, they have others still more effectual. On flats, where they have naturally no prospects of exterior objects, they enclose their plantations with artificial terraces, in the form of walks, to which you ascend by insensible slopes; these they border in the inside with thickets of lofty trees and underwood; and on the outside, with low shrubberies, over which the passenger sees the whole scenery of the adjacent country, in appearance forming the continuation of the garden, as its fence is carefully concealed amongst the shrubs that cover the outside declivity of the terrace.

And where the garden happens to stand on higher ground than the adjacent country, they carry artificial rivers round the outskirts, under the opposite banks of which, the boundaries are concealed among trees and shrubs. Sometimes too the use of strong wire fences, painted green, fastened to the trees and shrubs that border the plantations, and carried round in many irregular directions, which are scarcely seen till you come very near them;

and wherever ha-has, or sunk fences are used, they always fill the trenches with briars and other thorny plants to strengthen the fence, and to conceal the walls, which otherwise would have an ugly appearance from without.

In their large gardens they contrive different scenes for the different times of the day; disposing at the points of view, buildings, which from their use, point out the proper hour for enjoying the view in its perfections: and in their small ones, where, as has been observed, one arrangement produce many representations, they make use of the same artifice. They have beside, scenes for every season of the year; some for winter, generally exposed to the southern sun, composed of pines, firs, cedars, evergreen oaks, philyreas, hollies, yews, junipers, and many other evergreens; being enriched with laurels of various sorts, laurestinus, arbutus, and such other plants and vegetables as grow or flourish in cold weather; and to give variety and gaiety to these gloomy productions, they plant amongst them, in regular forms, divided by walks, all the rare shrubs, flowers, and trees of the torrid zone, which they cover during the winter, with frames of glass disposed in the forms of temples, or other elegant buildings.

Those who are acquainted with the natural history of China know that it produces almost all the plants and vegetables cultivated in Europe with many others, that are not to be found even in the very best hothouses, amongst which are several evergreens, as the Tse-song, the leaves resemble both the juniper and cypress, mixed in a very beautiful manner; the Mo-lyen, producing large flowers, like lillies, some yellow, some red, and some white, which open in December, and flourish during the greater part of the winter; the La-mew, a kind of bay, producing fine yellow flowers, that appear in winter, with many others, which as they cannot here be obtained, it is superfluous to enumerate.

What they call their conservatories, are warmed by subterraneous fires, and afford a comfortable and agreeable retreat, when the weather is too cold to walk in the open air.

All sorts of beautiful melodious birds are let loose in them; and they keep there, in large porcelain cisterns, placed on artificial rocks, gold and silver fishes; with various kinds of the Lyen-wha, which is a water-lilly, much esteemed in China. In the province of Kiang-si, whose lakes are covered with it, in a very beautiful manner, and it is cultivated by all the great lords in ponds and

cisterns, for the decoration of their courts and gardens. The flower resembles a tulip, and is either yellow, white, violet, crimson, or streaked with various colours; its smell is very pleasing, and the fruit which produces a kernel, being accounted a great restorative and strengthener, is given in China as a medicine, after severe fits of illness; the leaves are large, of a circular form, and brilliant green colour; they float upon the surface of the water, they have a great many other aquatic plants and flowers. They also raise in them strawberries, cherries, figs, bananas, li-chis, grapes, apricots, and peaches, which cover the wood-work of their glass frames, and serve for ornament as well as use.

The fruit of the Li-chi resembles the berry of the arbutus, in every thing but size; its being as large as a pigeon's egg, and full of a juicy pulp, that in flavor, far surpasses any other fruit whatever.

Their scenes of spring likewise abound with evergreens, interspersed with lilacs of all sorts, laburnums, limes, laraires, double blossomed thorn, almond and peach trees, with sweet brier, early roses and honey-suckles. The ground, and verges of the thickets and shrubberies, are adorned with wild hyacinths, wall-flowers, daffodils, violets, primroses, polianthus, crocus, daisies, snowdrops, and various species of the iris; with such other flowers as appear in the months of March and April, and as these scenes are also scanty in their natural productions, they intersperse among their plantations, menageries of all sorts of tame and ferocious animals, and birds of prey: aviaries and groves, with proper contrivances for breeding domestic fowls; decorated dairies, and buildings for the exercise of wrestling, boxing, quail-fighting, and other games known in China. They also contrive in the woods large open recesses for military sports; as riding, vaulting, fencing, shooting with the bow, and running.

(To be continued.)

ARTICLE VI.

REMARKS ON THE ROSE.

(Continued from Vol. VI. page 285.)

THE double yellow rose, sulphurea, was unknown to us in 1597; but the single yellow brier was then common, as we find by Gerard.

The single yellow rose, *lutca*, blossoms freely in most situations, excepting in the vicinity of London, or other confined spots.

The double yellow rose, where it blossoms freely, is one of the most elegant flowers that any country has produced, and had nature bestowed on it the perfume that makes the Provence rose so delightful, it would be pronounced the acme of Flora's skill.

The outer petals are of the most delicate golden yellow, whilst the inner ones are often of a tint approaching to copper colour, and so delicately transparent, as even to surpass the carnation poppy in texture; and although the flower is exceedingly double, yet the petals hang with a looseness and elegance that cannot be conceived without beholding it. Van Os, the elder, has been the most happy among painters in giving that transparent and crumpled effect to this rose, which Von Huysum himself could never perfectly accomplish. Sydenham Edwards has left a faithful representation of the double yellow rose, which is given in the Botanical Register.

We remember this species of rose much more common than at present growing in open situations, and we have generally observed that it has prospered best in an eastern aspect, where buildings or shrubs, have sheltered it from the mid-day sun. It loves a light soil, of a gravelly or sandy nature, but cannot endure a confined or wet situation. We have seen it in great perfection in a garden at Petersfield, in Hampshire; and it prospers and flowers very freely in some parts of the South Downs, particularly at Findon in Sussex. It seems much less affected by the cold than by low and damp situations; and we do not recollect having met with it in flower except in spots open to the east, which is generally considered the most pernicious to plants. The foliage of the double yellow rose is small, and of a beautiful bluish green, very light on the under side, whilst the stalks being of yellow-green, form a delightful graduation to the golden flower.

THE EVER BLOWING CHINA ROSE.—*Semperflorens*.

When this species of rose was first introduced, in 1780, it was considered to be so delicate a plant, that it was kept constantly in the stove, and the smallest cuttings were sold for many guineas

each. It was soon found to thrive in a common greenhouse, where it was found to blossom the whole winter, to the great admiration and amazement of all who could obtain sight of this far-fetched flower. As it was found to be so easy of propagation, in a few years every country casement had the pride of sheltering this Chinese prodigy, until the cottager for want of pence to purchase flower pots, planted it in the open ground; when, as if it gloried to breathe the air of this land of liberty, it soon surpassed in strength and beauty all the inmates of the "gardens, in which art supplies the fervour and the force of Indian skies."

We have no plant on record, either of utility or beauty, that has spread itself so rapidly over the whole country as this rose has done in our own age. It now climbs up to look into the attic windows of those very houses where we once saw it peep out at the lower casement; and it is not uncommon to see its petals blush through a veil of snow, in the month of December; a thing so unusual formerly, that no longer back than the year 1800, Mrs. Mary Robinson wrote the following verses on seeing a rose in flower at a cottage door on Egham-hill, on the 25th of October of that year.

" Why dost thou linger still, sweet flower?
 Why yet remain, thy leaves to flaunt?
 This is for thee no fostering hour.
 The cold wind blows,
 And many a chilling, ruthless shower,
 Will now assail thee, beautiful rose!

Although it is acknowledged that few plants contribute more agreeably to ornament our shrubberies in the autumnal months than this Chinese rose, yet we would not wish it to exclude or lessen the cultivation of the older and more beautiful species, but which, we fear, it has already done to a considerable degree. As the smallest cuttings of this rose will grow, we are not without the hope of seeing it creep into our hedge rows, where it would soon propagate itself both by suckers and seed; for it ripens its fruit in this climate, as perfectly as those of our native briars, and the hips of the Chinese rose are particularly ornamental, from their inverted pear shape, fine orange colour, and large size.

(To be continued.)

PART II.

NEW OR RARE PLANTS.

(Noticed since our last.)

ANIGOZANTHUS FLAVIDA; var. **BICOLOR**. Two-coloured yellow-haired
Anigozanthus Bot. Reg. 64.

HEMODORACEÆ. HEXANDRIA, MONOGYNIA.

1. A handsome variety of *A. flavida*, which it much resembles in growth and shape, but is much superior to that kind, by the striking beauty of its colours, scarlet and green, which are so blended together as to produce a rich effect, which is rarely the case when the two beautiful colours in question are united in the same flower. We were favored a short time ago by a kind friend with a package of seeds collected in New Holland, and amongst them, we notice, are several species of this genus, which from the description attached, we are led to believe, are entirely new.

CATILEYA GUTTATA; var. **RUSSELLIANA**. Lord E. Russell's spotted
Cattleya. Bot. Mag. 3893.

ORCHIDACEÆ. GYNANDRIA, MONANDRIA.

2. This very beautiful variety of *C. guttata* was originally given by the Director of the Botanic Garden at Rio, to Lord Edward Russell, Captain in the Royal Navy, who introduced it into the collection of Woburn Abbey, where it blossomed for the first time in this country in August last. It is highly deserving of a place in every collection of select orchidæ. The flowers are five inches across, the petals are of a fine greenish brown, spotted with purple, and the lip of a beautiful delicate rose colour. Requires the same treatment as other species.

COLLINSIA HETEROPHYLLA. Variable-leaved Collinsia.
Bot. Mag. 3695.

SCROPHULARINEÆ. DIDYNAMIA ANGIOSPERMIA.

3. This species forms an improvement upon *G. bicolor*, on account of the blossoms being much larger, but in other respects, it bears a very great resemblance to that species. It was sent last spring by Mr. Buist from Philadelphia to the Edinburgh Botanic Garden. Seeds of it will, we doubt not, soon be offered to the public.

COMPARETTIA COCCINEA. Scarlet Comparettia. Bot. Reg. 68.

ORCHIDACEÆ. GYNANDRIA, MONANDRIA.

4. A very splendid epiphyte, and was introduced by Messrs. Loddiges' from Brazil. Doctor Lindley, however, conjectures some mistake is made in this, as he has received specimens which were collected in Xalapa. The blossoms are about the size of *Oncidium flexuosum*, but of a brilliant scarlet

colour. and have a very curious appearance from spurs, of about half an inch in length, produced from their sepals. Of this genus there are only at present three known species, all of them found growing upon trees in Peru; it was named in compliment to professor Comparetti, of Padua, author of a Treatise upon Vegetable Physiology, &c,

DENDROBIUM SULCATUM. Furrowed Dendrobium Bot. Reg. 65.

ORCHIDACEÆ. GYNANDRIA NONANDRIA.

5. Collected in India by Mr. J. Gibson, and forwarded to Chatsworth, in the collection at which place it bloomed in April last. It is a handsome species, producing yellow flowers, somewhat resembling *D. Griffithianum*. The culture required is similar to other species of this genus.

EPIDENDRUM BICORNUTUM. Two-horned Epidendrum.
Paxton's Bot. Mag.

ORCHIDACEÆ. GYNANDRIA, MONOGYNIA.

6. A delicate and beautiful Epiphyte, possessing a delightful fragrance, and was first received into the Botanic Garden, Liverpool, several years ago. So long ago as 1833, we had a drawing taken from a plant that blossomed in the valuable collection at Wentworth House, where Orchideæ is cultivated to such a degree of perfection as we rarely see. The blossoms are about two inches across, of a delicate white colour, the base of the lip is yellow, spotted with pale rosy purple. Requires similar treatment to other species.

ÆSCHYNANTHUS GRANDIFLORUS. Great-flowered Æschynanthus.
Pax. Mag, Bot.

CYRTANDRACEÆ. DIDYNAMIA, ANGIOSPERMIA.

7. This is another beautiful Epiphyte, introduced from India by Mr. John Gibbon, who found it growing abundantly at the base of the Khoseea Hills in valleys remarkable for their humidity and shade. The flowers are of a brilliant red, produced in great profusion, and large clusters, which altogether render the plant a very desirable and ornamental object. It is best cultivated in reduced moss, with a little heath soil, potsherds, and plenty of drainage. When growing, it requires an abundant supply of water. When the growth is completed, it should be removed into a cooler situation, and kept comparatively dry, which will be inducive to much stronger blossoms the succeeding season.

NEW PLANTS.

TRICHOCENTRON IRIDIFOLIUM. Orchideæ. Received by Messrs. Lodiges' from Demerara. The plant is of a small habit, having pale yellow flowers, with a lip delicately streaked with dark yellow.

(Bot. Reg.)

ANNESLEA TOMENTOSA. This pretty flowering plant has recently been in flower at Mr. Knight's nursery, King's Road, Chelsea. The foliage of the plant is very similar to *Clianthus puniceus*, and has a very pretty appearance. The flowers are produced numerously, in large clusters at the ends of the shoots; and having beautiful pink colored filaments, produces an interesting appearance.

PART III.

MISCELLANEOUS INTELLIGENCE.

 QUERIES.

A SUBSCRIBER would be much obliged by receiving answers to the following questions:

1. Can any thing be done to prevent the flower buds of Camellias from dropping off? great attention has been paid with regard to air, soil, and watering.

(See excellent articles in former Numbers of the Cabinet on Camellias.)

2. Can heath cuttings be struck in a greenhouse; if so, when is the best time and manner of raising them?

(An article will be given next month upon it.)

What is the best remedy for grass that abounds with moss?

(Sprinkle fresh slacked lime liberally over it, and let it be brushed in with a besom, and the moss will be destroyed whilst the grass will be encouraged.—CONDUCTOR.)

Dec. 6th, 1838.

H.

A LIST OF SELF-COLOURED AURICULAS.—Will the Editor or some Reader of the Cabinet have the kindness to give me a list of the names, and any particular properties of some of the best self-coloured Auriculas.

AUDATE.

 REMARKS.

CORBETT'S HYGROTHERMANIC APPARATUS.—A printed prospectus of this mode of heating has recently been inserted in our Advertising Sheet. It differs from all the various modes hitherto made public of heating by hot water, in circulating the fluid in open gutters instead of pipes. Hence it can only be applied in cases where the gutters can be conducted on a level; but the water may easily be carried over a door, on a siphon principle, or under it, on the principle of water always finding its level. The advantages of this mode, Mr. Corbett says, are cheapness, simplicity, and efficiency. Cheapness, because iron gutters are cheaper than iron pipes; simplicity, because water running in open gutters has less of mystery about it than water concealed in pipes; efficiency, because it produces a moisture heat than any other mode. It has been stated it would produce too moist a heat for many purposes, particularly in the autumn; but Mr. Corbett says that this is not the case, as it has been most fully verified where the plan has been in operation, as at Sir William Call, Bart., Whitford House, near Callington Cornwall; C. Thurtle, Esq., Stoke House, near Plymouth; and at Mr. Pontey's Nursery, Plymouth. There never can be a superabundance of moisture, provided the gutters are of a proper shape; but, should it be considered advisable at any time to prevent the escape of vapour altogether, this may at once be effected by placing along the top of the gutter any flat substance, such as slates, tin plate, &c.; the water never being in a boiling state, the vapour is not forced out, but will condense on any subject with which it comes into contact.

For forcing vines, pines, &c., it is admirably adapted; and, with broader and shallower gutters to produce more moisture, there is reason to conclude that this system will come into general use for the cultivation of cucumbers, melons, &c. For hot-house plants, and particular *Ochidææ*, gutters as broad or even broader than deep, are proved to be most suitable. For the green-house it will be of incalculable service. Every description of artificial heat without moisture has been found by sad experience to injure green-house plants, when hard weather has compelled its introduction. To many, and particular to Cape heaths, it is almost certain death; because the air in frosty weather, containing, perhaps, not one grain of moisture per cubic foot, and raised by fire to 40°, and sometimes even higher, becomes so intensely dry and oppressive, and acquires such an affinity for moisture, even at this low temperature, that the rapid absorption while the plants are in a dormant state causes their juices to be elaborated too quickly for their powers of secretion."

Not content with recommending his mode as the best of all modes for heating houses in which plants are grown, Mr. Corbett makes a long quotation from Dr. Ure's article published in the transactions of the Royal Society, and, with some variations, in the *Architectural Magazine*, vol. i. p. 161., on the effects of dry air on the officers engaged on duty in the long room of the Custom House, London; and he arrives at the following conclusion:—

"It is evident, then, that the great desideratum for heating apartments, &c., is, an apparatus capable of circulating, in any direction, and to any extent required, any quantity of artificial heat without the malaria of the stove and pipes, so as to maintain a genial warmth and wholesome ventilation throughout the building. Such a system is now placed before the public, capable of such modifications as to become every way suited to effect these desirable objects; equally adapted to horticultural purposes generally, and to public buildings, offices, and domestic apartments; calculated alike to maintain the healthy and vigorous tone of the animal as well as the vegetable economy; and on a principle whose operations are more assimilated to Nature's own atmosphere than any other method hitherto discovered."

It is quite right that this mode of heating plant houses should, like every other, have a fair trial; but the idea of heating apartments to be occupied by human beings, with hot water in open troughs, is too palpably absurd to deserve a moment's consideration. Others, however, entertain a different opinion on this subject to what we do. At a meeting of the Plymouth Horticultural Society, held July 19., the Rev. C. T. Collings in the chair, "a neat model of Mr. Corbett's Hygrothermanic apparatus, for heating hot-houses, &c., was exhibited; an invention which the late president of the Plymouth Horticultural Society, Thomas Woolcombe, Esq., says, "will do more for the advancement of horticulture, than anything which has been produced for the last century."

The peculiar characteristic to this invention (for which the Plymouth Society awarded their gold medal) is its completely obviating the disadvantages usually attending the production of artificial heat; viz., a hot desiccated atmosphere, which elaborating the juices of plants more rapidly than they can be secreted, is always injurious and sometimes destructive. To remedy this evil, which has always been a barrier to the success of exotic horticulture, Mr. Corbett produced his apparatus, the actions of which so closely resemble the operations of nature, that an imitation of whatever is required may be obtained.

The machine consists of two connected vessels, a boiler and an upright tube, with a continuation of open troughs or gutters. Heat is applied to the boiler, the water rises and traverses the gutter, giving out moisture in direct proportion to its heat. The density of the fluid being increased in its passage, it returns again to the bottom of the boiler, and by this means a

constant circulation is effected. The apparatus is as simple as it is complete and economical, and will, without doubt, be very generally adopted in horticultural buildings. Mr. Corbett is foreman at Mr. Pontey's nursery, Plymouth, where the apparatus is in operation.

PROTECTING FLOWER SEEDS, &c., FROM BIRDS, BY MEANS OF BLACK THREAD OR WORSTED.—It has been very satisfactorily proved, this summer, under my own observation, that Mr. Anderson's (of the Botanic Garden, Chelsea) discovery of black thread being a far better protection against the depredations of the house-sparrows in gardens than thread of any other color, is much more serviceable than it was found to be by Mr. Anderson himself. That indefatigable guardian of his plants could not secure the flowers of his extensive collection of crocuses from the attack of sparrows by any means he could devise, until he employed black lines, stretched over the flowers; which proved a complete defence.

The effect of black lines is attributable to their invisibility till the birds are seated under them; but looking up, they are terrified at what they fear is a snare suspended over them, and immediately fly away.

NEW AND RARE PLANTS

RECENTLY INTRODUCED.

CYANOTIS AXILLARIS. Messrs. Rollinson's of Tooting, have recently had this new plant in bloom, it has the appearance of a *Tradescantia*, producing a profusion of beautiful blue flowers. It is an interesting hot-house plant.

CYTISUS NUBIGINENSIS. This new species is blooming profusely in the green-house of Mr. Young's, Epsom nursery. The plant is of a slender habit, but produces numerous clusters of white flowers, hanging pendant at the ends of the shoots; they are delightfully fragrant. It deserves a place in every collection, especially so as it blooms at the present season of the year.

MALVA MARITIMA. This very neat species has been in bloom in the superb collection of Mrs. Marryatt's, Wimbledon. The flowers are white with a dark eye, having a very pretty appearance. It is a pretty plant for the flower garden.

BIFRENNARIA LONGICORNIS. Orchideæ. Imported from Demerara by Messrs. Loddiges'. The flowers are orange spotted with brown, and are produced in a raceme very much resembling *B. aurantiaca*. (Bot. Reg.

BOLBOPHYLLUM CUPREUM. Mr. Cumming sent this species from Manilla, to Messrs. Loddiges'. The flowers have a scent very like Valerian root. They are of a copper color. (Bot. Reg.

CATASETUM PORIFERUM. Orchideæ. Mr. Schomburgk sent this remarkable species from Demerara, to Messrs. Loddiges'. The flowers have much the appearance of *C. deltoideum*, being green, beautifully spotted with deep purple. (Bot. Reg.

CÆLOGYNE OVALIS. Orchideæ. Dr. Wallich sent it from Nepal to Messrs. Loddiges'. The flowers are beautifully striated with dark crimson. (Bot. Reg.

CÆTHERIA OCCULTA. Orchideæ. Synonym. *Goodyera oculata*. Messrs. Loddiges' received it from the Mauritius. The flower stem rises about a foot high, producing spikes of white and green flowers.

JONOPSIS TERES. Messrs. Loddiges' received it from Demerara. The flowers are striped with a delicate lilac.

LIPUSIS PENDULA. Messrs. Loddiges' received it from India. The flowers are green, small, produced on a raceme about a foot long.

CŒLOGYNE MACULATA. Orchideæ. Received by Messrs. Loddiges' from India. The flowers are white, beautifully blotched and spotted with dark colors, producing a very striking appearance.

MAXILLARIA MACROPHYLLA. Orchideæ. Imported by Messrs. Loddiges' from Columbia. It much resembles *M. Deppii*. The petals are of a pale straw color, sepals green outside, brown inside, labellum spotted with crimson. Each flower is about three inches across, and has rather a disagreeable scent. (Bot. Reg.)

MAXILLARIA PORRECTA. Orchideæ. Received by Messrs. Loddiges' from Rio Janeiro. The flowers are of a pale buff, having the petals and sepals tipped with dull red. (Bot. Reg.)

MORMODES PARDINA. Orchideæ. J. Bateman, Esq., Knypersly Hall, received this species from Baron Karwinski, who discovered it in Oaxaca. The habit is very robust, being three times the size of *M. atropurpurea*. The flowers are of a beautiful primrose, spotted entirely over with reddish purple, and are delightfully fragrant. G. Barker, Esq., of Springfield House, Birmingham, has had the same species produce self-colored flowers.

NOTYLIA INCURVA. Orchideæ. Messrs. Loddiges' received it from Trinidad. The flowers are of a pale straw color, having fine yellow spots near the base of each petal. (Bot. Reg.)

REFERENCE TO PLATE.

VERBENA TRUCROIDES—Specimens of this very distinct species was first sent to this country by Dr. Gillies who collected them from the highest of the Uspallata mountains in South America, at an elevation of ten thousand feet above the level of the sea. Subsequently Mr. Tweedie sent it from Monte Video, and Sugar Loaf Mountain, Buenos Ayres, Mr. Tweedie also sent seeds of it to the Earl of Arran, in whose garden the plant was first raised, and bloomed during the last summer. The plant grows to the height of two feet or more, erect, having numerous spreading branches. The principal stem terminates with a spike of dense flowers, near a foot long. The flowers are at first of a delicate yellowish-white, which afterwards become a pretty rosy pink colour. The flowers too have a delightful jasmine like scent, which is very powerful in the evening and during night, but like the night scented stock, diminishes as the day approaches. The flowers have not the splendour in colour of several other kinds of Verbenas, but far exceeds all others in size. The plant is of easy culture, propagating freely by cuttings, and delighting in a compost of loam, and sandy peat, having a portion of well-rotted dung. Messrs. Handyside, of Musselburgh Nursery possess the stock, and will have plants for sale in April, 1839.

It will doubtless flourish freely in the open ground during summer, but to enjoy its fragrance, should be grown near to a sitting room, or be kept in a conservatory or greenhouse. The very large size of the flowers and spike produced, suggest the propriety of impregnating them with some of the richer coloured kinds, in order to produce some splendid varieties from it. Few plants are of more easy culture than new kinds of Verbenas, or more interesting for the flower garden, whether grown as a single plant, or in masses, in the border, or on rock work. It is stated, that in the native country of the *Verbena melindris*, nearly every cottage is ornamented with it, and we think that, with the other recently introduced species and varieties, ought to have a place in every flower bed in the kingdom,

MALVA CREEANA.— This very pretty species we saw most profusely in bloom during the last summer in the Epsom nursery. Mr. Young had a plant of it growing in the open border about five feet high, numerously branched and clothed with its pretty bright flowers, producing a very showy appearance. It ought to be grown in every greenhouse, and in every flower garden during summer.

It is of easy culture, delights in a rich loamy soil, and striking freely by cuttings. The plant we saw had been in bloom several successive months. Mr. Young had another plant growing near to that we have figured, which had been sent for *Malva Creeana*, but the flowers are of a much paler colour, and are not produced in such profusion.

SALVIA PATENS.—Seeds of this fine species were sent to this country from Mexico by Mr. Tweedie. Mr. Lowe, of the Clapton Nursery has been successful in raising a plant, which we saw in bloom in the open border during the last summer. The plant was near two feet high, and appeared to have had a spike of flowers at least one foot long. The spike appeared to have more than five or six flowers expanded at once, but even before expanding they produced a fine effect.

The spike of flowers being too large to introduce into any plate complete, induced us to select an expanded blossom of the largest size, so that our readers would be able to judge of the splendour of the species in its natural size. It has not the objection attached to it of a mass of foliage and few flowers, but the reverse of that is the case. It produces a fine display when grown in a mass together, contrasted with the scarlet or crimson-flowered species. It ought to be grown in every garden, greenhouse, or conservatory. The plant appeared to be of robust habit, and no doubt will be as easily propagated as *S. africanus*, *splendens*, &c. We are informed that plants will soon be offered for sale by Mr. Lowe.

FLORICULTURAL CALENDAR FOR JANUARY.

For work to be done in the flower-garden, &c. this month, we refer to our last number, where necessary directions will be found, to which we have little to add in this place. Beds of bulbs if not before covered should now be done, and to which attention was called last month, should immediately be minutely looked over, and encouraged in every possible way, first by guarding those that require it from severe weather, and in the second place by taking means to destroy all kinds of insects, &c. likely to attack them. Mice are not unfrequently great pests among bulbs and various kinds of roots; especially in winter, when provisions grow scarce, they resort in great numbers to seeds newly sown, or bulbs newly planted. There are many means to decoy them, most of which if persevered in will succeed. Dahlias and other roots stored in sand or other material for preservation through the winter, are exposed to injuries arising from damp, &c., it is therefore necessary that they be looked over now and then, and timely means adopted to check its increase, and damp from the room expelled. Young plants of *Clintonia pulchella*, &c. will stand quite safe in the greenhouse near the glass, if the situation be light and airy. The soil best for this handsome though delicate plant should comprise two parts of leaf mould, to which may be added a little well decomposed manure, and one part good sandy loam; the soil in mixing should be broken down very fine, and the plants put into sixty sized pots, until they have made some advance, when larger will be necessary. Roses in the forcing-house should be constantly attended to; indeed all shrubs, whether Jasmines, Persian-Lilac, Azaleas, &c., or whatever species of plant intended to flower early by means of artificial heat, should be attended to, liberally watered, and, when necessary fumigated with tobacco, for they are very often seriously annoyed by green-fly, &c., which infest the young shoots to an alarming extent, but perhaps more particularly roses and pinks. Continue to introduce bulbs, &c. and a succession of flowers will be secured for the greenhouse. Attend

to Amaryllises, and all kinds of stove-roots that are started and starting,—pot and water them, if necessary place them in an increased heat, and be sure to let them have plenty of light. All valuable shrubs and plants which may be deemed hardy, but the hardiness of which has not been sufficiently tested, should be afforded some kind of protection, that the fearful ravages committed by the frost in the preceding winter may not be reacted during the present season. There are various modes of affording shelter to plants, all of which are useful, but most of them are especially applicable to different kinds. Thus, litter for herbaceous plants, old bark for bulbs, and mats or straw hurdles for shrubs and trees, are respectively found most suitable for those peculiar sorts.

In making use of any kind of protection for plants in the open ground, the first and principal point is to attend to the preservation of the roots; for if this is duly affected, most plants will recover and sprout again, even though the stems and branches should be entirely destroyed. This practice is very frequently neglected by cultivators, who appear to think only of preserving the stems and branches, which is certainly sufficient where this end can be fully accomplished, but where the protection afforded to those parts proves inefficient, in nine cases out of ten the roots perish with them. Hence the importance of sheltering the roots likewise.

Whatever material is used for this purpose, the necessity of its being of a dry nature, and also, if possible, capable of repelling wet, should always be kept in view. Moisture, where it exists in any quantity, is sure to attract the greatest degree of frost, and therefore when the roots of plants are surrounded and saturated with a superabundance of it, they will be much more exposed to injury on that account. That covering, then, which is found to be most impervious to rain, will undoubtedly prove most beneficial. By thus protecting the roots, we by no means wish to supersede the use of other covering for the more exposed parts of plants, but merely to see these two desirable objects distinctly yet conjointly effectuated; and every practicable method should by all means be adopted for preserving the upper portions of shrubs.

All in door plants should now be kept as near the glass as is consistent with their safety; for, even in this, there is a degree of propriety to be observed, which, if exceeded, would greatly endanger the subjects of it. It should not be forgotten, that frost enters chiefly through a glazed roof, and the plants should be placed at just such a distance from it as will secure them from that destructive principle; though it is better to keep them at a trifling distance, and protect them by covering the house with mats in very severe weather.

Cold pits and frames will now be found among the most useful of plant structures. Auriculas, Carnations, and Polyanthus, with all tender plants that have been removed from the flower garden, or are in preparation for that department for the ensuing season, are by this time secured in these or similar erections. They should be carefully tended for the purpose of admitting air in favourable weather, and duly protected with mats, hay, or dry litter, during frosts.

The beds and borders of the flower garden and pleasure grounds may still be dug roughly over, if this operation have not previously been completed. Shrubs of all kinds may be pruned if necessary, and especially climbing plants which must also be nailed to the wall, or fastened against the trellis to which they grow. Make, and plant, cuttings of any species of RIBES, or other similar plants, those shoots which are slipped off succeed best, and a light loamy soil is most suitable. All the buds except those at the base and the two uppermost ones, should be extracted, as they would only weaken the plant if left, and in inserting them in the ground, care should be taken to place the earth close around them. Remove any trees or shrubs which require shifting, or that may be desired in any other part of the garden. Always take them up with as much earth as possible about the roots, and be careful to preserve the fibrous roots entire.

THE
FLORICULTURAL CABINET,

FEBRUARY, 1st, 1839.

PART I.

ORIGINAL COMMUNICATIONS.

ARTICLE I.

BRIEF HINTS ON THE CULTURE OF THE RANUNCULUS ASIATICUS, WITH A LIST OF SORTS DEEMED WORTHY THE ATTENTION OF AMATEURS,

BY CROWFOOT.

EVERY grower of this attractive little flower, should be, in order to be successful, particular in the choice of his soil. To describe a soil minutely and sufficiently, so that any reader may distinguish it to be the right soil, is no ordinary task. It has been advised, and not unwisely to select a soil in which the *Ranunculus ficaria* and other British varieties grow luxuriantly. It should be a loam, rather heavy and tenacious, fine in the texture, soft to the touch, and of a reddish colour.

Procure sometime in the summer months a sufficient quantity to fill your beds a foot deep, and lay in ridges with the turf; to which add about one-third of old horse and cow manure, and turn it till all is decomposed, Make your beds in autumn, so as to allow them several months to settle, before planting season, and at that time only stir the surface two inches deep. Let the top two inches of your compost be free from dung, so that none comes in contact with the tubers.

Plant between the 20th of February and the 5th of March, ac-
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ording as the forwardness of the season indicates. Plant one inch and a half deep, and four or five inches asunder. After the plants are up, keep out the drought, by pressing the earth firm and close to the roots, and add a little rich fresh soil. In very dry weather, water, but not over the foliage of the plants; a little manure water will not harm them, but it requires caution in the application of it. Get as good a bloom as you can, but do not suffer more than two flower buds to remain on one root, for by leaving all, there may be weakness and a deficiency the season following. A change of soil is very beneficial.

The *Ranunculus* root, while vegetating, has several enemies; the wire worm and the cheese-log, are among the most inveterate and mischievous. These insects should be diligently looked after and destroyed in any way, and by any means the florist can command. Half a gallon of small potatoes, each one cut in two, and a stick two or three inches in length thrust into each piece, and buried between the rows about the same depth as the roots are planted, will form a hundred cheap snares, by which thousands of these depredators may be attracted. These should be looked over twice a week, and the insects destroyed; the sticks, part of which are above ground, being a guide to the places where the traps are buried. Occasionally a fresh surface should be cut to the potatoe. This will be found one efficient means of reducing these foes to the Florist.

List of 140 fine varieties in Classes.

Class I. *White ground with rose, purple, or crimson edging.*

Burns, Waterstone's
 Bernard, Tyso's
 Charlotte, Bartlett's
 Cossack
 Esther, Waterstone's
 Flavimorus
 Lady Peel, Groom's
 Louissette
 Regina, Tyso's
 Tendress

Class II. *White grounds, with red, rose, or purple mottle.*

Angouleme
 Beauty, Milward's
 Cowper, Waterstone's
 Dona Maria, Groom's
 Endon
 Gulnare
 Helena, Tyso's
 Lady Jane Grey, Lightbody's
 Lacinda, Tyso's
 Orsippus, Tyso's
 Queen, Thompson's
 Stella

Class III. *White ground with red, rose, or purple spots.*

Addison, Waterstone's
Benjamin
Cremona
Constantia, Tyso's
Faustina
Gainsborough
Innocent, Tyso's
Lupus
Lord Cochrane, Waterstone's
Premium, Tyso's
Shakspeare, Waterstone's
Sir A. Cochrane, Lightbody's

Class IV. *Yellow ground with red, or Coffee coloured edging.*

Andromachè
Bulwark, Lightbody's
Duke of Wellington, Groom's
Galatzin
Grande Monarque
Horatio
Herbert, Tyso's
Julius
Lorenzo, Tyso's
Nestor
Regalia, Tyso's
Warren, Waterstone's

Class V. *Yellow ground with red or coffee coloured mottle.*

Admiral des Fleurs
Agamenon
Bengal
Competitor, Tyso's
Duke of Clarence
Earl of Coventry
Quintilla, Tyso's

Class VI. *Yellow ground with red or coffee coloured spots.*

Abrisseau
Epius, Waterstone's

Fabius
Flaminius, Tyso's
Poictiers, Lightbody's
Pertinax Tyso's
Saladin, Tyso's

Class VII. *White grounds with red, or pink stripes.*

Beauté des dames
Bonté Heldin
Circe
Carmus
Flagellié a quatre Couleurs
L'Aube du Jour
Le Téméraire
Oilette parfait
Rhododendron.

Class VIII. *Red grounds with yellow stripes*

Beauté Bekemoth
Favourite Mignonne
General Hoche
Melange des Beautés
Monument Chinois

SELFS.

Class IX. *Dark and dark red.*

Achilles
Auriga, Tyso's
Coronax
Charbonnier
Dolphin
Emancipation, Tyso's
Hercules, Groom's
Llewellyn
Naxara
Œil Noir
Passe Nigritia
Philocles
Surpass Tout

Class X. *Purple.*

Admiral Keppel
 Condorset
 Fete Nocturne
 Herostratus
 Lesbos
 Mon Songe
 Sorbonne

Class XI. *Crimson.*

Apollo
 Batscha
 Belle Cramoisi
 Cramoisi Van Ass
 Henrietta
 Kennetus
 Melpomene
 Overwinnaar
 Silvester, Tyso's
 Semiramis

Class XII. *Red.*

Alcides
 Bourgogne
 Cassandra
 Jupiter
 Moliere
 Sarpedon
 Tasso

Class XIII. *Rose.*

Diomedé
 Holloway, Waterstone's
 Isabella, Tyso's

Lavinia, Tyso's
 Rosetta, new
 Rosé de Provence
 Rose Velona
 St. Jerome

Class XIV. *Yellow*

Beroth
 Don Pedro, Groom's
 Eliza
 Flavus, Tyso's
 Fiesco
 Prefect, Tyso's
 Roi des Ranoncules

Class XV. *Orange.*

Brabançon
 Capucin superbe
 Cedo nulli
 Prince Ferdinand

Class XVI. *Olive.*

Admiral Howe
 Bon Financier
 Charles
 Jaune eu Pompadore
 Olive, rare

Class XVII. *White.*

Argus
 Blanche
 Clarissa, Tyso's
 Hercules
 Kermes
 White Swan

The above list has been prepared with a view to embrace some of the best flowers in seventeen of the classes, which will enable Amateurs to make a selection from all, or from those classes of which their assortments may be deficient. The undersigned, though one of their race, may, perhaps be permitted to speak well of 140 of his fraternity. He can recommend them as deserving a place in every collection of our much

admired tribe. Though many of our recently produced species are priced at from five to fifteen shillings each, yet about a hundred of us, of longer standing in the world, may be obtained of large cultivators for five pounds.

There are a few sorts belonging to other classes, which if acceptable to your readers may be brought into notice with a few remarks at a future opportunity, by your humble servant,

CROWFOOT.

ARTICLE II.

ON STRIKING PLANTS FROM CUTTINGS, &c.

BY EDINENSIS

I HAVE felt at various times inclined to communicate to you, for insertion in your useful, because practical publication, the results of experiments, some with which have been attended with doubtful, and others of decided success; but has hitherto been deterred, by a reluctance to put you to the expence of postage, for which probably the value of my observations might not compensate. Having purchased all, except Vol. IV. of the Cabinet, (which I have again and again ordered, but without success); I have looked over all your editorial notices on the fly-leaf and elsewhere, but could never, amidst all your requests for communications, find so much as a single hint, how correspondents should act on the very important, I should rather say, the delicate point, the post paying of their letters. I find, however, that most of your correspondents prefer being anonymous, or to flourish under the name of some fashionable or favourite plant, or flower, and of course, under such guise or disguise (not knowing who your correspondents may be) you are not bound to retain their lucubrations, nor consequently be subjected to postage from them, unless you please. Relieved therefore by this view of the matter, I feel less annoyed at the thought of a shilling and three-halfpence, which, in the first instance, must be paid for these remarks.*

I have ever read with the utmost avidity all that relates to.

* Any communication sent by letter signed anonymous or otherwise if of an useful character, we shall be glad to receive.—CONDUCTOR.

the propagation and culture of plants. As to the first, much has been written of attempts to strike cuttings in water, but from my own experience in such attempts, I am satisfied that that method will not supersede the use of sand and the bell-glass. The plan of Mr. John Street, gardener at Biel, East Lothian, given at page 234 Vol. III. of the Cabinet, of striking cuttings in moss, is far more deserving of attention; I have tried it various ways, and think I have in some respects, improved upon his method (the results of which I may communicate hereafter) and always with success. At present I incline to the belief that there are few or no plants capable of propagation by cuttings, that may not be struck in this way more certainly and more successfully, than by any other means, as now practised by water, sand or soil. Let any of your practical readers try the experiment with pure moss, (hypnum) in the ensuing spring, and I feel confident they will come to be of the same opinion; but the mode I have to communicate is still more novel.

Having purchased a plant of *Phlox cordata grandiflora*, so highly spoken of in the Gardener's Gazette, another publication to which I subscribe, I watched its progress towards flowering with much interest, but with Lallah Rookh, I may exclaim,

“ I never loved a tree or flower, but 'twas the first to fade away.”

My *Phlox*, did not certainly fade in the sense of the poet. Its destruction was the work of a day, or rather of a moment. It was on the 6th of September last, the day of the memorable storm, among whose dreadful devastations, the wreck of the Forfarshire stands recorded as not the least appalling. I hurried home at an earlier hour than usual from the Gude-town, as much to save my own head from the winged missiles of slates and chimney pots that were every where descending, as to save the heads of my Dahlias in my garden in the suburbs, when amidst their wreck, I had the additional mortification of beholding the only two stalks upon my *Phlox* snapt through and through, not a shred of bark left undis severed whereby to splice them up again. Well thought I, here I must wait another twelve months to see the *Phlox cordata grandiflora*, shew the splendid blossoms so be-praised by the Gardener's Gazette. But may the root not perish? was the question! Can I do nothing with these broken stems? was the

next! I took one of them, the most flexible of the two, though both of them had made a great deal of wood (so to speak) and twisting it round and round inside a 40-sized pot, a process not accomplished without two or three fractures, till I had left only about six inches of the stem (the top having been cut off,) and that portion having filled the pot with the usual modicum of drainage and light soil, I brought above the surface, pegging it at the curvature to the soil; at the present moment I have not a more thriving plant in my greenhouse, shoots of two or three inches having already pushed from the upright portion of the stem.

I had some high priced Dahlias which I was afraid I might loose root and branch by the storm and the bad weather, of which I anticipated it (ominously as the season has shewn) to be the harbinger. Of these, some ten days or a fortnight later, I took off shoots, which I twisted, not without many fractures, and rooted in the same way, but some of them were so far gone, that I had no ground to hope of success, yet to my surprise, some of these have succeeded and sent up new shoots through the soil, and though the elevated tops have partially faded, the shoots through the soil look as fresh and vigorous as ever, although it is in the depth of December.

I have thrown these remarks together in great haste, and if you approve of them, you may hear again from

EDINENSIS.

ARTICLE III.

ON THE CULTURE OF FLORISTS' FLOWERS.

BY FLORA.

BEING an old subscriber to your useful publication, and wishing to see it prosper, I have sent you this for insertion if you think fit, and should it be accepted, I may continue at times to forward you others of the same nature, and particularly on Florists' Flowers, which is, or ought to be, the leading article in your Magazine.

My garden is in a low damp situation, rather shaded by trees, and to keep up any tolerable show of bloom in the season is not accomplished without some attention and skill, and as the detail

of my practice may assist others in like situations, it may, perhaps, be in some degree useful to a portion of your readers.

I shall begin with the culture of the Auricula, as it is justly acknowledged the queen of spring flowers by all who have seen an Auricula stage in full bloom, and as the management of the plants in a proper way, is necessary to produce the desired effect, I shall endeavour to give you my practice, and hope it will induce others to try the culture of this beautiful flower, as I am persuaded many are deterred by the difficulty of keeping their plants for any length of time in a sound healthy state, and of course feel disappointment in the blooming season. There are three things that are necessary to be attended to, namely, soil, shelter, and situation.

A good deal has been said about soils proper for the cultivation of the Auricula, and almost every grower has his peculiar one which of course he recommends as the best. I have also a compost which is most simple, and answers the purpose as well perhaps as the most elaborate composition. In some waste place I throw together the weeds, tops of vegetable leaves, &c. and cover these with turf or garden soil, and a little sand or road scrapings, with occasionally a barrowful of horse dung, making the compound as near as may be one half vegetable matter, one-fourth loam, and one-fourth sand, this I form into a ridge, and turn it frequently till reduced to a fine soil, and by adding to one end and taking from the other, I am supplied constantly as wanted. In the general potting season, July or August, I take a portion into a barrow, for the purpose of examining it minutely to clear it from stones, worms, or any other injurious substance, working it well over with the spade, then let it remain till nearly dry before potting with it.

The next requisite after soil, is shelter, this is variously applied, some keep their Auriculas in a cucumber frame during winter, but this is too damp and close, and the sashes lying too flat, the water is apt to drop through, and spoil the plants; I do not see why Auriculas should not have a house as well as Geraniums, and such a house upon a small scale I have, and it answers the purpose remarkably well, I will endeavour to describe it in as clear and brief a manner as possible; it is made of three-fourth inch deal boards on each end closely jointed, the height behind is five feet, and in front one foot, and this is made to have a good slope, the breadth four feet and a half, front to back the

bottom. The front is covered with two sashes, each six feet by three feet, making the whole breadth of the front, about six feet three inches; as the sashes do not slide, but move on hinges fastened to a piece of wood, which goes up the middle, and each sash will thus lift up on one side, and fold backward over the other, and thus, by folding them up in succession each alternate fair day, you may expose the plants to sun and air as required.

The back part is as I said before five feet high, and six feet three inches in breadth, it is closed in by two doors hung by loops and crooks, which are taken off during summer, and this gives the plants plenty of air: it has six shelves that move nearer or farther from the glass, their ends rest on laths nailed within the sides, you may have two or three shelves on each pair of laths if you choose, the lowest is about three inches from the ground, and about eight inches from shelf to shelf, the whole cost about three pounds; this house or frame, if you choose to call it so, will hold a hundred plants on the shelves, and by laying the inside ground floor within the square of bricks on which it stands with ashes, you may have a place for Polyanthuses or common Auriculas during winter. A shelter of some sort is necessary in wet weather, for though the Auricula is a hardy plant, and will bear any degree of cold, except when budding for flower, but wet is at all times an enemy, if it gets into the heart and remains too long.

The third is situation, which is as important as soil or shelter, this must be dry in winter, airy, and elevated above the damp which usually in October and November, causes some plants to go off in what is termed the neck rot, and this is entirely the effect of wet and injudicious management.

On wet ground the plants must be elevated above the surface, and have all the sun you can expose them to, and during spring, until the bloom requires shading. In my next I shall give my routine of management for twelve months, and afterwards, some remarks on the sorts of Auriculas, &c.

FLORA.

ARTICLE IV.

ON FORCING THE LILY OF THE VALLEY AS PRACTISED IN GERMANY AND THE LOW COUNTRIES.

BY G. G.

THIS sweet little flower, which seems to be so little noticed in Britain, is quite a favourite flower in this country, so much so that the natives do not think their garden complete, without a quantity of it growing in shady borders, and in winter when forced, is highly valued. As some of the readers of the Cabinet may have an opportunity of forcing this sweet flower, I forward you the following particulars as practised here, should you consider it worth insertion.

To have flowers at Christmas, the latter end of November is the time to take up the roots. Those selected must not be less than two years old, and in appearance, are something similar to small heads of asparagus, when about two or three inches high, and are furnished with fibrous roots; each of these tubers are wrapped round with a little moss, and placed in pots or mignonette boxes, close together. The boxes or pots are previously filled with old bark or light earth, a thin portion is laid over the crowns, and then a layer of moss which keeps the roots moist, assists in drawing up the flower stems. The boxes or pots are then placed on a fire flue, or any other warm situation. Over these are turned boxes or pots of the same dimensions, upside down, to keep the plants quite dark; in three or four weeks, according to the warmth of the situation, they are abundantly furnished with their lovely bell-shaped flowers, six or eight inches high. Those coming into flower first, are taken out of this situation, being easily removed by having moss round the roots, and placed in small wicker baskets, or ornamental vase, with Hyacinths, Van Thol tulips, &c. which are forced, something similar, for this purpose. When this sort of winter flower basket, pyramid, orange, or vase, is properly executed, the colours of the flowers regularly mixed, and the spaces betwixt the plants filled up with ornamental moss, it certainly has a very neat and pleasing appearance.

The market gardeners are busily employed during the months of November and December, in preparing such decorations for the side board or drawing room table, as there are only a few

dwellings but have a specimen of this sort, to welcome the happy morn of Christmas.

The tubers of this plant, when purchased for forcing, cost from three to four shillings per hundred. Where a succession is required, the roots are kept in a shady place, or in the border in the garden, covered a foot or eighteen inches with fresh stable litter, so as to be easily come at in frosty weather, as occasion may require. When finished flowering, they are planted in the garden at the latter end of March, and form a plantation for forcing purposes in two or three years.

G. G.

ARTICLE V.

REMARKS ON THE ROSE.

(Continued from page 13:)

THE deep-red China rose was first introduced by Gilbert Slater, Esq. of Knotsgreen, near Laytonstone, in the year 1789; but this is still confined to the greenhouse, being of a much more delicate nature than the common China rose. The flowers are semi-double and large in proportion to the plant, of a fine dark carmine colour, and of delightful fragrance.

The China rose, which has been named Lady Bank's rose, we hope to see soon hardy enough to leave the green house, where it has occupied a place since the year 1807. This is a double-white rose, of very diminutive size, but producing such abundance of blossoms, as to render the branches extremely elegant. We are informed that it was discovered growing out of an old wall in China.

In pleasure-grounds it is scarcely possible to plant too many rose-trees, and they have the best effect when three or four plants of the same kind come together. The Scotch or burnet-leaved rose, from its dwarf growth, forms a good foreground to other roses; and the neat little Rose de Meaux should advance towards the walks, whilst the more towering kinds may mix with shrubs of the middle class.

Where the lawn is interspersed with little clumps, fenced with basket-work, each clump or basket should be confined to one

species of rose, or kinds that are quite opposite in colour; and as it is particularly desirable to keep these clumps successively in blossom during the season, those clumps that blossom the earliest and the latest should be divided by others that flower in the intermediate space.

Rosaries are formed into various devices; but the most common method is by planting the tallest standard rose-trees in the centre of a clump, around which the different species and varieties are placed according to their height of growth, the edge finishing by the dwarf kinds.

Rock work is sometimes covered with creeping roses, and surrounded with other varieties.

For covering arbors or trellis-work, the bracted rose, *Rosa bracteata*, commonly called Sir George Staunton's rose, which was brought from China in the year 1795, is the most proper, for it grows to a great height, and thick of branches that are covered with shining leaves of a very fine green. The flowers are single and perfectly white, of a strong and agreeable perfume; it blossoms in August and September.

The modes of retarding the flowering of the Provence and moss roses, until the autumn are various; and as it is desirable to continue those beauties of the garden longer than they are naturally disposed to last, we will mention the best means of obtaining the enjoyment. The most simple method is by cutting off all the tops of the shoots that have been produced the same spring, which should be done just before they begin to show their buds; this will cause them to make fresh shoots, that will produce flowers late in the autumn. It may also be done by transplanting the bushes in the spring, just as they have formed their buds, which should be cut off, but the roots must not be out of the earth long enough to become dry, and they generally require watering when transplanted late, to obtain roses in October and November.

On the continent, where much more pains are bestowed on the retarding of flowers than in this country, the rose-trees are dug up just as they begin to shew a leaf bud, and the roots are instantly placed in a kind of mortar, formed of brick earth, which serves as a preservative plaster, whilst it debars the fibres of the roots from obtaining the necessary nutriment that would cause the usual growth of the plant. From this state of rest, the plants are removed into the clumps or flower borders in May or June,

according to the time they are wished to be in blossom. When the season is dry, they will require frequent watering to ensure fine flowers. These plants should be kept in a cellar or a shed, where there is but little light.

The common Provence and moss-roses are the most esteemed for forcing, on account of their perfume.

“ This soft family, to cares unknown,
Were born for pleasure and delight alone.
Gay without toil, and lovely without art,
They spring to cheer the sense, and glad the heart.”

MRS. BARBAULD.

This sweet emblem of love, like the human body, breeds a canker in its bosom, that often destroys its heart.

“ She never told her love,
But let concealment, like a worm i' the bud,
Prey on her damask cheek.”

SHAKESPEARE.

“ Death's subtle seed within,
(Sly, treacherous miner!) working in the dark,
* * * * *
The worm to riot on that rose so red,
Unfaded, ere it fell; one moment's prey!

YOUNG.

(To be continued.)

ARTICLE VI.

ON CHINESE GARDENS.

(Continued from page 14)

THEIR summer scenes compose the richest and most studied parts of their gardens. They abound with lakes, rivers, and water-works of every contrivance; and with vessels of every construction, calculated for the uses of sailing, rowing, fishing, fowling, and fighting. The woods consist of beech, oak, Indian chesnut, elm, ash, plane, u-ton-shu (a beautiful specimen of the sycamore, peculiar to China) common sycamore, maple, abele, and several other species of the poplar; with many other trees, peculiar to China. The thickets are composed of every fair deciduous plant that grows in that climate, and every flower or shrub that flourishes during the summer months; all uniting to

form the finest verdure, the most brilliant, harmonious colouring imaginable. The buildings are spacious, splendid and numerous, every scene being marked by one or more; some of them contrived for banquets, balls, learned disputations, ropedancing, and feats of activity; others again for bathing, swimming, reading, sleeping, or meditation.

In the centre of these summer plantations, there is a large tract of ground set aside for more secret and voluptuous pleasures, which is laid out in a great number of close walks, colonades and passages, turned with many intricate windings, so as to confuse and lead the passenger astray; being sometimes divided with thickets, of underwood, intermixed with straggling large trees; and other times by higher plantations, or by clumps of the tse-tan, (a very large species of the rose tree, the wood of which is uncommonly beautiful, and used by the Chinese workmen for tables, cabinets, &c.) common rose-trees, and other lofty shrubs. The whole is a wilderness of sweets, adorned with all kinds of gaudy productions. Gold and silver pheasants, pea-fowls, patridges, bantam and golden hens, quails, and game of every kind, swarm in the woods; doves, nightingales, and a thousand melodious birds, perch upon the branches, deer, antelopes, musk goats, spotted buffaloes, shen-si sheep, (a sort of sheep with very long tails, which trail upon the ground), and Tartarean horses frisk upon the plains. Every walk leads to some delightful object; to groves of orange and myrtle, to rivulets, whose banks are clad with roses, woodbine and jessamine; to murmuring fountains, with statues of sleeping nymphs, and water gods; to cabinets of verdure, with beds of aromatic herbs and flowers; to grottos cut in rocks, adorned with incrustations of coral shells, ores, gems, and chrystalizations, refreshed with rills of sweet scented water, and cooled by fragrant, artificial breezes.

Amongst the thickets which divide the walks, are many secret recesses; in each of which there is an elegant pavilion, consisting of one state apartment, with out houses, and proper conveniences for eunuchs and women servants. These are inhabited, during the summer, by their fairest and most accomplished concubines; each of them, with her attendants, occupying a separate pavilion.

The principal apartments of these buildings, consists of one or more large saloons, two cabinet or dressing rooms, a library, a couple of bed chambers and waiting rooms, a bath, and several

private closets, all of which are magnificently furnished with entertaining books, numerous paintings, musical instruments, implements for gaming, writing, drawing, painting and embroidering; with beds, couches and chairs, of various constructions, for the uses of sitting and lying in different postures.

The saloons generally open to little enclosed courts set round with beautiful flower pots, of different forms made of porcelain, marble, or copper, filled with the rarest flowers of the season; at the end of the court there is generally an aviary; an artificial rock with a fountain and bason for gold fish, or blue fishes of Hay Nang, (a little beautiful blue fish, caught near the island of Hay Nang of which the Chinese ladies are very fond), a cascade, an arbor of bamboo or vine, interwoven with flowering shrubs, or some other elegant contrivance of the same nature.

Besides these separate habitations, in which the ladies are privately visited by their patron, as often as he is disposed to see them, and be particular, there are, in other larger recesses of the thickets, more spacious and splendid buildings, where the women all meet at certain hours of the day, either to eat at the public tables, to drink their tea, to converse, bathe, swim, work, romp, or to play at the mora, and other games known in China, or else to divert the patron with music, singing, lascivious posture-dancing, acting plays or pantomimes, at all which they generally are very expert.

Some of these structures are entirely open, the roofs being supported on columns of rose wood, or cedar, with bases of Co-rean jasper, and chrystal of Chang-chew-fu; or upon wooden pillars, made in imitation of bamboo, and plantain trees, surrounded with garlands of fruit and flowers, artfully carved, being painted and varnished in proper colours. Others are enclosed, and consist sometimes of many different sized rooms of various forms; as triangles, squares, hexagons, octagons, circles, ovals and irregular whimsical shapes, all of them elegantly finished with incrustations of marble, inlaid precious woods, ivory, silver, gold, and mother of pearl, with profusion of ancient porcelain, mirrors, carving, gilding, painting, and laquering of all colours.

The doors of entrance for these apartments, are circular and polygonal, as well as rectangular; and the windows by which they are lighted, are made in the shapes of fans, birds, animals, fishes, insects, leaves and flowers; being filled with painted glass,

or different coloured gauze, to tinge the light, and give a glow to the objects in the apartment.

All these buildings are furnished at a very great expence, not only with the necessary moveables, but with pictures, sculptures, embroideries, trinkets, and pieces of clock work of great value, being some of them very large, composed of many ingenious movements, enriched with ornaments of gold, intermixed with pearls diamonds, rubies, emeralds, and other gems.

Besides the different structures already mentioned, they have some built in large trees, and disposed amongst the branches like nests of birds, being finished on the inside with many beautiful ornaments, and pictures, composed of feathers, some they have likewise made in the form of Persian tents, others built of roots and pollards, put together with great taste : and others, which are called Miao Ting, or Halls of the Moon, being of prodigious size and composed each of one single vaulted room, made in the shape of a hemisphere, the concave of which is artfully painted in imitation of a nocturnal sky, and pierced with an infinite number of little windows, made to represent the moon and stars, being filled of tinged glass, that admits the light in the quantities necessary to spread over the whole interior fabric the pleasing gloom of a fine summer's night.

The pavements of these rooms are sometimes laid out in parterres of flowers ; amongst which are placed many rural seats made of fine formed branches, varnished red to represent coral ; but oftenest their bottom is full of clear running water, which falls in rills from the sides of a rock in the centre ; many little islands float upon its surface, and move around as the current directs, some of them covered with tables for the banquet, others with seats, and other furniture, for various uses.

To these Halls of the Moon the Chinese princes retire with their favourite women, whenever the heat and intense light of the summer's day becomes disagreeable to them ; and here they feast, and give a loose to every sort of voluptuous pleasure.

No nation ever equalled the Chinese in the splendour and number of their garden structures. We are told, by father Attiret, that in one of the imperial gardens, near Peking, called Yven Ming Yven, there are besides the palace, which is of itself a city, four hundred pavilions, all so different in their architecture, that each seems the production of a different country.

(To be continued.

PART II.

NEW OR RARE PLANTS.

(Noticed since our last.)

BRASSAVOLA MARTINIANA. Dr. Von Martin's Brassavola. (Bot. Reg.

ORCHIDACEÆ. GYNANDRIA, MONANDRIA.

1. This species was originally discovered by Dr. Von Martins on the banks of the Rio Negro in Brazil, and where it was found to delight in a rough and stony soil, not too retentive of moisture. Messrs. Loddiges's cultivated the plant most vigorously in a soil, consisting of rough peat, well mixed with broken bricks or stones, and the pots must be well trained at the bottom. Each flower is about two inches and a half across. Petals yellowish green, labellum white, having the base yellow.

LEONOTIS NEPETÆFOLIA. Cat Mint-leaved. (Bot. mag. 3700

LABIATÆ. DIDYNAMIA ANGIOSPERMIA. synonym. PHLOMIS NEPETEFOLIA.

2. Introduced from various parts of Africa. The flowers are in dense axillary, distrait clusters. Each cluster is upwards of two inches in diameter. The flowers are of a bright red colour, clothed densely with red velvety hairs. The plant, when in bloom, makes an interesting and showy object. Leonotis, from Leon a lion, and Os Opis an ear, from a fancied resemblance of the flowers to the ears of that animal.

LEYCESTERIA FORMOSA. Beautiful. (Bot. Reg. No. 2 1839

CAPRIFOLIACEÆ. PENTANDRIA MONOGYNIA.

3. This plant is a native of the Himlaya mountains, and is a charming shrub, and grows very profusely on some of the highest mountains, at an elevation of 8000 feet above the plains, surrounding the valley of Nepal, where it blooms from April to October. Seeds of it were sent from India by Dr. Royle to the London Horticultural Society, it is found to be a hardy evergreen, having stood the severity of the winters 1337 and 1838. In its native situation it grows says Dr. Wallich, so that its stem rises to twelve feet high, and upwards of an inch in diameter. The leaves are large and of a dull green. The flowers are produced in drooping spikes. The bractes are showy, being of a reddish-purple colour. The corolla is white, and about three quarters of an inch long.

The plant is found to grow the most freely in an open sunny situation. Although it is not so handsome as was anticipated from the account sent of it from India, yet it will be found very ornamental when the plant has acquired a large size. Plants may now be obtained at a few shillings each at most of the public nurserymen. Leycesteria, so named in compliment to William Leycester, chief judge of the principal native court under the Bengal presidency; a very distinguished Horticulturist.

PART III.

MISCELLANEOUS INTELLIGENCE.

 QUERIES.

ON FIRST RATE PROPERTIES OF CALCEOLARIAS.—As I intend to raise new varieties of the Calceolaria, I would be much obliged to any of your Correspondents to state in the Cabinet, the points which are principally attended to by the judges on deciding on the merits of the Calceolarias produced at the different shows in the South, and how much they reckon, on the form, the colours, and the size of the flowers, respectively. SCOTUS.

ON THE CHRYSANTHEMUM.—I have in my conservatory a white Chrysanthemum, quilled, and very double; upon one branch there is a flower different from the rest, having two or three rows of the outside petals quite pink. I have also another plant of large pink clusters, having upon its branches flowers nearly perfectly white. I was at first inclined to think that this might be owing to the age of the flowers; but I find that other flowers of the same age do not assume the same colour. If I were to cut off these branches and strike them in a hot bed, I should be glad to learn whether it is probable they would give out flowers of the same sort, or return to that of the native stem?

(We have found in some instances that a distinction has been retained, and in others where they have returned to the original. It is worth trying!—CONDUCTOR.)

In Mr. Freestone's method of saving the seed of this flower in last year's Vol. p. 220, he says, "Take the pollen from any of the same double flowers and apply it to the stigma of the two outside rows of Petals." Does he mean to the outside rows of a semi-double flower, or to any double flower?

(To any.—CONDUCTOR.)

TILLINGTONIENSIS

 ANSWER.

ON RAISING DAHLIAS WITH VARIEGATED FLOWERS.—Answer to C. Nevill's Query on the Dahlia, in the Cabinet of January 1837. I tried the experiment here mentioned, applying the roots to the King of the Whites, and of Lady Fitzharris, the first a pure white, and the other a bright scarlet flower, they were applied together before being planted, and planted in the usual way. There was only a single flower which came to perfection, and which was very large, but had the colour of Lady Fitzharris alone. I attributed the size of the flower to the additional nourishment obtained from the roots, but as Lady Fitzharris is naturally a large flower, I now incline to doubt this. I did not get any seed from the flower, as the frost came on early that season. As my object was the obtaining Dahlias with variegated flowers, I am now satisfied it would be more quickly obtained by impregnating the stigma of one with the pollen of others. I have not repeated the experiment. When the roots of the two Dahlias were taken up at the end of the season, the root of the King of the Whites was perfectly wasted, that of Lady Fitzharris quite fresh. SCOTUS.

 REMARKS.

ON ROSA HIBERNICA.—In your last number, you make a quotation from Mr. Gore's Rose Fancier's Manual, which contains one translated from a French author whom you characterize as having published the best account of Roses, who after depreciating Mr. Templeton's discovery of the Rosa Hibernica, there states, that it is the same with Rosa canina and R. spinosis-

sima, or if the seeds are sown in stiff land, it will produce the former, if in light land, the latter. I have no specimen of *Rosa Hibernica* at present by me, and therefore cannot compare it with *R. canina*, but as Sir James E. Smith, the first botanist of his day, considers it a distinct species, I cannot permit the article to be uncontradicted; I know the *R. spinosissima* as well as the *R. canina*, and have seen wild specimens of every sort, but never in any degree approaching to each other; indeed, I doubt, if two more distinct species could be selected, and I am sure that the seeds of the one will not produce any plant likely to be mistaken for the other, as I have more confidence in Sir James E. Smith than Mons. Boitard, you may rest assured that as the roses *Hibernica*, *Spinosissima* and *Canina*, are distinct species and not varieties, the seeds of the one, can never by any chance produce plants of either of the other two.

Fifeshire, December 1838.

SCOTUS.

THE GARDENS
OF THE
ROYAL BOTANIC SOCIETY OF LONDON,
Inner Circle Regent's Park.

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Lord Alfred Hervey	Lord Abinger
The Lord Bishop of London	Lord Langdale
The Lord Bishop of Durham	Right Hon. C. P. Thompson, M.P.
The Lord Bishop of Lichfield	
The Lord Bishop of Norwich, Pres. Lin. Soc.	

&c. &c. &c.

We have very great pleasure in noticing the operations of this newly formed Society, of their intentions to form a Botanic Garden in the centre circle of Regent's Park; and to see the object is already patronized and supported by such a numerous list of the Nobility and Gentry, who are, uniformly, promoters of science, arts, &c.

The situation selected, is, in our opinion, the best that could be obtained to answer all its purposes.

During the last two years we have very frequently visited the ground, and particularly examined the situation, soil, trees, plants, &c., in order to ascertain its suitability for horticultural and floricultural purposes; and so satisfied were we of its merits, that more than a year back we entered into correspondence with Mr. Jenkins as to terms of taking it, with a view to attempt at what is now commenced by this Society.

We have read objections made by the conductors of some gardening periodicals, relative to the situation selected being unfavorable, and that the soil was very unsuitable to the growth of plants. It is stated, "that the situation is such, as to be annoyed so with smoke, that no delicate plant will thrive in the open air;" we have seen very numerous facts in the ground to disprove such a statement, even with trees and plants that had had ordinary attention as to planting, and subsequent treatment. And the object of the Society, having received the assistance of government to further their intentions, it is not presuming too much to say that any existing administration of the affairs of this country will be so far desirous to encourage science, &c, as to prevent the erection of anything annoying, nearer than the dwellings there are at present.

Respecting the soil it is said to be a strong clay upon a retentive bottom; admitting such to be a fact, even to an extent, which, up to the present has been injurious, the position of the ground, with that surrounding it, is such, as to afford every desirable facility to remedy it. It appears to us that a desire exists in some parties to produce an unfavorable impression on the mind of the public, which no facts can justify. The free growth of forest trees, shrubs, and other plants are sufficient evidence on the subject. And whatever plants may be hereafter introduced on the ground that require accommodation with a peculiar soil, or mode of treatment tending to promote their vigours, (and such attention is obliged to be paid to some plants in every horticultural and floricultural establishment, whether public

or private) they will unquestionably be received; and in this as well as the other objects the Society have in view, we have every reason to conclude, the garden and its appendages will be so managed, and be so successful, pleasing and instructive, as to meet with the approval, as it no doubt will, with the desired support of the British Public, and we do most heartily wish it every success.—(CONDUCTOR.)

Notwithstanding the manifest importance of a proper acquaintance with the productions of the vegetable kingdom, there is not, to this day, in the metropolis of the commercial world, a public establishment devoted to their general study; and while foreign countries possess such institutions, and there are forty in our own empire, we are the last to avail ourselves of their advantages. The benefits to be derived from a properly directed botanic garden are so apparent that it argues an inconceivable deficiency in our local administration that they should be so long neglected. The only way in which the study of botany has received attention has been for medical purposes; and it is to be regretted that that knowledge should be considered as restricted to one profession, which is capable of still further development. The chemical properties of plants are not confined to their medical uses, but exercise important functions in manufactures; and indeed when it is considered how little advanced is our acquaintance with their analysis, they should acquire a greater importance in our eyes, from their susceptibility of extended application in a more advanced state of science. The use of dye plants is but one of many chemical preparations; and the manufacture of sugar is a series of chemical processes. The employment of vegetable productions in textile fabrics makes them an object of commercial importance, and renders them deserving of scientific investigation; and the manufacturing properties of plants are so various as at once to open a wide field for observation and inculcate the necessity of it.

But if the study of the raw material have met with so little attention at our hands, there is another application of it to manufactures which has necessarily suffered still more in the general neglect. This is the application of the study of the external form of plants to the improvement of our arts and manufactures; and we need not be surprised if the effect of such neglect has been to leave them in a state of barbarism, as compared with the rest of Europe, unworthy of our positions in the commercial world. Few points could be selected more strongly to show the intimate connexion which exists between all departments of the arts and sciences, and the ill effects which proceed from the non cultivation of any of the series. In this case a complicated neglect is involved; and we find an equal want of attention to botany, the fine arts, and our true commercial interests. The consequence is, not only are we deprived of foreign markets, but we are unable to preserve our own from the inroads of strangers, and are subjected to the stigma of barbarism in the eyes of those to whose taste we are made captive by our own ignorance. The extent of this economical injury is twofold; first as we are subjected to a positive loss by the importations of silks, cottons, velvets, papers, and jewellery from France; cloths from Switzerland; bronzes from Italy; and Berlin ware from Prussia; but we contingently lose by our exclusion from foreign markets, which other advantages would enable us to supply. The United States would undoubtedly prove a large customer for articles of taste, were we able to supply them with such productions, for which the congeniality of associations between the two nations would obtain a preference over any foreign rivals.

The adaptation of botanical subjects is the principal source of patterns for textile and imitative goods, and a facility for studying such objects is consequently the desideratum for the improvement of our manufactures. This has been recognised by every public body by which it has been investigated; and the evidence before the Select Committee of the House of Commons, on the State of Arts and Manufactures, affords abundant testimony of the necessity of this study.

Sir C. Cockerell, the architect of the bank, says—"As regards porcelain, foreigners are superior to the English in flower painting and ornamental scroll work."

Mr. George Rennie, the sculptor, attributes the excellence of the French artists to their superior facilities for studying design, and particularly recommends instruction in botanical drawing.

Mr. Crabb, an eminent designer says—"The French papers are superior in design, both in the original idea and the detail of the drawing; for in England we have no school to obtain such instruction. The foliage is beautiful and the flower borders are exceedingly well executed, while in the English patterns the leaves are not those of the flower, an inaccuracy which we never find in the French. This facility of adapting the forms and colours most gratifying to the eye, must be the result of early and continued acquaintance with flowers and plants. A botanical garden would be of the highest value, for there is scarcely anything where, in some form, botany is not introduced, and more extensively we are acquainted with it the better; we get more beautiful lines, more original effects, and finer forms than we do by any other means; we find no coloring equal to that of nature."

Mr. Donaldson, the architect, says—"that the manufacturing artists require instruction, in botany, as connected with construction, in order to give a workman an insight into the nature and properties of vegetable substances, and a more accurate knowledge of their forms when he wishes to delineate or model them; all of which may be very much derived from the study of their growth and formation. I should also recommend, that such a general idea of chemistry, as connected with construction, should be given, as would enable a workman very usefully to apply that knowledge in respect to dry rot, and other similar circumstances, such as the various properties of colors, both mineral and vegetable, and their greater or less durability."

(TO BE CONTINUED.)

NEW OR RARE PLANTS.

NOTYLIA PUNCTATA. Orchidææ. The flowers of this species are whiter than those of any other, and are produced on a short fluxuose raceme. (Bot. Reg.)

NOTYLIA BARKERI. Orchidææ. Received by G. Barker, Esq., from Mexico. The flowers are very like *N. incurva*, but are of a darker yellow, and rather smaller. (Bot. Reg.)

NOTYLIA MICRANTHA. Orchidææ. Messrs. Loddiges' received it from Demarara. The flowers are very small, of a pale green, with a yellowish lip.

NOTYLIA TENUIS. Orchidææ. Received from Demerara by Messrs. Loddiges'. The flowers are of a pale straw color. (Bot. Reg.)

PLEUROTHALIS MUSCOIDEA. Orchidææ. This is in the collection of Messrs. Loddiges', and is the smallest plant of any of the Orchidææ sent to this country. The flower is of a dull purple, having an orange margin to the petals and sepals, the lip is stained with purple and orange.

THUNDERBIA HAWTOWNIANA.—This new and pretty flowering species produces a profusion of its purple blossoms which have a pretty appearance, more particularly when grown in contrast with the *T. alata*, and *T. leucantha*.

FLORICULTURAL CALENDAR FOR FEBRUARY.

GREENHOUSE.—This department should have good attendance during this month, similar in its operations to those directed in January, which see.—Oranges, Lemons, and Myrtles, &c., will require water frequently, they usually absorb much. The herbaceous kind of plants will require occasional waterings, but less frequent and in less quantities than the woody kinds. Succulents, as Aloes, Sedums, &c., should be watered very sparingly, and only when the soil is very dry. Air should be admitted at all times when the weather is favorable, or the plants cannot be kept in a healthy state. If any of the Orange, Lemon, or Myrtle trees, &c., have naked or irregular heads, towards the end of the month, if fine mild weather occur, begin to reclaim them to some uniformity, by shortening the branches and head shoots, by this attention they will break out new shoots upon the old wood and form a regular head; be repotted in rich compost in April, reducing the old ball of earth carefully and replacing with new soil. After shifting it would be of great use to the plants, if the convenience of a glass case could be had, in which to make a dung bed, that the pots might be plunged in, this would cause the plants to shoot vigorously, both at the roots and tops. Repot Amaryllis, &c. Tender and small kinds of plants should frequently be examined, as to have surface of soil loosened, decayed leaves taken away, or if a portion of a branch be decaying, cut it off immediately, or the injury may extend to the entire plant and destroy it.

ANNUALS.—Towards the end of the month, sow most of the tender kinds which require the aid of a hot bed in raising, or in pots in heat.

ANOMATHECA CRUENTA, the bulbs of, should now be repotted into small pots, to prepare them for turning out into beds, so as to bloom early.

AURICULAS should now be top dressed, taking off old soil an inch deep, and replacing it with new.

BULBS, as **HYACINTHIS**, &c., grown in water glasses, require to be placed in an airy and light situation when coming into bloom, (See Art. Vol. vi, on the subject). The water will require to be changed every three or four days. The flower stem may be supported by splitting a stick at the bottom into four portions, so as it will fit tight round the edge of the glass at the top.

CALCEOLARIAS, seeds of should be sown during the month, and be placed in a hot bed frame, also cuttings or slips be struck as they take root freely now.

CARNATIONS, layers should be transplanted into large pots towards the end of the month, or planted in the open border.

CUTTINGS OF SALVIAS, FUCHSIAS, HELIOTROPES, GERANIUMS, &c., desired for planting out in borders or beds during spring and summer, should now be struck in moist heat, in order to get the plants tolerably strong by May, the season of planting out.

DAHLIAS.—Seed should be sown either in pots or upon a hot bed. Pots or boxes with seed placed in a warm room, near light and admitting plenty of air to the plants when up will, succeed well. Dahlia roots should now be potted or partly plunged into a little old tan in the stove, or a frame to forward them for planting out in May. As shoots push, take them off when four or five inches long, and strike them in moist heat.

HERBACEOUS PERENNIALS, BIENNIALS, &c.—May be divided about the end of the month, and planted out where required.

HYDRANGEAS.—Cuttings of the end of the last years wood, that possess plump buds at their ends, should now be struck in moist heat; plant one cutting in a small pot (6's). When struck root, and the pot is full of roots, repot them into larger; such plants make singularly fine objects during summer.

MIGNONETTE, to bloom early in boxes, or pots, or to turn out in the open borders, should now be sown.

RANUNCULUSES AND ANEMONIES should be planted by the end of the month.

ROSE TREES, LILACS, PINKS, HYACINTHIS, POLYANTHUSES, NARCISSUS, &c. should regularly be brought in for forcing.

TENDER ANNUALS—Some of the kinds, as Cockscombs, Amaranthuses, &c., for adorning the greenhouse in summer, should be sown by the end of the month; also any tender Annuals desired to bloom early in the open border.

TEN WEEK STOCKS, RUSSIAN AND PRUSSIAN STOCKS, &c., to bloom early should now be sown in pots, placed in a hot bed frame, or be sown upon a slight hot bed.

REFERENCE TO PLATE.

LILUIM LANCIFOLIUM ROSEUM. This very beautiful flowering lily was sent by Dr. Siebold, from Japan, and we had the pleasure of seeing it in bloom, and partaking of its fine fragrance during the last summer, at Messrs. Low & Co's Nursery, Clapton, and at Messrs. Loddiges's of Hackney. The flowers of this kind are larger than any of the others introduced by Dr. Siebold, and produces a fine effect. The color is not so striking as the flowers of *L. speciosum*, but in other respects are more magnificent.

The plant we saw in bloom at the Hackney Nursery was growing in a raised bed in the conservatory, and an open sunny situation had been selected, which latter advantage is considered essential to the plant flowering successfully. The flower stem had reached four feet high, and had produced eight of its beautiful blossoms.

We saw some plants grown in pots, but the flowers were much smaller than what we saw at the Hackney Nursery. The finest plants were growing in a rich loamy soil, having a good drainage; when the shoots begin to push the plant requires a free supply of water, which is continued till it has done blooming, and afterwards gradually declined, so as to be kept dry during its dormant state.

We have not seen any plant growing in the open border, but this may arise from their scarcity, as well as present estimated value, but we think it very probable, that if grown in pots in spring, and pushed in a cool frame or greenhouse till the end of May, and then turned out into the open border in a favorable situation, they would bloom superbly; for we observed that the colour of the flower was greatly heightened in proportion to the openness of the situation.

These beautiful lilies ought to be grown in every greenhouse or conservatory. The price now asked is rather high, but their propagation going on so extensively, will soon allow them to be obtained at a lower rate. The mode of propagation we saw very successfully adapted at the Epsom and other Nurseries, was the following. A bulb was taken when in its dormant state, but just when about to vegetate, and the outward scales carefully taken off. The scales are then planted in small pots, one in each, in a light loamy soil, and placed in a frame where there is a gentle heat. These soon form at the base of each a small bulb, and when of the size of a garden pea, they are carefully taken off and replanted in small pots, and by encouragement soon increase to blooming bulbs. The bulb from which the scales are taken is planted for blooming as the others are. When the scales and infant bulbs are in the pots, care is requisite that they are not rotted by an excess of moisture. In some instances, when the scales are not disturbed at an early stage in order to take off a single bulb, three or four bulbs are produced from a single scale.

Attention to propagation will so far increase these delightful plants, that we hope every cultivator of flowers, having the opportunity will possess them.

RUSSELLIA JUNCEA. This charming plant is one of the prettiest ornaments which can be grown in the greenhouse, and certainly ought to be in every one. It is of easy culture, delighting in a soil of equal parts of rich loam and sandy peat, having a free drainage. The plant is very readily propagated by slips or cuttings inserted in sand, or sandy peat, and placed in a hot bed frame, or other situation where a moist and warm temperature can be obtained.



Lilium longifolium var. sinense



Scilla peruviana



THE
FLORICULTURAL CABINET,

MARCH, 1st, 1839.

PART I.

ORIGINAL COMMUNICATIONS.

ARTICLE I.

REMARKS ON THE CULTURE OF THE RANUNCULUS.

BY MR. THOMAS IBBETT, MOUNT PLEASANT, WOOLWICH.

IN reviewing the Cabinet for May last, I was much pleased with the Article on the culture of Tulips, written by Mr. J. Slater, which does him much credit, and displays sound judgment; I therefore beg to make a few observations, confirmatory of his statement, and may also prove serviceable to such growers as may think proper to put it into practice.

And in so doing it is but fair to state that I received the information from Captain Jones of the royal navy, a gentleman that has spared neither pains nor expence in the culture of the Tulip; he says "that having visited every grower of eminence within twenty miles of London to see their blooms, he could find none to equal the late Mr. Velga's of Hammersmith, a gentleman that was well known for many miles round his neighbourhood," and the method he pursued for the cultivation of the Tulip was as follows:

Having made choice of a good meadow, he took off the surface about six inches deep with the grass sod, which he filled up in the form of a haycock, keeping a sufficient quantity for one year under another, about three months before planting; he began to make up his bed, first taking out from the old bed about two spits

of earth. He then with a spade trimmed off all the top surface of the pile of earth before mentioned until he had as much as would lay over his bed an inch and a half deep, letting it lay eight or nine days exposed to the sun and air, he would then lay on another layer of the same depth as before, and so on until the bed was completed, &c. I have been informed by many persons as well as Capatain J. that Mr. Velga's Tulips surpassed all they had ever seen for the beauty of the foliage and the delicacy of the blooms.

I do not pretend to be a first rate grower of Tulips, but I have no doubt the practice is an excellent one; my attention being chiefly confined to Dahlias, Carnations, Piccotees, and Pinks, the latter of which I flatter myself, few can excel me in, either for a collection or blooming,

Should you think the above remarks worthy a place in the Cabinet, I feel pleasure in forwarding them, and shall feel gratified if they assist any one in the culture of the Tulip.

T. IBBETT.

ARTICLE II.

ON STRIKING GAILLARDIA PICTA FROM CUTTINGS, AND FURTHER MANAGEMENT OF.

By Mr. George Geldert, Gardener to Edmund Steer, Esq. Hamm, near Hamburg, Germany.

NOT having noticed any thing in the Cabinet on the raising *Gaillardia picta* from cuttings induces me to send you an account of my mode of management with it during the last two seasons, and if it be judged of sufficient interest for insertion in the very useful pages of the Cabinet, I shall be glad of its early insertion, as it may furnish some particulars for practice during the approaching season.

In the spring of 1837 I procured some seed of this very neat and showy flowering plant, but the seed not proving very good, I only succeeded in raising a few plants. After the plants had established themselves in the flower border, and pushed side-shoots about three inches long, I cut them off close under a joint, and inserted six or eight in a small pot. Having a hot bed frame at work, with a little bottom heat, for striking cuttings of *pelargoniums* in, I plunged the pot of *Gaillardia* cuttings therein, and in about three weeks, found every one well rooted.

Having potted them singly into small pots in a rich soil, I placed them in a shady situation, upon a bed of coal ashes, and where they were sheltered from the wind, in this place they soon established themselves.

At the beginning of September, I had a few of the best repotted in rich earth and placed in the greenhouse, which soon came into bloom, and continued to flower for a long time. The remaining plants were plunged in a cold frame where they were protected from the severity of the winter, and early in the following spring I cut off the the tops and side shoots, and struck them along with *Petunias* *Heliotropes*, &c. About the middle of May of this year, I turned them out into the open ground in order to have an entire bed in the flower garden; they soon began flowering, and continued a mass of bloom till autumn, making a very beautiful appearance.

From these plants I continued to propagate during summer, and now have near four hundred plants to furnish the greenhouse with for the approaching months, and to have a supply to turn out into the open borders and beds the next spring.

I prefer plants from cuttings to those raised from seed, because they begin to bloom very soon after planting out, whereas those from seed generally grow bushy and too much foliage, and seldom begin to bloom before late in summer, generally as far back as August.

G. GELDERT.

ARTICLE III.

REMARKS UPON A NEWLY-IMPORTED HALF-HARDY SPECIES OF SALVIA, CALLED SALVIA PATENS.

BY G. BENTHAM, ESQ.

THE richness and variety of colouring observable in the numerous species of *Salvia*, which adorn the mountains of South America, and Mexico, have long been known to Botanists, but it has happened that few of them have hitherto found their way into our gardens. The *S. splendens fulgens*, *Grahamii*, and *Mexicana* occupy, it is true, the place in our collections they so eminently deserve, and some few others of considerable beauty, such as *S. leucantha*, *leonuroides*, *angustifolia*, &c. are occasionally to be met

with in botanical gardens. It will, therefore, excite some surprise, that this plant, growing plentifully in the same districts from whence we have received the *S. fulgens*, should never till now have been transmitted to this country; and it will be readily believed that there are yet many which would amply reward the exertions of future collectors. We know, for instance, of a *Salvia longiflora* among the Peruvian mountains, with a corolla above five inches long; a *S. speciosá* in the same country, with long dense spikes of a rich purple; a white-flowered *S. leucocephala*, said far to exceed the beauty of *S. leucantha*; and in the Mexican mining districts, the *S. Regia Sessei*, and *pubescens*, with their inflated scarlet calyxes, *S. phœnicea*, covered with a profusion of flowers of the same colour, are stated to be fully equal to the *S. fulgens* in their general appearance; and even in South Brazil it is probable that *S. persicifolia*, or some other allied to it, may fairly enter into competition with *S. splendens*. Others are known to have orange or yellow flowers, of different shades. Indeed, out of nearly two hundred species of American *Salvias*, there seems reason to believe that three-fourths of them may be worthy of cultivation.

We may hope, however, that in the *S. patens*, we have now secured one of the most desirable of the group, more especially as there seems reason to believe that it is not more tender than *S. fulgens*. It is from the same mining districts of Guanaxuato, Real del Monte, Tlalpuxahua, &c. It was there first discovered by Nee, a Spanish botanist, who gave it the name of *S. grandiflora*, but that name having been pre-occupied, Cavanilles published it from Nee's dried specimens and coloured figure, under the name of *S. patens*. Humboldt and Bonpland again brought dried specimens to Europe; and Kunth not aware of Cavanilles figure, called it in his *Nova Genera*, *S. spectabilis*, for which he afterwards in his *Synopsis*, substituted Cavanilles name, since adopted by botanists.

The *Salvia patens* is a perennial, growing to the height of two, three, or four feet, erect and hairy. The leaves are large, ovate, or deltoid, broadly hastate, or somewhat heart-shaped at the base, or the upper ones rounded, green and hairy on both sides. The flowers are disposed in long terminal racemes, usually branching into three at the base; along this raceme they are placed in opposite pairs, each one at the axilla, of a small linear-lanceolate floral leaf. The flower stalks are short, the calyx half to three-

quarters of an inch long, hairy, green, and deeply divided into two lips—the upper one entire, the lower deeply two-cleft. The corolla, of a rich blue, between two and three inches long, is remarkable for its broad gaping mouth, the upper lip being long, falcate, and erect, enclosing the stamens and pistil; the lower lip hanging with two lateral oblong reflexed lobes, and the middle one very broad and emarginate.

The *S. patens* will probably thrive best under the same treatment as that which succeeds with *S. fulgens*, and like that plant it will be found to vary much in the size, the brilliancy, and the number of flowers, according to the temperature and light in which it is grown. Particular care should be taken not to weaken the plant, or suffer it to become etiolated, in order that the raceme may not lengthen too much, and increase the distance between the flowers.

We owe this splendid addition to our gardens to the exertions of John Parkinson, Esq. her Majesty's consul at Mexico, who transmitted seeds to this country early last year; and it was raised and first flowered in August last by Mr. W. B. Page, Nurseryman Southampton. It has also been raised by Messrs. Low, Clapton, and Mr. Pontney, nurseryman at Plymouth.

G. BENTHAM.

ARTICLE IV.

ON PROPAGATING TREES BY CUTTINGS IN SUMMER.

BY T. A. KNIGHT, ESQ. F. R. S.

WHEN a cutting of any deciduous tree is planted in autumn, winter, or spring, it contains within it a portion of the true, as it has been called, or vital sap of the tree of which it once formed a part. This fluid relatively to plants, is very closely analogous to the arterial blood in animals: and I shall therefore, to distinguish it from the watery fluid, which rises abundantly through the alburnum, call it the arterial sap of the tree. Cuttings of some species of trees very freely emit roots and leaves, whilst others usually produce a few leaves only and then die; and others scarcely exhibit any signs of life; but no cutting ever possesses the power of regenerating, and adding to itself vitally, a single particle of matter, till it has acquired mature and efficient foliage. A part of the arterial sap, previously in the cutting, assumes an

organic solid form; and the cutting, in consequence, necessarily becomes, to some extent, exhausted.

Summer cuttings possess the advantage of having mature and efficient foliage, but such foliage is easily injured or destroyed, and if it be not carefully and skilfully managed, it dies. These cuttings, such as I have usually seen employed, have some mature and efficient foliage, and other foliage which is young and growing, and, consequently, two distinct processes are going on at the same time within them, which operate in opposition to each other. By the mature leaves, carbon, under the influence of light, is taken up from the surrounding atmosphere, and arterial sap is generated. The young and immature leaves, on the contrary, vitiate the air in which they grow by throwing off Carbon; and they expend, in adding to their own bulk that which ought to be expended in the creation of shoots. This circumstance respecting the different operations of immature and mature leaves, upon the surrounding air, presented itself to the early labourers in pneumatic chemistry. Dr. Priestley noticed the discharge of Oxygen^ggas, or dephlogisticated air (as it was then called) from mature leaves. Scheele, making, as he supposed, a similar experiment upon the young leaves of germinating beans, found these to vitiate air in which they grew. These results were then supposed to be widely at variance with each other, but subsequent experience has proved both philosophers to have been equally correct.

I possess many seedling young trees of the *Ulmus campestris*, or *Suberosa*, or *Glabra*, for the widely varying characters of my seedling trees, satisfy me, that these three supposed species are varieties only of a single species. One of these seedling plants presented a form of growth which induced me to wish to propagate from it. It shows a strong disposition to aspire to a very great height with a single straight stem, and with only very small lateral branches, and to be therefore, calculated to afford sound timber of great length and bulk, which is peculiarly valuable, and difficult to be obtained, for the keels of large ships; and the original tree is growing with very great rapidity in a poor soil and cold climate.

The stem of this tree, near the ground, presented, in July, many very slender shoots, about three inches long. These were then pulled off and reduced to about an inch in length, with a single mature leaf upon the upper end of each, and the cuttings

were then planted or deeply in the soil. The cuttings were then covered with bell glasses in pots, and put upon the flue of a hot-house, and subjected to a temperature of about 80 degrees. Water was very abundantly given, but the under surfaces of the leaves were not wetted. These were in the slightest degree faded though they were fully exposed to the sun; and roots were emitted in about fifteen days. I subjected a few cuttings taken from the bearing branches of a mulberry tree, to the same mode of management, and with the same result; and think it extremely probable, that the different varieties of *Camellia*, and trees of almost every species, exclusive of the Fir tribe, might be propagated with perfect success and facility by the same means.

Evergreen trees, of some species, possess the power of ripening their fruit during winter. The common Ivy and the Loquat are well-known examples of this; and this circumstance, combined with many others, led me to infer that the leaves of such trees possess in a second year the same, or at least, nearly the same power as they possessed in the first. I therefore planted about a month ago, some cuttings of the old double blossomed white and Warrantah *Camellia*, having reduced the wood to little more than half an inch in length, and cut it off obliquely, so as to present a long surface of it; and I reduced it further by paring it very thin and near to its lower extremities. The leaves continue to look perfectly fresh, and the buds in more than one instance have produced shoots of more than an inch in length, and apparently possessing perfect health and much vigour. Water has been very abundantly given; because I conceived that the flow of the arterial sap from the leaf would be so great, comparatively with the quantity of the bark and alburnum of the cuttings, as to preclude the possibility of the rotting of these.

The cuttings above described, present in the organization, a considerable resemblance to seedling trees of different periods of the growth of the latter. The bud very closely resembles the plumule, and the leaf, the cotyledon, extended into a seed leaf; and the organ which has been, and is called a radicle, is certainly a caudex, and not a root. It is capable of being made to extend in some cases, to more than two hundred times its first length, between two articulations, a power which is not possessed in any degree by the roots of trees. Whether the caudex of the cuttings of *Camellias* above-mentioned, have emitted, or

will, or will not, emit roots, I am not yet prepared to decide, but I entertain very confident hopes of success.

T. A. KNIGHT.

ARTICLE V.

A DESCRIPTIVE LIST OF CAMELLIAS.

BY CAMELLIÆ.

(Continued from Vol. VI.)

- Pictorium coccinea*, double bright red, large beautiful flower.
Formosa, double light red, large and fine.
Maria Dorothea, double white pink, spots or stripes.
Amiable, double rose, white centre, beautiful form, extra fine.
Delesii, double dark rose, large and good.
Fimbriata rubra, double fringed, dark red, good form.
Philidelphica, double deep rose, large and extra fine.
Pulcherrima striata, double rose, large white spot or stripe.
Jacksonii, double dark rose, blush centre, beautiful form, extra fine.
Pelegrina, double white, dark blood red spot or stripe, fine.
Anemoneflora sinensis, double striped warratah, from China.
Spectabilis Maculata, double white with red spots, or striped.
Fasciculata speciosa, double flesh colour, with white stripe, fine
Superbissima grandissima, double dark red, extra large and fine.
Belle Rosalie, semi double dark red.
Celestina, double light rose, cupped petals, extra, fine form.
Lineata, double buff or blush, small red spots.
Variegata præcox, double light red, white stripes.
Reticulata novæ species, semi double light red, flowers from eight to ten inches across.
Francofurtensis, double rose, changing to a pale pink, flowers nearly as large as *Reticulata*.
Amanda, double, fine red, large and good.
Cloweana, double red, white spots or stripes.
Louise Philippe, double red, sweet scented, good.
Cardinal, single red, fine thick petals, large flower.
Frederic le Grand, double red, extra large, fine flower.

CAMELLIÆ.

Jan. 1st, 1839.

(To be continued.)

ARTICLE VI.

A LIST OF THE MOST SPLENDID SEEDLING GERANIUMS.

BY R. LONDON.

1. Prima Donna, Foster's, beautiful flower, with fine black spot edged with orange, white centre, fine form and free bloomer.
2. Joan of Arc, Garth's, like Perfection, very dark upper petals, excellent habit, free bloomer.
3. Jewess, Foster's, fine rosy pink flower, with upper petals entirely covered with black, extra fine.
4. Una, a beautiful pure white flower.
5. Queen Victoria, Eyre's, bright purple, sweetly blended with crimson, and shaded like *Cactus speciosissima*, fine dark spot, extra large, fine flower.
6. Efulgens, Jarvis's, upper petals dark carmine with dark spot, under petals crimson, the eye white blended with a purple hue, good form and habit.
7. Gauntlet, Gains's, very large rich orange scarlet, fine fiery red spot, exquisite form, free bloomer.
8. Calypso, Gains's, beautiful large rose, fine dark spot, good form and habit.
9. Phosphorus, Gains's, very bright crimson purple, large fine spot, excellent form and habit.
10. Lord Byron, Gains's, beautiful crimson, fine spot.
11. Momus, Gains's, dark crimson finely marked, very distinct flower, good form and habit.
12. Unique, Gains's, beautiful pink flower, fine large spot, fine form and habit.
13. Morning Star, Gains's, brilliant orange scarlet, very large fine flower.
14. Midford Castle, Gains's, pale rose flower with fine spot, good form.
15. Duke of Wellington, Gains's, deep rose, fine spot, a large and very showy flower, good form.
16. Lady Dillon, Gains's, very large showy blush flower, fine dark spot, good form.
17. Zearah, Gains's, colour of Perfection, very much pencilled, fine form, a superb flower.

18. Queen Victoria, Hodge's, beautiful rose, fine spot, free bloomer and excellent form.
19. Purpurea perfecta, Hodge's, rich purple, exquisite form, fine dark spot, clear and distinct, free bloomer.
20. Lady Elizabeth Bulteel, Rendle's, beautiful delicate pink, fine form, good spot, beautiful tinge of white about the centre, free bloomer.
21. Bride of Abydos, Rendle's, light pink, good spot, excellent form, and a fine trusser above the foliage.
22. Queen Victoria, Rendle's, very light rose, large splashed Alicea spot, good form and habit.
23. Hussey Vivyan, Rendle's, fine light crimson, excellent spot, free and most showy bloomer.
24. Sir Roberet Newman, Rendle's, delicate pink, fine large spot very free bloomer, good habit.
25. British Queen, Barratt's, white ground, clear deep purple, feathered spot, form of Dennis's Perfection.
26. Queen Hebe, Barratt's, light rose ground, mulberry spot, fine large compact flower.

ARTICLE VII.

ON THE CULTIVATION OF CHLIDANTHUS FRAGRANS.

BY THE REV. F. BELFIELD, F. H. S.

HAVING been very successful in flowering *Chlidanthus fragrans* this spring and that too under three different modes of treatment it has occurred to me that you might like to be made acquainted with it.

In December last my friend Mr. Nugent gave me for the purpose of trying experiments, nine middle sized roots, which for the two preceding years had been growing in the open ground protected only by a frame in winter. On receiving them, they were put into dry earth and placed in the hottest part of the stove and kept perfectly dry, till the latter end of the month of March, when three roots were potted, watered, and kept in the hothouse; of these, two very shortly shewed their blossom buds, but only one came to perfection and did not seed.

In the end of April the six remaining roots were planted in front of the pine pit, and in the following month three of them flowered in the greatest perfection, but did not shew any dis-

position to form a seed pod. In the same border I have another bulb, which has been growing there two years, quite unprotected in winter. This in the month of June surprised me by not only throwing up a noble flowering stem, far exceeding any of the others, but also by perfecting its seed pod, and that without any artificial impregnation. As this may be a novelty, I have much pleasure in sending it to you; possibly its produce may be even hardier than the parent bulb

The border in which these plants have grown is particularly calculated for the culture of tender bulbs. *Brunsvigia Josephinæ* flowered there last autumn, with a stem nearly as large as my wrist, and a head of thirty six flowers, seeding abundantly; *Ismene calathina*, *Vallota purpurea* and many others flower annually. *Hæmanthus toxicarius* flourishes there, but has not blossomed.

F. BELFIELD.

ARTICLE VIII.

REMARKS ON THE ROSE.

(Continued from page 37.)

THE principal enemy of the rose is a species of fly, called the rose saw-fly, which pierces the tender flower-bud, and thrusts an egg into the puncture, which soon becomes a caterpillar, that nourishes itself by eating away the heart of the young flower and fruit, down to where it joins the stalk. It then loses its supply of nourishment, droops on one side and dies, whilst the insect spins itself a descending rope, by which it reaches the ground, and entombs its body in a silken shell, whilst its transformation takes place first into a chrysalis, and then a fly, which renews this work of devastation.

There are several flies of this genus, that are equally injurious to the rose tree. These flies are furnished with a very remarkable instrument, in the shape of a saw, by which they make small holes in the bark of the young branches, where they deposit their numerous eggs, which on the succeeding summer are hatched by the warmth of the sun, and nourished by the ascending sap, until they assume the appearance of small green flies, in which state they issue from the bark in such numbers, as to cover the tender

shoots and leaves, on which they rest, to suck the nutriment of the plant.

These flies may be known by a yellow body and a black head, with four wings edged with black. Another species of rose-fly has a head and breast of violet colour, with a body of yellow, and legs and wings of pale violet. It may be seen in a summer's morning, working on the branches of the rose tree, and from its sluggish nature will suffer itself to be taken between the fingers. The branches where it has deposited its eggs are so vitiated by it, that they are easily discovered, as they generally swell to a greater size than the parts above or below, and they often become black on the under side: when examined with a glass, the eggs may be discovered. These branches should be carefully cut off; and when the plants are covered with these insects, it is desirable to brush them off with a bunch of feathers or young elder branches, as they fix themselves too fast to be washed off by water.

Insects may be destroyed by placing a chafing dish with lighted charcoal under the bushes, and then throwing a little brimstone on the coals; but this must be done in small quantities, and carefully, lest the sulphur injure the plants.

The lady bird, so named, from the points or specks on its shell wings, haunts rose bushes to feed on the small insects commonly called blights. The brier and Scotch roses are frequently attacked by the *Cynips rosæ*, which, by puncturing the bark, occasions the production of those singular and beautiful flossy tufts, which are so frequently seen on wild roses. These rose galls contain several little cavities, in each of which is a small maggot. This substance was formerly used in medicine, under the name of *Bede-guar*.

The rose is too important a flower to have been overlooked by *Æsculapius*, who in old times used every part of this plant, from the root to the yellow anthers within the blossom, for some particular purpose in medicine, as may be seen in all the ancient medical authors. The kinds of roses principally used in modern practice, are the red and the damask. The latter is considered a safe and gentle purgative for children, when administered in infusion or by way of syrup.

The red roses are astringent, and particularly so when taken before they are fully blown; conserves are made of both these kinds of roses.

Ladies may make their own milk of roses, by simply adding

one ounce of the oil of almonds to a pint of rose water, after which, ten drops of the oil of tartar is to be added.

We shall conclude our history of the rose with the lines of the Ayrshire Ploughman.

“ Never may'st thou, lovely flower
 Chilly shrink in sleety show'r !
 Never Boreas' hoary path,
 Never Eurus's pois'nous breath,
 Never baleful stellar lights,
 Taint thee with untimely blights !
 Never, never, reptile thief,
 Riot on thy virgin leaf !
 Nor even Sol, too fiercely view
 Thy bosom blushing still with dew !

May'st thou long, sweet crimson gem,
 Richly deck thy native stem ;
 Till some ev'ning, sober, calm,
 Dropping dews, and breathing balm,
 While all around the woodland rings,
 And ev'ry bird thy requiem sings ;
 'Thou, amid the dirgeful sound,
 Shed thy dying honours round,
 And resign to parent earth
 The loveliest form she e'er gave birth.”

ARTICLE IX.

ON CHINESE GARDENS.

(Continued from page 40)

HE mentions one of them, that cost upwards of two hundred thousand pounds, exclusive of the furniture ; another, consisting of a hundred rooms : and says, that most of them are sufficiently capacious to lodge the greatest European lord, and his whole retinue. There is likewise, in the same garden, a fortified town with its port, streets, public squares, temples, shops, and tribunals of justice, in short, with every thing that is at Peking, only upon a smaller scale.

In this town the emperors of China, who are too much the

slaves of their greatness to appear in public, and their women who are excluded from it by custom, are frequently diverted with the bustle of the capital; which is there represented several times in the year, by the eunuchs of the palace; some of them personating merchants, others artificers, officers, soldiers, shopkeepers, porters, and even thieves and pickpockets. On the appointed day each puts on the habit of his profession; the ships arrive at the port, the shops are opened, the goods are offered for sale; tea-houses, taverns, and inns, are ready for the reception of company; fruits and all kinds of refreshments are cried about the streets; the shopkeepers teize the passengers to purchase their merchandize, and every liberty is permitted; there is no distinction between persons, even the emperor is confounded in the crowd; quarrels happen—battles ensue—the watch seizes upon the combatants, they are conveyed before the judge, he examines the dispute and condemns the culprit, who is sometimes very severely bastinadoed, to divert his imperial majesty, and the ladies of his train. Neither are sharpers forgot in these festivals, the noble profession is allotted to a good number of the most dexterous eunuchs, who, like the Spartan youths of old, are punished or applauded, according to the merit of their exploits.

The plantations of their autumnal scenes consist of many sorts of oak, beech, and other deciduous trees that are retentive of the leaf, and afford in their decline a rich variegated colouring; with which they blend some picturesque forms that art or nature can suggest. Buildings, sculptures, and paintings are added to give splendor and variety to these compositions; and the rarest productions of the animal creation are collected to enliven them; nothing is forgot that can either exhilarate the mind, gratify the senses, or give a spur to the imagination.

Their scenes of terror are composed of gloomy woods, deep vallies inaccessible to the sun, impending barren rocks, dark caverns, and impetuous cataracts rushing down the mountains from all parts. The trees are ill formed, forced out of their natural directions, and seemingly torn to pieces by the violence of tempests; some are thrown down, and intercept the course of the torrents; others look as if blasted and shattered by the powers of lightning: the buildings are in ruins; or half consumed by fire, or swept away by the fury of the waters; nothing remaining entire but a few miserable huts dispersed in the mountains; which serve at once to indicate the existence and wretchedness of the inhabi-

tants. Bats, owls, vultures, and every bird of prey flutter in the groves; wolves, tigers and jackalls howl in the forests; half-famished animals wander upon the plains; gibbets, crosses, wheels, and the whole apparatus of torture, are seen from the roads; and in the most dismal recesses of the woods, where the ways are rugged and overgrown with poisonous weeds, and where every object bears the marks of depopulation, are temples dedicated to the king of vengeance, deep caverns in the rocks, and descents to gloomy subterraneous, habitations, overgrown with brushwood and brambles; near which are inscribed, on pillars of stone, pathetic descriptions of tragical events, and many horrid acts of cruelty, perpetrated there by outlaws and robbers of former times; and to add both to the horror and sublimity of these scenes, they sometimes conceal in cavities, on the summits of the highest mountains, founderies, limekilns. and glass-works, which send forth large volumes of flame, and continued clouds of thick smoke, that give to these mountains the appearance of volcanoes.

Their surprizing or supernatural scenes are of the romantic kind, and abound in the marvellous, being calculated to excite in the mind of the spectator, quick successions of opposite and violent sensations. Sometimes the passenger is hurried by steep descending paths to subterraneous vaults, divided into stately apartments, where lamps which yield a faint and glimmering light discover the pale images of ancient kings and heroes, reclining on beds of state; their heads are crowned with garlands of stars, and in their hands are tablets of moral sentences; flutes, and soft harmonious organs, impelled by subterraneous waters, interrupt at stated intervals, the silence of the place, and fill the air with solemn sacred melody.

Sometimes the traveller, after having wandered in the dusk of the forest, finds himself on the edge of precipices in the glare of day-light, with cataracts falling from the mountains around, and torrents raging in the depths beneath him; or at the foot of impending rocks, in gloomy vallies overhung with woods; or on the banks of dull moving rivers, whose shores are covered with sepulchral monuments, under the shade of willow, laurel, and other plants sacred to Manchew, the genius of sorrow.

His way now lies through dark passages cut in the rocks, on the sides of which are recesses, filled with colossal figures of dragons, infernal furies, and other horrid forms, which hold in their mon-

strous talons, mysterious, cabalistical sentences, inscribed on tables of brass, with preparations that yield a constant flame, serving at once to astonish and guide the passenger; from time to time he is surprized with repeated shocks of electral impulse, with showers of artificial rain, or sudden violent gusts of wind, and instantaneous explosions of fire: the earth trembles under him by the power of confined air, and his ear is continually struck with many different sounds, produced by the same means, some resembling the cries of men in torment,; some the roaring of bulls and the cries of ferocious animals, with the yell of hounds, and the voices of hunters; others are like the mixed croaking of ravenous birds, and others imitate thunder, the raging of the sea, the explosion of cannon, the sound of trumpets, and all the noise of war.

His road then lies through lofty woods, where serpents and lizards of many beautiful sorts crawl upon the ground, and where innumerable apes, cats and parrots, clamber upon the trees, to intimidate him as he passes; or through flowery thickets, where he is delighted with the singing of birds, the harmony of flutes and soft instrumental music; sometimes in this romantic excursion, the passenger finds himself in spacious recesses, surrounded with arbors of jessamine, vine and roses, or in splendid pavilions, richly painted and illuminated by the sun; here beauteous Tartarean damsels, in loose transparent robes, that flutter in the scented air, present him rich wines, or invigorating infusions of Ginseng, and amber, in goblets of agate; mangostans, ananas, and fruits of Quangsi, in baskets, of golden filagree; they crown him with garlands of flowers, and invite him to taste the sweets of retirement, on Persian carpets, and beds of camusathskin down.

These enchanted scenes always abound with water-works so contrived as to produce many surprising effects; and many splendid pieces of scenery; amongst which their Kia-king, or water palaces, are the most extraordinary; they consist of many colonades, arcades, galleries, and open cabinets, formed of smooth sheets and jets of fair water, artfully rising or falling over grounds of different coloured glass, or over innumerable lamps, which varying the tints of the liquid, give to the structures the appearance and lustre of diamond, sapphire, emerald, ruby, amethyst and topaz.

(To be continued.)

PART II.

NEW OR RARE PLANTS.

(Noticed since our last.)

1. ERICA TRICOLOR, v. SUPERBA. Superb Three coloured Heath.
(Pax. Mag.)

ERICACEÆ. OCTANDRIA, MONOGYNIA.

A good edition to this most charming and interesting genera; it was raised from seed supposed to have been saved from *E. Tricolor*, by Messrs. Rolin-son's of Tooting; it bears a striking similitude to *E. Tricolor*, v. Major, but differs by the tube of the flower being longer and larger, and presents a considerably more showy appearance.

2. MAXILLARIA TENUIFOLIA. Slender leaved Maxillaria.
(Bot Reg. 8.)

ORCHIDACEÆ. GYNANDRIA, MONANDRIA.

Introduced from Mexico by Mr. Hartweg, a collector of the London Horticultural Society, who found it growing upon trees in the neighbourhood of Vera Cruz. It is very probable, as it has not been produced in collections from the interior of the country, that it is entirely local.

It is a very pretty species with yellow, green, and scarlet spotted blossoms; it is of easy culture, and as Dr. Lindley observes, "succeeds in a warm damp stove in a pot, with a block of wood thrust into the soil, and the long branching Rhizama tied to it; it grows almost equally well when tied to a wooden block, and suspended from the rafters of the stove; it bears without injury a quantity of water at its roots, and must also be freely syringed over head. It is easily multiplied as it throws out numerous pseudo-bulbs and roots, which if taken carefully off will soon become vigorous growing plants."

3. SOPHRONITIS GRANDIFLORA. Large flowered Sophronitis.
(Bot. Mag. 3709.)

ORCHIDACEÆ. GYNANDRIA, MONANDRIA.

Discovered growing at a considerable elevation on the Organ mountains, by Mr. Gardener, who sent it home in 1837. It is a handsome variety producing large flowers of a uniform red colour, inclining to orange, with darker red streaks. We have no doubt but it would succeed well with similar treatment to that afforded Cattleyas, &c.

4. STATICE ARBOREA. Tree Statice.

PLUMBAGINACEÆ. PENTANDRIA, PENTAGYNIA.

Introduced by P. B. Webb, Esqr., it is one of the most local and rare of all known plants. It is only on a few rocks called the Islets of Burgado, which seem as if broken off from the coast of Teneriffe by some violent convulsions of nature, carrying with them on their summits a little earth, that this rare plant is found, surrounded on every side by the ocean, and only a few yards removed from its surface.

It is highly ornamental, producing large clusters of flowers of a light blue colour, it is best adapted for planting out in the bed of the conservatory, and grows well in a mixture of heat and loam; it flowers from April to June. Plants may be obtained at most of the principal Nurseries.

5. PHILIBERTIA GRANDIFLORA. Large flowered Philibertia.

(Pax. Mag.)

ASCLEPIADACEÆ. PENTANDRIA, DIGYNIA.

A very pretty and interesting climbing shrub, of which we possess a drawing made during autumn, and it is our intention shortly to figure it in the 'Cabinet,' when we shall make further observations upon it.

6. STANHOPEA TIGRINA. Tiger flowered Stanhopea.

(Bot. Reg. No. 1, 1839.)

ORCHIDACEÆ. GYNANDRIA, MONANDRIA.

This truly beautiful species of Stanhopea was originally received from the neighbourhood of Xalapa, by Messrs. Low & Co., of the Clapton Nursery; and it is now we believe cultivated in several collections. This most singular novelty which is displayed in the formation of flowers by the various tribes of plants, none possess that remarkableness in so striking a degree as the tribe under consideration; and our present species not only possess eminent singularity, but it is beautiful in its colour, and so strikingly blotched and spotted, together with its delightful fragrance as at once to become a subject of peculiar attention. We doubt not but it will soon be in the hands of many growers, as Stanhopeas are generally luxuriant in growth. The treatment required for this plant is similar to the other species, that is, sandy peat, with plenty of drainage, and small pieces of decayed wood, observing to raise the plant considerably above the level of the rim of the pot, otherwise the flowers would in all probability be confined within the pot as the flower stalks shoot downwards. Care must also be taken to allow the plant a proper season of rest when done growing, which will be a means of considerable acceleration to its vigour, during the forthcoming season.

ERRATUM. To the kindness of a correspondent we are indebted for the correction to our notice of *Hovea Manglesii*, and *Elichrysum macranthum*, December No. Vol. VI. We understand that these flowering plants had been introduced into this country by Robert Mangles, Sunning Hill, Berks, but our correspondent informs us, that the merit of introducing them, as well as a considerable number of the most showy of recent introduced plants, belong to Captain Mangles, R. N. That gentleman has been assiduously engaged for the last eight years, in introducing seeds from that most interesting portion of the globe, the Swan river colony. To accomplish so desirable an object, Captain Mangles went expressly on purpose, to see the Flora of that country, and resided there for some time.

To contribute to the pleasures of those interested in beautiful flowering plants, in this country, Captain Mangles has expended a very considerable sum of money; and equally so in procuring and sending out presents of plants, books, Maps, &c. from this country, to Botanists resident at the Swan River colony, Ceylon, South Australia, Valparaiso, and other places, with a view to stimulate them to collect and send seeds, &c. to this country.

Immediately on receiving packets of seeds, with a liberality which entitles Captain Mangles to the thanks of every botanist in this country, they are distributed gratuitously to the principal nurserymen, and other plant establishments belonging to the Nobility and Gentry. We wish those persons having connexions in the distant portions of the globe would imitate the very laudable zeal of Captain Mangles, introducing seeds or plants, and which in many instances might be procured at but a small expence, we should soon have plants in our collections of many splendid flowers, of which we have only had descriptions, or a specimen sent us.—Conductor.

ANEMOPSIS CALIFORNICA. We saw this plant at the Epsom Nursery, producing its pretty blue flowers of a *Ranunculus* form. The plant is a dwarf grower, but flowers freely.

PART III.

MISCELLANEOUS INTELLIGENCE.

QUERIES.

A LIST AND PRICES OF THE BEST KINDS OF POLYANTHUSES.—Will the Editor, or some reader of the "Floricultural Cabinet," be kind enough to give me a list of the names of the best prize Polyanthuses, also where they are most likely to be obtained, and at what probable price.

AN AMATEUR, AND CONSTANT READER OF THE CABINET.

London, Jan, 7th, 1839.

ON WATERING PLANTS, &c. WITH WATER FROM METAL OR CAST IRON PIPES.—Having a greenhouse as well as two houses for the cultivation of Grapes, Pines, &c., and which are heated with hot water; I should feel obliged if you, or any of your numerous correspondents would answer the following question. (Perhaps Mr. Thompson who has wrote a few such valuable pages in the "Cabinet," and who, I believe has published a Treatise on the Hot Water system, would do me the favour; or any one who understands a little of chemistry.

The supply of water for the use of these houses is obliged to be drawn from the hot water pipes, and I have more than once attempted to hold an argument with my employer on the bad effects which will be produced from such practice, and have urged the necessity of a proper cistern to supply the plants, Grape Vines, &c., but yet have not been successful, as he believes water from the pipes to be full as beneficial to vegetation as any other. My opinion is, that water after being boiled, must have lost the greater portion of its nutritive properties, in addition to rusting all bunches of Grapes that may be syringed by such water; however when the question is answered, I shall feel more satisfied, and then let the matter rest.

Hamburg, Nov., 27th, 1838.

ON VIEUSSEUXIA PAVONICA.—Our old and respected correspondent "Burriensis," whose letter we published in our Number for April, complains that no answer has been given to his enquires respecting the above bulb, and he will feel much obliged by being informed where it can be procured; it is evidently different from the *V. Glaucoptis*, of which he has many bulbs, which flower every year.

AITON'S *Epitome* of the '*Hortus Kewensis*,' is by mistake called *Reivensis* in the above letter of *Burriensis*.

LOUDON'S '*Hortus Britannicus*,' page 20, *Vieusseuxia*.

No. 1358. *V. Pavonica*, *Moræa Pavonia*, *Iris Pavonia*, Peacock. Introduced in 1790; coloured in *Bot. Mag.*, table 1247.

No. 1361. *V. Glaucoptis*, *Iris Pavonia*, Grey eyed. Introduced in 1776; coloured in *Bot. Mag.*, table 168.

SWEET'S '*Hortus Britannicus*,' page 498, *Vieusseuxia*.

No. 2. *V. Pavonia*, Peacock, *Moræa Pavonia*, *Iris Pavonia*. Introduced in 1790; coloured in *Bot. Mag.*, table 1247.

No. 5. *V. Glaucoptis*, White flowered. Introduced in 1776; coloured in *Bot. Mag.*, table 168.

The colours of the first are stated to be orange, &c.
The colours of the second are stated to be white and blue } Called *Moræa* in CURTIS'S *Bot. Mag.*

AITON's Epitome of 'Hortus Kewensis,' edition of 1814, page 16, *Moræa*. Pavonia, Peacock. Bot. Mag., table 1217; introduced in 1790.

I can find nothing in AITON answering to *V. Glaucopis*, under any name, either in the body of the book, the addenda, or index synonym.

'Hortus Cantabrigiensis,' tenth edition, by LINDLEY. 1823, page 21, *Moræa*.

No. 11. *M. Pavonia*, Peacock. Bot. Mag. 1247; introduced in 1790.

I cannot find anything answering to *V. Glaucopis*.

SWEET's 'Hortus Suburbanus Londinensis' 1818, page 11, *Moræa*.

No. 4. *M. Pavonia*, Peacock. Introduced in 1790; Bot. Mag. 1247.

Nothing answering to *V. Glaucopis*; but, from the 'Hortus Britannicus,' of SWEET & LOUDON, it is clear that they are different bulbs, introduced at different periods, differently coloured in the Bot. Mag., table 1247, and table 168; and yet I cannot for love or money procure the *V. Pavonica*, nor have any information respecting it. The London Seedsmen or Nurserymen know no distinction, and still in their catalogues retaining the old name and not *Vieusseuvia*. I cannot find the word *Iris Pavonia* in any catalogue, but that in CUSHING's 'Exotic Gardener,' page 211, the third line from the bottom of the second column. (Printed 1814.)

I have no other catalogue to which I can refer, but it is very singular that it is (*the Glaucopis*) not mentioned in AITON, DONN. & SWEET's 'Horticultural Suburbanus.'

REMARKS.

ON CONVEYING GRAFTS OF TREES. Professor Jussone has ascertained that the best mode of conveying grafts of trees, cuttings of vines, &c., is to place them in a tin case or cylinder filled with honey; the honey hermetically excludes the air, and cuttings so preserved, will vegetate many months after they have been packed. [See Conversations on Nature and Art, by a Lady, Vol. i. p. 60.]

ON THE SCOTCH AND LARCH FIRS. The late Duke of Atholl ascertained that whilst the Scotch Fir only thrives at an elevation below nine hundred feet in the north of Scotland, the Larch ascends to one thousand six hundred feet, and may ascend still higher. At Leach Hills in Lanarkshire Scotch Firs will not grow, and all other trees are stunted, excepting Larches, which thrive luxuriantly where protected. The heaths in Scotland when they are not cultivated, may be adorned with wood; and almost all the hills in England may have Larches growing on their summits. Instead of importing timber from other countries, we may then have more than we require; and thus obtain new resources from being the exporting nation. [Compressed from an Article in the 'Saturday Magazine,' Dec. 15th, 1838, quoted from the 'Magazine of Popular Science.']

ON RANUNCULUSES. We would take the opportunity here of drawing attention to Tyso and Son's advertisement, of Ranunculuses. It is not, of course, the case that all situations are favourable for the successful cultivation of this splendid flower; those, however, who possess a rich dry and rather sandy soil, and are in any way concerned in the production of showy flowers, will not be disappointed in the return usually made by a well grown bed of Ranunculuses, when in full bloom.

Mr. Tyso has also favoured us with his sheet catalogue, containing descriptive lists of Ranunculuses, named sorts, and seedling Tulips, Geraniums, Carnations, Picotees, Pinks, Dahlias and Pansies. This is the best arranged, the most comprehensive, and explicit sheet catalogue we have seen. It contains a table of abbreviations, by which the colours are minutely and clearly described.

THE GARDENS
OF THE
ROYAL BOTANIC SOCIETY OF LONDON,
INNER CIRCLE, REGENT'S PARK.

(Continued from page 46.)

Mr. D. R. Hay, of Edinburgh, an able writer on the subject, gives testimony to the following effect.—“The vegetable kingdom presents the best examples for study, and a taste for ornamental design is not only to be acquired from the rare productions of the botanic garden, but both grace and elegance of form are to be found in the common dock, the thistle, the fern, or even in a stalk of barley. When students come to examine the ornamental remains of Athens and Rome, they will find themselves familiar with the source from which such designs were derived, for the ancients undoubtedly owed their excellence in ornamental art to the study of nature. Dr. Ure attributes the excellence of the French to the pursuit of art through the medium of nature.”

The Chancellor of the Exchequer recently expressed himself in the House of Commons to the following effect:—“He thought it a disgrace to this country, possessing as it did so many colonies, and such vast means of collecting botanical specimens from all parts of the earth, that it should be without an extensive botanical garden, for the benefit of medical students and other scientific persons.”

While the importance of botanical study is such in the lower walks of art, it is not of less necessity in its higher and more unequivocal branches. The delineation of the flower has in all countries afforded many fine paintings, a branch in which ladies have been particularly successful, and in which it was the pride of Rubens to excel equally as in the other departments of art. In all that relates to decoration, however, its application is of primary importance. Foliage is the basis of the arabesques of Pompeii, and those of Giulio Romano; and while an increasing inclination is exhibited for these styles among the patrons of art, the only true source of their power should not be neglected. The details of architecture have, even in the severest nations, derived their origin from this source, and the palm leaf of the Temple, and the lotus of Egypt, were not less favourite with their respective admirers than the variegated foliated ornaments of the Greeks. These latter, in the acanthus and the honeysuckle, found a harmony and beauty which they made productive of the greatest effect, while the Gothic architects, in the profusion of their architectural enrichments, displayed even greater variety and research.

Although we who are the most important commercial nation of the world, have been thus negligent in our metropolis, foreign nations, to whom botany is of far less pecuniary interest, have not been unmindful of encouraging its study. Whether for medical purposes, or for those purely scientific, or on a more extended scale, there is scarcely a town in Europe without its botanic garden, and the extent of these establishments, and the efficiency of some of them, is enough to cast shame on the negligence we have hitherto displayed. The garden at Padua appears to have been the first established in Europe, and was founded in the early part of the sixteenth century, and shortly after others were formed at Pisa, Florence, and Bologna. Since that period the progress has been such, that there is hardly a city in Italy without its botanic garden, although considerable difficulty is felt there on account of the necessity of supplying water by irrigation. The Dutch early cultivated this department, and from the garden of Amsterdam supplied the coffee plant from which all those in the French colonies have been propagated. In France, the first establishment of this kind was formed at Montpellier in 1597; but, by far the best known, and the most important in Europe, is that of the Jardin des Plantes at Paris, founded in

1610. This institution merits particular notice, especially as it is a central one, and has long enjoyed the benefit of a regular administration. Its objects are twofold: first, to collect useful and remarkable plants from every part of the world, and to distribute them as far as practicable, to every part of France, and to other countries; and secondly, to form a school of botany and vegetable culture. Plants are brought to the garden from all countries by a universal correspondence; by particular naturalists, sent out at the expense of the nation; and by the general protection of the government, which allows entrance, free of duty, and general carriage, free of expense, to all plants brought for the use of the garden, by whatever kind of vessel. Plants received in Paris are propagated without loss of time, and distributed to all the botanic gardens in France, and to such of the colonies where they may be useful; and, lastly, they are sent to foreign correspondents in return for similar favours. The provincial botanic gardens, of which there is one at least in every department, distribute them again among the eminent proprietors and cultivators in their neighbourhood. Instruction is given by lectures, to which the public are admitted, and by practical demonstrations. In Germany, botanic gardens are attached to every university, and in Austria the science has met with the greatest encouragement from the enlightened munificence of the sovereigns, who have neglected no opportunity of sending exploratory expeditions to collect plants. The garden at Berlin is esteemed the first in Germany. Those at Munich displays equal taste with the other foundations of the king of Bavaria. In Saxony and Wirtemberg are admired gardens; and this latter country possesses a private society of subscribers, of £1 each, for sending out travellers to collect plants in every part of Europe. In Switzerland there is a botanic garden in every canton. In Sweden, the establishment at Upsal is celebrated as having been under the direction of Linnæus. In Russia, the botanic garden of St Petersburg, containing sixty acres, is one of the largest in Europe, and is maintained with a munificence worthy of the scientific patronage of that empire. A considerable part of it is devoted to the cultivation of medicinal plants for the hospitals; and it is a central establishment for the use of the empire. In Spain, among others, is that of Madrid, containing forty-two acres, which, like the great garden of St. Petersburg, cultivates medicinal plants. There are numerous other gardens in different parts of the world, as will be seen by reference to the statistical table annexed.

(TO BE CONTINUED.)

NEW OR RARE PLANTS.

CHOROZEMA DUKSONI. Named in compliment to the respectable nursery-men Messrs. Dickinson's of Edinburgh. It is stated by those gentlemen to be the finest species yet introduced, we saw it in several of the London nurseries, but not in bloom. The plant is of a bushy habit, foliage small and fringed; it is a very pretty plant when not in bloom, but as all the other species are handsome, we doubt not but this will be found deserving a place in every greenhouse.

PHYSOLOBIUM ELATUM. A beautiful flowering greenhouse plant, very much resembling *Kennedia coccinea*; it has been received from South Australia, and will prove an interesting addition to that lovely tribe of plants to which it is so closely allied. We saw it at the Tooting Nursery.

OXYLOBIUM CAPITATUM. A very fine species recently introduced, producing fine heads of yellow and crimson flowers, rendering it a very desirable plant for the greenhouse. It is grown at the Tooting Nursery.

FLORICULTURAL CALENDAR FOR MARCH.

ANEMONES—should now be planted as early in the month as can be done.

AMARYLLIS'S—and other liliaceous bulbous plants which have been kept dormant may now be re-potted, and put into an increased temperature.

ANNUALS, HARDY,—if the soil be moderately dry, some of the most hardy kinds to bloom early in the summer, may be sown in warm parts of the country, or situations well protected, early in the month, but in cold places not until the end of the month; for if the seeds of many sorts have begun to vegetate, and frost operate upon them, they are often destroyed. The best method of sowing the small seeds in patches is, to have a quantity of finely sifted soil; spread a portion where desired, after scattering the seeds, sprinkle a little more soil over them, and then press it closely upon the seeds which will assist them in vegetating properly.

ANNUALS, TENDER—such as have been sown and may be up, should have all possible air given to prevent their being drawn up weakly. In watering those in pots they must not be watered over the tops, or many of the sorts will be rotted by it. The best method is to flood over the surface of each pot, always using water that is new milk warm. Those annuals sown in frames must be watered (when requisite) with a very fine syringe, or pan rose to sprinkle with; but the best plan is to take advantage of gentle rains. For any seeds yet requiring to be sown use fine soil pressed to the seeds, and when convenient, place the pots (if used) in moist heat till the plants are up.

AURICULAS—those requiring top dressing should be done immediately, by taking off about two inches deep of the top soil, replacing it with some very rich, more than one half of it should be rotten cow dung two years old, and the rest loam and sand. Immediately after this dressing, let the soil be well settled by a free watering. By the end of the month the unexpanded blossoms will be nearly full grown; no water must be allowed to fall upon them, or the blossoms would be liable to suffer injury by it. All possible air may be admitted to the plants during the day, only screen from cutting frosty winds.

CARNATIONS—at the end of the month, the last year's layers kept in pots or beds during winter, should be planted off into large pots 12 inches wide at the top, 6 at the bottom, and 10 deep. In each pot three plants may be placed triangularly, not planting deeper than to fix them securely. The following compost is most suitable. Two barrows full of fresh yellow loam, three of well rotted horse-dung, and half a barrow full of river sand, well mixed; plant in it without sifting, but breaking very well with the spade, place the plants in a sheltered situation out of doors.

CREEPERS—and twining greenhouse or hardy plants, should be pruned and regulated before they begin to grow.

CALCEOLARIA SEED—should be sown early in the month, having the finest sifted soil for the surface.

CAMELIAS—those kinds done blooming should be immediately potted, for if allowed to push the least before this is done, the operation frequently kills the tender shoots. In potting, &c, never cut the matted roots, but shake the soil off, and replace with what new soil may be required. If the balls are not matted with roots, just loosen the outer fibres with the hand, which will induce them sooner to push into the soil. A very free drainage is required, or the plants will never flourish. The following is very good compost for growing them in:—One barrow full of rich loam, half a ditto of

peat, half a ditto of very rotten dung, or rotten vegetable mould, and one third ditto of Calais, or other fine sand. Never use sifted soil, but well broken. As soon as the plants are potted, place them in a temperature of about 68 degrees of heat by day, and 60 by night. This will cause them to push more vigorously, and more certain to induce flower buds.

DAHLIAS—if not already put into excitement, should be done as early as possible. Seeds should also be sown, placing them in a hot bed frame till up.

GESNERIA, GLOXINIA—and **TROPÆOLUM** bulbs, that have been kept dry during winter, should now be potted, and be gently brought forward.

HYDRANGES—cuttings may now be taken off, cutting off the tops of any shoots that have very plump leading bulbs, about one inch below the bud of each cutting. These inserted, each into a small pot, and placed in moist heat, will soon strike root, and will, with future proper treatment, bloom one fine head each, strikingly beautiful.

PELARGONIUMS—cuttings now put in, struck in a hot bed frame, and potted off as soon as they have taken root, will bloom during autumn.

POLYANTHUSES—should now be top dressed, as directed for Auriculas, only the soil need not be so rich. Seed may now be sown; the best method is to raise it in heat, harden gradually, and transplant when large enough.

RANUNCULUSES—should now be planted, taking care no fresh applied dung is in the soil, nor should the ground to plant in be lightened up more than two inches deep. The soil of the bed should be half a yard deep at the least. The best roots for flowering are such as have the crowns high and firm, with regular placed claws.

ROSE TREES—not yet pruned, if allowed to remain untouched till the new shoots of the present coming season be about an inch long, and be then shortened by cutting back all the old wood to below where the new shoots had pushed, the dormant buds will then be excited, and roses will be produced some weeks later than if pruned at a much earlier season. Plants in pots now put into heat, will come into bloom in May.

TUBEROSSES—should be planted, one root in a small pot, using very rich sandy soil; the pots should be placed in moist heat till the plants are up a few inches, then they may be planted into larger pots, and taken into a stove, and finally into a greenhouse.

TULIPS—at this season such as happened to be affected by canker will appear sickly, the roots should be examined, and the damaged part be cut clean out. If left exposed to sun and air, the parts will soon dry and heal. Avoid frosty air getting to the wound by exposure.

REFERENCE TO PLATE.

CHILODIA SCUTELLAROIDES. A greenhouse plant, which, when in full bloom is very interesting and showy; the plant is a most profuse bloomer, and continues to flower for a considerable time. We saw it at the Epsom Nursery during the last summer.

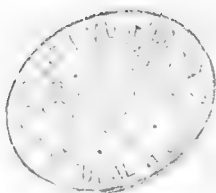
ONCIDIUM FORBESII, Mr. Forbes's. This very splendid stove orchideous plant bloomed at Woburn Gardens during the past summer, and a friend of ours states, that when he saw it, it was the most striking of the tribe he ever saw. It was discovered on the Organ Mountains, in 1837. We are glad that it has been named in compliment to the very talented and excellent gardener at Woburn Abbey, (Mr. Forbes,) under whose skilful management, the gardens and grounds have attained a high degree of perfection.



Rosa rugosa

Crataegus bicuspidata

Chilodactylus scintillans



THE
FLORICULTURAL CABINET,

APRIL, 1st, 1839.

PART I.

ORIGINAL COMMUNICATIONS.

ARTICLE I.

ON THE CULTURE OF THE DAHLIA.

BY A CONSTANT READER.

THE Dahlia is allowed to be one of the most splendid plants that we know of, and is justly prized by every denomination of persons, whether they rank in the higher classes of society, or to those of more humble pretensions, whether as it regards the brilliancy and variety of colour in the flowers, the duration of time it remains in bloom, and its fine appearance, it certainly stands in each particular unrivalled, and merits a situation in every garden, and it is an additional recommendation, that it is both easily cultivated and propagated.

The best mode of treatment practised with the Dahlia has been requested through the medium of publications; and although I am not so conceited as to think the method I practice is the best, yet having been so successful as to flower the plants to the satisfaction of hundreds of persons who have seen them, I venture to give a brief and plain detail of my practice; in doing which, I shall state the mode I have adopted in raising a number of handsome seedlings, as well as the subsequent culture.

New varieties are raised from seed, and with a view to raise the best kinds, artificial impregnation is required. With a small

pointed camel's hair pencil, I take the farina from one flower to another. If I have a handsome compact flower that I wish to improve in colour or size, I have recourse for farina from one of the colour or form I desire; as it is very nearly to be calculated what a mixture of any two sorts will produce. The flower I intend to impregnate upon, I cover with a fine gauze bag, a day or two before the florets expand. When the first and second tier of florets are fully opened, I then impregnate them, and retain the gauze-bag over them for a week longer, and I then mark the flower which I have operated upon. In collecting the seed in autumn, I only gather the two tiers; the seeds from the outside tiers are always the finest, and ripen the best. The use of the bag is to prevent impregnation from bees. When any flower is semi-double, I uniformly take them away; so that I neither take farina from them, or save them for seed.

The seed is sown about the first of February, and placed in a hot-bed frame; when sufficiently strong for transplanting, the plants are removed into small pots, one in each pot, and kept in a green house or cool frame. At the end of May, they are turned out entire, into a deep and rich soil. They then flower freely by the end of July, and being forwarded as stated, the roots become perfected by the autumn, so as to keep plump through the winter.

The method I pursue with old roots, is to place them upon a moderate hot-bed, or in a mushroom-house, that has a little heat. I just cover the roots with some fine sifted rotten tanners bark, in this way they speedily push roots. I usually do this in the first week in February, which I consider quite early enough, as my plants get to two or three feet high, by the period of planting in the open border. I have known some persons push the roots as early as the beginning of January, but in consequence of those being deprived of sufficient air, which is dangerous at this season to be given, they were generally drawn up weakly, and seldom bloom well.

When the roots have pushed shoots about four or six inches, I take them out of the bark; such roots as can be divided, now most readily do so. If any of the roots push more shoots than one, and I wish to increase the sort, I cut off each shoot close to the old root: these I insert in pots, filled with fine light sandy soil, placing them round the sides of the pots, and putting them into a hot-bed frame, or if it is more convenient, I set them off upon a

hot-bed covered with four inches of suitable soil; in either case they will strike root in six or eight days. In cutting off the shoots close to the old roots, I find they strike much more freely than if cut crossways under a joint, in the upper part of the shoot, although there is a possibility of their striking under that mode of treatment.

When the cuttings have pushed roots, I pot each into a separate pot, and the soil I use for potting my Dahlias in, is a light rich one. When the Dahlias are potted, whether old roots or cuttings, I place them in a peach-house or vinery, till they push to eight or ten inches long, then I have them removed to a very airy situation in the garden, and where I can have them protected if the weather should become unfavourable.

As soon as I consider the danger from frost is over, which is seldom before the end of May, I turn the plants out entire, planting them in sheltered sunny situations.

The soil of my borders is a strong loam, eighteen inches deep. I manure the border well every spring before planting, and at the same time add about an equal part of good fresh soil. In this they flower profusely, particularly the plants raised from cuttings.

The plan of training the plants to a fence, appears to me to be the best mode of securing them, for when tied up to stakes, the wind frequently twists them, and destroys their tops, but the other mode secures them against all winds, and exhibits the flowers to the greatest advantage; three or four stakes placed angularly round the plant, and the plant tied to them, also answers the purpose.

When the blooming season is near its close, I lay about four inches thick of rotten bark, or leaf soil, over the roots, and for two feet round the stem of each plant; this is done to prevent the crown of the plant being damaged by sharp and sudden frosts. I have seen many Dahlias that were exposed, have the crowns so injured by sudden frost, as not to push at all the following spring, although the remainder of the root was sound.

When I take up my roots, it is on a dry windy day, if possible, shaking off the soil carefully, so as not to twist the roots. I have them removed to an airy situation in a shed, or in the mushroom-house; there placed singly over the floor or shelves, till the soil remaining on the roots is dry. When that is the case, I lay them on shelves, secure from damp or frost, and cover them with dry

sifted tan, manure from a mushroom bed, or some material of this kind; if this mode is adopted, they will keep perfectly sound and fresh. Great care must be taken, that whatever is used for covering the plants must be completely dry.

A CONSTANT READER.

ARTICLE II.

ON THE GERMINATION OF SEEDS.

BY A BOTANIST.

THE subject of the present essay concerns a new method of furthering the germination of seeds, in which I have made some experiments, which, I think, may be beneficial if better known; and for the proper understanding of which it will be necessary to preface the subject by a short explanation of the theory of the reproduction of plants. In flowerless plants, the class Cryptogamia of botanists) reproduction takes place by means of homogenous masses of cellular substances, called sporules or spores; in ferns, on the back of the leaf; in mosses, in small capsules or urns; and in lichens and fungi, from tubes buried in the substance of the plants. Unlike the germ of flowering plants, they contain no cotyledon, radicle, or plumule; and instead of growing uniformly from two constant points of their surface, they are mere masses of cellular substance, and send forth their roots from whatever place happens to have been covered, and the stem from that portion exposed to light. In the more simple forms of fungi and lichens, the subject is involved in such mystery, that many have thence contended for equivocal generation, or a common matter of vegetation, which issues into various forms, according to accidental circumstances. It is, however, more consonant to observation, and to the method and wisdom displayed by the Creator in those parts of his works, more tangible to our senses (especially when we take into consideration the millions of millions of sporules contained in a single fungus, as the common puff ball, or the many hundreds in the common blue fungus of the cheese,) to suppose that they are reproduced by myriads of microscopic pores floating in the atmosphere, dispersed by currents of air, and only called into existence when the accidental circumstances of moisture, putrefaction, &c., necessary to their developement are present.

In flowering plants reproduction takes place by means of the germ or embryo contained in seeds, and in the tubers and bulbs of the root. In the seed, the germ develops into radicle or root, and plumule and stem, between which is an axis connecting the two, and communicating with the cotyledons or seed lobes, which contain the food destined to nourish the young plant till able to extract nourishment from the ground for itself. A deposition of this food is likewise laid up in the cells of the bulb or tuber, and to it the general name of albumen, from its fancied resemblance in functions to the white of an egg, has been given. It is generally enclosed in a hard or bony case, for protection from injury, (but which it is not necessary to the growth of the germ,) and consists of mucilage or gum, sugar, and fecula or starch, which are all convertible substances, consisting of different proportions of carbon, hydrogen, and oxygen, which by chemical analysis, have been found to stand as under, viz.

	Carbon.	Oxygen.	Hydrogen.
Gum to consist of	42:23	50:84	6:93
Sugar - - -	42:27	50:63	6:90
Starch - - -	43:55	49:68	6:77

By the continued deposition of carbon, very ripe seeds and tubers contain more starch or flour than unripe seeds: and from the difficulty of reducing starch again into mucilage, which must take place in the vegetating process, before it can be rendered a soluble food for the young embryo, ripe seeds will be found to keep longest, and to survive accidents of bad treatment better than unripe seeds; which, however, from having their food in a state more easily rendered soluble, are found both in seeds and tubers to spring more quickly, and if sufficiently far advanced, with more vigour than ripe seeds or tubers. In the process of germination, when carried on in the usual manner, if a seed is picked up, the cotyledons will be found filled with a soft mucilaginous substance, generally of a milky colour and sweetish taste. This is the food of the young embryo reduced into a soluble state, and is conveyed through the vessels of the cotyledon to the axis, and thence to the radicle and stem. On the quantity of this food furnished depends the vigour with which the young plant will shoot; and hence the best means of reducing the albumen of the seed or tuber into a soluble food in the speediest manner, and in the greatest quantity, is the greatest desideratum

to arrive at in prosecuting our enquiries after the best method of furthering the process of germination. The starch and sugar must be reduced to mucilage; and from an inspection of the table, it will be found necessary that carbon must be abstracted, and oxygen and hydrogen added; and, accordingly, it is found that in germination, carbonic acid gas is given off, the air is deprived of part of its oxygen, and water yielding hydrogen and oxygen, is absorbed. Air, heat and moisture are all necessary, and likewise the exclusion of light. The air yields the oxygen necessary in abstracting the carbon in the state of carbonic acid, from starch, and converting it into sugar and mucilage, which may be familiarly illustrated in the sweetness of malting grain and germinating potatoes. A heat of 160 degrees is required to reduce starch to solubility; and it is not generally known how such heat is generally acquired. The disengagement of the oxygen sets caloric free, and hence seeds moistened and thrown into a heap to germinate, are found to generate a great heat. Alkalies are also found useful in furthering the process, and are generated whilst it is going on. Perhaps, also, the starch is more soluble in its state of combination than when extracted; and, to all perceptible causes, we must add that vital energy so every where necessary, and so little known.

In soils which have been properly prepared, by being broken into very small particles, confined air is generated, which so increases the heat as to be perceptible even to the touch; and hence the benefits of well-pulverized ground, and of covering with pieces of glass, and flower-saucers, &c. to increase the heat and retain the moisture, and thus further greatly the vegetation of the seeds; and hence the different quantities of heat and moisture requisite for seeds, according as they are dry and farinaceous, or oily and mucilaginous. Very dry farinaceous seeds, as the acacia, and others of that tribe, are benefitted by immersion in boiling water; and hence the reason why either heat or moisture of itself is not sufficient, and even hurtful if carried to excess, either in the germination of seeds, or the bud or embryo of the tuber of the potato, as late illustrated in the three last consecutive springs, in which, from the drought and heat acting on the substance of the newly cut tuber, without the advantage of moisture, the albumen has not been reduced into a soluble food, or in such small quantities as not to be sufficient to produce the development of the bud or shoot.

I now come to that part of the subject where, from the explanation already given, I hope it will be in my power to explain the reasons why I was induced to try the experiments I set out with taking notice of, and which I hope will be found, on proper trial, to be very beneficial. It is to seeds damaged by being too long kept in a dry state, or hurt by too much fire heat, or heat of the sun, that my attention has been principally directed, It has been often recommended to apply substances readily yielding oxygen; and I have myself tried oxalic acid frequently, but without any perceptible effect; and from experiments lately instituted, it appears that more than the quantity of oxygen, or about one-third contained in common air, is not beneficial, though this proportion is absolutely necessary.

Experiments lately made by Mr. Charles Maltuen, and narrated in Brewster's Journal of Science, he found that the negative or alkaline pole of a battery caused seeds to vegetate in much less time than the positive, and he was thence induced to experiment on seeds in glasses filled with acetic, nitric, and sulphuric acids, and also in water rendered alkaline by potash and ammonia. In the alkaline the seeds vegetated in thirty hours, and were well developed in forty; while in the nitric and sulphuric, they took seven days; and even after a month, they had not begun to grow in the acetic acid. The great benefit of the alkalies in hastening the germinating process being thus so apparent, I was induced to experiment on lime; a very easily procured alkali, and which I reckoned to be more efficient than any other, from the well-known affinity of quick, or newly slacked lime for carbonic acid. Lime, as taken from the quarry, consists of carbonate of lime, or lime united to carbonic acid: and, in the act of burning, the carbonic acid is driven off; and hence the great affinity of newly slacked lime for carbonic acid. I depended therefore, on this affinity to extract the carbon from the starch assisted by moisture, in aid of the heat disengaged in this process, and also in the above well attested effects of alkaline substances in hastening the process of vegetation; and in the spring of 1835 having a quantity of old spruce fir seed, I was determined to try the experiment.

It is well known by nurserymen, that the seed of the spruce fir will scarcely vegetate the third year, although kept in the cones; but, in the present instance, the seed had been out of the cones during all that time; and the year before, or second year of the seed, had been so weak, that although well damped, and

sown a great deal thicker than usual, in a favourable state of the weather, and in ground in good condition, still it came through very thin, yellow in the colour, so weak, as scarcely to be able to free its cotyledons from the ground, and not producing one-third of a crop. Thus, under ordinary circumstances, after keeping the same seed a year longer, we had little reason to think it worth sowing. I, however, caused the seed to be well damped a few days before sowing, and then added slacked lime, the influence of which was not long in being manifest. The year before when the two-years-old seed had been damped, it swelled none, but acquired a mouldy smell; on the contrary, this third year, after the quick lime had been added, it swelled off plump and full, and had all the sweet smell of fresh germinating seed. It was sown very thick, but the plants started fresh and vigorous through the covering of soil, of a dark green colour, and in such quantity as to produce a crop much thicker than usual; and the plants grew and thrived as well as in the first year of the seed. I tried the same experiment this year; but from the unprecedented long-continued dry weather, it had not a fair trial: although however, four years old, the crop is still about the same thickness as some fresh Scotch pine seed sown on the same day beside it, and the plants equally strong. I tried it on some magnolia seed, the seedlings of which have this year grown with more than their accustomed vigour. As the whole of the plants may be seen, for very little trouble, in our nursery grounds (at Kilmarnock), and as the good effects, I think, have been made apparent, I hope it will not be considered trespassing too far on your time to give a detail of the method I would like pursued. Let it be understood that the nature of the experiment applies only to seeds in which the albumen has become hard and dry, from long keeping, kiln-drying, exposure to a hot sun in crossing the equator, &c. and not to such as have been wasted, and the albumen destroyed or damaged by moisture, heating in a green state, &c. or when it is wanted to hasten the ordinary process of vegetation in seeds that are tardy. Let the seed to be experimented on be spread on a floor, or in a box or saucer, according to quantity, and thoroughly damped (more or less according to the nature of the seed, as to its naturally dry or oily condition); let the whole be well mixed together so as every seed may receive its proportion of moisture from one-eighth to one-tenth of the bulk; and mix the seed again well, so that each may receive its proportion of lime; lay it up in a heap, and, when it begins to get dry, have it turned and

mixed, and again damped; and continue this process for a longer or shorter time, according to the known habits of the seed as to speediness in vegetation, observing not to let it lie long in a dry state, in which the lime is rather prejudicial; and I feel confident, if these instructions are attended to, the result will be beneficial. Before quitting the subject, I would like to call attention to the immense use of alkalies in the vegetable economy. We have seen their use in furthering the germination of seeds; and lately has been narrated in our newspapers the good effects of quicklime sprinkled over the newly cut tubers of the potato: but it is in preparing the food of the plant, or in rendering manure into a soluble food for the plant, that their greatest benefits are to be found. The different constituents of plants (starch, sugar, mucilage, and lignine or fibrine,) are all composed of various proportions of carbon, hydrogen, and oxygen. The water absorbed by the root yields hydrogen and oxygen; and carbon being the only substance thus wanted, it has been tried to afford it, by exhibiting to the spongioles of the root carbonic acid gas in its pure state: but its quantity has always been undiminished, until mixed up with alkalies in a saponaceous matter, in somewhat of the proportions found to exist in manures of the kinds most beneficial to plants.—*Kilmarnock Journal*.

ARTICLE III.

ON FLOWERING THE ALOE VARIEGATA,

BY A CULTIVATOR.

HAVING been very successful in the flowering of the above species, I send you my mode of treatment, which, perhaps, you may deem it worthy of a place in your Cabinet.

After the severe frosts are over in the middle of May, the plants should be turned out in the open air, where they are not too much exposed to the wind, but so as to receive all the sun possible, taking care to use the watering pot very sparingly during the summer months, in order to check the growth of the plants. Once in every week let them be turned round to the sun in order to keep the plants in an erect and proper form, and by the first week in October they may be removed into the greenhouse, having washed and cleared them from all dirt and filth, giving them

plenty of air but little or no water until they are re-potted the latter end of March. In removing the plants at this season do not disturb the roots, but carefully remove all the outside earth, place them in pots of a size larger, adding a mixture of the following compost, &c.

One-third leaf mould, one-third of good rich loam, and one-third decayed pigeons dung, adding a small quantity of sharp sandy bog earth, let the whole be incorporated together previous to potting. Cover the bottom of each pot one inch and a half thick with coarse gravel, half the size of a common nut; place the plant in and fill up with the above compost, shaking the pots gently, in order to settle the whole together; place the plants again in the greenhouse, where they will be exposed to the full benefit of the sun for a fortnight longer, not giving them any water at the root until they are removed into a stronger heat, when they should be plunged up to the rims in a gentle bark bed, or hot-bed of dung, about 80 degrees of heat, occasionally watering the plants gently over their leaves with a little warm water. No water will be required at the roots until the plants are beginning to flower, when a little may be given. As the flower begins to advance, the pots may be raised up a little out of the bed, and finally removed to the end of the greenhouse, where the plants will remain in flower for a length of time.

After the plants have flowered and the blossoms decayed, they are to be placed in any part of the greenhouse at the back, until wanted again, just giving them as much water as will keep them alive. I have visited a great many different places where I have seen plants of every description grown well, but the plant I now send you my mode of treatment of, I never have found to be brought to that perfection which I have grown it myself.

A CULTIVATOR.

ARTICLE IV.

ECONOMICAL METHOD OF MANAGING CAPE HEATHS

BY CLERICUS.

BEING an admirer and cultivator of Cape Heaths, and having tried various experiments towards their perfect cultivation in this country, I take the liberty of sending you the mode which I adopt, which if you think worthy of insertion in the Cabinet, it

may possibly be amusing to some of your readers. From having tried various modes of treatment, I find that which is most conducive to the health of the plants is to keep them during the whole year in cold frames or cold pits, the frames plunged up to the brim, and the bottom on which the sand is placed being thoroughly dry; the lights in summer should be kept off during dull and cloudy weather, both night and day; but during clear sunshine, the plants should only be uncovered from four in the afternoon till nine the next morning; taking care that always in the middle of the day, to have the sashes on, and to give plenty of air. When winter approaches, the sashes must be drawn off, in mild dry weather daily, and covered with mats or some other covering during frosty nights, and in very severe weather. When there is no sunshine, they will also require to be kept on, and some dry litter or other loose material to be put around the frame. The advantages derived from plunging them in the sand are, that the frost never reaches any farther down than the surface of the soil, and that the plants will require little or no water from November till the middle of February, and that even during summer, they will not want water near so often as if they had stood upon the stage in the greenhouse, or out of doors along with the greenhouse plants. I have found from various experiments that in a great measure the want of success in growing heaths, for the most part arises from insufficient circulation of air, or from not keeping the soil in the pots in a medium state of moisture; the roots being apt to perish if kept for a short time too moist; and if allowed to get dry, the young fibrous roots will share the same fate, more particularly if the pots are exposed to the rays of the sun.

CLERICUS.

ARTICLE V.

ON THE CULTURE OF THE CHRYSANTHEMUM INDICUM.

BY MR. FREESTONE, WATLINGTON HALL, DOWNHAM.

If you think the following remarks on the cultivation of the *Chrysanthemum* worthy of a place in your Floricultural Cabinet, they are at your service. In the middle of April take the best rooted suckers that can be obtained, and plant them two feet apart in a

good rich light soil, as they advance in growth they will require a stake to tie them to, to prevent them from being broken down by the wind. If any suckers appear, let them be removed, as the *Chrysanthemum* shows itself to the greatest advantage when grown with a single stem, and that stem filled with flowering shoots from the bottom upwards.

In the second or third week in June, nip off the tops of the plants, which will cause them to throw out lateral shoots. In a month or five weeks after the plants have been stopped, take them up with as much soil adhering to their roots as possible, put them into pots of about eight inches over, using soil composed of sandy loam and well rotted manure, or leaf mould in equal quantities. Place them in the shade, and at such distance one from another, so that they may not be drawn up weak, and let the plants be well supplied with water. In a month from the time of their first potting, they will require shifting into pots of from ten to twelve inches over.

As the plants will now be getting large, they will require a good supply of water, frequently twice a day, and in hot weather, to be syringed two or three times a week. Should any mildew appear, dust a little sulphur over them, which will soon cause it to disappear. In a month from this shifting, some of the larger growing sorts will require to be shifted into pots of from 14 to 16 inches over. At this time the plants are removed from the north to a south aspect, where, if the weather is hot and dry, they are frequently syringed two or three times a day. Towards the end of September, I remove them into a vinery, and if the weather is cold, and the flower buds not so forward as could be wished, I apply fire during the night sufficient to keep the house from 55 to 60 degrees, giving air at all favourable opportunities, and closing the house early in the afternoon, sprinkling the plants and house all over with water, which causes the plants to grow luxuriantly. I place them as far apart as circumstances will admit, taking care not to crowd them, and they never fail to reward with a good show of large flowers from November to January.

As soon as the flower-buds are forward enough to distinguish the best, the inferior buds are removed, leaving from one to three on each shoot.

As the plants come into bloom, they are removed into the conservatory. It is generally supposed that the *Chrysanthemum*

will not bear forcing; I find them bear all the heat, combined with moisture, that you like to give them, and that too without drawing them, provided the flower buds are visible before you begin to force them. In fact it is impossible to get some of the late sorts to expand their bloom in such a season as the last, without using a high temperature.

R. FREESTONE.

ARTICLE VI.

ON CHINESE GARDENS.

(Continued from page 61.)

Air is likewise employed with great success, on different occasions; so as to form artificial and complicated echoes; some repeating the motion of the feet, some the rustling of garments, and others the human voice, in many different tones; all which are calculated to embarrass, to surprise, or to terrify the passenger in his progress.

All sorts of optical deceptions are also made use of: such as paintings on prepared surfaces, contrived to vary the representations as often as the spectator changes place: exhibiting at one view groupes of men, in another combats of animals, in a third, rocks, cascades, trees and mountains; in a fourth, temples and colonades; with a variety of other pleasing subjects. They likewise contrive pavements and incrustations for the walls of their apartments, of Mosaic work, composed of many pieces of marble, thrown together without order or design, which, when seen from certain points of view, unite in forming lively and exact representations of men, animals, buildings or landscapes; and they frequently have pieces of architecture, even whole prospects in perspective, which are formed by introducing temples, bridges, vessels and other fixed objects, lessened as they are more removed from the points of view, by giving greyish tints to the distant parts of the composition; and by planting there trees of a fainter colour, and smaller growth, than those that stand on the foreground, thus rendering considerable in appearance, what in reality is but trifling.

The Chinese artists employ in these enchanted scenes the *vendzhang*, (a native of Siam, it bears flowers of an agreeable smell, which, when they open, are of divers colours, as red, yellow, white and black; the fruit, when it comes to maturity, has the

exact resemblance of a wild duck) the ever living poplar the pau-lu, (a tree very common in Bengal, and some parts of China, to which the large Indian bats have a particular attachment, in so much, that during day-light, they almost cover its branches hanging upon them in clusters, like fruit,) with all kinds of sensitive and other extraordinary trees, plants and flowers. They keep in them a surprising variety of monstrous birds, reptiles, and animals, which they import from distant countries, or obtain by crossing the breeds. These are tamed by art, and guarded by enormous dogs of Tibet, monstrous dwarfs, and African giants in the habits of eastern magicians.

They likewise have amongst the plantations, in which are collected all the extraordinary productions of the animal, vegetable, and mineral kingdoms; as well as paintings, sculptures, medals, antiquities, and ingenious inventions of the mechanic arts; which are a fresh source of entertainment, when the weather is bad, or when the heat is too intense to admit of being in the open air.

The communications to the different scenes and other parts of the Chinese Gardens, are by walks, roads, bridleways, navigable rivers, lakes and canals; in all which, their artists introduce as much variety as possible, not only in the forms and dimensions, but also in their decoration; avoiding, nevertheless, all the absurdities, with which our ancient European style of Gardening abounds.

“I am not ignorant,” said one of their artists, “that your European planters, thinking nature scanty in her arrangements, or being perhaps disgusted with the familiarity and commonness of natural objects, introduce artificial forms into their plantations, and cut their trees in the shape of pyramids, flower pots, fishes, and birds. I have heard of colonades, and whole palaces formed by plants, cut as precisely, as if they had been of stone; and of huntsmen, horses, dogs, boars and tigers, in full speed, made of yew and holly. But this is purchasing variety at the expence of reason; such extravagancies ought never to be tolerated, excepting in enchanted scenes, and there but very seldom, for they must be as destitute of beauty, as they are of propriety, and if the planter be a traveller, and a man of observation, he can want no such helps to variety, as he will recollect a thousand beautiful effects along the common roads of the countries through which he has passed, that may be introduced with much better success.”

The roads, walks, and avenues, are either directed in a single

straight line, twisted in a crooked one, or carried zig-zag by several straight lines, altering their course at certain points. They observe, that there are few objects more strikingly great than a spacious road planted on each side with lofty trees, and stretching in a direct line beyond the reach of the eye, and that there are few things more variously entertaining, than a winding one, which opening gradually to the sight, discovers at every step a new arrangement; and although in itself, it has not the power of raising violent emotions, yet, by bringing the passenger suddenly or unexpectedly to great and uncommon things, it occasions strong impressions of surprize and astonishment, which are more forcibly felt, as being more opposite to the tranquil pleasure enjoyed in the confined parts of the road; and, in small compositions, they find crooked directions, exceedingly useful to the planter, who, by winding his walks, may give an idea of great extent, notwithstanding the narrowness of his limits.

They say, that roads which are composed of repeated straight lines, altering their directions at certain points, have all the advantages both of crooked and straight ones, with other properties, peculiar to themselves. The variety and new arrangement of objects, say they, which present themselves at every change of direction, occupy the mind agreeably: their abrupt appearance occasions surprize; which, when the extent is vast, and the repetitions frequent, swells into astonishment and admiration: the incertitude of the mind where these repetitions will end, and its anxiety as the spectator approaches towards the periods, are likewise very strong impressions; preventing that state of languor into which the mind naturally sinks, by dwelling long on the same objects.

The straight directions, particularly the zig-zag, are on account of these effects, well adapted to avenues or high roads, which lead to towns, palaces, bridges, or triumphal arches, to castles or prisons for the reception of criminals, to mausoleums; and all other works of which the intent is to inspire horror, veneration or astonishment. To humbler objects, the waving line is a more proper approach, the smallness of their parts rendering them unfit for a distant inspection; and as they are trifling in themselves, they please most when their appearance is unexpected; and from the very point, whence all their little beauties are seen in the highest lustre.

In disposing the walks of their gardens, the Chinese Artists

are very attentive to lead them successively to all the principal buildings, fine prospects, and other interesting parts of the composition; that the passenger may be conducted insensibly, as it were by accident, and without turning back, or seeming to go out of the way, to every object deserving notice.

Both their straight and winding walks are in some places kept at a considerable distance from each other, and separated by close planted thickets, to hide all exterior objects, as well as to keep the passenger in suspense with regard to the extent, as to excite those gloomy sensations which naturally steal upon the mind, in wandering through the intricacies of a solitary forest. In other places the walks approach each other, and the thickets growing gradually less deep, and more thinly planted, the ear is struck with the voices of those who are in the adjacent walks, and the eye amused with a confused sight of their persons, between the stems and foliage of the trees; insensibly again the plantations spread and darken, the objects disappear, and the voices die in confused murmurs; when unexpectedly the walks are turned into the same open spaces, and the different companies are agreeably surprised to meet, where they may view each other and satisfy their curiosity without impediment.

The Chinese gardeners very seldom finish any of their walks *en cul de sac*, carefully avoiding all unpleasant disappointments; but if at any time the nature of the situation obliges them to it, they always terminate at some interesting object, which lessens the disappointment, and takes off the idea of a childish conceit.

Neither do they ever carry a walk round the extremities of a piece of ground, and leave the middle entirely open, as it is too often done amongst us; for though it might render the first glance striking and noble, they think the pleasure would be of short duration; and that the spectator would be but moderately entertained, by walking several miles, with the same objects continually obtruding upon his sight. If the ground they have to work upon be small, and they choose to exhibit a grand scene, either from the principal habitation, or any other capital point, they do indeed leave a great part of the space open; but still care is taken to have a good depth of thicket, which frequently breaks considerably in upon the open space, and hides many parts of it from the spectator's eye.

(To be continued.)

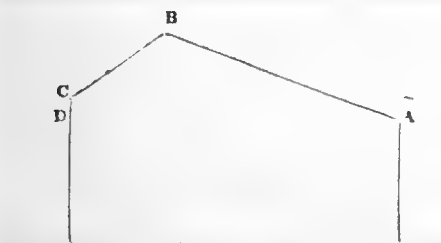
PART II.

MISCELLANEOUS INTELLIGENCE.

QUERIES.

ON A GREENHOUSE, &c.—I have so frequently derived advantage from the queries and remarks in the 'Floricultural Cabinet,' that I am induced to think that an answer to the following questions may be useful to many of your readers.

I am in want of a greenhouse; the situation I intend for it is on a south border, 18 feet wide, having a good wall, and a gravel walk in front, the length must vary with the expence of the building. It seems to me a great advantage for the plants, and it also adds to the beauty of the house to have



one light behind, the ridge of the roof being at B, in the annexed sketch, the stage should be of the same form as the house, if there is a stage at all. A frequent plan now is to have a raised pit in the middle of the house, but I think it cannot show nearly so many plants as a stage. There should be a walk

all round, and it is a question whether there should be two or three steps to the back part, as the plants might thus be brought nearer to the glass. As to heating, have any of your correspondents tried Dr. Arnott's stove, and with what success? Dr. Arnott seems to think that it is well adapted for Horticultural buildings, it has the advantage of producing a steady heat at a very trifling expence, but my fear is, that it would create too dry an atmosphere for the plants. The hot-water system seems to have superseded the old flue, and I should like to know what it would cost, and how the pipes might be best arranged for such a house as that which I am describing?

My primary object is flowers, not conservatory plants so much as geraniums. My gardener assures me that I may have some vines trained to the rafters, and pruned on the spurr method, without much injury to the flowers, I have seen them so trained at Welbeck, with two bunches of grapes at each joint, they look very tempting, but what do your correspondents say to the effect upon flowers? If there are vines, what sort should they be? and should there not be the means of taking them out of the house in winter? and what plan of construction do you recommend for this purpose? As to the roof, I have made up my mind on two points, first that it should be of wood, as every one who has metal complains of its cracking the glass so much; secondly, that the wood should all be steeped according to Kyan's patent, of which, from experience I have a very high opinion, and which I think can be no where of more use than in horticultural buildings, from the great exposure to the weather.

As to glass there seems a great difference in price, according to the size of the pane, I have glazed a large pit with panes five inches by three, it looks exceedingly neat, and is strong, besides, this size avoids duty, but I do not know whether it would look well for a house of considerable size.

I shall be glad if in this letter I have afforded any information, and shall be much obliged to you or any of your correspondents, if (taking these re-

marks along with you,) you will tell me how to lay out £100 to the best advantage, describing the construction of the building, size of the rafters, mode of heating, an estimate, &c., &c.

P. S. According to my plan there would be two sashes in the roof, one in front, and one behind which would be a fixture. Should there not be ventilators in the back wall at D?

A COUNTRY SUBSCRIBER.

ON INK SUITED FOR WRITING WITH UPON METALLIC LABELS.—I am anxious to learn through the medium of the 'Cabinet,' from which I derive much useful information, how the Metallic Labels advertised about a year ago in the 'Cabinet' are written upon, and if they require any particular kind of ink? I have used a common kind of ink, and find the writing easily obliterated with water.

Feb. 27th, 1839.

Y. M.

(A prepared ink is to be obtained very cheap with the labels, and may be applied by means of a pen, or a small camel's hair coloring brush.—COND.)

ON BLOOMING BRUNSVIGIAS, &c.—Having a few healthy bulbs of *Brunsvigia Josephinia*, and *B. falcata*, &c., and not being able to bloom them to my satisfaction, I should feel obliged if some reader of the 'Cabinet' who is successful in flowering the tribe of plants, would give me in an early Number the particulars of the mode of treatment pursued. An attention to this request will also benefit some of my friends, who have equally failed with *Brunsvigias*,

Hamburgh, November 27th, 1838.

G. G.

MALVA FULLERIANA.—Having been informed that *Malva Fulleriana* is a greenhouse plant, you would oblige me by informing me whether it is as you state, a hardy shrub, or a greenhouse plant, and the soil and best method of cultivating it.

N. B. It is in Vol iv. page 264.

February 4th, 1839.

A. X. Z.

ANSWER.

ON DESTROYING ANTS.—Not having been lately so constant a reader of your very useful publication as I could wish, I have not observed whether any satisfactory answer has been given to a query concerning the destruction of ants, by Q. in your number for June last.

If your correspondent has not yet found any remedy, I should recommend him to try what I have seen used with perfect success in the south of Europe, which is garlic chopped small, and laid across the ants usual track. They dislike this so much that it will completely drive them away, and the effect will last long after the smell has ceased to be at all perceptible. This though it will not destroy them, (which I imagine might be done by pouring boiling water into their nests,) will prevent the annoyance which Q. complains of in his conservatory.

Jan. 23rd, 1839.

L. C.

REMARKS.

TO DESTROY ANTS.—Having read complaints against ants, I am induced to send you the following:—Some time ago, a drawer, in which I kept some sugar, was so much infested with ants, that we were obliged to remove the sugar from it. It happened from some cause or other, a small piece of camphor was laid in the drawer, and on opening it a few days afterwards, we were agreeably surprised to find the bottom literally covered with dead ants. This induced us to try the experiment, and from that time we have kept the

sugar free from their depredations without any difficulty, by allowing a small piece of camphor to be in one corner of the drawer. Where trees upon walls, or plants are infested, I should recommend small pieces of camphor to be thrown on the ground round their stems and in some cases to dissolve a little in alcohol, and sprinkle it over the leaves in a diluted state, with a common syringe.

Chelsea.

JAMES HIRST.

FAIRY RINGS—Fairy Rings are considered by J. M. F. Dovaston, Esq., to originate in electricity. "When a column of electric fluid affects the earth, either ascending or descending, it scorches the ground all round its edges, where there is plenty of oxygen in contact with it; and leaves the centre unscathed, where the oxygen is either expelled or destroyed; so fertilizes the extremity. The consequence is that the first year's grass is destroyed, and the ring appears bare and brown; but the second year, the grass re springs with highly increased vigour and verdure, together with the fungi, whose seeds are so brought into vegetation, that without this exciting cause might have slept inert for centuries."—Mag. Nat. Hist.

NEW OR RARE PLANTS.

CORREA ROSEA. This pretty flowering hybrid kind, has been raised by Mr. Milner. It has a good deal the appearance of *Correa speciosa*, having a fine green and smooth foliage, void of the rusty brown of the latter-named species. The flowers are of a beautiful delicate rose colour, and have a pretty effect.

The few plants that have been raised have been purchased at five guineas each. Being rather slow in propagation, it will be some length of time before plants can be purchased cheap. It deserves a place in every greenhouse, where, blooming as it does, profusely, would produce an interesting contrast with the *C. Milnerii*, *cordata*, *speciosa*, *pulchella*, &c. The plant blooming nearly all the year, gives it an additional recommendation.

STERENLIA ACERIFOLIA. A pretty flowering greenhouse plant, producing flowers of a dark crimson colour. It is in the collection of Messrs. Rollinson's.

IPOMEA. Unnamed species, having leaves of a *Cordata* form, and produces fine clusters of flowers which are larger than *I. rubro-cœrulea*, and of equally splendid colours. It is in the collection at the Epsom Nursery, and merits a place in every hothouse. We also saw another interesting unnamed species, which produces flowers of a light rose colour.

EPACRIS COPELANDII. Mr. Kynoch, gardener to William Copeland, Esq., Layton, Essex, has been successful in saving seed from *Epacris impressa*, and of raising the fine hybrid kind we now notice. The flowers are very similar in size to *E. impressa*, but are of a brilliant scarlet colour, producing a very fine effect. The plant is of a very free habit in growth, and blooms most profusely; it merits a place in every conservatory or greenhouse. Plants of it will soon be offered to the public. It is propagating now at the Clapton nursery.

LAGUNEA PATTERSONII. A very fine flowered greenhouse plant from New Holland, producing flowers much resembling a fine *Hibiscus*. It merits a place in every greenhouse. We saw the plant at Messrs. Rollinson's, Tooting.

PALEMONIUM PULCHELLUM. A very pretty hardy herbaceous plant, well deserving a place in the flower border. The plant blooms very freely. The flower stems rise about six inches high, producing beautiful pink blossoms, having an interesting appearance.

VERBENA PULCHERRIMA. Mr. Low of the Clapton Nursery, has received this kind during the last summer; we saw it in bloom there. The flowers are of a lilac purple, with a white centre; it is one of the erect growing kinds.

AZALEA GLEDSTANANA. This variety may be said to be twin to *A. Laterita*, only, producing its very different, but most beautiful white flowers; it is grown at the Tooting Nursery, and to be had at one guinea per plant.

LOELIA ALBIDA. A very interesting addition to our stove orchidea, and sent from Oaxaca to Mr. Bateman of Kynpersly. The plant has the graceful appearance of *L. Autumnalis*, but the flowers are very dissimilar, both in form and colour; in the present species each flower is about two inches across, white, with a bright yellow streak down the middle of the lip, and a few crimson spots at the base; they are also fragrant. It is an additional recommendation that it is of easy culture, and a very free bloomer.

THE GARDENS
OF THE
ROYAL BOTANIC SOCIETY OF LONDON,
INNER CIRCLE, REGENT'S PARK.

(Continued from page 70.)

In our colonies the foundation of botanical gardens has been an object of government solicitude; nor has private enterprise been neglectful in promoting them in our own country. The two universities, Oxford and Cambridge, have botanical gardens; so also have Birmingham, Liverpool, Sheffield, Manchester, Leeds, Hull, Bury St. Edmunds, and Colchester; and they have been recently established at Cheltenham and Newcastle-upon-Tyne. In Scotland there are gardens at Edinburgh and Glasgow. In Ireland, at Dublin, is one belonging to Trinity College, and the splendid establishment at Glasnevin, of the Dublin Society; there are others at Cork and Belfast.

Having referred to the progress on the continent, and in our provinces, we shall in examining what has been done in the neighbourhood of the metropolis, find that there is sufficient encouragement to induce us to supply the deficiency. At Chelsea is a small garden of three acres, founded in the 17th century, and given in 1721, by Sir Hans Sloane, to the Apothecaries' Company, and devoted by them to the study of medicine, and of which they now contemplate the abandonment, if they can obtain a more suitable locality. Those at Kew have obtained considerable reputation, but are at too great a distance to be available to the great mass of the metropolitan population, while their system of management is far from being adequate to the requisites of a national institution.

That the public mind is prepared to support a botanic garden is evident by the progress of botany in every department. The number of scientific societies and floricultural exhibitions are proofs in themselves of the tendency of popular taste, while a great development is daily given to the culture of this science in the Zoological and public gardens, and cemeteries. As cultivators of the picturesque beauties of plants we stand in the highest position; and the English style in the decoration of gardens is that which is most prevalent on the continent, and most approved, while we stand in an eminent position with regard to the scientific study of botany by our authors and expeditions of discovery.

With such acknowledged advantages to be derived from the establishment of a botanic garden, and with such a tendency of public taste, it would

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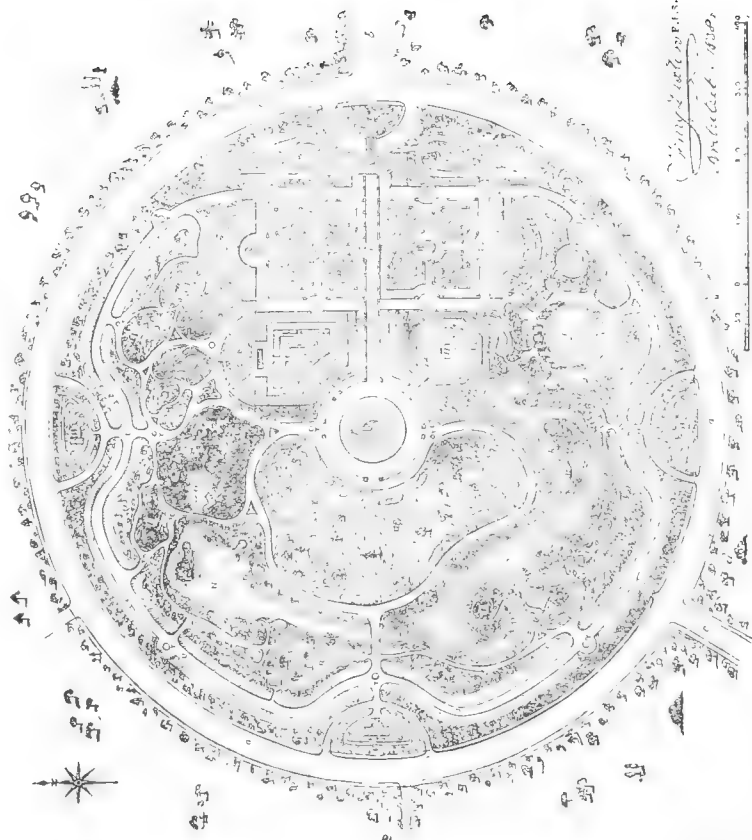
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THE GARDENS OF THE ROYAL BOTANIC SOCIETY,

INNER CIRCLE, REGENT'S PARK.



DESCRIPTION OF THE PLAN.

- A.—Principal Building, approached by a semi-circular drive, containing the botanical Museum and Library, Reading Drawing, and Lecture Rooms, and the office for the general business of the Institution.
- B. B.—Gardens attached to the Establishment.
- C. C.—Italian Garden.
- D.—Extensive Conservatory for large specimens of the palm, climbing and other rare exotics.
- E.—Medico-Botanic Garden, with extensive range of Conservatories, Stoves and Hot-houses.
- F.—Dutch Garden.
- G.—English Garden.
- H.—Lawn.
- I.—Swiss Garden.
- K.—Oriental Garden.
- L.—American Garden.
- M.—Lakes for aquatic plants, and small islands for the willow, and other plants requiring moist localities.
- N.—Artificial rock work, for the growth of rock plants.
- O.—Ground for Ferns, &c.
- P.—Arboretum and Shrubberies.
- Q.—Lawn.
- R.—Lawn.
- S.—Dutch Garden.
- T.—Lawn, surrounded by foliage, for busts of celebrated botanists.
- U.—Circular Walk, with extensive borders, on the inside, for the scientific arrangement of the plants.
- V.—Belt of trees and shrubs surrounding the Gardens.
- W. W.—Garden Buildings.
- X. X. X.—Garden Seats.
- Y.—Statues, vases, and dial, and other works of art.
- a.—Road round the gardens, called the Inner Drive, or Circle.
- b.—Road to Colosseum, &c.
- c.—Road over the bridge to Marylebone Church, &c.

appear surprising that such an object should have hitherto been neglected. This deficiency is now, however, to be supplied, and in such a manner as, it is to be hoped, will satisfy every votary of science. Although previous abortive attempts had been made to effect this object, the merit of it rests with several members of the Linnæan Society, whose success confers equal honour on the society by which it was promoted and on their enlightened exertions. On the suggestion of this undertaking, it was immediately supported by many noblemen and gentlemen of every shade of politics, promoters of science, arts, and manufactures, and they concurred in the propriety of requesting the assistance of government. The Inner Circle of the Regent's Park being about to be vacated, they signed a memorial to her Majesty's Commissioners of Woods and Forests, requesting them to appropriate this site for such a laudable object. It confers the highest honour on this Administration, and on the members of her Majesty's government, and is a high proof of their desire to encourage science, that they instantly acquiesced in the propriety of devoting the ground for these purposes to a public society, instead of making it the object of individual speculation. On this concession, a farther application was made for the patronage of Her Majesty and the Duchess of Kent; and, it is needless to say, that it was given with a generosity worthy of the illustrious personages and of the great public object concerned.

The names of the supporters of this society, are a strong guarantee of its proper management, and we are happy to say that their expressed intentions are a good augury of the success of the institution. Its scientific objects are intended to be carried on in a manner commensurate with the dignity of the country, while it devotes an express attention to the encouragement of cultivation, arts, and manufactures. Public utility is the best guarantee of its success, and its promoters may feel assured, that keeping this object in view will always ensure its support. Even if a taste for such an institution did not exist, it is always the effect of well directed efforts to create it; and how far these may be successful, we see in the impulse which is given to mechanical science by the Royal Gallery of Science and the Polytechnic Institution, which are absolutely creations of the last ten years, within which period botanical studies have acquired a still greater impulse.

The society will be constituted similarly to other scientific societies, and will be under the management of a president and council, composed of fellows and members. It will doubtless, be incorporated by Royal Charter, and its importance can hardly fail to obtain for it great influence; while the manner in which it is regarded by the Linnæan Horticultural Medico, and other Botanical Societies, does honor to their enlightened liberality, and to the cause of science.

The site chosen is the inner circle of Regent's Park, lately occupied as Jenkins' nursery ground; its extent exceeds eighteen acres. That its position is eligible is best proved by referring to the neighbouring grounds of the Zoological Society, while its size is fully competent for the purpose intended. Many eminent gardens contain only three acres, while few exceed twenty, and where they do they are employed either in the cultivation of medicinal plants for the hospitals, or in the growth of fruit for the market. Its appropriation will be no encroachment on public enjoyments, while if properly directed, it cannot fail to confer great advantage on the whole empire.

The artistical details of the plan, as shewn in the accompanying drawing, are formed upon an observance of the most enlightened principles, and it has been the endeavour, in this department and in others, to make science and art equally conducive to the improvement of popular taste. This portion of the subject is deserving of particular attention, as it is by what is presented to the public eye that they will be induced to judge of the merits of the remainder. However interesting a mere planted surface might prove to the man of science, something more is requisite to the mere discursive visitant,

and particularly to by far the greater proportion of its supporters, those who seek recreation rather than instruction. In fact, due attention to objects of taste is imperative in an institution that must derive its chief support from the ladies, who are certainly some of the most munificent patrons of this institution.

We are but too apt to depreciate the moral effect of the pleasures of sight, although, it must be averred, most unphilosophically; for if it be allowed generally that that organ produces the most powerful impressions on the mind by its representations, so the influence exerted by it is susceptible of modifications according to the nature of the objects presented to it. If the parks and gardens be the lungs of the metropolis, their functions are but inadequately employed if they supply only pure air, without affording a means of exercise, for the sick man will die in the healthful shades of Montpelier or Madeira as easily as in the densest miasma; but the true means of securing the health of our population is by promoting the moral as well as the physical influence of exercise. The more interesting the garden be made, the more will its moral capabilities be augmented, and the effect of a well arranged establishment cannot fail to be of importance in restoring the tone of mind to the worn out senator, languid beauty, or overworked citizen; for the mind requires its sustenance as well as the body, and there are as few maladies to be cured by abstinence from mental food, as there are for corporeal. Such an effect cannot fail to be accompanied with an appreciation of the scientific advantages, and the attractions of such an institution might be made productive of the happiest results, in creating in the infant mind a taste for scientific pursuits.

(TO BE CONTINUED.)

ON RETARDING THE BLOOMING OF PLANTS.—Among the many improvements made in the cultivation of flowers, the methods invented for retarding their flowering is one. It has been the opinion of many naturalists that the annual development of flowers yields more real satisfaction than if all were ever-flowering; that their disappearance for a season enhances the value of their return. It is long since the method of procuring a late bloom of ranunculus, anemones, and roses has been practised. This was by late planting the tubers of the two former, and double pruning the flowering shoots of the latter. Double pruning is performed in autumn and again in April. With regard to rose trees yielding flowers naturally at different seasons of the year, if the pruning is attended to, a garden may never be destitute of roses.

But there are other shrubs beside the rose-trees of which the flowering season may be protracted, both the *Laurustinus* and *Althea frutex* may be so managed as to produce their flowers at unusual seasons. The first, instead of flowering in the very early spring, may be, by removal, made to flower in autumn; the latter, by the same means may have their flowering postponed till that season.

FLORICULTURAL CALENDAR FOR APRIL.

PLANT STOVE.—Still support the requisite degree of heat by fires at night, as the plants will now begin to show their blossoms, which should be encouraged as much as possible at this season. Fresh air, when the weather is favorable, is very necessary, and should always be admitted when required; this will greatly assist their flowering, and cause the new shoots to be strong and healthy. This month is the most proper time to pot such plants as may require it, taking great care to use such compost as is congenial to them, and use plenty of drainage. Any that do not require shifting into larger pots may have the surface soil renewed with fresh compost, which will greatly invigorate them, and also add to their neatness. The same directions respecting watering and cleanliness may be observed, as given last month. Still propagate all kinds of exotics by means of seeds, layers, cuttings, or

suckers, according to the nature of the different kinds; insert them in pots and plunge them in hot-beds, which will promote their vegetation and rooting quickly and certainly.

GREENHOUSE.—These plants will now require large admissions of air at all times when the weather is mild, for as most of them will now be shooting freely, they must not be kept too close. The plants must now be looked over to see when water is wanted, and let all the plants be properly supplied therewith, as this is now a very necessary article, particularly when they are in the house; be careful of the succulent kinds. Let no decayed leaves or shoots be allowed to remain, but let such be taken off as soon as perceived; and all shoots that are of a weak straggling growth must be pruned more or less as appears necessary; let no weed, moss, or litter, be seen on the tops of the pots and tubs, and if any foulness be contracted on the plants, let it be instantly removed. In arch shrubby exotics of any particular kinds; sow seed in pots, placing them in a hot-bed; sow seeds of orange, lemon, &c. for stocks; also propagate by cuttings, layers or otherwise, and if placed in a bark bed in the pine stove or hot bed, they will be greatly facilitated in their rooting.

HERBACEOUS PERENNIALS, should now be divided and replanted; also biennials, as Sweet-williams, &c., should be planted for blooming this season.

CUTTINGS.—If old plants of Salvias, Fuchsias, Petunias, Scarlet Geraniums, Verbenas, Heliotropes, &c., &c. were saved through winter, and young plants be required for turning out into open beds in the flower garden, &c., young shoots should now be taken off close to their origin upon the old wood and struck in moist heat.

ANNUALS.—Hardy kinds should be sown in the borders, &c. (See Vol. I. p. 43 of the Cabinet, where particular directions are given.) Tender kinds should have plenty of air admitted to them, whether sown in pots or upon a slight hot-bed. (See Vol. I. page 42, of the Cabinet.) In order to have the plants of some particular kinds stiff and healthy, they should be planted off into small pots, boxes, or the open border, or slight hot-bed, &c., so as to be fine plants for final planting in May. Many kinds of tender annuals intended to ornament the greenhouse or stove through summer, will require potting off, or if done before this month, probably repotted into larger pots.

AURICULAS—will bloom this month; they will require protection from wet and mid-day sun. The plants will require a free supply of water; if manure water be occasionally given, it will improve the size of the flowers; care should be taken not to apply it over the plant. When the trusses of flowers are formed, if there are more flowers upon each than can conveniently expand, the small and centre ones should be cut out, so as to leave about six.

CAMPANULA PYRAMIDALIS.—Offsets or cuttings should now be taken off and be treated as directed in Vol. I. p. 48.

CARNATIONS.—If not planted off last month, should now be done. (See Vol. I. p. 23.)

DAHLIAS.—Seedling plants should be potted off, one plant into a small or sixty-sized pot. Shoots and cuttings of old roots should be taken off where it is desired to increase the kind, and strike them in moist heat.

CHINA ROSE.—Plants of the tender kinds, as yellow, sweet scented, &c., should now be placed in heat, in order to cause a production of shoots for striking, so as to increase the kinds when desired. (See Vol. I. p. 48.)

CHINA ROSE (hardy kinds).—It is now the proper time to bud the varieties of China Roses, do it as soon as the bark will freely rise.

TRIVERANIA COCCINEA.—Roots of this plant should now be potted. (See Vol. I. p. 177 and 223; articles on the culture, &c., are there given.)

PELARGONIUMS.—Cuttings now struck will produce plants to bloom at the end of summer. (See Vol. I. p. 88.)

PANSIES.—Plants will now be pushing shoots that will be emitting roots. Where it is wished to increase the kinds, it is a very suitable time for doing it, by taking off shoots and planting them in a good rich soil, shading them for a few days at first.

POLYANTHUSES.—(See Vol. I. p. 23 and 132.)

TIGRIDIA PAVONIA.—The bulbs should now be planted in the open bed; choose a warm and sheltered situation.

ERICAS, (Heaths.)—Cuttings of many of the greenhouse kinds should now be put off. (See Vol. I. p. 48.)

MIGNIONETTE—To bloom from June should now be sown.

ROSE TREES.—When it is desired to have Roses late in the season, let them be pruned this month. (See article in Vol. I. p's. 23 and 206.)

SELF SOWN ANNUALS—which have stood the winter should be thinned, and where desirable some may be successfully transplanted.

REFERENCE TO PLATE.

ELY'S DR. HORNER PICOTTEE.—This very superior flower we gave in the number for March, and by an oversight of our Printer the remarks upon it were omitted till too late for that number, we however now state that this unrivalled and noble flower was raised by Mr. Ely, the celebrated carnation grower, of Rothwell Haigh, near Leeds. It was sent out by him last year, in a limited number, at 7s. 6d. per pair, (its present price,) and has been the wonder and admiration of all who have seen it. Its peculiar excellence consists in its extraordinary size, its bold broad well rounded petal of remarkably strong fleshy substance, which causes the flower to remain an unwanted time in bloom; the ground colour is a pure brilliant white, free from specks or stains; the edging is of the richest purple, clear, distinct, and free from all tendency to striping; the flower is high and well crowned, and filled in the centre with its fine imbricating petals. It is altogether infinitely superior to every other picottee in cultivation, and must be in all valuable collections.

This flower is named in honor of Dr. Horner, an esteemed and talented physician, at Hull, who has greatly favored the promotion of horticultural pursuits. (We understand Mr. Ely has now an abundant stock of it)

HOVEA MANGLESII.—Captain Mangles's Hovea; all the species of Hovea are very handsome greenhouse shrubs, and the accessions which we have received to them through the hands of Captain Mangles, are highly valuable. The present species is not so striking as some other kinds, yet, it is very pretty and interesting. It thrives well with the treatment usually given to the rest of the species, that is, to pot them in sandy peat, as free from fibres as possible, taking care to put plenty of drainage, and always avoiding over shifting; water must at all times be given with careful judgment, especially during winter.

PHILIBERTIA GRANDIFLORA, large flowered Philibertia.—A very pretty plant for ornamenting the trellis or rafters of a greenhouse, growing rapidly and blooming very freely. It requires to be grown in a soil composed of fresh loam and leaf mould, with efficient drainage. We have propagated it from cuttings planted in sand, and placed in a hot-bed, we have a stock of plants for sale.

PHARBITIS DIVERSIFOLIA, three lobed large Convolvulus.—A very ornamental and showy half hardy annual, and was introduced from Mexico by G. Dickson, Esq. It is a very beautiful flowering plant most suitable for training up stakes, fancy wire frames, fencing, verandas, &c., it grows freely and blooms profusely. The flower has somewhat the appearance of the Convolvulus major, but is rather less; the plaits on the corolla are very strikingly distinct. It deserves a place in every flower garden, or for ornamenting a greenhouse or conservatory during summer.



Phlox pilularis

Phlox maculata

Phlox pilularis



THE
FLORICULTURAL CABINET,

MAY, 1st, 1839.

PART I.

ORIGINAL COMMUNICATIONS.

ARTICLE I.

OBSERVATIONS MADE ON THE EFFECTS OF SITUATION AND EXPOSURE ON DIFFERENT KINDS OF PLANTS, DURING THE SEVERE WINTERS OF 1837-8.

BY CLERICUS.

As by far the greater number of plants cultivated in this country are exotics, we find they are variously affected by the changeable weather of our climate, as well as by the attending circumstances of the situations they are destined to occupy. Our knowledge, acquired by experience, of the constitution of foreign plants, has supplied us with rules for our guidance in the distribution of them. If we happen to be acquainted with the native habitat of a plant, we can judge pretty accurately what place it is most likely to thrive in with us. Tropical plants, for instance, we place in the stove, or conservatory; Australian, South African, Chinese, and South European, in the greenhouse; and those from the northern parts of Asia, Europe, and America, any where in the open air where we may have occasion for them, or which we may think best adapted for them. This is a very natural way of proceeding; but we are not always right in its application; some tropical plants are killed by placing and keeping them in the stove; because it is not so much the latitude whence they have been brought, as it is the elevation of their habitat above the

level of the sea which determines their hardiness. Many plants are debilitated by confinement in the greenhouse, and very many extra-tropical plants are lost from being placed in what is considered the warmest or most sheltered situation.

These errors are occasioned either by a want of experience respecting the constitution of the plant, or from inattention to the extreme change of temperature to which it is exposed in its new place, or from ignorance that situation and exposure change the constitution of plants to such a degree that, while one is perfectly hardy if nursed on a northern aspect, another of the same kind shall be so tender and vulnerable on a southern exposure, that it dies, or is cut down to the ground, under the slightest frost.

Want of experience concerning the constitution of a newly imported plant may be said to be an excusable want of judgement; because we have no means of knowing without experience, there being no general rule to guide. If, indeed, we are told that it is an annual from a warm country, we may safely conclude that it will succeed in this climate during summer, as many tropical annuals do. Or, if it be a perennial herb from the same country, we may find it answer with us if it be only protected from frost. But if tropical shrubs or trees are brought to us, we cannot, from any external mark, judge whether they are liable to be killed by frost or not. If they shed their leaves in winter, it is only a sign that they are winter-resting plants, not that they are hardy; because there are several tropical plants which are deciduous, as for instance, the silk cotton tree (*Bombax ceiba*); and many evergreens are as hardy as those that shed their leaves.

We often fail in preserving tender plants from inattention to local circumstances. We are liable to mistake shelter for warmth. Frost and the north and east winds are most dreaded in this country. A southern exposure, whether for the abode of animals, or a station for vegetables, is always considered the most eligible, merely, perhaps, because it is the most agreeable to our own perceptions. But in respect of vegetables we often err in this matter, both in choosing sheltered situations and southern exposures.

Cold (or rather cold air) is always most intense in humid situations, because there is the most copious evaporation. Such situations, in this country, are either on the tops of clayey hills, or in the lowest valleys, where there is either a lake, river, or brook.

These low grounds are nearer the main springs, and often abound with them, whence exhalations are ever rising, though imperceptible ; of course such a valley must always be more chilly, and more subject to keen frost than any drier or more elevated situations. Such glens, provided they are open to the south, are chosen as the most suitable for tender exotics, merely because they are more sheltered from the northern blast. In the summer indeed, such a locality is most favourable to the quick and strong growth of every plant. The air, being generally calm and moist, conduces to vigorous expansion ; and the very coolness of a summer's day or night, as felt in such places, is most propitious to luxuriant vegetation. These circumstances, however, instead of being beneficial to tender exotics, have a directly contrary effect ; the summer excitement only renders them less able to bear the frosts, which fall upon them with redoubled intensity in winter. And instead of the slow and sturdy growth which would have happened to a plant on a dry and breezy hill, or on a northern aspect, we have an enfeebled nursling, unfit to bear the rigours of our climate from sheer mismanagement.

Many proofs of the truth of these statements may be adduced, but we presume they are unnecessary, as the facts must have been repeatedly observed by our readers in general. The fact, however, is most important, not altogether for the sake of naturalising exotic plants, but for fixing the sites for gardens and orchards, which, if misplaced at first, give cause ever after for regret.

Not only do the exhalations from a moist valley generate cold, but the cold air which descends upon the hills after sunset is said to "slide down" and settle in the lowest place. So firmly is this believed, and acted on by a well-known horticultural philosopher, John Williams, Esq., of Pitmaston, near Worcester, that in all cases where a garden is made on ground sloping to the south, that gentleman invariably advises the lowest boundary to be a hedge ; or if a wall, it be raised on grated arches high enough to allow the escape of the cold fleece of air accumulated within the garden. On the same principle, whatever may be the aspect, the upper boundary wall should be high and close, to intercept the descending current and divert it round the ends.

From these circumstances, then, it is fair to conclude that low situations should never be chosen for garden sites, or as the best places for tender exotics.

There is another circumstance not yet adverted to which operates injuriously on tender plants in sunny and sheltered valleys. There, they are sooner affected by the returning warmth and solar beams of spring, and hurried into a premature growth long before frosts are over, or the summer temperature confirmed. They are awake and putting forth their tender leaves and shoots before the exposed residents of the hill are in the least acted on. The first have their sap liquefied and in motion; that of the second is clammy and at rest; the first suffer because they have to sustain four degrees of frost perhaps, when least prepared for it, while the second have only to bear two degrees, and are otherwise fortified against it.

The native plants of the frosty regions of Siberia suffer greatly from late frosts when introduced into British gardens, not from the severity of our seasons compared with that of their own, but entirely from the changeableness of the former. In Siberia the winter sets in at once, and the surface of the ground is soon covered with snow; every vegetable becomes instantly torpid, and in this state remains in perfect safety till the return of spring, or rather summer, as there is scarcely any spring season in that northern clime,—no intermission of mildness to excite, and frosts to destroy the tender plants, as is so often experienced in this country.

The changeableness of our spring weather is, in fact, the greatest bar to our possessing very many plants, which, to have at all must be guarded in some kind of building erected for the purpose. Our want of success in attempting to naturalise some exotics shrubs and trees, however, may have happened not so much from the constitutional delicacy of the plants themselves, as to the injudicious manner, perhaps in which the trial has been made. Exposed situations on the north side of a hill, and on poor and dry, rather than on rich and moist soil, is certainly the most eligible station for making a trial of the constitution of a foreign plant. Here it would not be excited into too early growth by the early sun of the day or of the season, nor would the aspect induce precocious growth. Its growth would be slower but its shoots would be firmer in texture and consequently better able to resist the destructive effects of frozen sap.

I cannot conclude these observations without first alluding to the ideas entertained about the acclimatation of exotic plants. The notion is founded on the supposition that, as animals have a

tendency to accomodate themselves to foreign climates, or to the changes of temperature of their own native place, so plants may in like manner be susceptible of physical changes which would enable them to bear great diversity of climatal temperature; but from all experience on this point it appears, from many tropical annuals long cultivated in Britain, that they have not perceptibly advanced in hardihood since the first day of their introduction. Such are the runner kidney-bean (which, by the bye, is a perennial); the potato and cucumber among culinary vegetables; the China aster and balsam among flowers, and the melon among fruits. All these have been perpetuated by seeds that have been produced, ever since their first introduction into this country, but without gaining any additional protective habit against frost. We may, therefore, conclude that plants generally have been formed for the climates to which they are indigenous, and have not that mutability of structure or of sap which would render them invulnerable to frost in a colder country, or to the incessant excitement of a warmer one without deterioration.

That many plants are now seen in the open air which were formerly in the greenhouse, or even in the stove is well known; but this has not happened in consequence of any change in the constitution of those plants, but merely from being misplaced on their first introduction for want of experience:—*Aucuba Japonica*, one of our hardiest shrubs, was once under my care in the warmest end of a conservatory!

The effect of frost on tender vegetable bodies is mitigated by thawing it off with water before the sun shines upon them. This seems to contradict what has been before stated, as to dryness being a safeguard to plants. But the cases are different; perfect dryness is a security against frost, but when plants are loaded with frozen dew, and this allowed to be dissolved by the sun, a much more intense degree of cold is generated during the solution of the icy particles by the sun, than if they were suddenly dissolved by water. It is this increased degree of cold which ruptures the delicate vessels of the plants, and of course destroys them.

Sometimes we see the stem of a tender shrub, as a heath, for instance, rent into many pieces, whilst the youngest shoots remain unhurt. This is owing to the rigidity of the first, and the elastic texture of the second; the latter yields to the distending effects of the concealed sap, and afterwards returns to a healthy

state ; but the unyielding character of the old wood only renders it more destructable, The foliage of the grasses indigenous to cold countries is only withered by frost, but seldom destroyed, owing to the tenacity and elasticity of its structure.

CLERICUS.

ARTICLE II.

ON THE CULTURE OF THE STOVE SPECIES OF CACTUS.

BY MR. RICHARD BEALY, BLACKBURN.

ALL the stove species of Cactæ may be treated as follows with great success.

Pot them in loam peat, or sandy loam, mixed with a small portion of lime rubbish, say about a fourth part.

Always let the pots in which they are planted be as small as the plants will allow ; large pots are injurious, because the roots are prevented from reaching the sides for a long time, and the body of the soil is liable to retain too much moisture every time the plant is watered.

Always give a good drainage, by laying in each pot a good portion of broken potsherds, as the least stagnation is always injurious, sometimes fatal ; therefore, never allow water to stand in the pans or feeders, in which the pots are sometimes placed.

Water very seldom, not more than twice a week, when they are flowering, and not so often at other times ; give very little at a time, not more than will just moisten the soil all over, particularly if the weather is not fine and sunny.

About the middle of June, turn them out of doors into a situation where they will not be exposed to wind, but perfectly open to the rays of the mid-day sun. Place them on a board or floor of any kind, to prevent the worms from effecting an entrance through the bottom of the pots. This system of exposing them in summer, gives them a check which seldom fails to produce a good bloom.

Whilst out of doors they must not be allowed to receive the heavy dashing rains, or they will suffer, perhaps die in consequence ; either a boarded roof, or other shelter must be provided for them on such occasions. Also, if the pots stand on a floor of slates or flag stones, they should be plunged in a little moss,

as the sun, by heating the pots, sometimes burn the roots of the plants.

In September, take the plants into the greenhouse, and place them in a situation where they will receive plenty of light and air in winter.

Early in the spring, remove them into the stove in succession as they are wanted to flower.

Most of the species will flower very fine without being placed out of doors at all ; but by placing them out as above, the flowers will be much finer and more abundant than when grown regularly in the house ; they may be increased by cuttings, seeds, and grafting.

Take off the cuttings at the length required, and lay them on a shelf in the greenhouse, &c. to dry up the wound made by the knife. Let them remain on the shelf till they begin to have a shrivelled appearance, say a week or a fortnight, then pot them in small pots in the same compost as recommended for old plants, set them on a shelf as near the glass as convenient, and be particularly cautious not to over-water them.

Sow the seed in a wet state, immediately after being gathered from the plant, and rubbed out of the husk. For this purpose, fill a pot with a mixture of equal parts of peat, earth and sand, cover it lightly, and plunge the pots into a hotbed, if the seed be good, it will make its appearance a month afterwards.

The operation of grafting is very simple, merely requiring an incision to be made, and fitting in it a fresh cutting of another kind, rubbing a little clay over the wound to keep out the air.

ARTICLE III.

ON THE CULTURE OF EPACRIS'S,

BY A FOREMAN OF A LONDON NURSERY.

ALL the species of *Epacris* are natives in the neighbourhood of New South Wales, and are very handsome shrubby greenhouse plants. Their culture is very simple and easy ; the *E. microphylla*, and *exserta*, require to be potted in equal parts of light sandy loam and peat, but all the rest thrive best in sandy peat alone. They nearly all come in flower about the end of March or the beginning of April, and continue blooming until June or

July, although the present subject flowers most of the winter, as well as spring and summer. In June they must be turned out of doors with the other greenhouse plants, but previous to which, it will be necessary to pot them, in most cases shifting them into larger pots; this is indispensable, as their roots are so fine a texture, that if the pots be placed out of doors, and consequently exposed to the alternations of heat and cold more than when in the house, the roots against the sides of the pots will receive material injury, the plants will become brown, and in most cases die; this we have seen in very many instances.

The best way of propagating them is by cuttings, which should be put in early in the spring; they will strike if put in at other times of the year, but not so freely. Take off the extreme ends about one inch or an inch and an half long, and plant them in pots of sand, cover them with bell glasses, and give them similar treatment to *Erica* cuttings. When they have struck root, pot them into small pots in a frame where there is a little heat; and when they have again begun to grow, remove them into a warm part of the greenhouse, and then treat them in the same way as the old plants. The whole of the order *Epacrideæ*, consisting of eighteen genera, all being natives of the same country, require the same general mode of culture, which may be stated as follows:—

With the exception of *Epacris microphylla* and *exserta*, *Styphelia longifolia*, the whole genera of *Lysinema*, *Poncletia*, and *Leucopogon*, let every species be potted in sandy peat soil.

The above exceptions must always have an addition of sandy loam mixed with the peat in which they are potted, but in every other respect it must be treated like other species.

Good drainage in every case must be attended to, for any deficiency here will seriously injure if not totally destroy the plants.

Never sift the soil in which the plants are potted, but chop and break it well, although in some cases this is scarcely necessary, when the turfy parts are well rotted.

Never allow the soil to become hard and dry particularly amongst those species potted in sandy peat alone; because, from the delicacy of the fibres of the roots, this cannot be the case without the plants being materially damaged, if not destroyed.

Always pot the plants immediately before they are turned out of doors in summer; for if this be not done, the action of the sun

and air upon the sides of the pot, if the roots are matted, will dry the roots, and the plants will become sickly and die.

In potting, never cut off the matted roots with a knife, but merely pull them with the fingers without damaging the ball more than is necessary.

Always let the plants stand in an airy part of the greenhouse, and never crowd them among other plants, or they will not prosper.

In propagating, select half-ripened wood for cutting, plant them in sand, cover them with a bell-glass, and place them in a shady part of the greenhouse, or in a frame. In both situations they must be shaded from the sun, until they have struck root.

ARTICLE IV.

ON THE GREEN MOSS ON ROSE TREES, AND OTHER SHRUBBY PLANTS.

BY A PRACTICAL GARDENER:

MANY readers of the Cabinet must have observed in their walks through a shrubbery, the unsightly appearance of the stems and trunks of rose bushes and larger shrubs, being entirely destitute of bark. Is it a natural disease incident to old trees? I am inclined to think that this is not the case, for I have seen comparatively young trees, covered as much as the old ones. It will be observed that trees on rocks, on walls, on soil, and in fact, on every thing that is exposed to the action of the atmosphere in a fixed state, a green covering, which, when minutely examined, appear like a green powder, and if allowed to remain, would form into patches of moss. This seems to be the most minute of the vegetable creation, and I believe the very foundation of it, and but for the industry of man, this would be the clothing that Nature would assume in this moist climate. The particles of this green powder must be exceedingly minute, as it remains invisible until great masses are collected together. Now it is obvious where this adheres to a tree, it must close up its pores, and thereby prevent the vessels from being acted upon by the external air. I likewise think it receives nourishment by exhausting the sap in the bark, which will first begin to crack, and afterwards die and fall off. I am the more induced to form this opinion, by

having seen an experiment tried to destroy it : this was done by using the common solution of soft soap and sulphur-vivum mixed with boiling lime-water, till it became of the consistence of paint. This, when cold, was applied with a paint brush to part off the branches of a young tree that were covered with this green mould yet the bark was free from cracks. The bark of the part thus dressed became in a short time clear, and entirely free, whilst the remainder of the tree was still clothed with [its green garb. I would recommend all gardeners, who have trees or shrubs in this condition, to give them a dressing once or twice in the winter season, and I doubt not that it will answer their highest expectations. A sprinkling of quick lime in a powdered state over the affected parts, after a shower of rain or strong dew, I have found to be equally useful wherever it touched.

ARTICLE V.

ON THE CULTURE OF IXIA AND GLADIOLI.

BY MR. RUTGER.

FEELING dissatisfied with what I had seen of the flowering of these bulbs, in the nurseries round London, as well as with those under my own care, I resolved to try the effect of a different soil from that generally recommended, and not cramming so many of them together in a pot as is usually done. The soil used was one-half rich loam, with one-fourth rotten dung, and one-fourth leaf-mould, both well decomposed and mixed up together with the loam. The pots were well drained, and a layer of the siftings of the dung and leaf-mould was put over the drainings. Of the smaller sorts of bulbs, I put only two or three in a forty-eight sized pot; of the larger only one in a pot of the same size; and of the largest only one in a thirty-two sized pot. During their growth; and particularly when near flowering, the bulbs were liberally supplied with water. Under this mode of treatment, my desires were fully realized, and my bulbs produced fine flowers, far superior to any others that I have ever seen grown in pots.

J. RUTGER.

ARTICLE VI.

ON CHINESE GARDENS.

(Continued from page 88.)

THESE projections produce variety, by altering the apparent figure of the open space from every point of view; and by constantly hiding parts of it, they create a mystery, which excites the traveller's curiosity; they likewise occasion, in many places, a great depth in the thicket, which affords opportunities of making recesses for buildings, seats, and other objects, as well as for bold windings of the principal walks, and for several smaller paths to branch off from the principal ones; all which take off the idea of a boundary, and furnish amusement to the passenger in his course; and as it is not easy to pursue all the turns of the different lateral paths, there is still something left to desire, and a field for the imagination to work upon.

In their crooked walks, they carefully avoid all sudden or unnatural windings, particularly the regular serpentine curves, of which our English gardeners are so fond; observing, that these eternal, uniform, undulating lines, are, of all things, the most unnatural, the most affected, and most tiresome to pursue. Having nature in view, they seldom turn their walks, without some apparent excuse; either to avoid impediments, naturally existing, or raised by art, to improve the scenery. A mountain, a precipice, a deep valley, a marsh, a piece of rugged ground, a building, or some old venerable plant, afford a striking reason for turning aside, and if a river, the sea, a wide extended lake, or a terrace commanding rich prospects, present themselves, they hold it judicious to follow them in all their windings; so to protract the enjoyments which these noble objects procure: but on a plain, either open, or formed into groves and thickets, where no impediments oblige, nor no curiosity invites to follow a winding path, they think it very absurd; saying that the road must either have been made by art, or be worn by the constant passage of travellers: in either of which cases, it cannot be supposed that men would go by a crooked line, where they could arrive by a straight one. In general, they are very sparing of their twists, which are always easy, and so managed, that never more than one curve is perceptible at the same time.

They likewise take care to avoid an exact parallelism in these

walks, both with regard to the trees which border them, and the ground of which they are composed. The usual width given to the walk, is from eight to twenty, or even thirty feet, according to the extent of the plantation ; but the trees, on each side, are, in many places, more distant ; large spaces being left open, which are covered with grass and wild flowers, or with fern, broom, briars, and underwood.

The ground of the walk is either of turf or gravel ; neither of them finishing exactly at its edges, but running some way into the thickets, groves or shrubberies, on each side, in order to imitate nature more closely ; and to take off that disagreeable formality and stiffness, which a contrary practice occasions in our European plantations.

In their straight roads or walks, when the extent is vast, the Chinese artists observe an exact order and symmetry ; saying that in stupendous works, the appearance of art is by no means disgusting, that it conveys to posterity instances of the grandeur of their ancestors ; and gives birth to many sublime and pleasing reflections. The imperial roads are astonishing works of this nature, they are composed of triple avenues, adorned with four rows of enormous trees ; generally Indian chesnuts, spruce firs, mountain cedars, and others of the largest growth, planted at proper distances ; and extending in straight lines, and almost on a level, two three, even four hundred miles. The centre avenues are from one hundred and fifty, to two hundred feet wide ; and the lateral ones, are generally from forty to fifty feet ; the spreading branches of the trees forming over them a natural umbrella, under which the travellers pass, at all times of the day, unmolested by the sun.

In some places these roads are carried by lofty vaulted passages, through the rocks and mountains ; in others, upon causeways and bridges, over lakes, torrents, and arms of the sea ; and in others, they are supported, between the precipices, upon chains of iron, or upon pillars, and many tire of arcades, over villages, pagodas, and cities : in short, no difficulty has been attended to in their construction ; but every obstacle has been conquered with amazing industry, and at an almost incredible expence.

(To be continued.)

REVIEW.

The Boquet, or Ladies' Flower Garden, being a Description of those plants which will flower in the Room, and the Treatment most suitable for them.—By a Florist, Simpkin & Co. 12mo. pp. 102.

In the preface the author states his object in the following remarks:

“ It has been often a matter of great surprise to me that amongst all the various books that have been written upon Botany, and the cultivation of plants, none should ever have been written upon the treatment plants require when placed in a London sitting-room. I have, therefore, taken upon myself a task of this kind, in hopes that, when it has been perused, it will be the means of preserving many plants, and also of keeping that healthy and beautiful appearance upon them, which can only be done by proper treatment.

“ It was my intention at first to have placed all those plants that require the same treatment together, and so to have made one description answer for each head or section; but this I found would be impracticable, as almost every two or three plants would require to be placed under a different head, and would consequently cause great confusion in the arrangement of them.

“ I have, therefore, made a selection of the most approved flowers, for the various months of the year, and so given a description of each plant individually.”

It appears that the author has in the title given, limited a Lady's Flower Garden, to a dwelling room, this is certainly too contracted. The fine collection of plants in the conservatory and greenhouse, as also their well kept flower gardens, and beds in the open air, give sufficient evidence.

The remarks on the plants included in the work, will be found somewhat useful, but will admit of considerable additions to render it what is desirable. In another edition we hope this will be attended to. The following is a specimen of the work:

“ FEBRUARY. *Rose*. This may justly be classed as the most beautiful flower that nature has given us, having that which is rarely met with in other plants, beauty and a fine perfume combined together. There are several varieties of this lovely flower, which can be procured at this early season, and which are forced in hothouses with very great heat, so that when taken into the room, they require very great attention. In purchasing forced roses, one of the principal objects to have in view is the healthiness of the plant, which may be easily told by the leaf being

very smooth and expanded, and of a fine green. The beauty of the rose, depends a great deal upon the form of its flower when open, which in forced roses is often very bad; therefore it should be particularly noticed if the bud is of an oval form, and not to care for a great profusion of flowers, as they are sure not all of them to open their bloom, whereas, when they are but few, they generally all expand, making large and handsome flowers; but when the bud is short and flat, and being indented on the side, it will be perceived that one half of the bud opens before the other, and consequently spoils the beauty of the flower. The above brief description will be found equally applicable to all roses, whether forced or not.

“Having given a few remarks upon the choosing of the rose, I think I may now safely venture to describe the treatment that is most suited to it after it is removed from the hothouse and brought into the room; therefore the first point is, to find the situation which it is likely to thrive best in, which ought to be where there is plenty of light, and at the same time not much affected by the fire; consequently, that part of the room which is farthest from the fire, and nearest the light or window, is best suited to it: if there is a saucer placed beneath the plant, as is frequently the case for convenience, water should at no time be allowed to remain in it, as nothing is more detrimental to this plant than stale water; although there are several varieties of plants which are very much benefitted by standing in water; hence it is that the want of sufficient knowledge of those which ought and ought not to be treated in this manner, has occasioned so many failures among plants when taken into the room; but as I treat of the various plants, I shall describe those that are benefitted by this mode of treatment.

“The rose should be slightly watered once a day at this season of the year, and that upon the surface of the mould, not putting any in the saucer, and so long as it remains wet, then the plant will require no water; but when it becomes dry, then a fresh supply may with safety be given. The forced rose is one of those plants very much subjected to a small green fly, which fixes itself beneath the leaf and upon the bud, and it is a great object even with nurserymen to destroy them, which is partially done by means of tobacco smoke; but I think where there are only a few plants, the best and most certain way of keeping them from the plants, is to wash the leaves and bud with a feather or soft hair brush, dipped in a solution of soft soap and tobacco water, as the soft soap being of an adhesive nature, it remains upon the plants for some time, keeping with it the properties of the tobacco; this being carefully applied once, it is rarely the insects return again during the time it is flowering: this method will be equally applicable to all plants which are subject to this species of insect.

“The following are the names of a few roses, which may be had at this early time of the year: Provin's Rose, Moss ditto,

Spong's ditto, Rose de Meaux, and Fairy Rose. The Rose de Meaux and Spong's Rose, are the two best for flowering in the room; but the two former species are much the finest, the flowers being nearly three times the size of the latter. The Fairy Rose, as it is called by the gardeners, is quite a different rose from that which has generally borne that name. It being a very double flower, and much larger than the variety of Fairy Rose, the treatment of this beautiful little plant is not near so troublesome as other roses, nor is it so liable to insects. It should receive a very little water each day, and when the roses fall off the flower-stalk, is cut off by which means much more strength is given to the succeeding bloom. About this time the common Blush China or monthly Rose, commences to flower, and, with proper care, continues blooming for many months; it is also liable to insects, but may be easily cured of them by the means already described. Its other treatment is much the same as the Fairy Rose, cutting off the dead flower and giving it more water as the season advances; when about the month of April, it may be placed outside of the window during the day, and very often the night also.

“*Rhodora Cadanensis*,—This is one of those plants which flower before it makes any appearance of leaf, for which it generally makes up in abundance and showiness of its bloom, being of a rosy lilac colour, and flowering in small bunches on the extremity of the branches. It is very beautiful in bouquets, for which purpose it is very much cultivated by gardeners. It will either stand in a cold room, or one where there is a fire, and should be very slightly watered each day.

“The *Pink* is nearly one of the worst plants for forcing early, as it is so often that nearly the whole of the buds turn blind, and never open, especially when taken into the room; consequently it requires an accurate knowledge of the habit of this plant to be able to choose those which are likely to bloom. The method which I have always found the most certain, and which I recommend to my readers, is by slightly pressing the bud between the fingers. When they feel full and hard, they may safely be depended upon, for when the petals of the bloom are fully formed, they are sure to open well. But should the buds close between the fingers and appear to be empty, then there is no chance whatever of its flowering, not even in the hothouse of the nurseryman himself; and again, they ought not to be chosen very backward, even if they should feel full and hard, for when very backward, they require twice the care and attention, and at the same time do not flower any the finer for it, consequently I should recommend choosing those which have the most buds about to open, as they last as long as the most backward. In its treatment care should be given to the watering of it, as a surplus of water will destroy the forthcoming bloom sooner than anything else, so that if there is a saucer beneath the plant, water should not be allowed to remain in it longer than two or three hours after it has

been watered, which ought to have been done every day, if the plant is in good health, and placed near the light, where it will not be exposed to a cold draught of air, which is very injurious to it. There are few flowers that deserve to be more cultivated, either at this or any other time of the year, on account of its very fine scent, that is surpassed by hardly any other flower. Those most held in esteem for forcing early—Shailer's Early White, Moss's Blush, and the Anne Boleyn Pink. The latter is quite different from the other pinks, both in its growth and flower, generally attaining the height of two and three feet, and having a very large flower, which is very sweet: it is much later in its flowering than the two former, and thrives better than any other when taken into the room.

“*Azalea indica alba*.—The beautiful species of this tribe seem formed to relieve the dullness of the winter months both, by their various colours and by the beautiful scent of the flowers. The species I am now describing generally blooms with two or three flowers together, of a clear white, with long stamens which project out of the flower; it is particularly desirable for the town, as it is one of those plants which retains its bloom for a long time, and likewise flourishes very well in the room; the flower of this species of *Azalea* is extremely liable to be bruised from its delicateness, and should therefore be kept from any draught of air; it should be watered once a day, and never be permitted to get quite dry, for when the flowers once droop from this cause, it is rarely that they rise again. *Azalea indica phœnicea*:—This differs from the other variety, as having a much greener and better leaf, and the flower of a very dark lilac or purple; generally it does not flower very freely until it gets to a large size; its treatment is the same as the other. *Azalea indica Smithii*:—This species is very showy, and flowers very abundantly, as well upon small plants as large, having a bright red flower; it flowers much later in the season than the former varieties, as it is not generally much forced.

“*Camellia*.—This beautiful tribe of plants has been more trouble to make bloom, in town, than perhaps almost any other; I shall, therefore, be more particular in describing the treatment, and point out many objections, that have hitherto been to the culture of this desirable plant. From its repeated failures, it is often thought that it is a plant that will not flower in town: but this is quite croneous, as with proper attention, it may be flowered as well as most other plants; and being of a fine leaf, independent of flower, it is particularly worthy of a little more trouble than ordinary plants. Now the great cause of complaint against it, is, that when it is covered with bud, and every expectation raised of seeing some beautiful flowers spring from them, they gradually commence falling off as the season of its blooming approaches, so that there is scarcely a single bud left upon the plant at that time when they ought to be expanding themselves into flower.

(To be Continued)

THE GARDENS
OF THE
ROYAL BOTANIC SOCIETY OF LONDON,

INNER CIRCLE, REGENT'S PARK.

(Continued from page 94.)

The arrangement of this portion of the objects of the society has been confided to an architect possessing considerable taste and judgment in laying out ornamental grounds; and it is needless to say that he has complied with the utmost expectations of the enlightened promoters of the society. The geographical and physical distribution of plants is to be preserved as much as possible, and a necessary accessory is the application of national architecture in the buildings devoted to the production of individual countries. Other artistical decorations, as statues and vases, will also be employed as far as possible; and it is saying much in praise of the objects of the society, that only in this department, without going into any unnecessary expence, they may powerfully contribute to the cultivation of public taste. While the several ornamental edifices will present a synopsis of the various styles of architecture, a proper selection of statues and vases, would afford all the benefit of a gallery or museum. This would give the public an opportunity of becoming acquainted with the best production of the several schools, and the elucidation of this object should be by no means omitted in the catalogue of the gardens. The selections might include casts of the several styles of Egyptian art, and of the finest ancient and modern specimens of the several Greek, Italian, French, and English schools. Whether these are classed in the general catalogue, or formed into a separate volume, the descriptions should contain sufficient information of the works and their artists, and the base of every figure should have inscribed the name of the artist, and date and style of the work.

The plants are to be arranged according to the two great systems of classification, the artificial and the natural; and will likewise be disposed in such a manner as may be useful to every class of botanist. The artificial system, is that of Linnæus, founded on the visible organs of plants, while it presents great facilities of reference, is too loose for any strict classification, and resembles the old method of animal arrangement, which in its definition of quadrupeds included in the same class of animals, reptiles, and excluded cetaceæ. The natural system formed, by Jessieu, is founded upon the constitutional differences of plants, and establishes as clear a distinction between the several classes, as in animal tribes the distinction between warm and cold blooded. The adoption of this latter system is of almost universal preference in all continental gardens founded upon improved principles, and is well calculated, by its introduction here, to impress the student with the importance of studying the organic constitution of plants.

The circle is proposed to be distributed into compartments, for the reception of the several plants indigenous to Europe, Asia, Africa, America, Australia, and the Polar Regions. These again are proposed to be subdivided into gardens, in illustration of the style of ornamental gardens of the several countries of the great divisions.

At the entrance of the grounds from the grand drive leading from the Colosseum a building will be erected, devoted to the general business of the Society, and containing a library, museum, and rooms for study. The library will consist of botanical works and periodicals, and to it will be annexed a reading room for the use of fellows and members. The museum will contain dried specimens, drawings, and engravings of recent plants, and specimens of fossils, and it would augment the value of these latter if they were accompanied by such recent plants as are identical to them, or have the nearest relation. It will farther contain illustrations of the application of vegetable

productions to manufactures, as, for instance, specimens of cotton from the raw material up to its formation into cloth. The rooms for instruction will afford facilities for students to draw plants from the living objects, and it will include a convenient lecture hall, in which courses will be given similar to those which are so popular at the Jardin des Plantes at Paris, and the Royal Dublin Society's gardens at Glasnevin. From this edifice a raised viaduct promenade, over-looking a considerable portion of the gardens, will lead to a domed conservatory in the centre of the gardens. This conservatory will be on a very large scale, so as to emulate some of the foreign houses, and to give every facility for the growth of the more magnificent tropical plants. Descending from the conservatory to the right of the grand promenade, we come to a garden laid out in the Dutch style, with a fountain in centre, and canals. Beyond this will be a rosary, consisting of a circular lawn, surrounded by arch trellis work and borders, for the growth of every variety of this queen of flowers. From this we enter the Italian garden, laid out with statues, fountains, and raised terraces, at one end of which will be a conservatory and at the other a casino. Having passed under the promenade, we reach the medico-botanical garden, adjoining the central conservatory, and surrounded by hot-houses, stoves, &c. We are now at the head of the lake, which will extend for about a quarter of a mile, interspersed with islands and winding amid varied scenery. Here will be cultivated aquatic plants, and there will also be provided a salt-water basin for marine algæ. At the head of the lake will be an artificial rock for the cultivation of rock-plants, and which will contain a large reservoir to supply the several fountains and hydraulic works. The borders of the lake, will, if possible, be so arranged as to display representations of natural geological sections, which may be made equally productive of interest and delight.

Between the lake and central conservatory will be an extensive lawn, upon which ornamental shrubs and parterres of flowers will be displayed in the modern English style. In its special department will be a garden devoted, like that at Glasgow, to the cultivation of plants used in manufactures; and the dyer may here see the material of his tints, or the weaver the cotton from which his cloth is spun. In proper situations will be the American or bog-earth grounds; a ground shaded by trees and containing stumps and roots of trees, tunnels and caves for the growth of mosses, ferns, fungi, and other cellulares. Around the whole ground is to be a walk with wide borders for the arrangement of plants in scientific order. By the sides of the walks raised receptacles may be placed, so as to bring some of the more delicate bog earth plants nearer the eye.

An experimental garden may be rendered an important and interesting object, whether devoted to agriculture or manufactures. Professor Daubeny has devoted a portion of the limited space of the garden at Oxford to a series of experiments on the powers of agricultural plants, by which he endeavours to ascertain how long a plant will continue in constant cultivation before it exhausts the soil, and when one plant has exhausted the soil, what other will grow in its place. The rotation of crops, the subject of this examination, is one of the most important principles of modern agriculture, and one which greatly demands enlightened study.

By these several departments every facility will be given for the study of botany to whatever class of student may be desirous of availing himself of it; and one of the most important objects, the application of botanical productions to arts and manufactures, is particularly provided for. As far as means will permit, exertions will be made to promote the cultivation of such plants as may be most useful for these purposes, and to extend them in our own country and our colonies; and even if the society should do nothing locally, they have it in their power to further these objects, by giving prizes, as is done by the Society of Arts. To give every inducement for its local study, public botanical exhibitions will be opened periodically, in which an important feature will be introduced, by giving prizes for any new application of plants to manufactures, and for the best delineation of them, or

combination in a pattern. It is gratifying to perceive that it is the intention of the society to act like the institutions at Paris and St. Petersburg, as a central establishment, to form a union with provincial societies, and to afford every assistance to them and to individuals in the propagation of new plants.

The most effective way to render the gardens of advantage to the public is to devote great attention to everything that can promote its utility, and the simpler and more effective all its arrangements are made the more it will effect this end. A very important object is the placing the names of the plants near them in a conspicuous position, and such description should contain their scientific and common names, their country, and what are their economical uses. The catalogue should be as extensive and cheap as possible, and contain, in addition to the history of the plant and its particular uses, a chemical analysis of its several constituents; to this work should be prefixed a short explanation of botanical terms and the rudiments of the systems. Another necessary feature should be always, as far as possible, to accompany the description and the catalogue by analysis of the several soils in which the plants are placed, as this would call public attention to a department of science which is highly important, and in which, notwithstanding the efforts of Kirwan and Davy, we are still greatly deficient.

Having thus exhibited the general features of this plan, it is hardly necessary to augur its success, as that cannot fail to attend an object of such great interest and utility. We have sufficient evidence in the taste for floriculture, and the increasing cultivation of zoological and botanical science, that the public mind is sufficiently prepared for such an institution, and is perfectly capable of appreciating and supporting it; and if we wanted an instance of popular discrimination on this subject, we have a most admirable instance in the case at Dublin. The gardens of the Royal Dublin Society having been much neglected, gradually declined in public estimation; but in 1834, no sooner was an improved system adopted, than the lectures were crowded, and the number of visitors increased, in four years, from 7,000 to 20,000. That no improvement is lost on the public mind, we see again in the effect produced by the new regulations in the national collections in London, where every change for the better has produced a corresponding increase in the number of visitants.

In conclusion, the managers have but to follow in the course they have commenced, and the success of their institution will reflect equal lustre on themselves and advantage on their country, and redeem the honour of the giant metropolis from the deficiency of such an important embellishment. Its promoters may rest assured that it is only by enlightened management that these objects are to be obtained, while through it the enjoyments of their fellow countrymen may be promoted, and the greatest advantages conferred on the arts, sciences, commerce, and manufactures of their native land.

New Plants.

STACHYS COCCINEA. This plant is a native of Mexico, and bloomed at the Clapton Nursery with the *Salvia Patens*, &c. The plant grows about half a yard high, having numerous branches, flowering freely. The flowers are of a dull red; but though not brilliant, when grown in masses produce a pretty effect. It blooms in the open border from June to October.

CHIROZEMA ELEGANS. This new and beautiful species has recently bloomed in the greenhouse in the London Horticultural Societies Garden. The flowers are of a brilliant yellow and crimson, produced in large spikes. It is a very desirable plant for the greenhouse.

PART II.

NEW OR RARE PLANTS.

(Noticed since our last.)

DENDROBIUM CRUMENATUM,

(Bot. Reg. 22.

ORCHIDÆ. GYNANDRIA MONANDRIA.

1. Discovered in various parts of the Indian Archipelago, and was sent from Ceylon by Mr. Nightingale, to his Grace the Duke of Northumberland, in whose Collection at Syon it has bloomed. The flowers are produced numerously on a terminal raceme. Each blossom is about an inch across, white stained with yellow. It is stated, that it varies with white and pink flowers.

DENDROBIUM AUREUM var. PALLIDUM. Golden flowered.

(Bot. Reg. 20.

ORCHIDÆ. GYNANDRIA MONANDRIA.

2. This plant is a native of Ceylon, and has bloomed in the collection of Messrs. Loddiges's. Each flower is about two inches across, yellow and white, powerfully fragrant.

New and Rare Plants noticed in the London, and neighbouring Nurseries.

HOVEA PUNGENS.—This new species was introduced into this country by Baron Hugel of Vienna, and has recently bloomed in the greenhouse at the Tooting Nursery. The leaves are very narrow and long, giving the plant a very pretty appearance. The flowers are of a purplish blue colour, and produce a pleasing effect. It is a desirable plant for the greenhouse.

CÆLOYNE BARBATA.—This new and interesting orchideous plant, sent from the East Indies to Messrs. Loddiges's, and has recently bloomed in their collection. The flowers are produced on racemes. The sepals and petals are white. The labellum is white streaked, and stained with bright yellow, and at the base is tinged with pink.

PIMELEA INCANA.—is now in bloom at the Clapton Nursery. It is well known that the Pimeleas in collections produce their flowers in corymbose heads at the summit of the branches, and the plants usually become naked as they advance in size, but the present species, though ten feet high, is covered with branches, leaves and flowers, down to its very base.

The flowers are white, produced on terminal pendant clusters, and produce a most charming effect.

GARDOQUIA RETONICOIDES.—We saw this new species in bloom at the Clapton Nursery, at the same time as the *Salvia patens*. It is a herbaceous plant, blooming profusely in the open border in summer. It contrasts with *Salvias*, &c. it produces a pretty effect when in masses. It is a native of Mexico. The flowers are about the size of the pretty, and now well-known species, *G. multiflora*, of a bright rosy purple colour.

PART III.

MISCELLANEOUS INTELLIGENCE.

QUERIES.

ON DR. ARNOTT'S STOVE.—H. W. requests Mr. Harrison to inform him in the next number of the Floricultural Cabinet, whether Dr. Arnott's Stove will heat a greenhouse properly, and which is the best house in London for buying one?

We have not had an opportunity of seeing Dr. Arnott's Stove in operation to a plant house, but having been supplied by correspondents with the following remarks upon the subject, we give them for the information of our correspondent:

Having recently built a new greenhouse, and feeling unwilling to incur the expense of fixing a hot-water apparatus, yet anxious to spare the great expenditure of fuel, occasioned by brick flues, my attention was turned to Arnott's stove as a medium. Accordingly, in last December, I procured from Cottam and Hallen, one of their 18-inch stoves, which is now, and has been since then, in constant operation. My new house is 60 feet long, by 12 feet wide, with a span roof; the stove is placed at one end, within a few feet of the door. To explain why I had it placed at the end, rather than in the centre, let me here say that, feeling rather sceptical as to its efficacy in engendering sufficient heat, I had built at the other extremity of the house a common brick flue, 20 feet in length in case of exigency. I will now give the result of my observations.

During the frost of the 8th and 9th instant, with the assistance of one hour's heating of the flue in the evening with brushwood, the thermometer was kept up to 50 degrees, and, of course, the frost completely excluded. Still wishing to ascertain with greater exactitude the capabilities of Arnott's stove. I have had, during a very sharp wind frost, nearly 30 feet of the house next the stove partitioned off by mats, so as to give me a small greenhouse, 30 feet long, 12 feet wide, and 10 feet high. In this house, then, has the stove given all day, with a moderate fire, and the consumption of not quite a peck of coke, from 50 to 60 degrees of heat. To take off the arid and rather harsh nature of this heat, I have had a zinc pan of water 2 inches deep, and 18 inches square, placed on the stove; the evaporation of which gives all the softness and moisture that can be wished for.

It must be borne in mind, that in this trial 9 feet of the glass roof out of 15 feet have been covered with double mats, as is usual in severe frosts with all greenhouses. At this moment, 8 p. m., the thermometer in the open air, is at 28 degrees. In the house of the before mentioned dimensions, heated by Arnott's 18-inch stove, it is at 60 degrees.

I hope I have now said enough to convince plant-growers, that for small greenhouses, or even for moderate sized ones, this stove will effectually keep out frost, which, of course, with greenhouses, is all that is required. For plant amateurs, particularly for those who do not keep a regular gardener, is invaluable; for the little attendance required can be given by a maid-servant. No overheating can take place, and no danger to buildings is incurred; and if the simple prevention is taken, of sprinkling the inside of the stove, when it is cold, with water, to lay the dust, preparatory to cleaning it, not the least particle of dust escapes. This is a great advantage, as all other stoves give so much dust, as totally to unfit them for plant-houses. To nurserymen and dealers in greenhouse plants, this stove is indeed a boon, for what numbers of lovers of greenhouse plants have been deterred from

undertaking their cultivation, owing to the daily and nightly care required during frost, to keep brick flues regularly heated; and sometimes, owing to the great expense of fuel, and the calculation that the frost would not be severe, a fire has not been lighted some nights at the end of winter, and then all the previous care has been destroyed by the admission of frost to the plants. Now, with Arnott's stoves, any pit or large frame may be made frost-proof; and, as the consumption of fuel is so trifling, a fire may be lighted every night, and the expense not felt. Some caution is certainly required in purchasing these stoves. I bought two of an inferior construction, and found them both useless. Fortunately, Messrs. Cottam and Hallen had supplied a neighbour with one of the regular construction to heat his servant's hall, a room of large dimensions. This acted so admirably, that I immediately procured one from them; the effects of which I thought it my duty to give you, to register in your legitimate pages.

SAWBRIDGEWORTH.

T. RIVERS,

As there is at present an anxious desire amongst the public to know what Dr. Arnott's stoves are capable of performing, as regards heat, and as I have six in use, and have paid great attention to the working of them, you may be glad to hear the results. But I now allude more particularly to obtaining a bottom heat from them for early forcing. I have just erected a pit 20 by 7, and formed an air chamber under the whole length; and on the top I have placed netting works, supported by wood rafters, (iron would be better, but this was by way of experiment); on that I have laid turf with the grass downwards, and on that again I have placed dry mould. At one end is the Arnott stove, the smoke of which is conveyed through the whole length of the air chamber by a small brick flue, four inches in diameter, and comes out at the other extremity of the pit. The result is, that I have as beautiful a bottom heat throughout as can possibly be required. How the plants—melons I intend it for this spring, and pines afterwards—will grow in it, remains to be proved; but I have no doubt whatever about them in my own mind. I have also three tubes at equal distances, communicating with the air chamber beneath which I can open and close at pleasure to let out the hot air when I have too much. They will be further useful for pouring in water, to prevent the heat from drying up the mould which it might be apt to do, unless some means of that sort were resorted to. I give you this early notice of it in the hope of inducing others to make a similar experiment, as the season is but just commencing, and, by the end of it, we may have some practical men giving us their opinions upon it. The advantages that are derived from it are numerous; all fermenting materials, which are always expensive for large pits, will be saved; the trouble and all the filth and dirt of renewing linings will be done away with. The expence of the fire cannot exceed twopence in the twenty-four hours, and a stove to answer every purpose may be got for £2. The six I have in use consume just one hundred weight of culm in a day and night, which costs here tenpence halfpenny per hundred weight. One is placed in a pine pit, another in a hothouse applied to a boiler, and the others are in different rooms in the house. The average expence of the whole together is not twopence per day and night each.

You will see by this account, that a great deal may be done with them at a very small cost, and that many of the annoyances attending forcing, may be entirely overcome by the use of them.

GARD. GAZETTE.

ANSWER.

ON INK SUITED FOR WRITING ON METALLIC LABELS.—In answer to your correspondent Y. M's inquiry in last month's Cabinet, "On Ink suited for writing with upon Metallic Labels;" I beg to inform him that from experience I find in order to be perfectly secure, and to preserve the complete identification of my plants, that it is absolutely necessary to use the pre-

pared Ink which has been advertised with the prepared Labels. I have used unprepared Zinc Labels with, and without the prepared Ink, but I have found myself frequently disappointed by the complete obliteration of the names, which has proved very inconvenient to me, particularly in the naming of my Dahlias. Since my adoption (which has been for some years) of the use of the prepared Ink with the prepared Labels I have not met with a disappointment.

A CONSTANT READER.

REMARKS.

THE HORTICULTURAL SOCIETY'S GARDEN.—We recently called at the before mentioned garden, and were not less surprised than delighted, when shown the foundation part of which was then completed, being the commencement of an erection which will give credit to that wealthy and Honourable Society. In the February number of the 'Botanical Register,' Dr. Lindley thus speaks of it, "all who are interested in the cultivation of exotic plants, will be glad to learn the Horticultural Society of London, are about to erect a most extensive conservatory in their garden at Chiswick. The range will be nearly 500 feet long, running east and west, with a front both to the north and south. The roof will be constructed entirely of iron, glazed with patent sheet glass, and will have the form of a gothic arch. The west wing rather more than 180 feet long, and 27 feet high, has been contracted for by Messrs. D. & E. Bailey, of Holborn, and will probably be completed by the middle of May. The whole range when executed, will be one of the most extensive in the world." The Doctor proceeds to observe, "It is now to be expected that greenhouse and stove plants, especially the former, will become a great object of attention with the Society; the effect of which will doubtless be, to improve the ornamental character of tender plants, in the same degree as that of hardy collections."

ON THE PLANTAIN.—At the meeting of the Royal Horticultural Society on Tuesday evening, Professor Johnson is reported to have made the assertion that the Plantain, (as in the remarkable instance of corn,) "has never been met with in a wild state, but only within the precincts of cultivation," and immediately afterwards, we are carried away from its native land to the extremities of the habitable earth, in search of the uses to which it is applied. The wild Plantain, called by some *Musa sylvatica*, found over the whole range of Ghauts, extending nearly from Surat to Cape Comorin, and in the vicinity of Bombay, is one of the most common of jungle plants; whether this is the true and original *Musa paradisiaca* or not, remains to be proved, I believe it so to be; the difference between the wild and cultivated variety, (if such it may be termed,) being, that the former springs up in June, the commencement of the rains, and dies down at the end of the year, even in spite of irrigation, which is not the case with the latter; and that in the former the whole contents of the fruit consists of seeds nearly as large as a sweet-pea, but of which in the latter scarcely a trace is discernible.

March, 28th, 1839.

CIVES MUNDI.

FLORICULTURAL CALENDAR FOR MAY.

PLANT STOVE.—Very little fire-heat will now be required, only applying it in cold weather. The plants will progressively require an increase of air and water. If any want an increase of pot-room, it should be attended to as early as possible; otherwise, if not watered frequently, the foliage or flowers will be liable to suffer, turn brown, or fall off the plant. Keep the plants free from decayed leaves, moss, &c. Frequently stir the surface of the soil. When any casual irregularities in form occur, prune or tie the shoots as required. It is a good time for propagating by cuttings, suckers, seeds, &c., placing them in moist heat.

TENDER OR STOVE ANNUALS.—When it is desired to have some plants to bloom late in autumn, as Balsams, Cockscombs, Browallis, &c., seeds should now be sown, and the plants potted off into small sized pots, as soon as they are large enough, using a rich soil.

GREENHOUSE.—During the early part of May, a few frosty nights generally occur; in consequence of which, it is advisable not to take out the general stock of plants before the middle of the month, or even in cold situations, before the 25th. Whilst the plants, however, remain in the greenhouse, let them have all the air that can be given, during the day, and at nights if no appearance of frost. Particular attention will now be required to afford an ample supply of water to free growing kinds of plants. Frequently syringe them over the tops at evening, just before sun-set. If any of the plants be attacked with green fly, or any other similar insects, apply a sprinkling of tobacco water, diluted with water, by adding to one quart of the liquid five of water; in applying which to the plants, syringe them at the under as well as upper surface of the leaves: a repetition will rarely be required. This mode of destroying the insects is far preferable to fumigation, no injury being sustained by it, even if applied in a pure state. The liquid can be obtained of tobacconists at 10d. or 1s. per gallon. Inarching Orange or Lemon trees may still be performed. It is a good time for increasing plants by cuttings striking in moist heat. Greenhouse annuals—as Salpiglossies, Globe Amaranthuses, Balsams, &c.—should be encouraged by a little warmth and shifted into larger pots, early in the month; so that the plants may make a show, to succeed the removal of the general collection of greenhouse plants. Cuttings or suckers of Chrysanthemums should now be taken off, if not done before. *Triverania coccinea*, plants should be potted singly into a light rich soil and be forwarded in the stove, and repotted as they advance in growth, not too much at a time, but as root room appears necessary. *Lobelia* for the greenhouse should be similarly treated, as to potting, &c.

FLOWER GARDEN.—Continue to protect beds of Hyacinths, Tulips, &c. Carnations in pots should be encouraged by manure water, &c., in order to grow them vigorously: care in striking them will be required. By the middle of the month, half hardy annuals—as China Asters, Marigolds, &c.—may be planted out in the open borders. Some of the best kinds may be potted, as done to the more tender sorts. Many kinds of greenhouse plants—as *Petunias*, *Salpiglossies*, *Salvias*, *Fuchsias*, *Heliotropes*, &c.—should now be planted out in the open border. Dahlias that have been forwarded in pots, frames, &c., may be planted out towards the end of the month. Seedlings may be pricked out, in a warm situation, having a deep, fresh, rich soil. When Stocks, *Mignonette*, China Asters, &c. are wished to bloom late in the year, seeds may now be sown, either under a frame or on a warm border. Slips of Double Wallflowers should now be put in under a hand-glass. Seeds of biennials—as Sweet Williams, Scabious, Campions, &c.—should now be sown. Tuberoses, for late flowering, should now be planted, either in pots or warm borders. Offsets of *Campanula pyramidalis*, should be planted in rich soil, and placed in the greenhouse. Repotting must be continued till they cease to grow, by this means the plants will reach eight feet high, and be very branching.

REFERENCE TO PLATE.

ECLIPSE, KING OF HEARTSEASE, AND BEAUTY OF EDMONTON, are among the splendid Seedling Panzies raised by Mr. Page, of Edmonton Nursery, and advertised for sale in previous numbers of the Cabinet.

LORD DURHAM, AND GENERAL WOLFE, are very fine Seedling Panzies raised by Mr. James Burly, Florist, Simpsfield, near Godstone, Surry, (see advertising sheet for the present number.) We have drawings of some other very fine Seedling kinds sent us by the above gentlemen, which will appear in some future number.



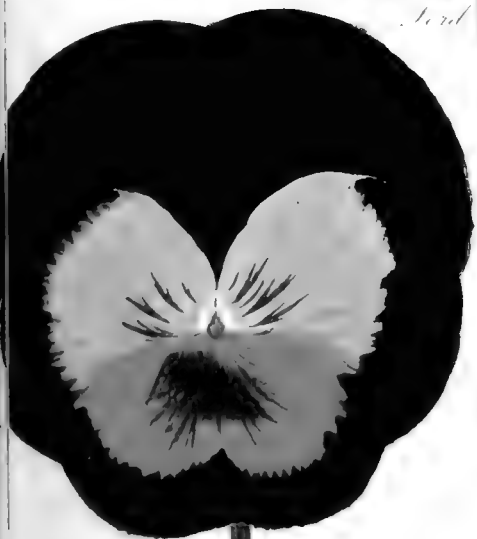
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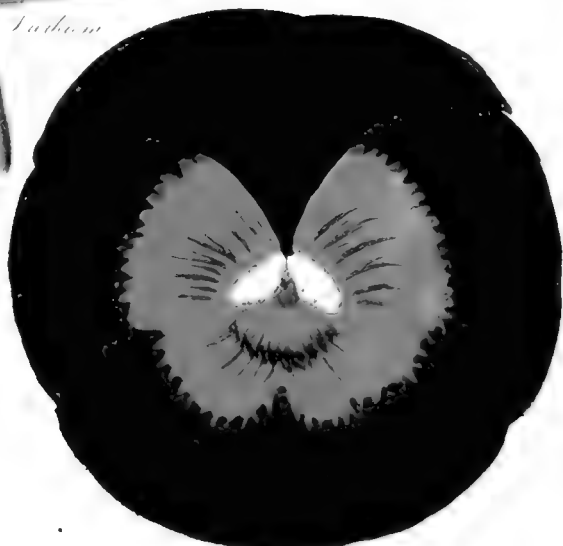
Pansy du Nord



Bird's Foot



Pansy du Sud



Pansy du Nord



THE FLORICULTURAL CABINET,

JUNE 1st, 1839.

PART I. ORIGINAL COMMUNICATIONS.

ARTICLE I.

ON THE PRESENT TASTE AND STYLE OF ORNAMENTAL GARDENING.

BY MR. JOHN FOREST, GARDEN ARCHITECT, &c., ROSS.

As gardening was one of the first, so is it one the most delightful occupations of man; it contributes to his necessities, as well as to his comfort and pleasure. The cultivation of salutary herbs, and grain, and fruit for diet, were necessary to his existence; and that of flowers for their scent and beauty, and of trees for shade and shelter, was equally necessary accompaniments. Hence the calling became divided into distinct branches, namely, kitchen, fruit, flower, and ornamental gardening. The two first, though of most real utility, are considered subordinate to the two last, more especially the last of all, which has been dignified by the title of, "*landscape gardening*." The term has been borrowed from that given to any prospect of a country, but particularly from those works of art depicting wild or ornamental scenery, called landscape paintings, representing any space or region of a country, with its various objects.

The first ornamental gardens of which we have any good account were regular enclosures, with everything they contained arranged most symmetrically, justifying the often-quoted sarcastic couplet of our poet Pope:—

"Grove nods at grove, each alley has a brother,
And one-half the lawn but just reflects the other."

This rectilinear and rectangular style of gardening was, however, quite natural to man in the earlier ages of the world; he saw

nature in all her wildest forms around him, and, as lord of the creation, he felt a kind of instinctive desire to bring her under his controul; he wished a contrast and a disposition of his trees, and boundaries that would mark or secure his possessions, and, at the same time, exhibit his skill as well as his sovereignty. Art was then his idol, not Nature; and everything he did was to show how much the latter was under his dominion.

This artificial style of gardening continued to prevail in every civilised country, from the earliest times till after the beginning of the eighteenth century. Before this epoch, Le Nôtre, a French garden architect and ornamental gardener, was extensively employed in almost every nation in Europe; and some portions of his designs are still to be seen in France, and many imitations of them everywhere, as well in this country as on the Continent.

While Le Nôtre and his contemporaries were driving every trace of nature from their garden scenes, the painter was at the same time enthusiastically engaged in studying her in her wildest forms, and copying every incident in real scenery which would improve his studies or enrich his pictures.

Before the period to which we are alluding, many eminent painters had immortalized their fame by the beautiful landscapes which they had painted. Among the celebrated paintings, it is remarkable that very few trim garden scenes were represented, especially as the artists, both gardeners and painters, were probably admirers of each other. This, however, is only an instance of how much the human mind is liable to be enchained by custom or reigning fashion. The idea had not yet been entertained, perhaps, that the principles of ornamental gardening and landscape painting are the same; for, in practice at that time, the artists took directly contrary routes: the painter studied nature only, while the gardener busied himself in cutting and slashing vegetation into all the most fantastic regular figures his ingenuity could invent. Geometry, with its lines and rules, was his text book; without this he could not trace a line, or prune a tree, or trim a hedge. On the other hand, nature, in all her varied forms, and habits, and hues, were seized and imitated by the painter, tracing her on the mountain steep, or in the secluded dell, by the sparkling river side, or on the banks of the placid lake.

Thus, at one time, were painters and gardeners employed, both occupied in arranging the same objects; the one forming

real, the other pictorial scenery, but with very different views : the first was enamoured of "neglect and accident;" the other seriously annoyed if a single leaf projected from the smooth surface the shears had made.

The love of gardening and of fine pictures, however, keep pace with each other, and were often united in the same cultivated mind ; indeed, we seldom meet a virtuosa who is not equally enamoured of all the fine arts. Both gardeners and painters were employed in the embellishment of regal, noble, ecclesiastical, and manorial residences. While the exterior was graced and adorned by the former, the interior was decorated and enriched by the latter. The painter's landscape at last "bore away the bell;" the admirable scenes presented on canvass were extolled by every unsophisticated eye, and merely because they were more true to nature ; and when compared with the most laboured garden dispositions, the latter sunk in public estimation, and was soon followed by the cry—*Why is not every gardener a painter?*

This impression was so strong after the new light broke in upon the minds of the *cognoscenti*, that Kent, a painter by profession, was actually induced to become a landscape gardener. His new task was not a pleasant one ; he aimed at producing immediate effect, as he used to do in his studio ; but this was impracticable, as he found he must wait many years before he could possibly see the full effects of his dispositions of trees, shrubs, &c.

The first attempt by Kent was certainly a failure, because, in straining to do on the naked lawn what is so easily done on canvas, he made himself ridiculous, by planting dead trees, and several other freaks, which, however objectionable as the effects of time or accident in real scenery, become quite ludicrous if imitated by art and labour.

But as many places at that period were capable of great improvement by merely clearing away redundant growths, the painter's ideas were in such cases highly valuable, and their assistance was duly acknowledged ; and consequently improvement by abstraction, or simple clearing away, became the rage. Hence a reformation (by far too radical however) took place. Every connoisseur wondered how the contracted ideas of the gardener could have been so long tolerated ; a kind of remorse was felt that the visual enjoyment of real pictures should have been so long withheld ; a sweeping sentence of condemnation was instantly pronounced by the arbiters of fine taste, and open war was

declared against every right line and right angle, and against every perpendicular form of Dutch or Italian gardening.

Soon were the venerable avenues uprooted—the airy terrace and the verdant slope levelled with the general surface of the ground; every nicely-clipped hedge or arcade, pyramid or globe, were quickly banished from the lawn and gardens; right lines, whether of roads, or walks, or fences, were diverted into regularly flowing sweeps; the mansion which had been for years partially shaded and veiled by trees, was set out and exposed on a smooth and closely shaven lawn; hedge-row trees were exchanged for insulated clumps dotted over hill and dale; and straight and visible fences, gave way to crooked and invisible Ha ha's!

Thus the regularity of the old style was excluded, to admit the irregularity of the new; a change too recklessly made, and which has proved, in many instances, only a change from one kind of sameness to another fully as tedious and uninteresting.

Nor was the new style an imitation of what it was presumed to be founded on, namely, the painter's ideas of the most beautiful or most picturesque combinations of land, wood, and water. The opinion of the first reformers appeared to be, that, to depart as much as possible from the old style, by introducing irregularity, was all that was wanted to give the new scenery a truly and natural character.

The new style received the title of “English gardening;” and certainly there were some very perfect things of the kind executed in different parts of the kingdom, not, however, by clearing all the old features away, but by a judicious reservation of part of them, and not by an implicit adoption of every suggestion of the reformers, but by a tasteful rejection of many of their dogmas.

It is perfectly true, that, though the guiding principles of composition of both the painter and the landscape gardener are the same, there must necessarily be a great difference in the execution; the one endeavours to gratify the present, the other future generations. The painter can brighten his lights, deepen his shadows, give play to his outlines, and mellow his tints at pleasure, so as to preserve a well balanced display of light and shade; all his objects whether on the foreground, in the middle distance, or in the off-scape, he can dispose as seems to him best. The height, and distance, and form of the mountains; the character and extent of water; the very forms of the clouds, and tints of the sky, are

all as his fancy or taste suggests. And neither is the painter confined to the real character of the trees, and shrubs, and herbs which he introduces into his picture; a burdock, or other monstrous weed on his foreground, answers his purpose as well as the finest plant in cultivation. Such worthless plants in a painting give no offence to the beholder in any way; and, moreover, the rudest, wildest scene may be preferred for the canvas, but which is seldom or never required to be, nor indeed ever should be formed by the gardener, because the most trifling mark of art about such a work robs it of every charm which it would otherwise possess.

The landscape gardener arranges all the ornamental planting of the park, and particularly near the house. Here comfort, convenience, cleanliness, and every other sign of high keeping and art must prevail; here all the taste and skill of the gardener should be displayed; here his ideas are peculiarly applicable; and when these foreground dispositions are fixed, he has to design and connect the scenery of the park therewith, and that of the surrounding country with both.

In the execution of all this, the most refined taste, united with a large share of practical, botanical, and arboricultural knowledge is absolutely necessary; and in this it is said the professional ideas of the painter would be available. Let us suppose, then, that a Claude Lorraine were engaged with the gardener in laying out an English garden; the trim neatness, smoothness, and regular edges of the walks and borders of the latter, would offend the eye of the former, who would rather see roughness, intricacy, and indistinctness prevail. This, however, would not be suffered near the abode of refinement and affluence; but the painter would advise the gardener to conceal his hard lines; to break the uniformity of the clumps; to give variety to the masses of planting, by associations of trees and shrubs of different tints and character; to place on the foreground the strongest growing herbs, the coarsest featured shrubs, and the quickest growing trees to flank the vistas which he would wish to have extended across the park, or which would let in distant objects of interest in the country beyond. The painter would also advise but few single trees to be planted, without having a few shrub like growths near their base; and also that all clumps and groups should be of one kind of tree, irregular in outline, and intermixed with under-growths, to creep out on the turf around them.

If water entered into the composition, the painter would advise it to be disposed in its natural place—the lowest ground; and whether a lake or river, he would have it as unlike a canal as possible. The natural abruptness of the banks he would preserve, as well as all their sinuosities and overhanging trees and bushes. Nor would he be anxious to expose too much of the water in one place, unless it would appear as a reach, either advancing towards or receding from the eye, for the sake of the reflections from the ripple on its surface. If a lake, he would choose to have it of a very irregular shape, and as much diversified by trees and islands as its size would allow, carefully masking its extremities, if such were too visible.

If buildings of any description, either for use or ornament, were in the landscape, the painter would advise them to be partly concealed, and only allowing the most ornamental or characteristic angle to jut out from among trees. If the park was of a finely undulating surface, consisted of smoothly rounded knolls, with winding dips between, the painter would adapt the forms of his groups and thickets, and the characters of the trees to correspond. On the other hand, if the environs presented strong natural features, as cliffs and rugged declivities, deep ravines forming the beds of mountain streams, &c., he would add such accompaniments of vegetation, alpine and aquatic trees, &c., as would harmonise with the general aspect of the place, so as to produce (whatever may be the character of the district) a well connected and harmonious whole.

Now if all this would be advised by a painter, or an amateur having a "painter's eye," it differs not a jot from what would be done by every landscape gardener who knows his business, or who deserves the name. Hiding the hard lines in the dressed ground, and employing more under-growths among the trees in the park, are the only additional amendments in the common practice, which the painter could recommend in laying out a park in the English style. He would also object to any great extent of lawn being seen from any principal station, because nothing is so horrifying to a painter as great blotches of any one colour on the canvas, without chequering of shadows, of flocks or herds, or of other objects admitting variety of tints; and therefore a park laid out by a painter would be rather a series of diverging glades, than a park dignified by the grandeur of its vast masses of wood, and its expansive extent of verdant turf.

That many of our parks, laid out in the style last alluded to, are lifeless and uninteresting, must be acknowledged. In passing through them, though they may have an air of grandeur suitable enough for a regal or ducal palace; yet no part of such scenery would be admired by the painter, because wholly unfit for the canvas. Hence it may be inferred that an English landscape gardener's park may be very suitable for a residence, and yet by no means equal to the *beau ideal* of a connoisseur, who may be blessed or plagued by possessing a painter's eye. Still it is very possible to bring the extremes nearer together; to diversify and enrich the naked tameness of the "capability" style; and to soften the asperities, and qualify the exuberance of imagination observable in some of the most celebrated paintings. J. F.

ARTICLE II.

ON THE CULTIVATION OF ERICAS,

BY THE FOREMAN OF A LONDON NURSERY.

HAVING had considerable experience on the culture of this beautiful and interesting tribe of plants, I submit the following practical observations to the notice of your readers.

Like all mountain plants, they will not long flourish in a damp or impure atmosphere, nor in one, however dry, if excluded from a free circulation of air, and full exposure to solar light. It follows, therefore, that in the selection of a proper habitation for them, one fully exposed to the sun, and in a perfectly dry situation, and constructed so that the plants may stand near the glass, capable at the same time of ventilation to the fullest extent, with the front and roof sashes rendered moveable when required, will be the most proper habitation for them.

A span-roofed house upon an economical scale, is well calculated for the cultivation of Ericas and their near associates. The whole of the side and roof sashes should be moveable, the height over the passage about seven feet, and the width eighteen, allowing three feet for each passage, three feet for the breadth of each of the front platforms, and five feet for the centre one, on which the largest plants are intended to stand. The top part of the roof should be covered with boarding of one foot from each side of the ridge. This is to support an awning of canvas, mounted on rollers, to exclude the cold during intense frost, and enable

the cultivator to dispense with fire heat, which I find is very inimical to the plants of this order.

From November till March the latter covering is occasionally required, and the former for shading occasionally, from June till September, after which periods both may be removed. The foliage of the heath tribe would sustain without injury the greatest degree of sun heat we ever have in this country; but it is the roots that require protection by partial shading, for when the sun acts fully on the pots they become heated to a great degree, and as the roots of all healthy heaths and similar plants are in close contact with the pots, they are rapidly dried up, or heated beyond the degree that they are capable of bearing; for as in their natural habitations they grow amongst thick herbage, and are partially shaded about their roots, they consequently are kept much cooler than if they were growing without any covering whatever. There are, however, some exceptions to this rule; but by far the greater number are so circumstanced.

No doubt heaths have been successfully cultivated in houses of the most ordinary description, but the success attending their growth has depended principally upon free ventilation, moderation in watering, an almost total absence of fire heat, a full exposure to the sun, and closeness to the glass.

Ericææ, like most similar shrubs, are readily increased by seeds and cuttings, and rarely by any other means. Seeds are often imported from the Cape of Good Hope, and are also frequently ripened in this country; from both of these, hybrid varieties are very likely to be obtained, for I believe that many heaths cultivated in this country, and considered as species, are no other than hybrids originated from seeds procured by one or other of those means. When we consider the operations that are constantly going on in nature, in regard to this subject, both in a wild and in a cultivated state, we are only astonished that more numerous varieties have not been recognised.

The best time for sowing seeds of this order is early in spring, say February and March; and for this important reason, plants originated from seeds sown in spring, will attain such a size and strength before autumn, as to enable them to outlive the winter following, which is a trying time for young plants. In preparing pots for this purpose, they should not be too large, 32's is the best. We need hardly remind the most inexperienced in cultivation, that they should be well drained, by being filled at least

two-thirds with broken pots, small stones or cinders. The soil used should be of the sort called very sandy peat. The seeds should be sown on the surface, (which must be made smooth and level,) and scarcely covered at all. When sown, watering should be regularly attended to, and applied with the finest rose pot. They should be placed in a cool, shaded frame, under glass, or plunged in a rather damp border, where the sun seldom shines, and covered with a hand glass. In such a situation water should be seldom applied, because the seeds being so minute, they are liable to be washed off in the process, and therefore, the less frequently they are watered the better. As the young plants appear, air should be progressively admitted to them, and every precaution now taken to guard against damp, an excess of which, as well as an excess of drouth, would be equally fatal to them in this state. When the plants have attained the height of one inch or so, they may be transplanted into small thumb pots, placing three, four, or five in each, as near to the edge of the pot as possible. From some cause, not easily explained, we find that young plants and cuttings root faster when placed in close contact with the sides of the pots in which they are planted, than when they are placed more towards the centre. After this first potting, they should be kept for eight or ten days in a close, cool frame, or pit, shading them from the sun in the middle of the day, and gradually exposing them to the air, until they are found to be so established as to stand the full heat of the sun. The greatest attention must be paid to a regular system of watering, for if they be allowed to become too dry, they will die off in a few hours time, and if kept too wet, they will damp off in an equally short period.

Almost all will strike root by cuttings; some sorts, however, requiring a longer period to do so than others. The most eligible wood for this purpose is the young wood of the present year's growth, when it becomes partially hardened, so as not to be liable to damp off. It would be impossible to convey an idea to the uninitiated, of the proper state that the wood should be in for this purpose, but the cultivator who knows anything of the matter, will readily understand me when I say, the wood should be fully matured, but before it had attained its dark colour, and to be, when slightly pressed between the finger and thumb, somewhat firm, but neither yielding to the touch nor yet quite hard. In regard to the length of the cuttings, much depends on the habit

of the different species. Some of the robust growing sorts may be from an inch to an inch and a half in length, while others of the more shy growing kinds can only be obtained about half that length. The cuttings selected, should be chosen from the healthiest plants, and taken off close to where they issue from the old wood. In preparing the cuttings, the leaves should be cut clean from the shoot, either with a sharp knife or fine pair of scissors, the end should be cut transversely across in a neat manner, so as not to leave the wound ragged or bruised. The leaves should upon no account, be shortened, neither should any more of them be taken off than just so far as the cutting is to be inserted into the sand.

With respect to the proper season for putting in cuttings of this order of plants, and indeed of most other slow growing kinds, the spring is the best, for the same reason given above for sowing seeds.

It sometimes happens, however, that cuttings cannot be obtained in a proper state at that season: when such is the case, recourse must be had to inducing the old plants to make wood fit for the purpose. This is to be effected by placing them in a little heat early in spring, they will then make plenty of young wood, which is the best for cuttings. In extensive genera, like that of *Erica*, it would be impossible to state any particular period of the year for commencing the operation of propagation by cuttings, because some one or other of them are in a fit state for the purpose on almost every day in the year; therefore, the time for putting in cuttings should be regulated rather by the state of the the plant than by the time of the year.

In extensive nursery collections, where great quantities of plants are wanted, one pot may be filled with cuttings of the same species, when such can be got in sufficient quantities; but in private collections this is not necessary, for a few plants of a sort, in general, are all that is required. When this is the case, the kinds selected to be put in the same pot, should be nearly of the same habit as can be judged of at the time.

Unless this is attended to, one sort will be found to strike root in a much shorter time than others of the same pot, which makes it more inconvenient when potting them out. This, however, must always happen to a certain extent, for a little difference in the age or firmness of the cutting, even when the work is performed by the most experienced hand, will often make a difference in

the time required to strike root. When the pot is thus filled with cuttings, it should be well watered with a fine rose watering pot, and placed in a close shady part of the stove, admitting as little air as possible near to where the cutting pots are placed, taking care to water them freely every day. Indeed when put in this way, there is no risk of overwatering them; for having them well drained, the water is allowed to pass freely through, and so far from injuring the cuttings, they are benefitted by it.

However excellent the above mode of striking heaths may be, it cannot, under all circumstances, be applied in practice, because there are many cultivators who have not the convenience of a stove to place them in. A substitute for the stove may be found in a well regulated cucumber or melon bed, in which many strike heaths and other hard-wooded plants very successfully. The reason for applying heat to the cuttings is to excite them to the greatest possible degree, during which they will, if they are in a fit state, strike root very soon, or damp off at once.

The more usual method of striking cuttings of the generality of heaths, is to plunge the pots into coal ashes, rotten tan, or similar matter, in a rather damp, shaded border, covering each pot with a bell glass, and the whole with a close frame and lights. By this method the cuttings are longer in rooting, but as it is within the reach of every one possessed of a garden, however small, and, therefore, as it is attended with less risk from inattention, &c. we recommend it to their attention. It is necessary in preparing the pots for the cuttings, to select them about equal sizes, say that of thirty-two's, and to fill them to within an inch and a half from the top with broken pots, cinders, coarse gravel, or small stones, over which a thin layer of moss, (*hypnum*,) should be placed to prevent the finer particles of mould from being washed down amongst the drainage. The pot should then be filled to the brim with fine, pure white sand, as free as possible of earthy or irony matter, but as this is seldom to be procured sufficiently free of those matters; it may be well to wash it by putting small quantities at a time into a bag, and dragging it frequently through a cistern, or stream of water. When put into the pot it should be well watered, and pressed firmly down, the surface made smooth and level, and the cuttings put in as soon after as possible.

In the propagation of heaths it has been almost universally maintained that bell glasses should be used under all circumstan-

ces, that is, whether they be placed in heat, in a shady border, cool frame, or pit. When glasses are used, the greatest care must be taken that they be kept regularly wiped at least once a day to prevent damp from destroying the cuttings. Cuttings placed in a cool shaded border, frame or pit, should certainly be covered with bell or hand glasses, and these should remain on until they are rooted, and taken off only for the purpose of being wiped, and any damp or mouldiness removed from the surface of the sand in which they are placed. Regularity in watering, and also in shading, is absolutely necessary to insure success. When the young cuttings begin to grow, air must be gradually admitted to them, so that by the time they are rooted and fit for transplanting they may be able to withstand the sun's heat, and free exposure to the air.

(To be continued.)

ARTICLE III.

ON CHINESE GARDENS.

(Continued from page 108.)

THERE are, in different parts of China, many works of the kinds just mentioned; but amongst the most considerable, are counted the Passage of King-tong, the Bridges of Fu-chew, those of Swen-chew and Lo-yang, with the Cientao, in the province of Xensi.

The first of these is a communication between two precipices, composed of twenty enormous chains of iron, each two hundred feet in length, which are covered with planks and earth, to form the road.

The second is a cluster of bridges between Fu-chew and Nanti, uniting various islands, that divide the river into different streams the principal of these consists of one hundred arches, of a sufficient size for the passage of ships under full sail; it is built of large blocks of hewn stone, and enclosed with a magnificent marble balustrade, the pedestals of which support two hundred Colossal lions, artfully cut in the same material.

The third is a bridge at Swen-chew-fu, built over an arm of the sea, that sometimes is very boisterous: it is above three quarters of a mile long, thirty-five feet wide, and consists of one hundred and thirty piers, of an astonishing height, upon which are laid vast blocks, of a greyish granite, that form the road.

But the largest and most surprising work of the sort, that yet has been heard of, is the bridge of Lo-yang, in the province of Fokien: it is composed of three hundred piers of black marble, joined to each other by vast blocks of the same material, forming the road, which is enclosed with a marble balustrade, whose pedestals are adorned with lions, and other works of sculpture. The whole length of the bridge is sixteen thousand two hundred feet, or upwards of three miles; its width is forty-two feet; and the blocks of which it is composed, are each fifty four feet long, and six feet diameter.

The Ciantao, or Way of Pillars, is a communication between many precipices, built to shorten a road to Pe-king. It is near four miles long, of a considerable width, and supported over the vallies upon arches and stone piers of a terrifying height,

In the mountains, on each side of these imperial roads, are erected a great number of buildings, surrounded with cypress groves, and adorned with works of sculpture, which afford constant entertainment to the passengers: these are the monuments of their wise men, their saints, and their warriors, erected at the expence of the state, and furnished with nervous incriptions, in the Chinese language, giving an account of the lives and actions of those they commemorate: some of these buildings are distributed into many spacious courts and stately apartments being little inferior to palaces, either in magnificence or extent: they are furnished with all kinds of movables and utensils, much larger than the common size; and a great number of Colossal figures are every where seen, representing officers, soldiers, eunuchs, saddle-horses, camels, lions and dogs, all placed in melancholy attitudes, with countenances expressive of the deepest sorrow.

Instead of roads, the center avenues are sometimes formed into navigable canals, from one hundred to one hundred and fifty feet wide, being sufficiently deep to admit gallies and other small vessels; with horse-ways on each side of the canals, for the convenience of towing them, either against the wind or the stream. On these the emperor, and Chinese mandarines, are frequently conveyed, in large magnificent sampans or barges, divided into many splendid rooms: being sometimes attended by a considerable train of smaller vessels, of different constructions, adorned with dragons, streamers, lanterns of painted silk, and various

other ornaments ; the whole composing a very brilliant and entertaining show.

All the imperial forests, besides the high roads which pass through them, having many spacious avenues cut in the woods, spreading from different centers, like rays of stars, and terminating at idol temples, towers, castles, and all the interesting objects of the circumjacent country. The centers from which these avenues part, are of a circular or octagonal figure, with eight avenues ; or of a semicircular form, with only three branching from them. Their area is generally very considerable ; and its middle is adorned with a triumphal arch, a pagoda, a magnificent fountain, or some other considerable monument.

Where the extent is vast, each single avenue has besides, in its course, one or more open spaces, from which a number of smaller avenues again branch out, and terminate at many buildings, erected in the woods, for various purposes ; all which, without any confusion, add to the variety and intricacy of these compositions ; giving them an appearance of immensity not to be conceived, but by such as have seen them ; and wherever a deep valley, a large river, or an arm of the sea, interrupt and break off the course of the avenues, the plantations are nevertheless continued on the opposite shore, in order to make them appear more considerable :

In straight roads, of smaller dimensions, the Chinese very artfully imitate the irregular workings of nature ; for although the general direction be a straight line, yet they easily avoid all appearance of stiffness or formality, by planting some of the trees out of the common line, by inclining some of them out of an upright ; or by employing different species of plants, and placing them at irregular distances, with their stems sometimes bare, and at other times covered with honey-suckles and sweet-bryar, or surrounded with underwood. They likewise cut and dispose the branches of the trees in various manners ; some being suffered to spread, to cover and shade the walks ; whilst others are shortened, to admit the sun. The ground is composed of rises and falls ; and the banks on each side of the walk are, in some places, of a considerable height, forming hollow ways ; which they often cover at the top with bushes and trunks of fallen trees.

(TO BE CONTINUED.)

REVIEW.

The Boquet, or Ladies' Flower Garden, being a Description of those plants which will flower in the Room, and the Treatment most suitable for them.—By a Florist, Simpkin & Co. 12mo. pp. 102.

(Continued from page 112.)

“I shall therefore describe its whole treatment, beginning with the time that the bud has formed itself, which is generally in October, or November at the latest. Hitherto they have been kept comparatively cold, but as the winter approaches the windows are closed, and large fires constantly burning during the day, when at night the fire is allowed to go out, and consequently the room again becomes cold; this continual change of temperature, from cold to warmth, is one of the principal reasons of the buds falling off, for before the month of December the rooms were quite cool to what they are at this season of the year; it will therefore be perceived that it is highly necessary that the temperature be kept as nearly equal as possible; but I do not recommend keeping them in warmth at any time, although the temperature may be equal, it being quite an erroneous idea that they require heat to bring them into flower; and I have found that the most beneficial mode of treating them is by keeping the plants in a cold room, where there is hardly any fire kept, for it is a plant that in mild seasons will stand out of doors during the whole winter without receiving any injury; when in a cold room they will require very little water, once a week will be sufficient, unless the plant is evidently getting dry, which is not likely to be the case during the month of January and beginning of February; very great attention should be paid to its watering, as it is at this season that the buds commence to swell very fast, and the least overplus will cause them to drop off; therefore the quantity of water given must rest entirely to the judgment of the person who gives it, only having always in view that the plants must never be allowed to get quite dry, and at the same time not very wet. About the latter end of January, and again the first fortnight in February, it would be very conducive to the health of the plant to have the leaves carefully washed of all dust, which at this time they are sure to be covered with; after they have done flowering, they may be kept in a room where there is a fire, as at this particular stage of the plant heat is very useful, as it assists the growth of the plants, and the young shoots have time to ripen their wood before they set for bloom, which will be about October; they should then be put into a cold room, and receive the treatment already described, and which will be found to succeed if properly attended to.

Epacris.—Of this very beautiful and showy tribe of plants there are very many fine varieties, which continue flowering du-

ring the whole of the spring months ; in its appearance, both in flower and leaf, it resembles very much the *Erica*, and like those beautiful plants, blooms in great profusion. The species which flowers the earliest is *E. campanulata rubra*, a very pale rose-coloured flower, which is generally in flower by the latter end of January, and when in full bloom is very beautiful ; as, from the extreme delicateness of its colour, it will bear no comparison with any other tribe of plants. *E. impressa* : the flower of this kind is much longer and narrower than the former, and is of a deep rose or red ; it does not flower until nearly a month later than the other, and for show is one of the gayest in the whole tribe, as, when it is in its perfection, the plant is so covered with flowers that it is only at the extremity of the shoots that the leaf is discernable. There are also two very fine white ones which flower about this time, *E. nivalis* and *E. campanulata alba* : the latter is certainly the handsomest of the two, having a much larger flower and being of a clearer white ; although *E. nivalis* flowers the most abundantly, and therefore makes the most showy appearance. There is also a pretty variety, which is called *E. grandiflora* : this species continues flowering the greatest length of time of all the species, but never has so great a profusion of flowers in bloom at one time as the others ; the flower is about an inch and a half in length, being of a bright crimson towards the stalk, and at the mouth a pure white, so that the individual flowers are by far the most striking to the eye. There are scarcely any of this tribe of plants which have any smell, but that which they want in sweetness they will repay in beauty. In their treatment they should be watered once a day, and kept rather wet in preference to being very dry ; and will flourish equally well in a cold as in a warm room, and ought to be kept near the light.

Corchorus Japonica.—This plant is perhaps better suited to large collections than small, but as there is not so very great a variety of flowers during the early part of this month, it is not so very objectionable, especially as it is a pretty growing plant, and having a bright green leaf, with double yellow flowers, which blossom up the whole of the stem amongst the leaves. It is very convenient in its treatment, as it flourishes in a cold room, or in a heated one ; if there is any difference, it grows with greater vigour in the warm room than in the cold, and will bear a good supply of water. It would rather be advisable to have a saucer placed beneath the plant, with a little water in it.

Daphne Mezereum.—This plant is perfectly hardy, and therefore need not be placed in a room, but will do very well outside the window. When in flower it is very gay, having a dark lilac flower, which blooms up to the branches, and is, when in full flower, very sweet. It never has any leaves while in blossom, but makes up for this loss by the great abundance of bloom which it produces. When placed in the open air, it will not require water more than once a fortnight, and if the weather is very frosty not even that. There are several other plants that bloom at the

same time as this, which make a very pretty mixture, and are very gay. The Snow-drop is one of the first; this pretty little flower is too well known to need any description from me. There is also the Winter Aconite, a bright yellow flower in the form of a buttercup, and which does not exceed two inches in height, and is very gay and showy. There are likewise all the varieties of the Crocus. Nor must I forget to mention the Hepatica, which is the prettiest of all the small flowers which bloom at this time, amongst them are several varieties; blue, pink and white, with a double and single variety of each colour: when in full bloom they are very showy especially when combined with the Crocus and other flowers of the season. They are quite hardy, and flower as well in town as the country; they will scarcely require any water during the time they are in bloom.

Verbena, or as it is now called *Aloysia citriodora*, but which is more generally known by the name of the Lemon plant, may be procured at this early season; but the leaves are extremely delicate, and must be kept close, as four or five minutes' exposure to the air would destroy the whole of them, having been forced into leaf so much before its natural time, for the sake of the beautiful scent which is emitted from it when touched. It is certainly a delightful little plant, and ought not to be absent from any room. It will require very little water each day, as, from the weakness of its leaves, it is not able to bear much, and should be placed in the warmest part of the room, where it will thrive very well, until about April, when it may occasionally be placed outside the window to receive the fresh air, but must not remain outside during the night until the middle of June. Indeed I should recommend keeping it in the room all night during the whole of the summer, as it preserves the scent much better as well as keeps a fine green to the leaf. The leaves of this plant, when picked off and carefully dried, will retain their beautiful odour for several years after, if put in thin paper or a small silk bag, to keep the air from them.

Lechenaultia formosa.—This beautiful little plant, in its appearance, is very similar to the Erica, and like those plants require to be grown in bog or peat earth. It is also remarkable for the great length of time it continues flowering, commencing early in February, and can scarcely be said to have finished its bloom the November following. In its growth it never attains a very great size, and is particularly adapted for small fancy vases, as it does not require a large pot, indeed it flourishes much better when grown in small-sized pots, and has a bright blood-coloured flower, but when confined in a room it is almost sure to change to a bright orange, but by being exposed to the air it very soon regains its former colour; it is not so difficult to keep as the Erica, but like them should never be allowed to get quite dry, but always be kept moist, at the same time not to be saturated with water. It is very hardy, and will bear to be exposed to the air during the

day time when the weather is not very frosty, and after the month of May can be kept out of doors both day and night.

Kennedya monophylla.—This is a very pretty little climbing plant, and for the room is very desirable, attaining about one foot and a half in height, and has a pretty bright purple flower, which blooms in bunches of about two inches in length; and even when the flower is off, the leaf still makes it a desirable plant. There is another species, *K. lilicina*, which has a pale lilac-coloured flower, and has the same kind of habit and growth as the other. These two varieties, when planted together in the same pot or vase, are very pretty, as, from their climbing habit, they twine one with the other, intermixing their flowers all over the plants; they should receive a very little water every day until about May, when they may be watered more plentifully; great care must be taken that it does not receive too much water, as the leaves will otherwise turn yellow, which immediately spoils the beauty of the plant.

The Little English Flora, or a Botanical and popular account of all our Field flowers, with Engravings on Steel of every description. By G. W. FRANCIS, Author of the Analysis of British Ferns.

Three years ago we were informed by Mr. Francis of his intention to publish a work on British plants, and the small pocket volume, of 174 pages, now before us, is the result. In the preface we are told that, the object of the Author in preparing this little volume, "is, first to invite the young to an examination of the flowers of the field," by pointing out the beauties they are every where to meet with, that thus additional charms may be added to their rambles over the meads and commons; secondly to induce a love for the science itself, by shewing that it is easy of acquirement, and that it yields instruction and delight, not merely in our after progress, but even from our first commencement of its study;"—and, he adds, "these important purposes I have endeavoured to accomplish, by giving a plain and popular description of all our common wild plants accompanying these with accurate steel engravings of every species: thus striving to win rather than demand the attention, and to present these little favourites in the alluring garb with which nature has herself invested them, rather than the mysterious and repulsive habit in which they are too often described, and to smooth as much as possible the study of Botany.

Mr. Francis is well and advantageously known to the public, as the author of an Analysis of British Ferns, a work which every cryptogamic botanist ought to possess. The 'Little English Flora' is cast from a similar model, but, in point of real usefulness, it will bear no comparison with the work before alluded to. The engravings are too small to afford much assistance in identifying the species. This will be readily understood, when it is known that there are twenty engravings on each page, the size of which is only six inches by three. By this arrangement, the volume is small, and, we have no doubt, cheap. On this ground it can be recommended; the 'Little English Flora' will be found of great assistance, more especially on account of the popular and pleasing style in which it is got up.

PART II.

NEW OR RARE PLANTS.

(Noticed since our last.)

1. *MATTHIOLA ODORATISSIMA*. Sweetest Evening Stock. (Bot. Reg. 25.

CRUCIFERA. TETRADYNAMIA SELEGUOSA. SYNONYM. CHEIRANTHUS
ODORATISSIMUS.

Introduced to this country some years back, but is rarely to be met with. We lately saw it in fine bloom, which has a pretty appearance, the flowers are of a pale purple with yellow centre, they are most delightfully fragrant towards evening, much more so than the well known *Cheiranthus tristis*. The present species is a half hardy biennial, and does well either in the greenhouse or open border during summer. It seeds freely and is readily cultivated.

2. *LCELIA AUTUMNALIS*. The Autumnal Lœlia. (Bot. Reg. 27.

ORCHIDACEÆ. GYNANDRIA MONANDRIA.

A native of Mexico, and now found in many collections of Orchidæ in this country, and it certainly merits a place in every one. The plant is of easy culture; it requires to be tied to a piece of wood, and as soon as fresh roots begin to push it is freely syringed, even two or three times a day till the growing season is over, when it is removed to a cooler temperature, and kept dry through the winter, after which, it is taken to a higher temperature and treated as above. The flowers are of a beautiful mixture of bright rose, crimson, and purple, with the labellum towards its base, white, spotted and streaked with dark brownish crimson; each flower is near four inches across, produced numerously, and very fragrant.

3. *TRICHINIUM ALOPECUROIDEM*. Foxtail Trichinium. (Bot. Reg. 28.

AMARANTHACEÆ. MONODELPHIA PENTANDRIA.

This singular looking plant was introduced into this country by Captain Mangles, R. N., from the Swan River Colony. It has bloomed in the collection of that gentleman's brother, R. Mangles, Esq., Sunning Hill, Berkshire; it is a half hardy annual flowering abundantly in the open border during summer; flowers are produced in spikes, green, tinged with rosy pink of a glossy appearance like the cockscomb; the flowers seem to protrude themselves out of a dense mass of fine hairs, like those of the feather grass, though not very showy, the flowers are very interesting. Dr. Lindley has stated that two other species are known to exist at Swan River, specimens having been given to the Doctor by Captain Mangles.

1. *Tr. Manglesii*. Flowers, pink at the tips, silvery at the base.
2. *Tr. Stirlinghii*; silvery, just tinged with pink.

4. *SALVIA CONFERTIFLORA*. Close flowered Sage. (Bot. Reg. 29.

LABIATÆ. DECANDRIA MONOGYNIA.

Discovered by Mr. Macræ, near Rio Janeiro, Brazil. It is like others of this family, thriving well either in the greenhouse, conservatory, or open

border; the flowers are produced in spikes of six or eight inches long. they are of a deep orange colour, having a purplish red calyx, the contrast of which is very pretty, each blossom is about half an inch long; the plant blooms very freely, and the blossoms being of a bright colour produce a pretty effect. It has bloomed in the collection of J. D. Llewellyn, Esq.

5. *RUPELLIA CILIATIFLORA*. Fringe flowered Ruellia. (Bot. Mag.)

ACANTHACEÆ. DIDYNAMIA ANGIOSPERMIA.

This is rather an ornamental stove plant, with oblong serrated foliage, and flowers produced upon a short pannicle, which are of a purple colour, having five cordate petals, and a spreading disk. It was sent home by Mr. Tweedie, and is supposed to be a native of the interior of Mexico.

6. *PIMELEA HENDERSONI*. Mr. Henderson's Pimelea. (Bot. Reg.)

THYMELEÆ DIANDRIA MONOGYNIA.

Is a very pretty plant, intermediate between *P. decussata* and *P. roseæ*. It is a native of King George's Sound, and was raised from seeds received from thence by Messrs. Eagle and Henderson. This is said to be one of the most ornamental of the genus; and judging from the plate, we are fully inclined to fall in with this opinion. The colour of the flowers is a light rose. The branches are very thickly set with leaves.

7. *BRASSAVOLA CUSPIDATA*. Spear-lipped Brassavola. (Bot. Reg.)

ORCHIDÆÆ. GYNANDRIA MONANDRIA.

This is a native of Trinidad, imported from thence by John Moss, Esq., of Otterspool, Liverpool. We are here told, that owing to the skill of this gentleman's gardener, and the extensive connexions which Mr. Moss, possesses abroad, his collection at Otterspool bids fair to rival some of the many collections of orchidaceous plants, of which the country may well be proud. Five species of this genus have already been described by Professor Lindley, of which the one now under consideration is the sixth, and nearly related to *B. cucullata*.

To those unacquainted with the genus as well as the species referred to, it may be well to say that the *B. cuspidata* has long ridged rush-like foliage, bearing a few scattered white flowers.

8. *DENDROBIUM FORMOSUM*. Beautiful Dendrobium. (Pax. Mag.)

ORCHIDÆÆ. GYNANDRIA MONANDRIA.

Amongst the genera of orchidaceous Epiphytes none contains a greater number of really beautiful species than *Dendrobium*, of which we think it quite just to the genus to say, the species now before us is decidedly the most ornamental. The foliage is scanty, being only a pair or so on the summit of a rather tall fleshy stem. The flowers are very large, and nearly white. We are told that this handsome plant was discovered in a district called Pondooah, at the base of the Khoseea Hills, by Mr. J. Gibson, collector to his Grace the Duke of Devonshire, and under whose care it produced its handsome flowers at Chatsworth, during the spring of 1838. Some excellent directions are here given on the cultivation of this genus, the most important of which are those which refer to a season of rest or the suspension of moisture, but not of heat. In their native localities they bloom in the dry season. This period should commence about the beginning of our winter, and continue for one or two months. During this time the foliage will wither, and not unfrequently drop off, but, at the end of this period, moisture should again be freely supplied, when the flowers and foliage will be most luxuriant.

PART III.

MISCELLANEOUS INTELLIGENCE.

 QUERIES.

ON DRY ROT, &c.—I should feel much obliged to you, or any of your correspondents, for their opinion on 'Mr. Kyanse's Supplement, for the preservation of timber from Dry Rot.' And whether there would be any danger in introducing some trellising into a greenhouse, and likewise the new roofing of a large grape-house. The vines are to be trained under the rafters: both rafters and trellising have been laying in the tank some time, and are now ready for use: I understand it is a deadly poison! Should not the wood be well drained and painted before it is put upon the house? Would not the air in the house be impregnated, so as to be injurious when closely shut up? An early answer to the above by some reader acquainted with the subject, will much oblige

April 17th, 1839.

A CONSTANT READER.

A LIST OF PANSEYS.—Will you, or some reader of your Magazine, be so kind as to give me a list of the best prize Panseys, also the probable price, and where they may be obtained.

April 8th, 1839.

R. R. DAVIS.

 ANSWER.

A LIST OF PANSEYS.—Having recently visited many of the first rate collections in the country, and around London, to furnish ourselves with a stock of the best, the following are the kinds we selected as the most superb. viz., Venosa, Cream superba, Mrs. Adams, Climax, Formosa, Solomon, Mrs. Praed, Lord Glamis's Enterprize, Echantress, Thompson's Victoria, King, Gem, Hecuba, Jem Crow, King's Cupid, Corrine, Morton's Julia, Esther, Mulberry, Gold Sovereign, Unique, Minerva superba, Duke of Marlborough, Shakespear, Milton, Mountjoy's Victoria, Thompson's Vesta, Beauty of Somersset, Incomparable superba, Thompson's Nazara, T. Vivid, Regina, Fanny, Senecio, Emperor, Duke of Wellington, Mogul, Coronation, Fair Helen, Chimpanzee, Duke of Northumberland, Iver Hero, Ne plus Ultra.—

CONDUCTOR.

 REMARKS.

ON RAISING NATIVE HYACINTHS.—The plants which have flowered in glasses or pots produce better offsets than those raised in beds; these together with the mother and now reduced bulb, plant at the usual season. The old bulb affords considerable nourishment to the young plants, which rise with great strength the following spring. When the leaves assume a yellow hue the plants are to be taken up, and replanted the same day in prepared beds; the stronger by themselves. The strongest plants will show blossoms the following spring, some of them having from twelve to twenty bells, or pips; these should be reduced to three or four, which should be left on the extremity to draw up the sap. Were the whole suffered to remain, the plant would be much exhausted in flowering; and if wholly taken

off, it receives a great check. The bulbs are again to be taken up in October, and replanted as before, not permitting them to remain any time out of the ground. Moisture seems essential to the perfection of the Hyacinth; and it is those which remain in the ground, and of course subject to its influence, that are not at any time affected with the ring disease, by which many of which are placed in the stove are lost every season.

The compost best suited for them is, one barrowful of loam from rocky places, one ditto well rotted cow-dung. This should, if possible, be three years old; one third of a barrowful of mould, produced from rotted tree-leaves, and about a fifth of a barrow from an old cucumber-bed. With this the bed is to be made two and a half feet deep, and the surface covered with turf mould, to preserve the bulbs from frost.

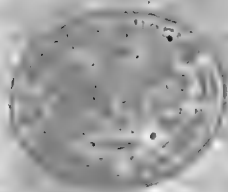
New Plants.

TROPÆOLUM TRICOLORUM.—We have recently seen several fine specimens of this most lovely climber, which is certainly unequalled for beauty and neatness. At the exhibition of the London Horticultural Society, held on the 18th, inst., there were several plants in most profuse bloom, and trained variously, which produced a fine effect; one was trained to cover a circular wire frame about four feet in diameter, covering it with bloom in every part; a second, a wire frame about four feet high in the form of an urn, and in addition to the frame being covered down to the pot, the framing was so constructed as to inclose the pot, and the flowers concealed it from view; a third, was trained over a frame constructed globular, about three feet in diameter, and its surface entirely covered with bloom; a fourth, trained up to a centre, having a turban headed from three feet across, and in addition to the head being covered, the shoots hung pendant in beautiful bloom.

In these and other similar modes the plants were trained, and being in a high degree of cultivation, blooming profusely, were justly admired. When the bulb once becomes strong, the plant is found to be of easy culture; the shoots being spread around the plant upon some finely sifted soil, just covering them over, and gently pressing them down, they will then speedily take root. This is a very ready method of increasing it, and will doubtless, on becoming generally known, allow the introduction of several plants into every greenhouse and conservatory. The soil in which the *Tropæolum* appears to thrive best, is a sandy loam being well drained, care should always be taken, as have been observed by writers in former numbers of the Cabinet, not to place the tuber more than one-half its depth in the soil; we find too that the plant can be easily cultivated in a light sitting room. The kind we saw in 1836 flourishing in the valuable collection of C. Rawson, Esq., Hope House, Halifax, under the very successful management of our friend Mr. Menzies, is the most handsome of the tribe, we gave a figure of it at the time, (August), and seeing a plant of it in bloom, at the above mentioned exhibition, in contrast with the true *T. tricolorum*, we were struck with its decided superiority, the flowers being much larger and of finer colours. The kind was named at Mr. Rawson's, *T. elegans*, and is justly entitled to such appellation. We have seen it named in one collection, *T. tricolorum major*.

TROPÆOLUM BRACHYCEROS is better cultivated this year than we have seen it before, trained, and otherwise treated as *T. tricolorum*, it produces a pretty contrast with it. Its yellow, delicately dark marked flowers being neat and pretty.

TROPÆOLUM TUBEROSUM is now progressing fast, plants are fine for turning out; they will no doubt amply repay by their beauty at the end of summer and autumn. The plant is very easy of propagation by cuttings, and one plant will produce near a peck of tubers. It is found to throw the plant early into bloom, cut a small trench with a spade around the plants, about two feet from its base, and fill up the trench with sand, this checks its





Sassa
Leaf of the
Pharagnum



Chrysanthemum



Anticodon ramosa

luxuriance and causes it to bloom immediately. The beauty, and ease of culture of *T. pentaphyllum* is too well known to require any commendation.—
CONDUCTOR.

HOVEA PUNGENS.—This beautiful plant is of a dwarf habit, with narrow leaves, resembling the Rosemary. The flowers are of the most intense blue. It is a native of the Swan River, and was raised by Robert Mangles, Esq. This is a very desirable plant to those who have a small greenhouse.

REFERENCE TO PLATE.

GARTH'S JOAN OF ARC. *Pelargonium*. This most superb kind we saw in bloom in the fine collection of Mr. Cateugh, and it is certainly the best flower among the vast variety of fine kinds we have seen during a visit to every collection of note; no drawing can do justice to its beauties and excellence. The following kinds are among the best we have seen, and merits a place in every collection.

CHORIZEMA VARIA. This new and very fine species was recently exhibited at the London Horticultural Societies' Room in Regent Street, and at the exhibition on the 18th, inst., at the Societies' garden. Mr. Hally of Blackheath, exhibited a plant finely in bloom at the former place; and Mr. Veitch, of Exeter, at the latter; Mr. Veitch's plant was about seven feet high, furnished from the bottom to the top with numerous spreading branches, and central shoots, each terminating with a spike of flowers. The plant is of very rapid growth, easy of cultivation, and a most profuse bloomer. The flowers are produced closely on the spikes, and thus make a show, and in this particular, very much exceed some other kinds of *Chorizemas*, whose flowers being so remote from each other, give but little effect. This very superior kind which deserves a place in every greenhouse and conservatory; in the latter, it appears as if it would become a magnificent tree, and if duly encouraged when grown in a pot, an object of considerable attention. Dr. Lindley noticed at the meeting, that it was one of the most valuable acquisitions of this class of plants, which had been introduced for some time.

GLADIOLUS RAMOSUS. This very beautiful species we saw in bloom in the fine collection of Mr. Groom, of Walworth; when we saw it in bloom last summer, it was offered at three guineas per plant, but may now be obtained for fifteen shillings. It is of vigorous habit, and blooms most profusely in the open border, when grown among others of its beautiful family its contrast is very striking.

FLORICULTURAL CALENDAR FOR JUNE.

ANNUALS.—See pages 43, and 72, Vol. I.—Those annual plants that have not yet been transplanted out, should now be done, in cloudy and showery weather, keeping as much earth to their roots as possible, now supporting those with sticks that require it—thin out where too thick. Tender annuals may now be turned out into the flower borders; they should be refreshed at least once a day with water, and if the sun be very powerful they will require to be shaded, till they have taken fresh root: those that remain to flower in pots, must be frequently supplied with water, repotting, &c., as they require it. Finish transplanting perennial and biennial plants, sown in spring.

ROSES.—Cutting of Garden kinds may be put off by the middle of the month; insert them firmly in the soil, and cover with a hand-glass—a shady

border is the best situation for them. Cuttings of most kinds of Greenhouse plants should now be put off.

CARNATIONS AND PINKS.—Laying the former, and piping the latter, will be required by the end of the month. Seedlings should be planted out singly into pots or open borders. Those Carnations in pots require particular attention in keeping them well supplied with water, and to support the flower stems by tying them to neat green sticks with bass; pipings of the young shoots may still be put in; those cut at the second or third joint make the handsomest plants; they should be kept shaded from the hot sun, otherwise they will soon get scorched and dried up, they should be finished layering by the middle of the month. Pinks may still be propagated by pipings as in June. Auricula plants in pots will require a little water frequently in hot weather, taking care not to pour it on the heart of the plant—all dead leaves should be removed—if any of the plants are attacked with the green fly, they should be smoked with tobacco,

RANUNCULUS AND ANEMONE ROOTS.—Should any bulbous rooted plants, as Ranunculuses, Tulips, Anemones, &c., now be past flowering, and their leaves decayed, they should be taken up, well dried, cleaned, and the offsets separated, and put in a cool airy place, till the planting season again commences.—See articles in Vols. I. and II., of the Cabinet.

CAMELIAS—which have ceased blooming, will now require to be excited by being taken to a higher degree of heat, and frequently syringed, this will induce vigorous shoots, and an abundance of flower buds.

CHRYSANTHEMUMS.—See pages 73, 74, and 81, of Vol. I. Plants in small pots should be repotted into larger.

DAHLIAS.—See pages 3, 22, 66, and 95, of Vol. I.; and articles in Vol. 2, and Vol. 3, page 100.

TULIPS.—See page 24, Vol. I.

GREENHOUSE AND STOVE ANNUALS.—Such as have been grown hitherto in small pots, should be repotted into larger for the summer's growth.

AURICULAS—may be repotted and placed in a shady, but airy, situation. Transplant seedlings, also of Polyanthuses.

PANSIES.—New beds may be made by taking off rooted offsets or by piping, shading them for a few days after removal. Such will bloom profusely at the end of summer.

CAMELIAS—If the new shoots have nearly done growing, place the plants in a warm greenhouse, or in a stove of 70 degrees, in order to assist the plants in producing flower buds.

HERBACEOUS PLANTS—in flower beds should regularly be tied up as they advance in growth, not allowing them to grow too far before this attention is given, or many kinds will become unsightly.

BALSAMS.—See culture of, in Vol. I.

TRIVERANIANs. See Vol. I.

SEEDS of hardy Biennials, as Sweet Williams, Scabious, &c., may be sown for plants to bloom next year.

THE DOUBLE SCARLET LYCHNIS, &c., &c.—The double scarlet Lychnis, and such like plants, should be propagated by cuttings. Dahlia cuttings will easily take root if placed in brisk heat. Continue to cut box edgings, and hedges, where it was not done last month. Where it is desired to save seed of Ten Week, Russian, or German Stocks, only allow those single ones to remain, the flowers of which have five or six petals; if such be reserved they will generally produce double flowering plants. Towards the end of the month, Roses may be budded: the first week in August is, however, considered better.

THE FLORICULTURAL CABINET,

JULY 1st, 1839.

PART I. ORIGINAL COMMUNICATIONS.

ARTICLE I.

ON THE MANAGEMENT OF HOT HOUSE PLANTS

BY A PRACTICAL GARDENER.

THE house intended for the growth of stove or tropical plants, should be constructed so as to give a proper command of artificial heat in the winter season, when a high temperature is requisite for the preservation of the plants. These, being natives of warm climates, require a strong degree of heat, to induce them to grow and flourish in the confined apartments that are allotted for their cultivation.

The thermometer ought to be regulated, mornings and evenings, in this department, from 60 to 70 degrees: otherwise, the cold cutting winds that generally pass between the laps of the panes of glass, will prove very injurious to the tender shoots and foliage of many of these exotics. When the atmosphere of the stove increases to 70 degrees by the influence of sun heat, a little air should be admitted in the middle of the day, but taken away again early in the afternoon, so as the house may be shut up warm from the effects of the sun, which is more advisable than having recourse to strong fires for the purpose; and as the use of the bark bed is now becoming very generally exploded, for the cultivation of tropical plants, a higher degree of temperature is necessary for the health and preservation of these; but, as many of the tender exotics will succeed better by having a slight degree of bottom heat at their roots, this may be successfully supplied to them, by filling the bed, or pit, with fresh tree leaves, or tan,

every autumn, and covering the surface over with sand or coal ashes, for the pots to stand upon; when these should be arranged according to their different sizes, without plunging, as the heat arising from the fermenting substances will increase the temperature of the house, and produce a mild congenial heat to the roots of the plants, which will greatly facilitate the growth of the more tender species. The pots remaining unplunged on the bark bed, will not be so subject to have their roots injured with worms, which is always the case when plunged in the bed, and which are very pernicious to the young roots. During the winter months, when there is but little sun to dry up the moisture, great care must be taken not to give any of the plants too much water; it is preferable to give them little, and frequently, as they may appear to require it, than to deluge the pots with too much moisture, in their quiescent state. When the flues or hot water pipes are pretty warm, the pouring of water upon them will produce a fine steam, very beneficial to the plants, and also obnoxious to the insects, whose depredations should always be kept in subjection. When the Aphis, or green fly infests the young shoots, recourse must be had to fumigation with leaf tobacco, or be plunged over head in a solution of tobacco water. The advantage of a mild or rather calm evening, should be taken, and the houses well filled with the fumigating bellows, which will instantly destroy these noxious depredators. The plants will require to be well syringed the following morning, in order to displace any of the fly that may cling to the foliage; and if they do not appear all to be destroyed, a repetition of fumigation should be resorted to the ensuing evening, which will effectually clear the plants of these insects. When the weather is at all favourable, the syringe should be frequently applied in the evening, and the house shut up warm; this moist heat will, in general, keep the red spider under, especially in the early part of the season; but if this intruder begins to get a head, a little sulphur sprinkled over the hot pipes, or flues, will keep them in abeyance. The white mealy bug and scale are more difficult agents to get rid of, and require to be brushed off as soon as they begin to appear, otherwise they will become very troublesome. Frequent fumigations of tobacco will, also, considerably check their progress.

The soil that appears most appropriate for the growth of the greater portion of stove plants, is sandy loam, consisting of the

sward from a pasture, which should be thrown into heap, to decompose and pulverise for a short time previous to using; to which a portion of peat soil, mixed with it, will be a suitable compost for the growth of most tropical plants. When there is a scarcity of peat, a mixture of decomposed tree-leaves may be applied in its stead, with great advantage. Should the soil not be of a naturally sandy quality, a little sand should be intermixed, so as to render it light, and free for the roots to run in.

The plants should all be examined in March, or April; and such as appear to be in want of fresh pots, should be shifted into others, a size larger; but the operation of shifting, and size of the pots should be regulated according to the state of the plants. The more luxuriantly inclined species will require a larger supply of nourishment than those of less delicate habit, and may, therefore, be admitted into larger sized pots without injury, whilst the more delicate growing sorts must not be over-potted; rather repeat this operation, as the roots appear to fill the pots, than put them into too large sized pots at once. The pots that are used for this purpose must be well drained with small pieces of potsherds, or any other material that will permit a free passage for the superfluous moisture. There should be placed next to the drainage a little of the rough fibrous substance that is collected from the soil, which will admit of a ready penetration of the water through it, and prevent the mould in the pots becoming too much saturated with wet; as nothing is more injurious to the tender roots than to have the soil soured about them when in a dormant state. During the course of the season, they will require to be frequently examined; and such as appear to have out-grown their pots, to be removed into larger ones; as, also, any that are in an unhealthy state should be shook out of the pot, and the roots examined; and such as appear in a decayed state, cut away, and the plant fresh potted; but observing in these instances, to use rather small pots than large ones. In Autumn the whole stock should be carefully looked over; and those that appear too much confined, for want of pot room, may be re-potted into larger sized ones; care, however, should be taken not to disturb or injure the roots at this advanced season. During the Summer months, and growing season, they should be well supplied with water, and frequently syringed over their foliage, and the borders and footpaths, &c kept in a moist state, particularly in hot weather, which will be very conducive to the health and

vigour of the plant. The atmosphere of the house will require to be duly attended to, and the thermometer regulated mornings and evenings, at 65 degrees, which may be allowed to vary from 90 to 100 degrees, by the influence of sun heat.

Most sorts of tropical plants are increased, either by cuttings, seeds, or dividing at the root, whence offsets of the *Orchidææ* and *Cryptogamia* genus are procured; and when those throw out such suckers, or side offsets, we have a plant supplied with roots immediately, which may be, at once, potted, and treated accordingly. I may, however, observe, that these suckers, or offsets, should be allowed to form good roots before they are taken from the mother plant, which will the better secure their future success. The hard woody kinds may be propagated by cuttings, which will root freely in most instances, when planted in a sharp sand, and placed in a shaded situation of the stove, or in any other apartment where they can be shaded from the effects of the mid-day sun; as a small pit or frame is generally appropriated for this purpose, which can readily be shaded by throwing a mat over the lights while the cuttings are striking root: some of the species will require a slight degree of bottom heat, to induce them to throw out young roots. The most suitable season for the propagating of tropical plants, is from January to July; but many of the kinds may be put into the cutting pots at any period of the year, providing that the young shoots are in a proper state, as some species require the wood to be ripened and firm before they are put in; whilst others may be increased when the shoots have grown only sufficiently long for the cutting. In stripping the foliage from the shoot, care must be taken not to injure the bark, and not to clear away more of the leaves than are necessary for the insertion of the lower end of the cutting in the soil or sand in the pot, where they are all inserted; a gentle watering should be given, to settle the soil about them and the pots then covered with hand-glasses until the cuttings begin to grow, and throw out young roots, when a little air may be given, to prevent their being drawn up in a weak state. The sand, or mould, in which they are planted, must not be saturated too much with water, otherwise it will rot the cuttings.

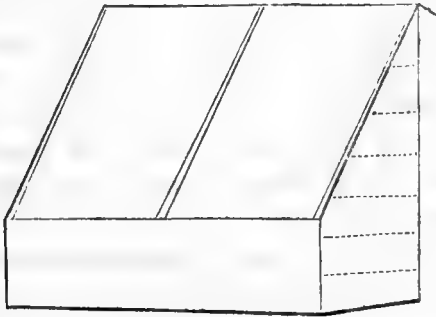
When the plants have struck root, they should be immediately potted off in small sized pots, and placed in a slight hot-bed for a few days, and kept shaded from the effects of the mid-day sun until they have got a little established, when they may be removed with safety to the stove.

ARTICLE II.

ON FLORIST FLOWERS—THE AURICULA.

BY FLORA.

IN my last paper, having promised you the routine of my monthly culture of the Auricula, I therefore, to redeem my pledge, send this, with a sketch of my Auricula-house or frame, the dotted lines shewing where the laths on which the sliding shelves lay.



I shall begin my Auricula-year with *August*, that being the month in which the general potting takes place for spring bloom.

Early in the month, or the last week in July, prepare the soil as before stated, prepare also some thin sod or sward, and having taken care that it is half dry, take an empty pot, and cover the hole in the bottom with a piece of shell or potsherd, lay a piece of this half dry sod upon it, and then your prepared soil, till the pot is about half full, take the old plant and shake the soil from it, taking off all rooted offsets which must be put either singly into small pots or four plants into a larger pot, pull off all the dead or yellow leaves, and examine the root to see if any part be decayed, if so, remove all the decayed or brown roots, for the plant will never thrive when the root is diseased. If you cut or break it, let it be till the wound is healed, or pot in dry soil, and do not water for a day or two; spread the roots of the plant all around the soil, and fill up to the top level with the edge, do not press it down with your fingers, but give it a slight knock or two on the bench, which will settle it about half an inch and leave room for holding water. Look to the neck of the plant all round, that it is a proper depth in the soil, then water gently about the edge

and place the plants in a shaded situation. If the weather is dry and hot, they will require a little water every evening round the pot edge; a shower of rain at this season will not hurt them, only do not let them have too much, for it not only washes away the nutritious part of the soil, but also does the plant harm by giving it an inclination to rot, by the wet lodging too long about the neck. If it is very sunny, shade the frame with mats during the day, and having the back doors taken quite away at this season, prop the edges of the front sashes up, so that air may be circulated freely through the whole both day and night.

September.—No more is required this month than examining the plants frequently to see that they are free from the green fly, caterpillars, &c. and in a sound healthy state, if the green fly should infest them, this is easily cured by closing the frame and fumigating with tobacco smoke, water frequently round the edge of the pot, and the plant will grow freely and strong.

If a plant looks yellow or sickly, be sure that all is not right with it, lose no time in taking it out of the pot and wash it clean, if any brown or decayed place appears, take it quite out with your finger nail, or a piece of wood, but do not cut it with a knife, let it lay out of the soil till dry, and then repot it in dry soil, use a plaster of bees wax or tallow over the wound to keep the damp from it, but if possible, keep the wound quite out of the soil; keep it dry for a week or more, till it begins to recover, water with great caution till it show signs of growing, then set it in its place.

October.—Less water must now be given as the plants cease from growing, and must be regularly prepared for the winter, that is, they must be furnished with less sap, and of course they will become less succulent and less susceptible of frost or damp, they must have all the air possible by the sashes still remaining propped, and the door off during fine weather.

November.—This is often a fatal month for the Auricula, the damp stagnated state of the air, together with cold, and want of a proper elevation of the plants above the wet surface of the ground, are felt most severely, but if they have been regularly prepared, last month by being kept dryer than before, they will bear it very well; very little water is now required, keep them entirely from rain, but give as much air as possible, examine the plants frequently as to their soundness, &c.

December.—No water must now be given except the plants turn soft for want of it, and then very little will suffice; pick off such yellow or dry leaves as can be removed without making a wound, but do not force them off, which would probably make a wound, and the neck be injured, and prove fatal; at this season of the year keep your frame closer, as frost and snow, may now be expected.

January.—This month must begin as December ends, by keeping all close in frosty or coarse weather, but give air every fine or fair day, give very little water, if any, keep all as clean and dry as you can about the plants.

February.—The heart of the plants will now begin to look of a fresher green, and the leaves to give evidence of a renewal of life, they must have a little water to assist nature in her process of forming the embryo flowers, about the second or third week, according to the season, take off all the surface soil from the pot without disturbing the fibres, and put some fine rich soil on them; now is a good time for removing any rooted offsets, give water once a week, but do not be too eager in setting them to grow too soon, for if a severe fit of weather should come, your succulent plants might be in danger, give all the sun and air you can and cover with mats at night.

ARTICLE III.

ON THE TREATMENT OF MIMULUS' IN POTS.

BY W. M. P.

ABOUT the beginning of March I take off cuttings from my various selected varieties, which I plant singly into 60's, using a compost of two-thirds loam and the other third leaf and sand, merely to keep the soil a little open, I then plunge them into a bottom heat, and when they are rooted I take them out and place them on the front shelves in the greenhouse; when the roots fill the pots they will require to be shifted into 48's, using the above compost with an addition of rotten cow-dung. When I finally shift them, which is generally about the latter end of June, I put them into as shallow pots as I can procure, from sixteen to eighteen inches in diameter, as the roots always incline to run on the surface, which ought to be pegged down and tied up neatly to stakes as they grow. I allow them abundance of water as they

come into flower, (I have seen pans filled with water put under them, but it is very injurious, as it sours the soil,) for if neglected the flowers will be small.

When they are done flowering, I give them less water, until I withhold it altogether, I then cut them down to the surface, and put them aside in any back part of the greenhouse until they begin to push in the spring, when I take them out and place them on the front shelves in the greenhouse, giving them a good watering, when, in the course of a few days they will begin to shew their young shoots.

If you think the above remarks are worthy a place in your useful Publication, they are at your disposal.

W. M. P.

Uffington Gardens, May 1839.

ARTICLE IV.

REMARKS ON THE CYPRESS.

BY AN HORTICULTURIST.

THIS tree, which is the symbol of eternal sorrow in all the civilized countries of Europe, is also the funeral tree of the east, from the Persian Gulf to the Caspian Sea; and it is likewise dedicated to the dead from Mazenderán to Constantinople, as well as to the utmost bounds of China's fruitful shores.

Claudian tells us, in his admirable poem of the Rape of Proserpine, that when Ceres decided to travel over the earth in search of her daughter, she hastened to Etna, to prepare the torch which was to light her on the road during the night; and that having rooted up two gigantic cypresses, the goddess threw them into the crater of that mount, which being inflamed by the sulphur, augmented the fires of Etna; and from thence the ancients, we presume, dedicated this tree to Pluto and Proserpine. The Romans placed a branch of the cypress tree before their dwellings when any one died, which remained as long as the corpse was in the house; and which it then accompanied to the funeral pile, or the tomb.

Lucan, who wrote about the middle of the first century, informs us that the cypress was then only used at the funerals of persons of distinction.

The Turks of the present day attend most religiously to the planting of the cypress tree at the tomb of their departed friends and relatives; and they are always careful to select the upright variety, as the spreading cypress would, in such situations, be the cause of much sorrow to them, from their belief that when the tree grows with a spiral point towards heaven, it indicates that the soul of their friend is ascended into the regions of bliss. The Armenians are not allowed to plant a cypress tree, at the graves of their deceased friends, but they are permitted to plant any branching tree, as the apple, oak, or elm, &c.; which, from its crooked branches, indicates, as the Mahommedans affirm, the impossibility of the ascension of Christian souls. When will reason ascend her universal throne!

Lady M. W. Montague mentions a cypress tree in a garden at Kujuk Checkmedji, that was converted to rather a singular use, "The house and garden now belong," says her Lady-ship, "to a hogia, or schoolmaster, who teaches boys here. I asked him to show me his own apartment, and was surprised to see him point to a tall cypress tree in his garden, on the top of which was a place for a bed for himself, and a little lower one for his wife and two children, who slept there every night. I was so much diverted with the fancy," says Lady Mary, "that I resolved to examine his nest nearer; but going up fifty steps, I found I had still fifty to go up, and then I must climb from branch to branch with some hazard of my neck. I thought it therefore the best way to come down again."

Cato wrote more on the cultivation of the cypress than on that of any other tree; and he calls it a Tarentine tree; but Pliny says, that was from its being first planted in that neighbourhood, and that the isle of Candia is its natural country; where, he says, when the ground is ploughed up, the young plants are sure to appear, and that in many parts of that island, the cypress trees spring up without culture; particularly on Mount Ida, on which they grow to the very point, although it is continually covered with snow. Hanway says, some of the mountains near Reshd, in Persia, are covered with cypress trees. Thus, like the cedar, its birth-place is a cold bleak mountain; and like that majestic tree, it lives almost to eternity, and its timber seems nearly imperishable. Sir W. Ousley tells us, in his travels, that "the beautiful and venerable cypress of Fassa has been the boast and ornament of that city for above a thousand years." Pliny speaks of a cypress that was

planted when the foundation of Rome was laid, and which fell, he says, through careless neglect, on the last year of Nero's reign. The same author tells us, the famous statue of Vejovis, Jupiter, in the capitol, was made of cypress wood; and that when he wrote it was perfectly sound, although it had been dedicated and consecrated to the temple since the second year of the foundation of Rome. Theophrastus, who calls this tree *Kupariton*, tells us, that the doors of the celebrated temple of Ephesus were formed of this durable wood; and the doors of St. Peter's church, at Rome, were framed of cypress timber, which lasted from Constantine, to Pope Eugenius IV.'s time, which was eleven hundred years, and were then sound and entire, when the pope took them down to change them for bronze gates. The Egyptians kept their mummies in chests of cypress wood; and Thucydides, a Greek historian who wrote about 400 years before the birth of Christ, tells that the Athenians used to bury their heroes in coffins formed of this timber; and Aristocles, the celebrated Athenian philosopher, (who was called Plato, from the largeness of his shoulders), and who flourished about the same time with Thucydides, would have the laws and sacred rites inscribed on tablets of cypress wood in preference to brass.

The Babylonian history affirms, that the lasting bridge, which Semiramis caused to be built over the Euphrates, about 1960 before the Christian era, was entirely formed of this timber; and some learned writers, who do not hesitate to go 389 years farther back, endeavour to prove, that the gopher mentioned in Scripture as the wood of which the ark was built, was no other than cypress, and which is not confuted by other learned authors; such as Isa, Vossius, and David Kinchi, who will have gopher to signify only resinous timber. Epiphanius, a bishop of Salamis, who died A. D. 403, tells us, some relics of the ark, lasted even to his days: and which was judged to have been of cypress. It is known, that at Crete this timber was employed in building the largest ships; and Virgil tells us, "that cypress provides for keels of ships that scour the watery plains." Aristobulus affirms, that the Assyrians made shipping of this timber; and so plentiful was this tree about those parts of Assyria, where the ark is conjectured to have been built, that those vast armadas which Alexander the Great caused to be equipped and sent out from Babylon, consisted only of cypress.

(To be Continued.)

ARTICLE V.

ON CHINESE GARDENS.

(Continued from page 134.)

FREQUENTLY too, the course of the walk is interrupted by a large oak, or elm, or tulipifera, placed in the middle; or by a screen of trees running quite across; which, when the part on one side of the screen is opened and illuminated by the sun, and the part on the other side close and shaded, produces a pleasing contrast.

I have often seen, in China, berceaus and arbors, not of lattice-work, as in France, but of bamboo, hazel, and elm; whose branches being interwoven at the top, formed an arch not at all displeasing to the eye, and exceedingly useful, during the heats of summer: and to render these cool retreats more agreeable, jessamine scarlet beans, sweet-scented peas, granadillas of several sorts nasturtiums, the convolvus major, and many other kinds of climbers, were planted round the outside; forcing their way through, enriched the sides and arches of the walks in a very beautiful manner, I have likewise seen, in Chinese plantations, walks bordered with the cut yew and elm hedges, so common in most countries of Europe, which the Chinese Artists sometimes admit of, for variety's sake; but they never have the stiff appearance of our European ones: the shears are used sparingly; towards the top the branches are suffered to spread unmolested; and even in the cut parts of them are seen large masses of other plants forcing their way through; such as the sycamore, the fig, the vine, and others, whose foliage and verdure are most opposite to those of the hedge.

The dimensions both of their straight roads and walks, vary according to the purposes they are designed for; and, in some degree too, according to their length. Roads or avenues to considerable objects, are, as has been observed, generally composed of three parallel walks: that in the middle being from thirty to one hundred and fifty, or even two hundred feet wide; those on the sides, from fifteen to forty. In their Gardens the principal straight walks are never narrower than twenty feet; and seldom broader than forty-five or fifty: and the smallest are at least twelve feet wide. Thirty to thirty-six feet is called a sufficient width for a length of two hundred yards; forty to fifty for one of four hundred; sixty for one of six hundred; and seventy

for a length of eight hundred yards : and when the extent is more than this last dimension, they do not tie themselves up to any proportion, but increase their width as much as they conveniently can ; never, however, exceeding one hundred and fifty, to two hundred feet ; which they think the utmost width that can be given without rendering the avenue disproportionate to the trees that border it

In the construction of roads and walks, the Chinese Gardeners are very expert, and very circumspect ; they never situate them at the foot of mountains or rising grounds, without contriving drains to receive the waters descending from the heights, which are afterwards discharged by arched gulleys under the roads, into the plains below ; forming, in the rainy season, a great number of cascades, that increase the beauty of the scenery. The roads which are designed for carriages, they make as level as possible ; giving them a solid bottom, and shaping them so as to throw off the rain-waters expeditiously : they use, as much as possible, the nearest materials, to save expence ; and are very judicious in employing different soils to form mixtures, which never become either hard or slippery ; never loose in dry weather, nor deep in wet ; not easily ground into powder ; nor ever forming a rough flinty surface, difficult and painful for horses to move upon.

Their walks are either of grass, of gravel, or chippings of stone covered with a small quantity of coarse river-sand. The first sort, which are seldom used but in private Gardens, they being too liable to be spoiled in public walks, are made of the finest and cleanest turf that can be found on downs and commons ; and they are kept in order, by frequent mowing, and rolling with large iron rollers. The second sort are made of binding gravel, laid about six inches deep, upon the natural ground : if it be dry, or if swampy, upon brick rubbish, flint stones, or any other hard materials, easiest to be had : and these are also kept firm, and in great beauty, by being frequently rolled. Those of stone are composed of gallets, laid about a foot thick, rammed to a firm consistence, and a regular surface ; upon which is put a sufficient quantity of river-sand, to fill up all the interstices, this done, the whole is moistened, and well rammed again.

Both in their roads and walks, they are very careful to contrive sink-stones, with proper drains and cess-pools for carrying off the waters, after violent rains : and to those that are upon descents,

they never give more fall at the most than half an inch to every foot, to prevent them being damaged by the current of the rain-waters.

As China, even in the northern provinces, is exceedingly hot during summer, much water is employed in their Gardens. In the small ones, where the situation admits, they frequently lay the greatest part of the ground under water, leaving only some islands and rocks; and in their large compositions, every valley has its brook or rivulet, winding round the feet of the hills, and discharging themselves into larger rivers and lakes. Their artists assert, that no Garden, particularly if it be extensive, can be perfect, without that element, distributed in many shapes: saying, that it is refreshing and grateful to the sense, in the seasons when rural scenes are most frequented; that it is a principal source of variety from the diversity of forms and changes of which it is susceptible; and from the different manners in which it may be combined with other objects; that its impressions are numerous, and uncommonly forcible; and that, by various modifications, it enables the artist to strengthen the character of every composition; to encrease the tranquillity of the quiet scene; to give gloom to the melancholy, gaiety to the pleasing, sublimity to the great, and horror to the terrible.

They observe, that the different aquatic sports of rowing, sailing swimming, fishing, hunting and combating, are an inexhaustible fund of amusement; that the birds and fishes, inhabitants of the water, are highly entertaining, especially to naturalists; and that the boats or vessels which appear upon its bosom, sometimes furiously impelled by tempests, at others gently gliding over the smooth surface, form, by their combinations, a thousand momentary varied pictures that animate and embellish every prospect. They compare a clear lake, in a calm sunny day, to a rich piece of painting, upon which the circumambient objects are represented in the highest perfection: and say, it is like an aperture in the world, through which you see another world, another sun, and other skies.

They also remark, that the beauty of vegetable nature depends, in a great degree, upon an abundant supply of water; which, at the same time that it produces variety and contrast in the scenery, enriches the verdure of the lawns, and gives health and vigor to the plantations.

Their lakes are made as large as the ground will admit ; some several miles in circumference : and they are so shaped, that from no single point of view all their terminations can be seen ; so that the spectator is always kept in ignorance of their extent. They intersperse in them many islands ; which serve to give intricacy to the form, to conceal the bounds, and to enrich the scenery.

(To be Continued.)

REVIEW.

The Amateur Florist's Assistant in the selection and cultivation of Popular Annuals ; to which is added a descriptive catalogue of the more interesting tender Perennials used in decorating the Parterre, and a copious list of European Ornamental Alpine Plants.—By GEORGE WILLMOTT, 12mo., p.p. 76.

This is an exceedingly neat little work, and to persons desirous of information on the ornamental flowering annuals, it will be found interesting and useful. The author deserves the thanks and encouragement of the Florist for his efforts ; this will encourage him to give a little more practical information on the culture of some of the kinds treated upon in the present publication.

In the Preface the author observes that “the professional gardener and practical floriculturist are alike cautioned against expecting much more information from the following pages than, it is presumed, they already possess. The intentions of the author are more humble ; but he, fondly trusts, his exertions will not prove the less useful, his principal aim being to convey, in a comprehensive and cheap form, such a portion of that knowledge those already possess, as will enable the villa proprietor, cottager, and small garden occupier, to cultivate for their own recreation the *Popular Annuals*—a tribe of flowers, surpassed by no others in the vegetable kingdom, for fragrance, diversity of form, or beauty and variety of coloring—properties which are enhanced by the facility with which they may be grown, and the speedy return they yield to the careful cultivator ; for while they may be procured for a trifling amount, they at the same time require less attention than their more permanent congenitors ; and instead of waiting seasons, the owner is rewarded for the little requisite at-

tion bestowed on them in a few weeks, a period not only short, but rendered still more so by the pleasure experienced in daily beholding and contemplating their rapid progress, from the time their embryo leaves first appear, to that stage of existence when the profusion and loveliness of their bloom is sufficient to arrest the attention, and call forth the admiration of the most careless observer of nature's beauties.

From those resident in and near large towns, the Annual Flowers have a double claim to attention; for, while they in summer serve to cover the small street-door parterre, and garnish the window-box and flower-pot with the most choice embellishments of the flower-garden, in winter the management necessary for perennials, is dispensed with, which in such localities, is peculiarly unpleasant, and the gloomy association of ideas is avoided, consequent on daily beholding, in the herbaceous tuft of sickly leaves or withered flower-stalks, and the foliage-strip branches of the deciduous, or the smoke-blackened leaves of the evergreen shrub, the decay of what once charmed the eye of the beholder.

In addition to the Annual flowers, strictly so called, "which bloom and die in one short summer's space," there is another class of plants which annually compensate, by the beauty and delicacy of their bloom, the care necessarily bestowed on them by those who have in their gardens a small hot-bed frame or greenhouse, in propagating them in autumn, preserving them through winter, and re-transplanting them in May—again to embellish the flower-beds with borrowed brilliancy of warmer climes and clearer skies. To assist in the selection of these, the author has added a descriptive catalogue of the more interesting Tender Perennials used in decorating the parterre; and in conclusion, he has appended a copious list of the Ornamental European Alpine Plants, the smaller of which may be grown in pots, and protected during winter under glass, in what is usually termed a cold frame; while the taller and more vigorous may be grown in the open flower-border or verge of the shrubbery.

Culture of Annuals. In the course of the work the author has endeavoured to give directions for the culture of such as require any particular mode of treatment; in addition to which he considers the following general observations necessary for the guidance of the less experienced amateur.

The most natural period of sowing Annuals is in the latter end of autumn, when they, as well as most other plants, burst from their capsules, and distribute the seeds in various ways; therefore, those that are natives of this country, or similar climates, may in part be sown at that period, for forming an early bloom in the following summer, to be succeeded by the part reserved for spring sowing, which is the period most usually devoted to that purpose. From the end of February to the beginning of May flower-seeds may be sown, whenever the weather is favourable, and the ground in a proper state for that purpose; reserving the more tender sorts till about the middle of April.

The depth of soil used as covering for the seeds, should, in all cases, be apportioned to their size, for instance, Lupins, Sweet Peas, and similar large seeds, should be buried two or three inches under the surface; while Prince's Feather, Mimulus, Poppy, Tobacco, &c., of which the seeds are very small, should not be covered by more than a small layer of earth. It should further be kept in view, that seeds generally, and in particular those of a small size, vegetate more freely in a light than in a heavy and tenacious soil; therefore, in cases when the former does not naturally exist, cultivators will find their additional toil amply repaid by procuring and only using light soil for covering the flower seeds.

The manners of sowing vary according to the taste of the operator: the practice formerly adopted, and still often followed by gardeners and others, is to form with the fingers, in the previously prepared ground, a circle from one-half to three feet in diameter, and of the proper depth, in which the seeds were deposited, and the earth again returned; the whole being generally finished by clapping the surface gently with the back of a spade, or pressing the earth lightly with the foot, to assist in keeping out the drought; of course the same practice of forming the reservoir for the seeds may be adopted whether the figure is intended to be a circle, a square, or any other form.

Some fanciful growers form the letters of their name, outlines of animals, &c. in their flower beds, generally choosing for such purpose plants as possess dwarf or compact habit of growth.

The young Annuals, as well as other plants, when coming above ground, are liable to be destroyed by slugs and various insects, as well as injured, particularly the less hardy sorts, by the night frosts; to prevent which, various methods are recommended and practised. In small gardens a very excellent plan is to sow the seeds in circles, not more than six inches in diameter, and inverting a flower-pot; when the young plants appear above ground, the flower-pot should be gently raised on one side by means of a small wedge or stone, which should always be removed in the evening, the operator taking care to lift it to see that no enemies are enclosed. The flower-pot answers the double purpose of protecting the young plants, and of retaining the moisture about them until they acquire sufficient strength to resist all such injuries. Lime water, applied at any time, proves destructive to slugs, but if sprinkled on the leaves during dry weather or hot sun, it will injure them; therefore, that expedient should only be resorted to in the evenings or during damp weather, when they have left their retreats. A sprinkling of quick-lime in the same manner is productive of the same effect, but always produces a disagreeable and unsightly appearance."

(To be continued.)

PART II.

NEW OR RARE PLANTS.

(Noticed since our last.)

HOYA CORIACEA. Thick-leaved Hoya.

(Bot. Reg.)

ASCLEPIADACEÆ. PENTANDRIA DIGYNIA.

1. A scarce plant, requiring the temperature of the stove, and to be grown on the trunks of trees. Those of our readers unacquainted with the genus will, perhaps, understand us better by saying, that this is a sort of honey plant, familiar to most persons, with its waxey white flowers, and often grown in windows. The *Hoya coriacea* appears to be a thicker foliaged plant, stronger in its stem, and perhaps less inclined to become a twiner or creeper than the common honey plant.

This new *Hoya* flowered for the first time in this country in the stoves of Messrs. Loddiges, of Hackney. It is a native of Manilla, and was sent home by Mr. Cunningham. Its flowering season is August.

ARISTOLOCHIA HYPERBOREA. Northern Birthwort.

(Pax. Mag.)

ARISTOLOCHIACEÆ. GYNANDRIA HEXANDRIA.

2. This is a curious and beautiful plant, supposed to be a native of the northern district of India. In this country it requires the temperature of the stove. It has been cultivated for some time in the collection of Mr. Knight, of the King's Road, Chelsea, where it flowered during the past year. It is a twiner, running to a considerable length, the foliage, heart-shaped, and the flowers somewhat resemble the singular form of the pitcher plant, but having a long and curiously formed lip, are of a yellow and brown colour. We have known several species of this genus requiring the temperature of the stove, but have always found them exceedingly difficult to bloom.

GALACTODENDRON. UTILE. Palo de Vaca ; or Cow Tree of the Caraccas.

(Bot. Mag.)

URTICEÆ.

3. M. de Humboldt was the first to bring the Cow Tree of Caraccas, into notice. "We returned," he says, in his valuable Work, "from Porto Cabello to the valley of Aragua, stopping at the plantation of Barbula, through which the new road to Valencia is to pass. For many weeks, we had heard a great deal of a tree, whose juice is a nourishing milk. The tree itself is called the Cow Tree, and we were assured that the negroes on the farm, who are in the habit of drinking large quantities of this vegetable milk, consider it as highly nutritive ; an assertion which startled us the more, as almost all lactescent vegetable fluids are acrid, bitter, or more or less poisonous. Experience, however, proved to us during our residence at Barbula, that the virtues of the Cow Tree, or Palo de Vaca, have not been exaggerated. This fine tree bears the general aspect of the Star-Apple Tree ; its oblong pointed, coriaceous, and alternate leaves are about ten inches long, and marked with lateral nerves, that are parallel, and project beneath. The flower we had no opportunity of seeing ; the fruit is somewhat fleshy, and contains one or two kernels. Incisions, made in the trunk of the tree,

are followed by a profuse flow of gluey and thickish milk, destitute of acridity, and exhaling a very agreeable balsamic odour. It was offered to us in calabashes, and though we drank large quantities of it, both at night and before going to bed and again early in the morning, we experienced no uncomfortable effects. The viscosity of this milk alone renders it rather unpleasant to those who are unaccustomed to it.

“The negroes and free people, who work in the plantations, use it, by soaking bread in it made from maize, manioc, aropa, and cassava; and the superintendent of the farm assured us, that the slaves become visibly fatter during the season when the Palo de Vaca yields most milk. When exposed to the air, this fluid displays on its surface, probably by the absorption of the atmospheric oxygen, membranes of a highly animal nature, yellowish and thready like those of cheese; which, when separated from the more watery liquid, are nearly as elastic as those of caoutchouc, but in process of time exhibit the same tendency to putrefaction as gelatine. The people give the name of cheese to the curd which thus separates when brought into contact with the air, and say that a space of five or six days suffices to turn it sour, as I found to be the case in some small quantities that I brought to New Valencia. The milk itself kept in a corked bottle, had deposited a small portion of coagulum, and far from becoming fætid, continued to exhale a balsamic scent. When mingled with cold water, the fleshy fluid coagulated with difficulty; but contact with nitric acid produced the separation of the viscous membranes.

“I own that among the great number of curious phenomena which offered themselves to my notice during my travels, there was hardly one which struck my imagination so strongly as the sight of the Cow Tree. Every thing which relates to milk—all which regards the Cerealia, inspires us with interest, which relates not solely to the physical knowledge of things but seems to be allied to another order of ideas and feelings. We can hardly suppose that the human race could exist extensively without some farinaceous substances, any more than the protracted weakness of the human nursling can be supported without the nutritive fluid of its mother's breast; and to this conviction is attributable the religious kind of reverence with which the amylaceous matter of the Cerealia has been regarded by people both in ancient and modern times, as also the feelings with which we gazed upon the stately tree that I have now described. Neither the noble shadowy forests, nor the majestic current of rivers, nor the mountains hoary with sempiternal snows,—none of these wonders of tropical regions, so riveted my gaze as did this tree, growing on the sides of rocks, its thick roots scarcely penetrating the stony soil and unmoistened during many months of the year by a drop of dew or rain. But dry and dead as the branches appear, if you pierce the trunk, a sweet and nutritive milk flows forth, which is in greatest profusion at day-break. At this time, the blacks and other natives of the neighbourhood hasten from all quarters, furnished with large jugs to catch the milk, which thickens and turns yellow on the surface. Some drink it on the spot, others carry it home to their children; and you might fancy you saw the family of a cow-herd gathering around him and receiving from him the produce of his “kine.”

Incited by this interesting narrative, by the chemical.

Sir Robert Ker Porter's drawing was accompanied by well dried specimens of the foliage, and by the following interesting particulars in a letter, dated Caraccas, June 8, 1837. “I had the pleasure of acknowledging the receipt of your letter of August (1836) on the 16th of the following November; but from great occupation in my official business, I had not a single day to spare that might enable me to satisfy yourself, and two or three other lovers of botany, relative to the Milk Tree. I have, however, made an excursion into the mountains, some fifty miles distant from this city, (about three leagues from the coast, not far from the town of Coriacco, and after extreme pedestrian labour up the steep forest-covered face of the mountain, reached the spot where the Palo de Vaca grows. I assure you that the sight of this

extraordinary tree fully repaid me for the fatigue and severe wetting I experienced. The close of last month was the period of my visit; but unfortunately, it did not prove that either of its flowering or fruit; however, I have sent you a bottle of the milk! some specimens of the leaves (as well preserved as circumstances would permit;) a piece of the bark, and a sketch copied from that which I took at the time. I should think the elevation above the level of the sea where this tree grows, cannot be less than four thousand feet, and the temperature at eight o'clock under its spreading branches was 70 degrees Fahr. The forest was so densely thick and untravelled, that the people who accompanied us were obliged, at almost every step, to cut away for us through it with their sword-like knives, while the excessive steepness and slippery state of the mountain rendered our advance both tedious and dangerous. However, after a couple of toiling days, we reached the group of sought-for trees, surrounded in all directions by others no less wonderful to look upon than themselves. The natives lost no time in making a deep incision into the bark of one, down to the very wood, from which burst forth the Milk, white and limpid as that of the cow, sweet to the palate and accompanied by an aromatic smell, but leaving a strong clammyness on the lips, and upon the tongue, a slight bitter. In a quarter of an hour, we filled two bottles with the produce of a couple of trees; for as our visit happened to be made during the wane of the moon instead of its increase the lacteal fluid did not flow so freely as it is said to do when drawn during the latter-named stage.

"The trunk of the Palo de Vaca from which the drawing was made, measured somewhat more than twenty feet in circumference at about five feet from the root. This colossal stem ran up to a height of sixty feet, perfectly uninterrupted by either leaf or branch; when its vast arms and minor branches, most luxuriantly clothed with foliage, spread on every side, fully twenty-five or thirty feet from the trunk, and rising to an additional elevation of forty feet, so that this stupendous tree was quite a hundred feet high in all. I saw others still larger: but the state of the weather drove us from our position. The leaves, when in a fresh state, are of a deep dark and polished green, nearly resembling those of the Laurel tribe, from ten to sixteen inches long, and two or three inches wide. The specimens sent, will enable you to form a botanical description of the foliage, as the portion of bark will do of that part of the tree; the wood, forming the body of the trunk, is white, very close-grained and hard, resembling the box-wood of Europe. The soil which these trees inhabit is dark and rich, and must be damp or very wet all the year round.

"I have been promised by one of the Indians who accompanied me that he would keep a look out for the fruit of the tree and send me some, when I shall have the satisfaction of forwarding a few specimens to you. But, with regard to the flower, or the flowering season of the tree, I have made enquiries over and over again, from persons who reside in the vicinity of other trees of the kind, in different parts of Venezuela; but they tell me that no one ever saw or heard of the Cow Tree flowering.

The imaginary statement of the tree not flowering may be accounted for by the nature of the blossoms, being in all likelihood small and inconspicuous, as in so many of the Urticeæ, to which Nat. Order it is probably correctly referred: though whether it be a true *Brosimum* as Mr. Don is inclined to suppose, or a new Genus, as Humboldt has suggested, must yet remain a doubt. The leaves are large and handsome, and of a rich and somewhat velvety green hue. The fruit had the outer coat so much broken, that I will not venture to describe what is as faithfully represented as the nature of the specimens would allow. The bark of the larger branches is singularly yellow, as shown in our figure.

PART III.

MISCELLANEOUS INTELLIGENCE.

 QUERIES.

ON FUNGI.—In lately reading one of your Numbers, I find a very praiseworthy and instructive Essay, communicated by "A Botanist," but there is one part of it with which I cannot coincide, namely, that which treats of the lower order of Fungi and Lichens being reproduced by sporules only. The subject, as he says, is involved in mystery, but I think he is explaining this mysterious affair too highly, I, like himself, formerly believed there was no spontaneous production, but that vegetation from the highest order, down to the lowest, was reproduced from seeds or sporules only. About twelve months ago having occasion to look over some apples which had been preserved all winter, I found one amongst them that was decayed on one side, but perfectly whole, that is, the rind was not broken or punctured in any way. I accidentally broke it in two parts, and to my surprise, found growing in the centre, upon the core, a very pretty blue Fungus; this threw immediately a check upon my former belief, I instantly closed it to examine if there was any aperture whereby the sporules might have entered, but nothing of the kind could I see; I further examined it to find any spawn which might have penetrated through its substance, but this was also wanting; I was perfect in my examination, for in breaking it I did not crush it, but broke it clearly into two parts. Now for the question, how came the Fungus there? It must certainly be from spontaneous production, or the sporules must have entered with the farina by the stigma through the style and into the germen when the fruit was in embryo, which, I think, is not at all a plausible way of explaining the mystery. CRYPTAS.

ON PRICED LISTS OF FLOWERS.—You would very much oblige a great admirer of your excellent periodical if you would insert an Essay on the art of propagating plants of all sorts by cuttings. It would embrace the theory of the operation, the modes whether under glass, in pots, or otherwise of effecting it, as well as the best season of the year at which it may be executed on different genera, species, and varieties of plants. We have many essays on the art of grafting, but I know of none in which the art of making cuttings is fully treated.

A list of the best varieties of Florists' Flowers, including Pinks, Wall-flowers, Stocks, Campanulas, Tulips, Anemones, Ranunculas, &c. &c. of good quality, but not so new as to be very expensive, would, if accompanied by a list of prices, be a very nice present for the spring.

I always look to the advertisements in your book with great curiosity, but am sorry to see them so much confined to Dahlias, surely a priced list of the other beauties of the garden, though, perhaps, rather old fashioned, would be acceptable. A. B.

 REMARKS.

LONDON HORTICULTURAL SOCIETY'S EXHIBITION.

The first exhibition of this Society, for this season, took place at their Gardens at Chiswick, May the 18th. The day was beautiful, and the attendance was as numerous and fashionable as it usually is at the corresponding

season of the year. Perhaps the number of persons present was about 3,000. Amongst other individuals of distinction we observed his Royal Highness the Grand Duke of Russia and suite, Prince Meskexikey, the Duke of Cambridge, the Earl of Bradford, the Earl of Lovelace, Earl Talbot, Lord Sondes, Lord Morpeth, the Countess de Salis, the Countess of Lichfield, &c. &c. The show of flowers was very good considering the earliness of the season. The following was the distribution of the prizes:—

PELARGONIUMS.

- Gold Banksian.—Mr. Gaines, Battersea.
 Gold Banksian.—Mr. Cock, Chiswick.
 Large Silver.—Mr. Hunt, gardener to Miss Trail.
 Silver Knightian.—Mr. Pratt, gardener, to Mr. Harrison.
 Large Silver.—Messrs. Colley and Hill.

HERBACEOUS CALCEOLARIAS

- Large Silver.—A. Foster, Esq., Clewer.
 Silver Knightian.—Mr. Catleugh, Sloane-street.
 Silver Banksian.—Mr. Green, gardener to Sir E. Antrobus.

SHRUBBY CALCEOLARIAS.

- Large Silver.—Mr. Green, gardener to Sir E. Antrobus.

LARGE COLLECTION OF STOVE AND GREENHOUSE PLANTS.

- Gold Knightian.—Mr. Green.
 Gold Banksian.—Mrs. Lawson.
 Gold Banksian.—Mr. Redding.

- Large Silver.—Mr. Jackson, nurseryman, Kingston.

SMALL COLLECTION OF STOVE AND GREENHOUSE PLANTS.

- Gold Banksian.—Mr. Bannon, gardener to Sir J. Lloyd.
 Large Silver.—Mr. Pratt, gardener to W. Harrison, Esq.
 Silver Knightian.—Mr. Upright, gardener to C. G. Ridge, Esq.
 Silver Knightian.—Mr. Dawson, gardener to W. Leaf, Esq.

CAPE HEATHS.

- Gold Banksian.—Mr. Barnes, gardener to G. W. Norman, Esq.
 Large Silver.—Mr. Lawrence.

- Large Silver.—Mr. Pratt.

- Gold Banksian.—Mr. Pamplin, nurseryman, Hornsey-road.

- Large Silver.—Mr. Jackson, Kingston.

- Silver Knightian.—Messrs. Rollinson, Tooting.

- Silver Knightian.—Messrs. Fairhairns, Clapham.

CUCUMBERS.

- Silver Banksian.—Mr. Barnes, gardener to Sir H. Jenner.

GRAPES.

- Large Silver.—Mr. Davis, gardener to Sir Simon Clarke.

- Silver Banksian.—Mr. Chapman, Vauxhall.

PINE APPLES.

- Silver Knightian.—Mr. Davis, gardener to Sir S. Clarke.

GREENHOUSE AZALEAS.

- Gold Banksian.—Mr. W. Smith, Norbiton.

- Large Silver.—Mr. Falconer, gardener to A. Palmer, Esq.

MELON SHAPED CACTI.

- Silver Knightian.—Mr. Pratt, gardener to A. Harris, Esq.

TALL CACTI.

- Large Silver.—Mr. Green.

- Silver Knightian.—Mr. Falconer.

ROSES.

- Large Silver.—Messrs. Lane and Co., Berkhamstead.

COLLECTIONS OF ORCHIDACEOUS PLANTS.

- Gold Knightian.—Mr. Mylan, gardener to S. Rucker.

- Large Silver.—Messrs. Rollinson and Co., Tooting.

SINGLE ORCHIDACEOUS PLANTS.

- Large Silver.—Mr. J. Bruce.

- Large Silver.—Messrs. Pince and Co., *Ocidium Pictum*,

- Large Silver.—Messrs. Pince and Co., *Cephalotus follicularis*.
 Large Silver.—Messrs. Pince and Co., *Erica Elegans*.
 Large Silver.—Messrs. Vetch, *Chorizema Varium*.
 Silver Knightian.—Messrs. Rollinson, *Oncidium divaricatum*.
 Silver Banksian.—Ditto Ditto, *Cattleya forbesii*.
 Silver Knightian.—Mr. Dunsford, *Doryanthes excelsa*.
 Silver Banksian.—Mr. Pratt, *Rhododendron* species.
 Silver Knightian.—Mr. Lane, *Azalea Indica Variegata*.
 Silver Knightian.—Mr. Douglas, *Zetopia Specissima*.
 Silver Banksian 1.—Mr. G. Mills, *Clematis Sieboldi*.
 Silver Banksian 2.—Mr. G. Mills, *Auzurea grandiflora*.
 Silver Banksian 3.—Mr. G. Mills, *Fuchsia fulgens*.
 Silver Banksian.—Mr. Redding, *Tropæolum tricolorum*.
 Silver Knightian.—Mr. Lane, Seedling *Amaryllis*.
 Silver Knightian.—Mr. Mills, *Hydrangeas*.
 Silver Banksian.—Mr. Henderson, *Cineraris*.
 Silver Knightian.—Mrs. Lawrence, *Thunbergia Newtoniana*.
 Silver Knightian.—Messrs. Vetch, *Azalea Indica Plena Rubra*.
 Silver Banksian.—Mr. Lane, *Laleritia*.
 Silver Banksian.—Mr. Halley, *Pœnia Arborea Victoria*.
 Silver Banksian.—Messrs. Pince and Co., *Rhododendron Victoria*.

The show of greenhouse and other rare plants were very numerous and especially fine; there were many specimens exhibiting very considerable skill in their culture, and reflected great credit on the parties who superintended their management. The plants very far exceeded all that we ever saw at any exhibition in the country, and were well worth the coming a few hundred miles to see.

We had not time to take down the names of every specimen, as the pressure of spectators was generally so great, as to preclude our standing long enough to enable us to do it, but among the many novelties and beauties, we noted down the following:—

Pelargoniums—The entire lot exhibited were of superior growth, each person exhibited twelve plants, and duly to appreciate the excellence of the specimens can only be done by seeing them. The winning specimens were fine in the extreme. They were plants struck in the autumn 1837, and now formed bushes about two foot and a half high, and three in diameter over the heads clothed in most vigorous foliage quite down to the edge of the pot on every side, so that not a stem could be seen, and these well-grown plants were profusely clothed with flowers of extraordinary size and beauty. The method of management we will give in a subsequent number.

The first twelve we noticed was that of Mr. Gaines of Battersea, who had the gold medal awarded for them, and to which he was justly entitled. They consisted of the following kinds. Criterion, Gaines's King, Gaines's Conqueror, Magnet, Pictum, Gauntlett, Lady Dillon, Dennis's Perfection, Lord Byron, Lady Denbigh, and Duchess of Roxburgh.

Those of Messrs. Colley and Hill, were the following;—Niadem, Louis Phillippe, Climax, Duchess of Sutherland, Pictum, Hericartianum, Maid of Athens, Fosteri Rosea, Gem, Beauty of Ware, Dennis's Perfection, Lady Mary.

There were fine specimens of the following new or rare plants, viz.

- Indian Azaleas.—Smith's Triumphans, fine rose, upper part crimson and spotted, fine formed flower.
 Ditto. Smith's Grandiflora novæ, rosy purple, a very large flower.
 Ditto. Smith's Bella, fine pink.
 Ditto. Smith's Coccinea superba, scarlet, upper part tinged with purple, fine flower.
 Ditto. Smith's Seedling, very fine purple and pink.

- Ditto. *Speciosissima*, rosy-crimson, slightly spotted, plant eight feet high, in profuse bloom.
- Ditto. *Speciosa*, pink.
- Ditto. *Rubra plena*, a double flower of a fine light-red colour, from Mr. Veitch, Exeter.
- Ditto. *Purpurea splendens*, a fine bright purple flower, from A. Palmer, Esq., a very striking variety.
- Ditto. *Monstrosum*, (Smith's) lilac tinged with purple, a very large flower.
- Azalea rubra*. A plant in profuse bloom, twelve feet high.
- Ditto *variegata*. Centre of flower flesh colour, with an edge of white, by J. H. Palmer, Esq.
- Ditto *sinensis*. A plant six feet high, clothed with its deep golden yellow flowers, by Mr. A. Stewart, Salthill.
- Rhododendron hyacinthiflora*. Purple flower nearly double.
- Ditto. *Multi-maculata*, (Smith's) white, upper petals, slightly tinged with blush, and spotted with dark brown.
- Thunbergia Hawthoneyana*. Blue, having a white centre, with the throat streaked with yellow.
- Lobelia ramosa*. Four feet high, with numerous branches in profuse bloom, deep blue flowers, yellow spot at centre, about one inch across.
- Lophospernum rosemarinifolia*. With narrow leaves and fine rose-coloured flowers.
- Chorizema spartoides*. With narrow leaves, but not yet bloomed.
- Pimelea incana*. The foliage has a silvery appearance, being densely clothed with hair. The flowers are terminal heads, white.

PELARGONIUMS.—Descriptions of the most superior kinds of Pelargoniums now in cultivation, as recently seen in the metropolitan nurseries:

- Phosphorus, rosy purple, round and large petals.
- Louis d'elyte, fine large rose, large dark spot on upper petal.
- Louis Quartoize, white, with very large dark crimson purple spot, very superior.
- King, (Gaines's) very beautiful rosy crimson, lighter towards the centre, the form of the flower is very perfect and large.
- Lady Dillon, upper petals rose, lower lilac, large flower.
- Bellissima, white, with large dark crimson spot, no streaks upon the flower.
- Duchess of Roxborough, very fine rose, with large dark spot, a large and superior flower.
- Fosterii Rosea, with large dark spot, a large flower of very fine form.
- Fannus, lower petals a rosy pink, upper ones crimson with dark spot, a fine flower.
- Sir John Sebright, lilac, with very large dark crimson velvet spot, a fine flower.
- Chef d'œuvre, white with large reddish spot.
- Bleda, fine rosy crimson, with large crimson spot, large flower.
- Perfection, (Garth's,) lower petals, flesh colour, upper ones rose with dark spot, a fine formed large flower.
- Touchstone, fine scarlet, about the size and form of the well known Daveyanum.
- Rose Eclatante, lower petals rosy purple, upper ones, rosy crimson, with a large dark spot.
- Mrs. Norcliffe, white, with large dark crimson spot.
- Gauntlett, lower petals light crimson, upper ones fine scarlet crimson, a large flower.
- Criterion, white, with large dark spot, fine flower.
- Lord Byron, rosy purple, with large dark spot, very fine formed flower.
- Pictum, white, large spot, and upper petals streaked.
- Aletia, white, tinged with blush, rosy crimson spot.
- Colossus, lower petals rose, upper ones crimson with dark spot, good formed flower.

Climax, lower petals rose, upper ones bright rose with dark spot.
 Conqueror, rosy purple with large dark spot, large and fine flower.
 Maid of Athens, lower petals pink, upper ones fine rose with large dark spot.

(To be continued.)

REFERENCE TO PLATE.

HOVEA FUNGENS.—This very beautiful flowering species we saw in bloom at Messrs. Rollisson's of Tooting, and they have informed us it had been received by them from Baron Hagel of Vienna. It is a native of South Australia, and is a most charming addition to our greenhouse plants. All the species delight in a very free drainage, light and airy situation, and to be grown in a compost of loam and sandy peat. The present species appears to be of a more bushy habit than any other of its family, but blooming so profusely, renders it very showy.

CONVOLVULUS PENTANTHUS.—This is a peculiarly neat and pretty flowering climber, we saw it in profuse bloom at Mr. Groom's, in his plant stove, and at the Hammersmith Nursery, in the plant stove. It appears, however, that it would do well in a greenhouse or conservatory during summer, but of course would bloom a little later than in the stove. The plant grows very rapid and blooms for several months very profusely. We procured a number of plants a few weeks back, and found it flourish with the greenhouse, treatment so far.

AMPHICOME ARGUTA.—We procured several of this very handsome flowering plant some time back, and consider it one of the best additions in new plants that have recently been introduced. Seeds of it were sent by Dr. Royle to the London Hort. Society, they had been collected on the Himalayah mountains. The plant has been distributed extensively by the Society. The plant is of a very pretty habit in its growth and foliage, and blooms very freely. It has been usually grown, since its introduction, in the greenhouse, but it is considered to be hardy, growing near a yard high, and blooming freely in the open ground during summer. The plant is an herbaceous perennial, and deserves a place in every greenhouse or flower border.

CHORIZEMA RUSCIFOLIA.—This very pretty flowering species has recently been introduced into this country by Mr. Groom, of Walworth. We saw it in bloom this spring; it is a very pretty species, and well deserves a place in every collection. In habit and flower it approaches nearest to *Chorizema Dickinsonii*; it is of a dwarfish habit, and blooms at the extremity of every strong shoot.

RHODODENDRON OSBORNII.—This very fine flowering Rhododendron has been raised in the nursery of Messrs. Osborn & Co., Fulham, near London. We saw its splendid bloom in May, and consider it very far to exceed all others of its class in this country. It deserves to be in every collection, but we suppose it will not be sent out before the next season. When ready for sale, it will be announced.

FLORICULTURAL CALENDAR FOR JUNE.

Take up the remaining tuberous root, such as *Anemone* and *Ranunculus* finishing by the end of the first week; fill up their places and any vacancies that have occurred, with annuals from the reserve ground. Propagate herbaceous and other plants that have gone out of flower, by means of cuttings and slips; also roses and American shrubs, by laying, budding, or cuttings.

Ipomoea purpurea



Ipomoea pentanthera

Ipomoea pes-caprae

Ipomoea pes-caprae







THE
FLORICULTURAL CABINET,

AUGUST 1st, 1839.

PART I.
ORIGINAL COMMUNICATIONS.

ARTICLE I.

ON THE PLEASURE AND PROFIT ARISING FROM CULTIVATING
PLANTS AND FLOWERS.

BY MR. W. WOODMANSEY, HARPHAM, NEAR BRIDLINGTON, YORKSHIRE.

IT was a saying of the celebrated STERNE, "that most people have their hobby-horses;" the literal meaning of which I take to be, that most people have their favorite pursuits, or amusements; and so long as these pursuits or amusements, are compatible with our duty to God as Christians, and militate not against the welfare of our fellow men; so far are they innocent, rational, and profitable. Among all the various amusements which this fascinating world holds out, I think none is more innocent, more rational, or more profitable, than the cultivation of flowers: those beautiful gems with which our divine Creator has studded our meadows, and kindly furnished to beautify our gardens; whose brilliant colors vie with the rainbow, and infinitely surpass the most costly tints, and whose balmy fragrance scents the surrounding atmosphere with perfumes more agreeable than the spices of Arabia! Who can behold their exquisite symmetry? Who can admire their diversified yet splendid colors? Or, who can feast his senses on the aromatic sweets which emanate from their beautiful blooms, without feeling a sort of sacred pleasure stealing imperceptibly into his very soul, and leading its finest feelings willing captives to their inimitable charms?

It is said, and very truly too, that the study of Astronomy, that sublime science, which teaches the various revolutions of those

spheres which nightly bespangle the nocturnal heavens, is admirably calculated to lead the mind from Nature up to Nature's God. And if the contemplation of those luminaries, placed as they are at such immeasurable distances; and which can act only upon the ocular nerves, has this tendency; how much more ought the beauties of Flora, producing as they do, a threefold evidence on the senses? Yes—

The blushing tint, the crimson streak,
The powers of heavenly wisdom speak;
And all their balmy fragrance join,
To show their Author is divine.

In fact, there is not a blade of grass, or a wild flower that decks our lawns; but which is replete with instruction, and shows forth the handy-work of the great and glorious Creator of the Universe.

“Not a tree,
A plant, a leaf, a blossom, but contains
A folio volume. We may read, and read,
And read again, and still find something new—
Something to please, and something to instruct
E'en in the noisome weed.”—HURDIS.

Solomon, the wisest man, was a great admirer of the beauties of the floral kingdom. And our blessed Redeemer expressly commands us to “Consider the lilies of the field;” and if, with an example like that of Solomon before us; and after receiving a command from our Saviour himself, we can still remain insensible to their charms—still refuse to contemplate their inimitable beauties, we must lack much of that spirit of refinement which purifies the grossness of depraved human nature, and makes man fit for the society of Heaven.

“The men
Whom nature's works can charm, with God himself
Hold converse: grow familiar day by day,
With his conceptions; act upon his plan;
And form to his, the relish of their souls.”—AKENSIDE.

Among all the productions of the vegetable kingdom, there is not a single individual, but which has its uses; even those very tribes which daily remind us of man's awful fall, and the curse

pronounced upon the earth for his sake; have in them properties of peculiar usefulness, and prove beneficial to the wants of man.—God hath made nothing in vain!—some are for use, others for ornament, and not a few, perhaps all, are possessed of medicinal properties. Properties! without which, life itself would be a burden; and which, if utterly deprived of, it would be utterly impossible for man to exist.

Since then, there is such innocent amusement, such rational pleasure, and such mental improvement in the cultivation of plants, and flowers: and since it is so well calculated to enhance our spiritual interests; and render us more fitting for the society of beings of a higher order than ourselves, and especially for the society of our divine Maker. Let me, for one, disdain more ignoble and trifling pursuits. Let me fly from the deluded votaries of mere sensual gratifications, and in

“ The calm retreat!
 (Far from the noisy haunts of sordid men,)
 Where Flora trains her lovely offspring up,
 To captivate and charm! there let me muse!
 Surrounded by her rich and dazzling train,
 Till lost in ecstasy, my soul takes wing;
 And soars from nature up to nature's God!
 There may I lie, wrapped in the flowery vest
 Of silent rapture, till my soul breaks forth,
 And in the language of the immortal bard,
 Who sung the fatal fall—transported cries,
 ‘These are thy glorious works, Parent of good!
 To us invisible, or dimly seen
 In there thy lowest works; yet these declare
 Thy goodness beyond thought, and power divine!’ ”

July, 1839.

ARTICLE II.

REMARKS ON THE CYPRESS.

(Continued from page 154.)

THE ancients, who had great faith in balsamic scents, supposed therefore that the cypress improved the air by its transpiration; and on which account, the eastern physicians sent all those who had pulmonic disorders to the Isle of Candia, where these trees

abound; and we are assured, that the aromatic smell of this ever-green was found to be a specific for the lungs.

It is clearly ascertained, that trees correct a putrid bad air. It should, therefore, be our study to find out those that do it most powerfully; and having ourselves so often been revived and refreshed by the natural perfumes of the garden and fields, we deem it worthy the labours of medical students, to learn how far aromatic and balsamic scents may be good for those who are troubled with weak lungs.

By whom the cypress tree was first introduced to England, and at what exact period, we are not able to learn; but it is probable, that we are indebted for this celebrated tree to some pious abbeſs or holy fathers of Sion Monastery, near Brentford, which is now become Northumberland's ducal palace; as Dr. Turner tells us, in his Herbal of 1568, "it groweth right plenteously in the gardine of Sion." Gerard notices, in 1597, "that it groweth likewise in diuers places of Englande, where it hath beene planted, as at Sion, a place near London, sometime a house of nunnes; it groweth also at Greenwich, and at other places; and likewise at Hampsteed, in the garden of Master Waide, one of the clarkes of hir maiesties privy-counsell."

Evelyn says, in 1664, "the cypress tree was, but within a few years past, reputed so tender and nice a plant, that it was cultivated with the greatest care, and to be found only amongst the curious;" whereas we see it now in every garden, rising to as goodly a bulk and stature as most which you shall find even in Italy itself. For such I remember to have once seen in his late Majesty's gardens at Theobalds, before that princely seat was demolished. The author of the Sylva strongly recommends the planting of this tree in England; and of its hardiness he says, "the March and April winds (in years 1663 and 1665), accompanied with cruel frosts and cold blasts, for the space of more than two months, night and day, did not, amongst near a thousand cypresses growing in my garden, kill above three or four, which, for being very late cut to the quick, (that is, the latter end of October), were raw of their wounds, took cold, and gangreened." From this and other recommendations of Evelyn, we presume it became fashionable to cultivate the cypress, for in 1706, when London and Wise published "The Retired Gardener," they say, "cypress was formerly more in fashion than 'tis now; for we see in some places whole alleys of it; but these trees being apt to take

but one sort of figure, which is that of a pyramid, and the yew tree and pieca being more proper for the variety of forms of which they are susceptible, to adorn gardens, cypress has lately been neglected, and the other two trees been more planted." Thus it is evident that the cypress was driven out of the garden by the shears, whose business it was to disfigure nature, by transforming evergreens into urns, sugar loaves, extinguishers, and a thousand other whimsical devices, as suited the taste of the owner, or the ability of their gardeners, who have not been improperly called evergreen tailors. But the cypress may now safely return to its station in our plantations, since the shears have left the grove, and are now as busily employed in disfiguring the human shape, as they were formerly in mutilating vegetable beauties.

There is no part of ornamental planting more difficult than the distribution of evergreen trees, which are either the most permanent beauties of the grove, or the most gloomy features, accordingly as they are dispersed. A plantation composed entirely of trees that are not deciduous, has an aspect so sombre, that the name of nevergreen may be more properly applied to them than that of evergreen; yet they cheer our winter scenes most beautifully when happily blended with those deciduous trees, whose colour and character assimilate best with them. But we are not admirers of that regularity and uniformity so often offensive to the eye in large plantations, where there is no deviation from the fir and the larch, unless where death has made a gap, when you are treated with a larch and fir through hill and dale to the end of the plantation.

The cypress seems admirably adapted to ornament those lawns which surround villas or lodges built in the Grecian style, and perhaps we have no tree that accords so well with stone or stuccoed edifices as the cypress; and even the temples of marble lose half their effect if surrounded by other buildings instead of being relieved by the foliage of trees. At the present time, the burial hill of Pere-la-chaise, near Paris, forms a most interesting picture, as the numerous and various formed monuments rise above the young arbores vitæ and cypresses, like a city of marble emerging from a forest, and from which, a friend observes, we may form a faint picture of the beautiful appearance of Constantinople from the Bosphorus; the hills on which that city stands being intermixed with white buildings and green foliage, which forms a spectacle not equalled in any other part of Europe.

We have two varieties of the common cypress, *sempervirens* the upright and the spreading, which the ancients distinguished as male and female trees; but the botanist will know by the class in which these trees are placed, that they are androgynous plants, viz. having male and female flowers on the same root. It appears that the ancients did not consider the seed of a tree to be a fruit, unless it was eatable; for Phocion, who was so celebrated in Athens for his private and public virtues, remarked to a young man who spoke with more vanity than good sense, "Young man, thy discourse resembles the cypress; it is large and lofty, and bears no fruit." What would this Athenian, whose virtues were as incorruptible as the cypress itself, say to some of our modern speeches and publications?

When we plant the cypress in the shrubbery, it should be correctly ascertained if it is the spiral or the spreading variety; for the former requires but a small space, and should be placed behind those flowering shrubs whose extending branches require such an addition: whilst the spreading cypress may wave its mournful branches over the daisy-pied lawn, or form a foreground to the pointed poplar. But it requires considerable ingenuity to place the cypress happily in our plantations; for in most situations its dark and slender head adds a gloom rather than cheerfulness to the scene, particularly in autumnal evenings; when either the sun leaves its last streak, or the rising moon sends a silvery stream of light down the dark foliage, which gives additional sombre to the shade, and a spectre-like appearance to the imagination of the gloomy mind.

The spreading cypress is by far the largest growing tree, and is the most common timber in some parts of the Levant. This, if planted upon a warm, sandy, gravelly soil, will prosper wonderfully; and though the plants of this sort are not so finely shaped as those of the first, yet they greatly recompense for that defect by their vigorous growth and strength, in resisting all weathers. This tree is very proper to intermix with evergreens of a second size next to pines and firs, to form clumps, in which class it will keep pace with the trees of the same line, and be very handsome. Besides, the wood of this tree is very valuable, when grown to a size fit for planks, which I am convinced it will do in as short a space as oaks; therefore, why should not this be cultivated for that purpose, since there are many places in England where the soil is of a sandy or gravelly nature, and seldom

produce any thing worthy cultivating? Now, in such places, these trees will thrive wonderfully, and greatly add to the pleasure of the owner while growing, and afterwards render as much profit to his successors, as perhaps the best plantation of oaks.”

Pliny tells us, that in Italy it was considered amongst their most profitable plantations, and was generally cut for poles once in every thirteen years, and that this fall was called *dos filiæ*, because the profit was reckoned a sufficient marriage portion for a daughter.

This timber is reckoned amongst the sonorous woods; it is therefore used for harps, violins, and other musical instruments, and it is said that no wood is better calculated to resist the ravages of the worm, &c.

The deciduous cypress tree, *cupressus disticha*, is a native of North America, and it appears to have been introduced to this country by Mr. John Tradescant, of South Lambeth, where it was planted prior to 1640. We have now two varieties of this species of cypress.

Cupressus lusitanica, commonly called the cedar of Goa, from whence it was first brought to Portugal, and is therefore named the Portugal cypress. We learn from Mr. Ray's letters, that this species of cypress was cultivated in England as early as 1683, but it is not considered so hardy as the common cypress, and is therefore less planted; formerly there were some of these trees growing in the Bishop of London's garden, at Fulham, and there was a fine tree of this species in the gardens of the Duke of Richmond, at Goodwood, near Chichester, which was killed by the frost in 1740.

The arborvitæ leaved cypress, or white cedar, *cupressus thyoides* is a native of North America, and Peter Collinson, Esq. had the honour of giving it British soil in 1736. This species grows naturally in China and Cochin-China; it loves a strong moist soil, and abounds in the swamps of New Jersey, and some parts of Pennsylvania and New York.

BY AN HORTICULTURIST.

ARTICLE III.

ON THE CULTIVATION OF ERICAS.

(Continued from page 132.)

It is long been an opinion, that the *Epacris*, *Helichrysum*, and some other similar plants of the genera, enumerated at the commencement of this article, should not be taken out of the Greenhouse during summer, as the majority of plants are. This opinion is strengthened, by the success I have experienced, in a collection of about three hundred species of the best sorts, so managed under my own immediate charge, and much more so by observing the practice of those French and German cultivators who follow a similar plan, as well as that of the superior management of these plants in the Edinburgh botanical garden, where specimens are to be seen grown in tubs, from three to four feet in diameter, and the plants from eight to twelve feet in height. No cultivator has been so successful in this department as Mr. M'Nab, the intelligent curator of that garden, from whose valuable treatise on the subject we take the following quotation. "When I mention the treatment of heaths when in the house," he says, "I must let it be understood that if I had sufficient accommodation under glass, I never would take heaths out of doors, unless it were for the purpose of shifting, or taking them from one house to another. My practice would be to keep them in the house all summer, giving them plenty of air, and to keep them cool during winter. I know it is the common practice to turn heaths out of doors for four or five months in summer and autumn, and it is also a pretty general opinion that by doing so it makes them hardier, and enables them to stand the winter better than they would do if kept within doors during summer. From this opinion I must take the liberty of differing, as I know of no species of heath that will not bear as much cold in winter, without suffering from it if kept in the house during summer, as they do when turned out of doors, and many of them, (perhaps all), I know, will bear more cold in the winter. For, by the latter practice, the young wood gets better ripened, and better able to resist cold in winter." The same excellent authority, in speaking of plants in general, recommends, where there is sufficient accommodation, to keep all plants under glass during summer, and, in such cases, to allow them plenty of room, "for unless they are placed quite

separate, "he observes," from each other, so that a free circulation can pass among them, they will suffer much more when crowded in the house in the summer, than they will do in the same situation during the winter, for in winter they are in a more dormant state, and not growing with the same vigour. I would however advise every one to keep as many of their best specimens and best kinds within doors during summer as they can, without having them crowded together. I cannot give better directions than to say, that one should not touch the other when in the house in summer, and if the nearest part of one to the other is two or three inches apart, so much the better. The house, however, should be ventilated at all times, and, except in cases of high wind or heavy rain, both top and front lights should be kept open night and day; and besides watering the earth in the pots freely when they require it, they should be well watered over-head with the garden engine every day; and if the weather is hot and dry, this operation should be performed twice every day, namely, both morning and evening."

There is one branch of culture in which I differ from the talented writer above quoted; he recommends a partial degree of shade during the hottest days of summer. In this particular the Messrs. Loddiges agree with me as do most of the continental cultivators. This however, may be less important in the latitude of Edinburgh than in that of London, and is certainly much less so there, than in most parts of France, or the south of Germany, and for that reason it may not be noticed in the excellent directions laid down by Mr. M'Nab. Messrs. Loddiges follow the continental fashion of shading by means of long slender branches of birch or other deciduous trees, which are laid over the roof of the house, breaking the full force of the sun's rays, while at the same time air is not much obstructed. My practice is to shade by spreading netting over the roof, and latterly by having a fine thin canvass awning, mounted on rollers, on the top of the house, which is let down or taken up at pleasure.

Air cannot be too freely admitted to heaths, and indeed, to all similar plants, and to effect this the upright lights may be left open altogether, until the the thermometer, in the open air, falls to two or three degrees below the freezing point; indeed, we have even had the mould in the pots frozen pretty hard without the application of fire heat. If the house be pretty air-tight and dry, fire heat will seldom be required; for we find by Mr. M'Nab, (*Treatise*, p. 31.)

that he has had no accident in this respect when the thermometer out of doors indicated sixteen degrees of frost. The following quotation on this subject of temperature is so excellent that we are induced to give it at length.

“I have had all the heaths in the house frozen for days together, so hard that the pots could not be removed from their places without breaking them, and fresh air constantly admitted at the time, and I have never seen one of them suffer in the smallest degree from it; but, on the contrary, found them thrive better than under any other treatment.

“I have several times had the heath house in winter without fire heat, when the thermometer out of doors stood at sixteen degrees below freezing. But in these cases the house was always shut close, and I have never seen the heaths suffer from this cold. I would not, however, advise any person to risk his heaths in such a temperature until he had himself tried some experiments on the degree of cold which they will bear, and from that he will learn more than he could from volumes written on the subject; a very little observation will soon convince him that his heaths require but little fire heat during winter. I have already said that heaths suffer from too much artificial heat; and all that I have read on their cultivation seems to concur in this particular; but I am not aware that any one has pointed out what degree of heat or cold is injurious; and, indeed, I have only been able to ascertain this myself, to a very limited extent. The time, however, when these plants suffer most from heat is, when a sharp frost sets in, and no heat is applied till after the frost has taken effect in the inside of the house; then a fire is put on, and the frost is driven out. It is better, no doubt, in such a case, to keep out the thief if you can, but if once let in, keep him in, and never attempt to force him out. I know that heaths in the open air will not suffer when the thermometer stands four or five degrees below freezing; and we know also, that heaths, in the house in winter will bear the same degree of cold with impunity. Now suppose the thermometer out of doors to fall to twelve or fourteen degrees below freezing, and no heat in the heath house; the thermometer in the inside may then be four or five degrees below freezing.

(To be continued.)

ARTICLE IV.

ON THE CULTURE OF LILIUM JAPONICUM, &c.

BY W. GRIFFITH, ESQ., BAYSWATER.

I AM of opinion that with many plants they only display properties and beauties in proportion to the care bestowed in their cultivation, and this principle is of very extensive application. The Hydrangea, for instance, as it is seen in common-place culture is scarcely deserving of notice, but place it under favourable circumstances, and it becomes not only interesting, but even to a degree, beautiful.

I recently saw a number of plants at Gusmenbury Park, in so vigorous and healthy a state that I was quite struck with their beauty, among them was an equal proportion of fine blue and rose coloured heads more than a foot in diameter. The same might be said of many other old inhabitants of our gardens and greenhouses, who, with every particular of beauty and elegance to recommend them, have been suffered to dwindle away, merely to allay a thirst for novelty; I do not condemn the introduction of new plants, on the contrary, I would encourage it to the utmost, but I certainly do think that the indifference with which many plants are passed over merely because they are "old," is very much to be regretted.

It is my intention to describe the mode of culture by means of which I have grown the *Lilium Japonicum* L. *longiflorum* to a state of great beauty. The mode of culture I pursue, is, when the leaves and seed (if any) are fully matured, water is gradually withheld till the plants are brought to a state of perfect rest; this rest is indispensable in the cultivation of all bulbous rooted plants, as it tends to strengthen those properties which are to form the attractive beauties of the plant the succeeding season. The bulbs being thus matured are placed in pots in a cool dry situation beyond the reach of frost, where they remain till the middle of January. They are then brought into the greenhouse, and moderately supplied with water for a fortnight. By that time they are in a fit state to be re-potted, which is done in the following manner. The bulbs are taken out of the pots, and the dry mould and offsets carefully removed. They are then re-potted according to their size, the largest in pots six or eight inches in diameter. The soil I use is about half turfy peat, a quarter of sandy peat,

and a quarter of well-rotted cow-dung, not sifted but broken with a spade. After potting they are removed to the greenhouse; when water is supplied moderately till they begin to vegetate, it is then gradually increased at discretion.

By this mode of treatment, I have had flower stems five feet high, and in one pot as many as twenty flowers; their large pure white and lovely blossoms, so delightfully fragrant, amply repaid me for my trouble. The plants are well deserving a place in every greenhouse, being easy of culture and so strikingly and delicately beautiful.

ARTICLE V.

ON CHINESE GARDENS.

(Continued from page 158.)

SOME of these are very small, sufficient only to contain one or two weeping willows, birch, larch, laburnam, or some other pendant plants, whose branches hang over the water; but others are large, highly cultivated, and enriched with lawns, shrubberies, thickets, and buildings: or they are rugged, mountainous, and surrounded with rocks and shoals; being covered with fern, high grass, and some straggling large trees, planted in the valleys: amongst which are often seen stalking along the elephant, the tin-hyung or man bear, the rhinoceros, the dromedary, the ostrich, and the sin-sin or black giant baboon.

There are other islands, raised to a considerable height, by a succession of terraces, communicating with each other by various flights of magnificent steps. At the angles of all these terraces, as well as upon the sides of the steps, are placed many brazen tripods, that smoke with incense; and upon the uppermost platform is generally erected a lofty tower for astronomical observations; an elegant temple, filled with idols; the colossal statute of a god; or some other considerable work: serving, at the same time, as an ornament to the Garden, and as an object to the whole country.

They also introduce in their lakes large artificial rocks, built of a particular fine coloured stone, found on the sea-coasts of China, and designed with much taste. These are pierced with many openings, through which you discover distant prospects: they have in them caverns for the reception of tortoises, crocodiles, enormous water-serpents, and other monsters; with cages for rare

aquatic birds ; and grottos, divided into many shining apartments, adorned with marine productions, and gems of various sorts. They plant upon these rocks all kinds of grass, creepers and shrubs, which thrive in such situations, as moss, ground-ivy, fern, stone-crop, common house-leek, and various other sorts of the sedum, crane's-bill, dwarf box, rock roses, and broom ; with some trees rooted into the crevices : and they place on their summits, hermitages and idol temples, to which you ascend, by many rugged, winding steps, cut in the rock.

But far the most extraordinary, as well as the most pleasing of their aquatic constructions, are the Hoi-ta, or submerged habitations, consisting of many galleries, cabinets, and spacious halls, built entirely under water ; their walls are decorated with beautiful shells, corals, and sea-plants of all sorts, formed into many singular shapes, and sunk into various irregular recesses ; in which are placed, in due order, Fung-shang, God of the Winds ; Bong-hoy, Monarch of the Sea ; Shu-Kong, King of the Waters ; with all the inferior powers of the deep. The pavements are laid in compartments of jasper, agat, and madrepores of Hay-nang, of the many extraordinary kinds : the ceilings are entirely of glass, which admits the light through the medium of the water, that rises several feet above the summits of these structures ; the glass is of various bright colours, very strong ; and the different pieces, artfully joined, to resist the pressure of the fluid with which they are loaded. The use of these habitations, is the same as that of Miao-ting, before described : they are resorted to, in very hot weather, to feast and enjoy ; and it is singularly entertaining, in the intervals of pleasure, to observe, through the crystal ceilings, the agitation of the waters, the passage of vessels, and sports of the fowl and fishes, that swim over the spectator's heads.

On the borders of their lakes are seen extensive porticoes, and many detached buildings, of different forms and dimensions, accompanied with plantations, sea-ports with fleets of vessels lying before them, forts with flags flying, and batteries of cannon : also, thickets of flowering shrubs, meadows covered with cattle, corn lands, cotton and sugar plantations, orchards of various fruit-trees, and rice grounds, which project into the lakes ; leaving, in the midst of them, passages for boats : and, in some places, the borders consist of lofty woods, with creeks or rivers for the admission of vessels, whose banks are covered with high grass, reeds, and wild spreading trees, forming close gloomy harbours, under, which

the vessels pass. From these arbours are cut many vistas through the woods, to distant prospects of towns, bridges, temples, and various other objects, which successively strike the eye, and fill the mind with expectation; when suddenly a farther progress is rendered impracticable by rocks, strong branches, and whole trees lying across the channel; between which the river is still seen to continue, with many islands; whereon, and also in the water appear the remains of antient structures, monumental inscriptions, and fragments of sculpture: which serve to give an edge to curiosity, and to render the disappointment more affecting.

Sometimes too, instead of being intercepted in your passage, the vessel, together with the whole river, are, by the impetuosity and particular direction of the current, hurried into dark caverns, overhung with woods: whence after having been furiously impelled for some time, you are again discharged into day-light, upon lakes encompassed with high hanging woods, rich prospects on mountains, and stately temples, dedicated to Tien-ho, and the celestial spirits.

Upon their lakes, the Chinese frequently exhibit sea-fights, processions, and ship-races; also fire-works and illuminations: in the two last of which they are more splendid, and more expert than the Europeans. On some occasions too, not only the lakes and rivers, but all the pavilions, and every part of their Gardens, are illuminated by an incredible number of beautiful lanterns, of a thousand different shapes, intermixed with lampions, torches, fire-pots, and sky-rockets; than which a more magnificent sight cannot be seen. Even the Girandola, and illumination of St. Peter's of the Vatican, though far the most splendid exhibitions of that sort in Europe, are trifles, when compared to these of China.

At the feast of Lanterns, in particular, all China is illuminated, during three days: it seems as if the whole empire were on fire; every person lights up a number of painted lanterns, of various beautiful forms; sometimes of horn, glass, or mother of pearl, but most commonly framed of wood, carved, varnished and gilt, upon which is strained thin silk, painted with flowers, birds and human figures, that receive an uncommon brilliancy from the number of lights within: some there are likewise made like our magic lanterns, representing, by coloured shadows, ships sailing, armies marching, horses galloping, and birds flying, : others are full of puppets, representing mountebanks, buffoons, boxers, wrestlers and dancers

which are moved by imperceptible threads, the actions being accompanied by the voice of the operator, modified in different manners; all so conformable to the size and gestures of the figures, that they seem really to speak.

There are likewise lanterns made in the form of tigers, dromedaries, and dragons of an enormous size; which are painted in transparency, and filled with lights: these are moved about the streets by men concealed within them, who artfully give to the machine every motion of the animal it represents; others there are seen floating upon the lakes and rivers, built like boats and vessels of various kinds, or shaped like dolphins, alligators and porpuses, that swim and curvet upon the water; others again that resemble birds fluttering amongst trees, or perched on the summits of the houses, on all parts of their temples, triumphal arches, and public structures of different kinds: in short, there is scarcely any form that can be imagined, which is not given to some of these lanterns; all executed with the greatest taste and neatness, often at a very considerable expence; some even to the amount of a thousand tael, or near three hundred and fifty pounds.

It is likewise upon this festival that the most splendid of their fire-works are exhibited; it would be tedious to describe them particularly, as they resemble, in many things, our European ones; but what is related on that head, by one of the missionaries, is curious, and may here be inserted, to give the reader an idea of Chinese skill, in works of this sort.

“I was extremely surprized,” says the father, “at a fire-work which I saw at Pe-king, representing an arbor of vines; it burnt for a considerable time, without consuming; the grapes were red, the leaves green, and the color of the stem and branches variegated, in imitation of nature; all the forms were represented with the utmost precision, in fires of different colors; the whole was executed with amazing art, and had the most pleasing effect imaginable.”

Their rivers are seldom straight, but winding, and broken into many irregular points; sometimes they are narrow, noisy and rapid; at other times deep, broad and slow. Their banks are variegated, in imitation of nature; being in some places bare and gravelly, in others, covered with woods quite to the waters edge; now flat and adorned with flowers and shrubs, then steep, rocky, and forming deep winding caverns, where pigeons of the wood, and water-fowl build their nests.

(To be Continued.)

REVIEW.

The Amateur Florist's Assistant in the selection and cultivation of Popular Annuals; to which is added a descriptive catalogue of the more interesting tender Perennials used in decorating the Parterre, and a copious list of European Ornamental Alpine Plants.—By GEORGE WILLMOTT, 12mo., p.p. 76.

(Continued from page 160.)

“Next to slugs, ear-wigs are usually the most pestiferous annoyance the flower-grower has to encounter; their ravages, however, are more confined to certain plants, and are experienced at a more advanced period of the season—generally when the plants are in flower, or nearly so. The best means of getting quit of them is to lay a few short reeds, pieces of rolled paper, &c. about the plants, in which they will take shelter during the night, and from whence they may be blown or shaken in a vessel of water in the morning.

The wire-worm is also very destructive to certain kind of Annuals, particularly French Marigolds, Stocks, China Asters, &c., and attacks them from the period of germination almost to the time of flowering. The hard skin by which this enemy is covered effectually protects it from injury by any application that will not prove injurious to the plant; therefore, the only means to entrap it is to supply it with more agreeable food, such as pieces of potatoe, carrots, &c., which may be sunk in the earth around it, near the plants, marking the place, so that it may be withdrawn and the worms picked out daily until extirpated. They are most prevalent in soils recently brought under cultivation, as old pastures, &c.; therefore, care should always be taken that they be not introduced among borrowed earth from such places.

The management of hardy annuals, after briarding, consists in thinning them out to proper distances, varying from two to six inches, or more, according to the sizes and habit of the plant; removing any decayed leaves or weeds, and supporting the weaker sorts by carefully tying them to neat stakes; the more, however, that this can be dispensed with the better, for plants never look so well as when left to assume their natural habits.

PRISMATOCARPUS Herit.	VENUS L.-GLASS.	Campan.	Pentand.	Monogynia.
1 hybridus Herit.	hybrid	P. 5..8	1	England
2 pentagonus Herit.	five-angled	B.p 5..8	1	Turkey 1686
3 speculum D.	common	P. 5..8	1	S. Europe 1596
albo	white	W. 5..8	1	
pallido	pale	Li. 5..8	1	
purpureo	purple	d.P. 5..8	1	

This genus is named, in allusion to the form of the fruit, from the words *Prisma*, a prism, and *carpos*, fruit, and chiefly consists

of hardy annuals, formerly referred to *Campanula*; of these the most interesting is No. 5, which, with, its varieties, are old and well-known inhabitants of the flower-garden—esteemed alike for their neat habits of growth and profusion of bloom. The name of Venus Looking-glass is supposed to have been applied to this species from the resemblance, that its corolla bears to the ancient form of a mirror, which was round; whence the astrological sign of Venus was made to represent a round mirror with its handle. The whole succeed in rich light soil; and the seeds, which are small, should, when sown, be sparingly covered with earth.

RESEDA L. MIGNONETTE. *Resedacæ. Dodecandria Trigynia.*
odorata L. sweet-scented St. 6..10 1 Egypt 1752

Derivation of generic name from the Latin *Resedo*, to calm or appease, the plant having been considered as efficacious in removing external bruises. The Mignonette is a well-known universal favourite, and occupies a prominent place in every flower-garden, where it is especially useful for growing under or amongst dahlias, and other showy flowers, which are either devoid of, or have a disagreeable smell. “The luxury of the garden says Mr. Curtis, (conductor of the Botanical Magazine bearing his name,) “is greatly heightened by the delightful odour which this little plant diffuses; and, as it grows readily in pots, its fragrance can be conveyed to the house.” Its perfume, though not so refreshing as the Sweet-briar, is not apt to offend the most delicate olfactories. The Mignonette is also universally esteemed for growing in boxes or flower-pots, particularly in town windows; and, although generally treated as an annual, yet, if protected from frost, and prevented from flowering too profusely by pinching off about one-half of the flower-spikes, it will attain the size and habits of a shrub, and last for many years. Seeds may be sown in April; either in a hot-house to force it, or in the open border, where it will flower freely and ripen its seeds, by which it will perpetuate itself without further care than is necessary to clear the young plants from weeds.

RHODANTHE Ld. RHODANTHE. *Compositæ. Syngenesia Æqualis.*
Manglesii Ld. Capt. Mangles Ro. 6..9 1 Swan Riv. 1834

This genus according to Dr. Hooker, seems to be nearly allied to *Podolepis*, but differs in the form of the involucre; and has its name given in allusion to the beautiful rosy color of its flowers. The only known species is a very handsome annual, possessing the brilliancy of the Cape *Helicherysum*, but without the stiffness and formality of that plant. It can be brought to flower in the green-house, at almost any season of the year, by sowing the seeds about two months previous. It also thrives out of doors; where, however, the delicacy of its form does not appear to such advantage as when grown under glass; it should be sparingly watered, have a free circulation of air, and be grown in moderately-sized pots, well drained, and supplied with rich light soil.

PART II.

NEW OR RARE PLANTS.

(Noticed since our last.)

CALLICHROA PLATYGLOSSA. Golden Callichroa. (Bot. Mag.)

COMPOSITÆ. SYNGENESIA SUPERFLUA.

1. This is an annual plant of moderate beauty, quite hardy, and nearly allied to *Doronicum*. The flowers are yellow, with deeply cut foliage.

EPACRIS IMPRESSA var. **PARVIFLORA.** Small flowered pitted Epacris. (Bot. Reg.)

EPACRIDACEÆ. PENTANDRIA MONOGYNIA.

2. As the name implies, this is a variety of *E. impressa*, sent to this country by Mr. James Backhouse, who has been engaged for some years travelling on a benevolent mission in New South Wales. It is now suspected that the genus *Epacris*, especially the species *Impressa*, and others nearly related to it, are merely varieties of each other. In speaking of *E. impressa*, Mr. Gunn, a high authority on this genus, says, "the colours vary from a deep red through all the paler shades of blush to pure white, so that colour constitutes no distinction; the size is also variable." He distinguishes four chief varieties, viz.—1. Red flowering, tall; 2. Red flowering dwarf; 3. White flowering, tall; 4. White flowering, dwarf; in addition to which, many others might be named.

COOPERIA PEDUNCULATA. Pedunculated. (Bot. Mag. 3727.)

AMARYLLIDÆ. HEXANDRIA MONOGYNIA.

3. A native of Texas; flowers, white with a tinge of green on the outside, it blooms during the night, and has a peculiar primrose fragrance; it appears to require a stove temperature.

CALADIUM PETIOLATUM. Long Stalked. (Bot. Mag. 3728.)

AROIDÆ. MONÆCIA MONANDRIA.

4. Tubers of this singular looking plant were sent to this country by Mr. Boaltbee, Junr., from Fernando Po; the plant has bloomed in the collection of Joseph Boaltbee, Esqr., Springfield, near Birmingham. The tubers are similar to the potatoe in appearance, but are poisonous. The spathe is of a dark purple colour, and inside of it is a black purple; the anthers are of a pretty cream color.

BLETIA PARKINSONIA. Mr. Parkinson's Bletia. (Bot. Mag. 3736.)

ORCHIDACEÆ. GYNANDRIA, MONANDRIA.

5. Introduced from Mexico by H. M., consul general, Mr. Parkinson, after whom it has been named. It is a very singular and distinct kind producing flowers much narrower than any other, and of a pale rose colour with the column and lip shaded yellow and purple. It is cultivated at Woburn Abbey, where it blossomed for the first time in January last, the treatment applicable to other species will also apply to this.

CEROPEGIA VINCÆFOLIA. Periwinkle learned *Ceropegia*.
(Bot. Mag. 3740.)

ASCLEPIADÆÆ. PENTANDRIA, DIGYNIA.

6. A very distinct species of this singular genus was introduced from Bombay to the Glasgow Botanic garden, by J. Nimmo, Esq., Bombay, in the stove at which place it bloomed in September, 1838. The flowers are greenish white spotted with deep brown, and the upper part of the segments wholly brown.

CYNOGLOSSUM CŒLESTINUM. Blue and white Hounds-tongue.
(Bot. Reg. 36.)

BORAGINACEÆ. PENTANDRIA, MONOGYNIA.

7. A pretty hardy biennial introduced to the Horticultural Societies' garden by J. Nimmo, Esq., where it bloomed in August and September last. The flowers which are blue and white, are smaller than other species of this genus.

DENDROBIUM JENKENSII. Captain Jenkinson's *Dendrobium*.
(Bot. Reg. 37.)

ORCHIDACEÆ. GYNANDRIA, MONANDRIA.

8. This species bears resemblance to *D. aggregatum*, both in color and shape, but the flowers are larger. It was introduced into various collections in this country by Dr. Wallich, who received in 1836, from Captain Jenkins, of Gualpara, to whom we have dedicated it. Dr. Lindley observes, "it is more difficult to cultivate than those kinds with long free-growing stems; it is frequently seen in an unhealthy state owing to its being grown in a pot, and subjected to an uniform high degree of temperature. The best way to ensure its success, is, to tie it to a block of wood with a piece of turfy peat attached to it, and suspend it from the rafter of the house, there it must be well syringed at least twice a day, so long as it continues to grow, and afterwards it may be removed to a cooler house. In fact, it never requires so much heat as those species with long trailing stems."

EDWARDSIA MACNABIANA. Mr. Macnab's *Edwardsia*.
(Bot Mag. 3735.)

LEGUMINOSÆ. DECANDRIA, MONOGYNIA.

9. Sir William Hooker considers it probable that the present handsome species is a seedling variety of *E. grandiflora*, though it is at once distinguishable from the ordinary form of that species. Mr. Macnab of the Edinburgh Botanic garden, under whose directions it has been successfully grown for several years, confidentially believes it to be a distinct species; from whence it was introduced however is not known. The flowers, which are produced upon lateral racemes, are of a bright yellow. During the recent very severe winter, which effected so much ruin amongst our valuable shrubs; this beautiful plant survived much better than two or three other species about the same size and occupying similar parts of the wall; it has now a stem which measures upwards of eleven inches in circumference.

EPAGRIS COCCINEUS. Scarlet-flowered *Epacris*. (Pax. Mag. Bot.)

EPACRIDACEÆ. PENTANDRIA, MONOGYNIA.

10. A very beautiful variety raised from seed by Mr. Kynoch, gardener to Alderman Copeland, Leyton, Essex, in whose collection it bloomed during the early part of this year, and was subsequently purchased by Messrs. Low & Co., of Clapton.

PART III.

MISCELLANEOUS INTELLIGENCE.

REMARKS:

ON *FUCHSIA FULGENS*.—This very splendid flowering species has become an object of general observation and attraction, so much so, that it is to be found not only in every floral exhibition of greenhouse plants, but obtaining a prize at each. The demand for the plant this spring has been much greater than last year, and so much so that nurserymen could not meet the demand.

The plant certainly merits a place in every greenhouse, conservatory, plant room, and flower-garden. It is a plant of the most easy culture, vigorous habit, and a free bloomer; some difficulty however has been found to keep the old stems alive through the winter, but this arises from the circumstance of the wood of the previous season not being well ripened, as in most instances small plants could be procured and that late in the spring of 1838. But where a strong plant was obtained, and that grown in a greenhouse, &c. so as to get the wood well ripened, such plants we have invariably observed have retained their branches as well as other woody plants, and we have seen plants in bloom this spring four and five feet high, clothed with numerous clusters of fine flowers at the ends of the lateral branches. Plants that are grown in the open border of a flower garden will rarely ripen shoots so as to endure through winter, but will generally perish; but if the plant be treated as is done with the Dahlia, Marvel of Peru, &c., it will be found to flourish, and be a highly ornamental plant either for a bed, or grown on a lawn, border, &c., as a single specimen. When the plant has ceased blooming in autumn the root should be taken up, keeping some soil adhering to it, pot it, and keep it from frost through winter: early in February following, the root should be placed in heat, it will soon throw up a number of shoots, one or more should be left at discretion, striking those taken off; and such a plant by the end of May would be fine to turn out, as is done with dahlias. A full grown leaf taken off with the bud at its base, inserted in sand, and placed in moist heat, will speedily strike root. In fact the plant is very easy of propagation by slips, cuttings, leaves, or division of the tubers.

CONDUCTOR.

ON HYBRID PLANTS. &c.—A regret has sometimes been expressed at the production of hybrid plants, because they introduce a certain degree of confusion and difficulty into our technical descriptions and systematic arrangements. But surely the searcher after truth, the philosophical investigator of the works of nature, must greatly rejoice at every fresh and striking result (however embarrassing for the moment), which has been obtained by the judicious application of a direct experiment. The more our experiments are multiplied, and the more precautions we take in securing the accuracy of our results, the greater will be our chance of detecting those physiological laws which regulate the variations and restrictions of forms in different species. One remarkable result observable in the production of hybrid plants is, the uniform manner in which several of them refuse to perfect their seed; and if this character were constant in them all, we should possess an excellent law for distinguishing hybrids from true species. But it is now asserted that

many hybrids do perfect their seeds ; still an obvious question presents itself, whether we ought not always to consider the parents of such hybrids really to belong to the same species, however dissimilar they may be in external form, whilst the parents of those which do not perfect their seed should be considered distinct. The evidence which is hitherto been adduced militates strongly against the existence of any such law ; though we may hardly allow it to be sufficiently complete and definite to have completely settled the question. Besides, the existence of certain hybrids which never produce ripe seed, and of others which readily produce them, there are some which occasionally, but rarely, do so : and such we find to be the case with the present plants. Professor Henslow examined a great many, of its ovaries in the Bury Gardens, last summer, in all of which the ovules were abortive, and Mr. Hodson informed him at the time, that no perfect seeds had been produced ; but since then we have heard from Mr. Turner, (the Gardener in that establishment), that " a few good seeds " have been produced. We shall be anxious to learn whether plants have been raised from these, and if so, what are the forms which they assume. May we not ask whether those hybrids which refuse to perfect their seeds in one climate, and under the combination of circumstances to which they are now subjected in the present state of the earth's surface, might not in another climate, and under another combination of circumstances than that at present existing, be rendered productive, and thus be enabled to assume the character of true species. If so, fresh light may be thrown upon the remarkable fact with which geology has made us acquainted of a succession of perfectly distinct races of animals and vegetables at different epochs of the world's existence, each adapted to some peculiar condition of our planet. Such a succession of differences seems to require us to admit that there must either have been a fresh creation, or else such a marked transition between the forms of existing species and those of their offspring, that we are unable to recognise them any longer as specifically identical. These speculations are fraught with the deepest interest ; they serve to impress us with some notions of the infinite distance at which the human understanding lays behind the preceptions of the Divine wisdom, and to humble any petty conceit that we might be inclined to entertain of our own limited powers. If there is a certain difficulty, even in preparing a mere technical description of the works of creation, as they may be seen and handled by us, how much greater must be those difficulties which we have to surmount, when we seek to inquire into those laws by which the past has been altered into the present state of things ; and to trace the means by which organic beings have been framed, altered, and adapted to the several changes to which the earth has been exposed. Here we are trenching upon those paths of wisdom which possibly we shall never in this life be able to penetrate to any great extent ; and of which we must remain content to believe that " God alone understandeth the way thereof, and he knoweth the place thereof, for he looketh to the ends of the earth, and seeth under the whole heavens." Job, 28th chap. 23d verse.

NEW AND RARE PLANTS,

Recently noticed at various Nurseries and Floral Exhibitions.

(Continued from page 168.)

ECHINUM GRANDIFLORUM. A fine plant having three spikes of its fine blue and purple flowers about five feet high.

GENISTA FRAGRANS. A very pretty plant for the greenhouse, in addition to the flowers being fragrant, they are produced in vast profusion and of a lively yellow colour. The plant forms a very neat bush, and may be kept from two to six feet high as desired.

HYDRANGEAS. Mr. Mills, gardener to the Baroness Rothchild, exhibited six plants of the *Hydrangea hortensis*, with fine rose colored blossoms, each head of flowers being more than a foot in diameter, and six plants with equally large heads of flowers of a fine blue color. They had been grown to great perfection by Mr. Mills, and the contrast produced, was very striking and pretty. We hope Mr. Mills will favor us with his mode of treatment for insertion in the 'Cabinet.'

ERICAS. The best collection of eight plants of *Ericas* consisted of the following kinds. *Erica vestita alba*, Harlnelly, *splendens*, *aristata major*, *Ampullacea superba*, *Wilmoreana*, *Beaumontiana*, *Linnæoides superba*.

DAVIESIA SALIGNA. A very pretty greenhouse plant, blooming profusely; the flowers are of a pretty yellow, with a small dark centre; very much like an *Eutaxia*.

CACTI.—This remarkable division of the vegetable kingdom, which like the Tropical *Orchidaceæ*, has been so long neglected in this country, is now commencing to assume the rank and importance in our collections, to which the originality and singularity as well as beauty of its members, fully entitle it. A few of the *Cereus* and *Epiphyllum* tribes, which are remarkable for the brilliant flowers which they produce, have long been general favorites; but we are alluding now to Sections, *Mammillaria*, *Melocactus*, *Echenocactus*, and a large portion of the Section *Cereus*, which are distinguished rather for their peculiar shape, and the varied colour and position of the spines with which they are clothed, than for the beauty of their flowers. We recently saw a large importation of these interesting plants, which had been received at the Clapton Nursery, from one of the collectors of that establishment, stationed in South America. The collection consists chiefly, with the exception of a large quantity of *Melocactus communis*, and *pyramidalis*, of *Cereus*, among which are several which it is supposed are new to the country. We particularly noticed several plants of a strong erect *Cereus*, most densely clothed with long, compressed, and brilliantly white spines. Some of the plants were from four to five feet long, and apparently in most excellent condition. But the most interesting species in the importation appeared to be a *Cereus*, which is likely to prove a rather formidable rival to the justly admired *C. senilis*. The specimen we saw, was about ten inches long, of a clear light green, with yellow spines, and clothed from the base to the summit with a substance resembling the finest wool, and of the purest white. The contrast between the vivid green and yellow, covered as it were with a delicate net work of pure white, is remarkably pleasing. We believe this specimen to be perfectly unique. We lately saw the fine collection of Messrs. Mackie's, at the Norwich Nursery, which very far exceeds all other collections that has come under our notice, both as to the number of kinds, and in superior specimens. Persons fond of this singular tribe, would be highly delighted with a sight of the stock at Messrs. Mackie's.

REFERENCE TO PLATE.

DIPLACUS PUNICEUS. We were so struck with this very ornamental plant, that we purchased a stock of it some time since; it has the habit of the old and generally well known *Mimulus glutinosus*. The plant is a very free grower, and blooms profusely, it has been kept in the greenhouse since its introduction, but is now found to be nearly hardy, and in the open ground during summer is highly ornamental. It deserves a place in every greenhouse, or flower-border. The plant, like *M. glutinosus*, continues to bloom from May to November.

ISOTROPSIS STRIATUS. This very pretty flowering plant we saw in the greenhouse at the London Horticultural Societies' garden; it is of prostrate habit, but is conveniently tied up, or trained, so as in each instance to be neat. The plant appears to bloom freely, the flowers are produced singly





Euphonia purpurea

Anisocoma strictus

Thunbergia haughtoni





Aspidelium polyanthum

mandragora aurantiaca

in realitate

on a footstalk about three inches long; if the stems were tied up erect, the flowers would be brought near together, and thus congregated would be very showy. It is a desirable plant for the greenhouse—we believe it was introduced from the Swan River, by Captain Mangles.

THUNBERGIA HAWTONIA. A fine plant of this new kind of *Thunbergia* was recently exhibited in bloom at the rooms of the London Horticultural Society by Mr. Butcher, gardener to Mrs. Lawrence, of Drayton Green. The plant is of vigorous habit, and to bloom freely. We understood it had been grown in the greenhouse, if so, its vigorous habit indicates it would flourish well in the open border, or against a trellis during the summer season. It is a very desirable plant, deserving a place in every collection.

ROSA MACULATA. We procured some roses from Messrs. Wood, & Son, of Woodlands Nursery, Maresfield, Sussex selected by them, amongst which was the kind we have figured, and which has recently bloomed. It is a very beautiful kind and deserves a place in every flower-border or rosary.

GOMPHOLOBIUM POLYMRPHUM. A greenhouse plant of considerable attractions. It is of a very neat, slender, and twining habit, rising to two or three feet high, and blooming very profusely; we saw a plant of it in fine bloom at the Floral exhibition recently held at Bromley, Kent; it was exhibited by Mr. Barnes, gardener to G. Norman, Esq., and had been neatly trained in the fan manner, so as wholly to cover the same to the height of about half a yard, and it was strikingly pretty. We saw a plant tied up erect about two feet high, its flowers thus brought in a mass together, and forming a spike of some length, produced a most beautiful effect. So much pleased were we with it, though very scarce, as to purchase a stock of it. The plant deserves a place in every greenhouse or conservatory.

THUNBERGIA AURANTIA. This very pretty kind we found in the collection of Mr. Young, of the Epsom Nursery; it has the habit of the generally admired *T. alata*, flowers equally freely, and as easily cultivated; the flowers being of a fine deep and red orange have a beautiful appearance. Grown in contrast with the other kinds, it will give an interesting effect; it deserves a place in every greenhouse and in every flower-garden during summer.

FLORICULTURAL CALENDAR FOR AUGUST.

PELARGONIUMS.—Those plants that have done blooming should now be cut down, this will induce them to push fresh shoots immediately; when the shoots have pushed two inches long, the old plants should be repotted, shaking off the old soil and replacing with new. This attention to have a supply of strong young shoots before winter, furnishes the vigorous blooming wood for the ensuing spring, and the plants are kept dwarf and bushy. When the young shoots push after being headed down, there are generally many more than necessary to be retained.

They should be thinned out when an inch long: the tops now cut off may be inserted in sandy loam, and struck if required.

GREENHOUSE.—All exotic trees and shrubs belonging to this department, that are in want of larger pots, or refreshment of new soil, should (if not performed last month) immediately be done. This is the proper time to propagate Aloes, Sedums, and all others of a succulent nature, by means of suckers or bottom offsets; when detached from the parent, they should be potted singly into small pots, using light dry compost, watering sparingly till they have taken root. In the first, or second week at farthest, inoculation may be performed on any kinds of the *Citrus* genus.

DAHLIAS—Thin out the branches of those kinds which are introduced for shows, and if it is desired to increase the stock of any new one, cuttings may be selected which will readily strike and form good sized pot-roots: water

should be given copiously every evening, during dry weather; a strata of manure should be laid for three feet around the stem of each plant, which will greatly assist in promoting a vigorous growth, and in the production of fine blooms during the ensuing month.

Earwigs and other insects begin now to infest the plants, and especial care should be taken to destroy them as much as possible before the plants get into bloom, which may be done by placing an inverted small garden pot, in which is placed a little moss; upon each stake, to which the earwigs will resort, and may be taken every morning.

AURICULAS.—Seedlings raised during spring should now be transplanted into pots for blooming.

CARNATIONS.—The blooms are now beginning to fade, and the operation of laying should be performed without delay: in doing this, take your seat astride a common form, get the pot before you, and steady the layers with your left hand, resting the back of your right hand upon the edge of the pot and holding the knife upwards between your two fore fingers and thumb, then with a steady hand and correct eye, cut upwards quite through the middle of the second or third joint from the top; the cut may be extended a full quarter of an inch beyond the joints; if the joints are wide apart always take the second; remove the leaves that ensheath the joints, and shorten the nib just below them; be careful not to break off the layers in pegging them down, and cover the joints three quarters of an inch deep; remove them into the shade, water them with a fine rosed pot, and repeat it afterwards as often as necessary.

RANUNCULUSES—roots should now be taken up and gradually and well dried in an airy room.

ROSES.—Budding should be finished as soon as possible.

CAMELIAS—any kinds required to bloom early, should now be removed into the greenhouse.

Mignonette to bloom during winter, should now be sown in pots.

FLOWER GARDEN.—Due care must be taken respecting watering any kinds of annual, biennial, or perennial plants that may be in pots. Propagate by means of slips, and parting the roots of any double-flowered and other desirable fibrous-rooted perennial plants done flowering. Likewise increase by offsets the different kinds of Saxifrage. Auriculas should be cleared of all dead leaves, and shifted into fresh pots; prick out of the seed bed, where it was omitted last month. Seedling Auriculas and Polyanthuses, in a shady situation: seeds may also be sown of both kinds in boxes or pans. Carnations may still be layered, also Sweet-williams if desired, the earlier in the month the better. Those which are layered four or five weeks ago, will now be sufficiently rooted to be taken away, or planted in beds or pots. Also plant out pink pipings, which were put out in June. Sow seeds of all kinds of bulbous rooted plants in pans or boxes, such as Spring Cyclamen, Anemones, Ranunculuses, &c., &c. Those kinds of bulbs wanted to increase should be taken up if the leaves be decayed, and the offsets taken off. Crocus's, Narcissus's, Crown Imperial, and Lillies should only be taken up every other year. In dry weather gather those flower seeds that are ripe of any desired kinds. Plant out such kinds of autumn flowering bulbs as yet remain unplanted. Heartsease towards the end of the month, should be propagated by slips, put into a shady border, and kept quite moist till they have taken root; these will form fine strong plants for blooming the spring following. Chrysanthemums should not have their shoots stopped to make them branch, and keep them bushy, later than the middle of this month, as, if done later, the lateral produce would be weak and the blossoms small.

Where the plant has numerous shoots, they should be thinned out to a few, to have the plants large and showy.

THE
FLORICULTURAL CABINET,

SEPTEMBER 1st, 1839.

PART I.
ORIGINAL COMMUNICATIONS.

ARTICLE I.

OBSERVATIONS UPON THE VEGETATION OF FUNGI.

BY F. B. S. E.

IN consequence of the communication of Cryptos in a late No., I have been induced to prepare the present paper, from the desire that the doctrine so pernicious in its tendency as the one advocated in it, should not go forth among your readers, without such proof of its fallacy, and meet refutation of the inference drawn from him by the adduced fact as should remove the impression in favour of the theory therein raised. I would observe, however, that I entirely acquit Cryptos of any error other than that of having deduced a wrong inference from an isolated fact; at the same time I would ask him to consider with what jealousy the phenomena of any fact appearing to countenance such a doctrine should be examined before we allow ourselves to be convinced that our inference is true, not only as it relates to the philosophical question of *fact* is the subject of equivocal generation of importance, but also as its assertion involves the Atheistical doctrine of Materialism in its consequences; for in admitting it we must take up one or two positions, either we must consider that the work of creation is yet incomplete, and that each individual plant (we are more immediately concerned about the Fungi, I shall therefore avoid all reference to Zoology, though the same arguments hold,) is the effect of a special act of His hand, or that each is, as the supporters of the theory define it, a mere fortuitous developement of vegetable matter. Few will

maintain the former position, unsupported as it is by evidence, and unwarranted by Scripture, and it will not be worth while to take further notice of it. The *à priori* argument made out against the latter is such as no evidence can surmount, for the alternative is infidelity.

Many of the German theorists comprehend all plants, Phanerogamous as well as Cryptogamous, as being the offspring of equivocal generation, but as no one among us is very likely to take up this ground, I may be allowed to assume the contrary, as respects the Phanogamæ as matter of fact. This being admitted, gives us the argument of analogy in favour of Fungi being propagated always by their sporules. Of those who apply the theory alone to the Cryptogamæ, the following are the principal arguments against the analogy, or in other words, against the vegetability of Fungi.

1. They grow with a degree of rapidity unknown in other plants, acquiring the volume of many inches in the space of a night.

2. They are frequently *meteoric*, i. e., spring up after storms, or only in particular states of the atmosphere.

3. It is possible to obtain particular species with certainty by an ascertained mixture of organic and inorganic matter in certain states of the atmosphere, as in the process adopted by gardeners for obtaining the *Agaricus campestris*, a process so certain that no other kind of *Agaricus* is ever produced in mushroom-beds.

4. "Fungi are produced constantly upon the same kind of matter and upon nothing else, as the species that are parasitic on leaves, cheese, &c." (*Lind. Nat. Syst.*)

5. They often occur in places impenetrable to the atmosphere, as in the case instanced by *Cryptos*.

The first of these arguments will be at once allowed to be of little weight, depending as it does upon a comparative character; for if Fungi be excluded from the vegetable kingdom because they grow faster than gourds; on the same principle the latter ought also to be excluded, as growing faster than many other plants.

The 2nd, 3rd, and 4th, are immediately connected with one-another, and a single answer will comprehend all.

Nature acts according to certain fixed laws; according to these laws a certain effect will always result from the coincidence of certain conditions, these conditions not coinciding, that effect will

not take place. Thus, for example, the germinations of seeds will not commence until the concurrence of such quantities of water, oxygen, and heat as are necessary to fulfil the conditions requisite to their growth, but immediately the conditions are fulfilled germination takes place, as a matter of necessity. The seed has no option whether or not it will grow, but grow it must when the conditions are satisfied; similarly with the sporules of Fungi, until the requisite conditions are fulfilled they do not grow, but immediately on their fulfilment, they must grow, and do grow. This then will explain why certain Fungi are *meteoric*; at a particular state of the atmosphere only are the requisite conditions to the growth of their sporules fulfilled, till then they lie dormant.

The 3rd objection merely shews that the conditions of growth of the sporules of *Agaricus campestris* are ascertained to be fulfilled when a certain mixture of organic and inorganic matter is exposed to certain states of the atmosphere, and that other Fungi do not grow too, simply proves that their growth depends upon different conditions from those on which the growth of *Agaricus campestris* does. That certain Fungi are produced but upon one kind of matter proves that there are, and there only are the conditions of growth of those Fungi satisfied; and that they are produced constantly shews the infinite number of sporules there must be distributed over the face of the earth. Fries has counted in a single individual of one small Fungus above 10,000,000 sporules! In some general observations on their number, he says, "the sporules are so infinite, so subtle (they are scarcely visible to the naked eye, and often resemble thin smoke,) so light, (raised perhaps by evaporation into the atmosphere,) and are dispersed in so many ways by the attraction of the sun, by insects, wind, elasticity, adhesion, &c., that it is difficult to conceive a place from which they can be excluded." (*Fries, Elerch.*, 158.)

The sporules of an hundred different sorts of Fungi may be mixed in the matter of which the mushroom bed is made, or on the leaves, or in the cheese, but those only will vegetate whose conditions of growth are satisfied, which are different in each case. We have exactly parallel instances in Phœnogamous plants, where certain plants will grow only on certain soils, as on chalk, or in water, we have no difficulty in believing this, because we can put it to the test of experiment. We see certain Fungi confined to certain substances, and yet we refuse to admit the

analogy, merely because we are not able to prove the fact in the same way. This is surely most unphilosophical, not to say false reasoning.

I have now to notice the last argument which is more immediately of interest, as involving the objection and fact mentioned by Cryptos. The general argument is no argument at all, for first it presupposes a fact, which the investigations of the most accurate observers go to disprove, namely, that the sporules can reach no place impervious to the atmosphere; and secondly; it implies that because we do not know how the sporules get to any such place, they are therefore not there; hence the inference drawn from the particular fact is not *à priori*, necessarily a true one; and to show that it is probably a false one, merely requires that a reasonable explanation warranted by the observations of botanists should be given of it, such an explanation Cryptos himself supplies. The Fungus was found in the core of the apple, with which there was, in the earlier state of the fruit, a direct communication from the exterior; and not only a passage, but there were pollen tubes passing through it to the centre of the germen, which we have no reason for supposing could not have been accompanied by the sporules of the Fungus. If the pollen tubes were provided with a contrivance for finding their way inwards, why should not the sporules of the Fungus be provided with a similar one? Or do we know that the sporules might not have attached themselves to the substance of the pollen grains? We might as well assert the impossibility of travelling from York to London, although there is a direct road, not to mention the vehicles continually traversing it! That the explanation does not appear plausible is no proof of its being erroneous. It is conformable with other observed facts, and therefore not to be at once rejected merely for lack of plausibility; the degree of plausibility being a matter of opinion, and dependant much on the knowledge of the subject possessed by the observer. Who would suppose that the earth moves round the sun? surely that fact has little enough plausibility on the face of it! But even should this explanation be rejected, there is yet another which will sufficiently account for the fact, from the recent observations of Bauer, in Germany, and of Messrs. Queckett and Smith among us, it appears more than probable that Fungi are propagated on other plants by their sporules being imbibed along with water by the spongioles of the root, which on further developement of the

plant are carried up by the ascending sap into the leaves and flowers, where they expand into perfect Fungi.

To enter upon the argument against the theory is not my intention at present, as it would occupy more room than you, or time than I have to spare: but it seems to me an almost conclusive *primâ facie* objection to it, that it is so directly opposed to the general scheme and simplicity of nature. We know also that Fungi are to be propagated by their sporules, for we can raise them from them, and to suppose that they can be formed fortuitously with a prospective contrivance for their future propagation in themselves, is, either to deny that contrivance proves design, and the existence of design that of a designer, or to throw us back upon the former alternative of equivocal generation, as given in the beginning of the article.

I have, though shortly, I hope satisfactorily shown how little the above theory has to support it. I shall not trespass further on your space than to copy a paragraph from the opinion of one of the first mycologists of the age, of one equally excellent as a man, and as a botanist, the Rev. M. J. Berkeley.

“It is not to be denied that difficulties about the appearance of Fungi, as of various other plants and animals, are often great; but it seems to me rash and precipitate in the extreme, because of a few points which at present baffle our powers of investigation, to have recourse to a principle which its supporters, at least as many as are of an humble and submissive frame of mind, dare not follow out into all its consequences. For my own part I can affirm, without hesitation, that I have never read a single essay of these writers without being struck with the utter inconclusiveness of their reasonings, and with their strange oversight of points, which make against them so plainly and palpably that the most ordinary and unprejudiced reader could not fail to seize them.” (*Berkeley in Hook. Br. H. II. 2. 7.**)

I cannot refrain from another admirable quotation from an equally distinguished botanist—

“Let us not be led astray by specious theories and imaginary facts concerning bodies so far beyond the cognizance of our senses; but in the absence of demonstrative evidence to the contrary, let us believe the great Author of Nature to be consistent with himself in all his works, and to have taken care to enable the most humble seaweed to be multiplied by some means as certain and unchangeable as is provided for the most stately lord

of the forest. We may rest assured, for all philosophy, and all observation, and all reason prove it, that there is no such thing in nature as blind chance; but that all things have been carefully and wisely designed with reference to the particular circumstances under which they exist." (*Lindley in U. K. Society's Botany*, p. 119.)

In addition to the above works, I would refer *Cryptos* to the latter author's, *Nat. Syst.* p. 420, in which, as well as in the above quoted works, he will, I think, find sufficient information to convince any reasonable man.

July 10th, 1839.

F. B. S. E.

ARTICLE II.

ON TRAINING ROSES, AND OTHER CLIMBING PLANTS, IN THE FLOWER GARDEN.

BY A NOBLEMAN'S FLOWER GARDENER.

OF the numerous forms and modes of growth which plants exhibit, the climbing or twining habit would seem to be the most graceful and interesting. As man is accustomed to regard more tenderly and fervently such objects as depend upon, or, as it were, cling to him for protection and support; so, in the vegetable world, those plants appear to excite the greatest interest which require the assistance of their more robust neighbours to maintain them in their needful position, and uphold them from grovelling prostration. There is however a general gracefulness and beauty in the plants of this class and I have always observed that climbing plants are acknowledged favourites with persons of refined taste and sensitive minds.

Their sprightly and elegant disposition, the enchanting irregularity and negligence with which their branches are arranged and entangled, and the beautiful manner in which the extremities of these protrude so as best to exhibit their varied blossoms, each contribute to heighten their attractions. I now allude chiefly to their appearance in a natural state, for when subjected to the operations of training and pruning, it deprives them of much of that pleasing simplicity which otherwise characterizes them.

It is to be regretted that many kinds of vigorous growing plants are trained to walls and trellises which ought not to be substituted for that which nature teaches us is the most graceful and ornament-

al with them, and by far the best adapted to the purpose of displaying their peculiar habits and beauties by supporting them by poles. There are others of a more delicate habit which look more ornamental, and exhibit their blossoms more to view, such as the delicate *Tropæolums*, &c. The natural habit of every plant ought to be allowed if to have it in perfection, only to accommodate it so as to be kept in those bounds which other circumstances point out necessary.

The natural habitats of all our climbing plants I cannot describe, but most of the readers of the Cabinet have witnessed the common honeysuckle twining closely around the stems of trees and often interweaving its slender branches with those of the tree to which it clings for support. Those plants which have not the advantage of trees will attach themselves to the nearest shrub, and there exhibit their beautiful flowers among the branches, or if not thus privileged will trail along the ground. So far as their general mode of growth is concerned, this may be considered a fair type of most climbing plants; all are incapable of supporting themselves in an erect position, and consequently, are not frequently met with, except where trees or shrubs exist or abound.

These circumstances very naturally suggest the idea of encouraging them to ascend poles when in a state of cultivation. And though it might be supposed that similar plants require a shaded situation: this is not always the case, at least with those from temperate climates. For although found growing naturally beneath the shade of trees and shrubs, they are always seen struggling to obtain an exposure, and either protrude their shoots through the opening branches or rise above the summits of their supporters.

Climbing plants of the honeysuckle tribe are best adapted for planting at the base of small trees in a conspicuous place in the shrubbery, and to these they may be allowed to attach themselves; or, if necessary, can be secured erect till they have embraced them sufficiently to render further attention needless. It is particularly advisable to permit them to commence twining themselves; as many of them grow in a peculiar direction, which, if altered, would considerably retard their progress and detract from their beauty. No just conception can be formed of the great additional charms they would impart to the shrubbery; for when they had become firmly established, and had grown to their natural size, the trees or shrubs would be seen covered with an extensive

variety of showy flowers, and present an appearance at once beautiful and interesting. The usual sheltered situation of shrubberies or the protection which the shrubs themselves would afford, render it probable that many half-hardy climbers too might be grown within their boundary, provided the mode of growth were congenial to their habits; and even with no other variety than the hardy species of Clematis &c. presents, these departments might be converted into decided and lasting attractions.

There is another description of climbing plants, however, which from their natural disposition to branch, or in which such a tendency may be readily induced by pruning, possess peculiar adaptations for training to detached poles; and it is to these species, and the mode of supporting them, that I am desirous more especially to call attention. No person, but who has seen this system successfully practised, can possibly have any idea of the effect which a pillar of roses, or similar plants produces, when all their branches are bending to the earth, as it were, beneath the weight of the multitudes of flowers with which they are laden. And when poles are placed at a convenient distance apart so as to have festooned cords to which the shoots are trained, the pendant shoots in profuse bloom, give to the uprights an additional interest.

Their appearance, whether in the flower bed, around a flower garden, in the lawn, or whether arranged opposite each other on either side of a portico, an entrance, or a walk, or disposed solitarily and irregularly over any part of the pleasure-ground, is most interesting. Roses thus treated have all the concentrated beauty of the head of a standard elongated into a pillar, without any of the formality of its summit, or the bareness of its stem. When growing climbing roses to poles &c, it is necessary that a situation be chosen for planting them where they will be slightly sheltered from winds; but at the same time not to screen them from the full influences of the sun, otherwise their shoots will be very liable to suffer from cold during the winter, on account of not being thoroughly matured. A strong loamy soil is the best for growing them in, so as to flourish luxuriantly.

Poles of the requisite size and strength may be easily procured from the thinnings of larch plantations, and they will stand for many years without renewal. It is best to leave some of the branches about six inches long, as they will prevent the wind twisting the shoots around the pole so as to damage them. The bark should not be removed, both for durability and appearance,

it is far preferable to allow it to remain. Care should be taken to apportion the length and strength of the poles to the estimated height of the plant, for they will look exceedingly clumsy and unsightly if too large or too long, and the habit of the plant should be known. Pruning, when necessary, must be performed with judgment. Many kinds of climbing roses will not bear much pruning, while others may be subjected to it to a considerable extent. Those kinds with weak and flexible shoots, may be left to hang down naturally after they have attained the desired height, thinning them only when they are too numerous; but such as are stronger and more luxuriant occasionally need shortening, to prevent them from growing too spreading. Some of the hardy Passion Flowers, *Glycine sinensis*, Bignonias, &c. are most interesting when trained as above and make a splendid display when attached to a pole, they require to be freely pruned, as it is by close pruning that they can be induced to flower freely.

In villa gardens, and those attached to the numerous suburban residences of gentlemen, in the humble plot of the cottager, or the extensive demesne of the nobleman, climbing roses might be introduced with great advantage and I hope this commendable and interesting practice will soon be extensively adopted. I shall forward for September Cabinet a list of the best kinds of climbers in cultivation.

Middlesex, July 3rd, 1839.

ARTICLE III.

ON THE INTEREST AND PLEASURE OF CULTIVATING FLOWERS.

BY FLORA.

Floriculture, or the cultivation of flowers, is far the most delightful branch of gardening. It is true that flowers are not essentially requisite for man's existence; but still they were evidently given to us by the Giver of all good for some peculiar purpose, which purpose is very clear to any unprejudiced mind that will give the subject a few moment's consideration.

They were given, if not to minister to man's actual wants, to minister to his delight, which they do in a very great degree by beautifying the earth.

When I state that the cultivation of flowers is productive of interest and amusement, I must observe that there are several

kinds of amusement. Some are irreligious, or, at best, immoral, and many are debasing ; but that which is derived from floriculture and botany (which is so nearly allied to floriculture that I must be pardoned for joining them together), is not only a rational amusement, but is replete with instruction. To the reflective mind, the curious structure, the habits, the modes of culture, and the distribution of flowers over the surface of the whole earth ; their spontaneous growth on the tops of mountains, in the vallies, in the sandy and sun-scorched desert, and on the rugged rock, must be full of interest. I would ask, is it not pleasing to watch the growth of some handsome plant, from the time it just peeps above the soil, till it arrives at full maturity ; and would not its beautifully colored and elegantly formed flowers amply repay you for all your trouble ? Again, what can afford a more interesting recreation to the person engaged in mercantile pursuits, and shut up in a counting house or manufactory the greater part of the day, than an half hour spent in a pleasant flower garden ? and to those who have not a garden, a few plants in pots in the windows of their house are exceedingly pretty and interesting.

I think no person will deny that floriculture is a healthy pursuit. To the person in a robust state of health, who wishes to preserve it, nothing can be more subservient to his purpose than exercise in a garden ; and the invalid can certainly do nothing more likely to amend his health than take gentle exercise in a flower-garden ; such, for instance, as tying up Dahlias, Fuchsias, or Roses, watering them, &c. It may be asked, why give the preference to floriculture, when general gardening would be equally beneficial ? I would answer, because the attractions held forth by flowers are generally so much greater than any other species of plant, and of longer duration.

The study and culture of flowers is instructive. Who can look upon a flower, examine its curious construction, and notice minutely its various parts, without being filled with admiration, and being convinced that “ it is the Lord’s doing, and it is marvellous in our eyes. The study of flowers ought to impress every one with a sense of thankfulness to the Deity. We are told that “ Solomon in all his glory was not arrayed like one of these, ” and yet they were not sent for man’s actual wants, but simply to render his sojourn here more delightful than it otherwise would have been.

ARTICLE IV.

ON THE CULTIVATION OF ERICAS.

(Continued from page 178.)

If there be no appearance of a change, then it is necessary to apply heat to the house ; but all that is wanted in this case, is just enough to prevent the temperature from getting lower than it was when the heat was introduced. Suppose the thermometer to sink to eighteen or twenty degrees below freezing during the night ; the instrument inside should range as near as possible to what it was when the heat was applied. This however requires very particular attention. From what I know, heaths will suffer, if, after the thermometer has fallen four or five degrees below freezing inside of the house, heat be added so as to raise the temperature, and drive out the frost, during the time the thermometer is still sinking out of doors. It would be much better if the house were left without fire heat, even with the thermometer fifteen or sixteen degrees below freezing point out of doors ; such treatment is bad for all plants, but more particularly for heaths. If we were certain that the thermometer during the night would not sink more than ten or twelve degrees below freezing out of doors, no artificial heat whatever would be necessary in the heath house."

I have made this long quotation, because it is the tried practice of one of the best cultivators of the present day ; and if acted upon, will remove much of the cultivator's anxiety, so far as the true principle of applying artificial heat is concerned, and convince him how small a degree of that element is really necessary, in greenhouses of the ordinary descriptions.

During winter, water should be very sparingly applied to heaths and in times of severe frost only enough should be given to keep the plants from drooping. The case is different however, during spring and summer, when they should have it abundantly supplied once, and, in some cases, twice a day, at their roots, and two or three times during the week over their leaves and branches by using the syringe or small garden engine.

Cape heaths are very liable to be attacked by mildew, particularly in the neighbourhood of London : and some collections have been nearly destroyed from this cause. Sulphur, applied either in a dry or moist state, is the most effectual cure, and should be

applied upon the very first appearance of the disease, by dusting the plants all over with the dry flour of sulphur, or by making up a thick lather of sulphur, mixed with soap, and laid on the plants with a painter's brush. It is difficult to trace the real cause of this disease ; some attribute it to the practice of exposing them during summer to the power of the mid-day sun ; others, to the excess of water given them towards autumn ; while many think it is an atmospheric disease, and that some situations are more liable to its effects than others. It is said to be of a rare occurrence in Scotland, owing, probably, to the summers being cooler there than in England. Whatever may be the cause, the effect is in general fatal, for heaths, once attacked by the disease seldom recover.

It is said that "the best preventive is placing the plants during summer, behind a wall, hedge, or other shelter ; so that they may be shaded from the rays of the sun five or six hours in the hottest part of the day, without having recourse to awnings of any kind ; likewise, to house them early in autumn, in houses where the sashes can be drawn off in fine weather, and put on to protect them from heavy rains. For the more delicate species, generally kept in pits and frames in summer, the best preventive is to use lights glazed with green glass, keeping the lights on from nine o'clock in the morning till six o'clock in the evening, and giving plenty of air, by tilting the lights up at the back of the pits and frames, but never to use shading of any description. The lights to be drawn entirely off during the night, except in rainy weather. With this mode of treatment, slight waterings over head occasionally are beneficial."

Heaths are not very subject to the attacks of insects ; the green fly, however, sometimes assails them, but these are readily got rid of by slight fumigations of tobacco.

General Treatment Out of Doors.—A want of sufficient accommodation induces many to place a part if not all their heaths, as well as other greenhouse plants, out of doors ; and habit, we believe induces many more. The hardier and more free-growing kinds may not suffer much from this practice, but the finer and more delicate sorts evidently do. I believe the rationale of turning exotic plants into the open air, is to adopt the least of two evils ; for if they be kept under glass during the growing season, and closely crowded together, they suffer as much for want of fresh air as they would do if placed in a sheltered situation in the open

garden. It would be the most prudent method to adopt, to take out only such as are hardy and robust, leaving the more rare and tender sorts under cover ; in which they will then have plenty of room.

The season for taking heaths out of the house commences about the end of April, when some of the hardiest kinds may be set out : the next hardier section in May, and the next in June, retaining by all means the most tender of all in the house. A dry, sheltered, but not shaded situation should, if possible, be chosen for them,—dry, to protect them from a damp and impure atmosphere,—sheltered, to prevent them from being broken or upset by the wind, and shaded only to the extent necessary to secure them from the full force of the sun's rays during the heat of the day. A somewhat elevated platform, covered with coal ashes, should be formed for them, upon which they should stand, without being plunged. If the spaces between the pots were filled with sphagnum, hypnum, or other mosses, the whole might be made ornamental and extremely useful ; first, by hiding the pots, and, secondly, by preventing the heat of the sun, which is very injurious, from acting upon the roots, which are extremely fine, delicate, and always placed round the extremity of the balls, and in close contact with the pot. To avoid this, to save labour in watering, and to prevent them from being blown down, some recommend plunging them in the ground, or in the coal ash floor prepared for them ; but this latter practice is, we think, objectionable, as the roots are very liable to perish from cold and excess of humidity. Lines of cord should be stretched along the plant ground, and fastened to neat poles or stakes ; to these cords the plants should be individually fixed, to prevent their being blown down

From the end of September till the beginning of November is the proper season for removing plants again into the house, and a somewhat similar system should be acted upon as recommended for taking them out ; only, those last taken out should be first taken into the house, and the next in rotation. During summer, water should be copiously supplied, not only at their roots, but occasionally over their leaves and branches, by using the syringe or garden engine. But this must only be understood to apply to very hot and dry weather. Heaths, and all plants grown in peat earth, should never be allowed to become very dry at the root ; for, from the nature of the soil, it is difficult to supply a sufficient degree of moisture to them after they have become very dry.

(To be continued.)

ARTICLE V.

ON CHINESE GARDENS.

(Continued from page 183.)

Both in their lakes and rivers are seen many kinds of reeds, and other aquatic plants and flowers ; serving for ornament, as well as for covert to their birds. They erect upon them mills and other hydraulic machines, wherever the situation will permit. They introduce a great many splendid vessels, built after the manner of all nations ; and keep in them all kinds of curious and beautiful water-fowl, collected from different countries.

Nor are they less various and magnificent in their bridges than in their other decorations. Some they build of wood, and compose them of rough planks, laid in a rustic manner upon large roots of trees ; some are made of many trunks of trees, thrown rudely over the stream ; and fenced with decayed branches, intertwined with the convolvulus, and climbers of different sorts ; some are composed of vast arches of carpentry, artfully and neatly framed together. They have also bridges of stone and marble, adorned with colonades, triumphal arches, towers, loggias, fishing pavilions, statues, bas-reliefs, brazen tripods, and porcelain vases. Some of them are upon a curve, or a serpentine plan ; others branching out into various directions : others straight, and some at the conflux of rivers or canals, are made triangular, quadrilateral or circular, as the situation requires ; with pavilions at their angles, and basons of water in their centers, adorned with Jets d'eau, and fountains of many sorts.

Of these bridges some are entire, and executed with the utmost neatness and taste ; others seem in ruins ; others are left half finished, being surrounded with scaffolds, machines, and the whole apparatus of building.

It is natural for the reader to imagine, that all these bridges, with the pavilions, temples, palaces, and other structures, which have been occasionally described in the course of this work, and which are so abundantly scattered over the Chinese Gardens, should entirely divest them of a rural character, and give them rather the appearance of splendid cities, than scenes of cultivated vegetation. But such is the judgment with which the Chinese Artists situate their structures, that they enrich and beautify particular prospects, without any detriment to the general aspect of the whole composition, in which Nature almost always appears predominant ; for though their Gardens are full of buildings, and

other works of art, yet are there many points from which none of them appear; and more than two or three at a time are seldom discovered; so artfully are they concealed in valleys, behind rocks and mountains, or amongst woods and thickets.

There are, however, for variety's sake, in most of the Chinese Gardens, particular places, consecrated to scenes of an extraneous nature; from whence all, or the greatest part of the buildings are collected into one view, rising above each other in amphitheatrical order, spreading out to a considerable extent; and, by their whimsical combinations, exhibiting the most magnificent confusion imaginable. Their artists knowing how powerfully contrast agitates the human mind, lose no opportunity of practising sudden transitions, or of displaying strong oppositions, as well in the nature of the objects which enter into their composition, as in their modifications. Thus they conduct you from limited prospects to extensive views: from places of horror to scenes of delight; from lakes and rivers to woods and lawns; and from the simplest arrangements of nature, to the most complicated productions of art. To dull and gloomy colours, they oppose such as are brilliant; and to light, they oppose darkness: rendering, by these means, their productions not only distinct in the parts, but also uncommonly striking in their total effect.

The cascades of the Chinese, which are always introduced, where the ground admits, and where the supply of water is sufficient, are sometimes regular, like those of Marli, Frescati and Tivoli; but more frequently they are rude, like the falls of Trolhetta and the Nile. In one place, a whole river is precipitated from the summit of the mountain, into the valleys beneath; where it foams and whirls amongst the rocks, till it falls down other precipices, and buries itself in the gloom of impenetrable forests; in another place, the waters burst out with violence from many parts, spouting a great number of cascades, in different directions; which, through various impediments, at last unite, and form one vast expanse of water. Sometimes the view of the cascade, is in a great measure intercepted by the branches which hang over it; or its passage is obstructed by trees, and heaps of enormous stones, that seem to have been brought down by the fury of the torrent: and frequently rough wooden bridges are thrown from one rock to another, over the steepest parts of the cataract; narrow winding paths are carried along the edges of the precipices; and mills and huts are suspended over the waters; the seeming dangerous situation of which, adds to the horror of the scene.

They have likewise cascades, contrived to fall from precipices, in large regular sheets, smooth as glass, and forming arches, that leave a considerable space between the rocks and the water. This is laid out in fine pebble walks, adorned with grass plots, and borders of flowers of every sort, that thrive in moist situations : and in the upright of the rocks are hollowed grottos, with many little neat recesses, placed at different heights, and communicating with each other by steps or passages cut in the solid stone, from whence the cascades, when illumined by the sun, appear like a multitude of rainbows, glittering with a thousand colours ; and the adjacent trees, buildings or other objects, seen through the brilliant medium, have a very uncommon, picturesque effect.

As the Chinese are so very fond of water, their Gardeners endeavour to obtain it by art, wherever it is denied by Nature. For this purpose, they have many ingenious inventions to collect ; and many machines, of simple construction, which raise it to almost any level : at a trifling expense. They use the same method for overflowing vallies, that is practised in Europe ; by forming heads of earth or masonry at their extremities ; where the soil is too porous to hold water, they clay the bottom, in the same manner that we do to make it tight : and in order to prevent the inconveniences arising from stagnant waters, they always contrive a considerable discharge to procure motion, even where the supply is scanty ; which is done by conveying the discharged water back, through subterraneous drains, into reservoirs ; whence it is again raised into the lake or river. They always give a considerable depth to their waters, at least five or six feet, to prevent the rising of scum, and the floating of weeds upon the surface ; and they are always provided with swans, or such other birds as feed on weeds, to keep them under.

In overflowing their grounds, and also in draining them, they take all possible care not to kill many of their old trees, either by over moistening their roots, or draining them too much ; saying, that the loss of a fine old plant is irreparable ; that it impairs the beauty of the adjacent plantations : and often likewise destroys the effect of the scenery, from many distant points of view ; and in shaping their grounds, they are, for the same reason, equally cautious with regard to the old plantations ; carefully observing never to bury the stems, nor to expose the roots of any trees which they mean to preserve.

(To be Continued.)

PART II.

NEW OR RARE PLANTS.

(Noticed since our last.)

1. *LÆLIA AUTUMNALIS*. Autumnal flowering *Lælia*.
(Pax. Mag. Bot. & Bateman's Orchid. 9.
ORCHIDACEÆ. GYNANDRIA MONANDRIA.

A very beautiful species introduced from Mexico in 1836; where it was found growing upon trees at a considerable elevation. The flowers are of a lovely transparent pink colour, and are produced in spikes of from one to three feet in length, according to the strength of the plant. Messrs. Lodiges, Rollinsons, and others, possess plants for sale and every cultivator of orchidaceous plants should possess it. Mr. Bateman observes "it thrives best in a moderate temperature, and requires to be high potted, as by that means, the roots are more likely to be retained in a healthy state, and are better able to withstand the extremes of heat and moisture which will sometimes occur, and which have been found excessively injurious to *Lælias*, *Cattleyas*, and species of some allied genera. In winter they should be very sparingly watered, and kept in almost a dormant state."

2. *LILIUM THUNBERGIUM*. Mr. Thunberg's Lily. (Bot. Reg. 38.
LILIACEÆ. HEXANDRIA MONOGYNIA.

This splendid lily was introduced along with various others from Japan, by Dr. Siebold; and is now cultivated by Messrs. Rollissons and Youngs. The flowers are large and of a splendid orange colour. Dr. Siebold in his "Flora Japonica," observes, "that in more than twenty kinds of lilies brought by me from Japan to Europe, and deposited in the Ghent Botanic Garden, are varieties of *L. speciosum*. To the one with flowers rose-colored blotched with purple, I gave the name of *L. speciosum Kœmpferi*, because it was the indefatigable botanist Kœmpfer, who first made it known to Europeans. For the second with pure white flowers, I preserve the Japanese name Tametomo, which it bears in its own country, in consequence of having been first brought by that hero from the Loo choo islands, as the Japanese assert. The beauty and fragrance of the flowers of these two kinds rank them amongst the most magnificent of their genus; I should even say that *L. speciosum Kœmpferi* stood at the head of them all, if a variety of *L. longiflorum*, which I have seen in Japan with flowers often eight or ten inches long, did not dispute the palm on account of its sweetness. *L. speciosum Kœmpferi*, is cultivated all over Japan as an ornamental plant. Its true country is probably China, or rather Korii, if we may judge from its name Korai-juri or Korai-lily. It flowers in May and June; in the Botanic garden at Ghent it did not flower in 1832 (the first time in Europe) till August. Like other kinds of lily it is freely propagated by scales; it does not however bear bulbs in the axils of the leaves. It succeeds very well in a cold greenhouse, and even in the open air if protected. The variety of *L. tametomo*, although it has pleased some botanists to make a peculiar species of it, under the name of *L. eximium*, differs nevertheless, only in its flowers being quite white, and the leaves rather more distinctly stalked. According to some of the Japanese botanists it is found wild, not only in the Loo-choo islands, but also in the north of Japan; but it has, perhaps, been confounded with *L. japonicum*, which is often wild in those countries."

3. *GESNERIA STRICTA*. Upright Gesneria. (Bot. Mag. 3738.)

GESNERIACEÆ. DIDYNAMIA, ANGIOSPERMIA.

This pretty and very robust growing species was collected by Mr. Tweedie, in South Brazil, and forwarded to the Glasgow Botanic Garden, where it bloomed for the first time in July 1835. The flowers are about two inches long, of a red colour, and the habit of the plant is similar to *G. Sceptrum*, it requires to be cultivated as the other species.

4. *BURLINGTONIA MACULATA*. Spotted Burlingtonia. (Bot. Reg. 44.)

ORCHIDACEÆ. GYNANDRIA MONANDRIA.

This very distinct and pretty species was obtained from Brazil, by Messrs. Loddiges, in whose extensive collection it bloomed during the spring of 1838. The flowers are yellow spotted with brown, except the inner part of the lip which is of a delicate white. It requires similar treatment to what we described last month at page 187, for *Dendrobium Jenkensonii*.

5. *CATTELEYA CITRINA*. Yellow flowered Cattleya. (Bot. Mag. 3742.)

ORCHIDACEÆ. GYNANDRIA MONANDRIA.

A very fine and distinct species grown in the collection at Woburn Abbey, where it was received from Mexico in 1838. The flowers are about the size of the common *Tulipa sylvestris*, which it also somewhat resembles in form and colour. The plant is of easy culture, and we have no doubt will prove a valuable acquisition.

6. *GESNERA MARCHII*. Mr. March's Gesnera. (Bot. Mag. 3744.)

GESNERIACEÆ. DIDYNAMIA. GYMNOSPERMIA.

A beautiful and distinct variety introduced from the Organ Mountains of Brazil, by Mr. Wailes, of Newcastle, in whose collection it has bloomed. The stem grows from two to three feet high, producing numerous blossoms of a fine scarlet colour.

7. *HETEROTROPA ASAROIDES*. Asarabacea like *Heterotropa*. (Bot. Mag. 3746.)

ARISTOLOCHIEACEÆ. DODECANDRIA MONOGYNIA.

A very singular and rare plant introduced from Japan, by M. Von Siebold, and is cultivated at the Epsom Nursery, where it blossomed towards the end of February. It bears great affinity with the genus *Asarum*, but from which it has been separated on account of the arrangement of its stamens, and structure of the anthers, and also because of the nearly superior position of the orary. The flower bears a perfume similar to a ripe apple, and is of a dull purple colour, blotched or waved with grey towards the throat.

8. *INGA HARRISII*. (Bot. Reg. 41.)

MIMOSEÆ. POLYGAMIA POLYANDRIA.

A native of Mexico, from whence it has been imported by Thomas Harris, Esq., of Kingsbury, in whose fine collection it has recently bloomed; many of the Mexican plants require a temperature some little higher than a common greenhouse, so the present plant appears to require. It is a pretty climbing shrub, flowering freely; the corolla is rose coloured, beyond which the stamens protude more than half an inch, and appear like numerous crimson silken tassels. It is easy of culture, and readily propagates by cuttings of the young shoots. It delights in a fresh and rich soil.

PART III.

MISCELLANEOUS INTELLIGENCE.

 QUERIES.

LISIANTHUS RUSSELLIANUS.—I have purchased on several occasions plants of *Lisianthus Russellianus*, but after trying my utmost to get a plant to bloom, I have failed hitherto. I have tried to grow it in a cool frame, greenhouse, and hothouse, and with peat soil, peat and loam, and rich loam, but in every case unsuccessful. I shall feel much obliged to some reader of the Cabinet, who have succeeded to bloom the plant, (for I see by accounts of Floral Exhibitions, several large plants in bloom have been shown;) would furnish me with the particulars of the mode of treatment through the medium of the Cabinet.

Aug. 3rd, 1839.

CLERICUS.

 ANSWERS.

ON MICHAELMAS ASTERS.—A list is requested by a Correspondent in a late Number of the Floricultural Cabinet, if the Conductor wishes for such a list, he need only apply to Mr. Rivère, for in a small work called the *Vintor*, (of last month) is to be found the following remarks upon that flower, "attention has lately been paid to the increase of the Michaelmas Aster, and already we have for this month alone about a dozen of various heights, from two feet high (*Aster Amellus*) to seven feet high (*Aster Roseus*) and from fine white (*Aster Elegans*) to bright pink, pale blue and purple (*Aster Novæ Angliæ*.) Mr. Rivère has been successful in cross breeding those flowers, so cheerful at the commencing of our gloomy season, by tying together the flowers of the different sorts he is desirous of crossing; such as the rose-coloured and the white, the rose and the blue, and he describes his seedlings for one season, one thousand in number, as having all degrees of colours, from dark blue to the most beautiful azure, from light rose colour to the most delicate blush, and from pure white to the French, or greyish white, in countless varieties of shades, and of all sizes, some being the size of a sixpence, some an inch, or inch and a half in diameter, and some semi-double."

Such is the report made of the Michaelmas Aster in the above mentioned work, and if it should be of use to Mr. Harrison, and procure a list with such prices affixed as will come within the scope of a *SLENDER PURSE*, it will greatly contribute to the pleasure of H. M. E., and the beauty of her little garden.

(We shall be obliged if our correspondent would send us the number of the Publication to our Publishers, or inform us where to purchase it, as we cannot obtain it after several applications.—CONDUCTOR.)

 REMARKS.

ON HYBRIDISING—It remaineth to be ascertained whether there did exist a real natural, and indefeasible difference between plants which could produce a fertile, and those which could produce a sterile offspring, by blending their races. It was my opinion, that fertility depended much upon circum-

stances, of climate, soil, and situation, and that there did not exist any decided line of absolute sterility in hybrid vegetables; though from reasons which I did not pretend to be able to develop, but undoubtedly depending upon certain affinities either of structure or constitution, there was a greater disposition to fertility in some than in others. Subsequent experiments have confirmed this view to such a degree, as to make it almost certain that the fertility of the hybrid or mixed offspring depends more upon the constitution than the closer botanical affinities of the parents. The most striking and unanswerable proof of this fact was offered by the genus *Crinum*, which is spread round the whole belt of the globe, within the tropics, and within a certain distance from them, under a greater variety of circumstances affecting the constitution of individuals, which, nevertheless readily intermix when brought together by human agency. The plant called *Crinum capense*, (formerly *Amaryllis longifoli*.) impregnated by either *Crinum zeylanicum*, or *Scabrum*, both at that time also called *Amaryllis*, produced offspring, which during sixteen years proved sterile, probably because notwithstanding their botanical affinity, the first is an extra tropical aquatic plant, and the two latter tropical plants which affect drier habitations, and readily rot, at least in this climate, in a wet situation. The same *C. Capense*, impregnated by *Crinum pedunculatum*, *canaliculatum*, or *defixum*, produces a fertile cross, though they are so dissimilar as to have been placed in different genera; and the author was formerly reproved by botanists, as having committed an absurdity, when he insisted upon uniting them. The reason of the fertility of their joint produce, seems to be that they are all aquatic or swamp plants; and it may be further observed, that the crosses with the two former, the plants being all extra-tropical, are much more fertile than that between *C. Capense* and *defixum*, because the latter is a tropical plant. The mules *Scabrum* and *Capense* having continued so many years with every appearance of absolute sterility, without any change of situation or treatment, at last produced one good seed in 1834, and another in 1835. These facts were of such an overbearing nature, that it became impossible for those who had charged the author with absurdity for uniting the parents under the genus *Crinum*, to which even certain other plants were then asserted to be more nearly allied, than the species at that time called *Amaryllis*, to contend any longer that they producing a fertile offspring were of different genera, and they will probably be never again disunited in any botanical work; but the facts furnish much ground for the serious consideration of men of science. It happens as if expressly designed to overthrow the theory, that the identity of species is proved by fertility or sterility in the mixed issue; that while *C. Capense zeylanicum* and *Scabrum* are very similar in their general appearance, and yield an offspring which has been found quite sterile, except in the case of the two seeds above mentioned, *C. Capense* and *Pedunculatum*, are as unlike, as perhaps any two species of any known genus; and if it were asserted that *C. Capense* and *Pedunculatum* are one species; and *C. Capense* and *Scabrum* two species, the assertion would appear to any person looking at the plants, too preposterous to require a serious answer.

ON MODELS FOR FLOWER GARDENS.—At some of the Floral Exhibitions recently held in, and about London, we saw several models of flower gardens formed with considerable skill, so as not only to be highly interesting objects, but very instructive. Green moss was placed so as to represent turf, sand for gravel, and flowers of a kind in masses to represent flower beds filled with flowers. Persons desirous of seeing something of the effect of a certain plan, would be able by such a prepared model to form an idea of its effect, if so constructed as a garden; or to see the contrast of arranging the colours even in a garden already formed. We think it would be useful to encourage the production of models of flower gardens, lawns with beds, and even kitchen gardens, plantations, and parks, by showing the grouping of various kinds of trees, &c. If Floral Societies would offer prizes for the construction of models formed after this manner, we feel confident it would meet with

the approval of visitors, and be found beneficial. Where Dahlias, China-Asters, and similar flowers are grown in quantities they afford a profusion of materials to appropriate for such purposes.—(CONDUCTOR.)

NEW AND RARE PLANTS,

Recently noticed at various Nurseries and Floral Exhibitions.

(Continued from page 191.)

Podolobium storophyllum.—A pretty flowering greenhouse plant, with yellow flowers having a reddish keel, blooming very freely.

Tabernæmontania coronaria.—The flowers are white and interesting.

Dillwynia glycinifolia.—Mr. Butcher, gardener to Mrs. Lawrence, exhibited a fine specimen of this pretty flowering plant. Its very numerous yellow and red flowers giving it a showy and interesting appearance.

Chorozema elegans.—This new and beautiful species has recently bloomed in the greenhouse in the London Horticultural Society's Garden. The flowers are of a brilliant yellow and crimson, produced in large spikes. It is a very desirable plant for the greenhouse.

Verbena Fergusonii.—This is similar to *V. Neilli* in habit, and the flowers of a lighter colour than *V. arranana*.

Stachy's Coccinea.—This plant is a native of Mexico, and bloomed at the Clapton nursery with the *Salvia patens*, &c. The plant grows to about half a yard high, having numerous branches flowering freely. The flowers are of a dull red, but though not brilliant when grown in masses, produce a pretty effect. It blooms in the open border from June to October.

Echium giganteum.—A fine plant of it was exhibited by Mr. Fielden, gardener to J. Linwood, Esq.; it had fine spikes of blue flowers, very showy. Both the kinds here exhibited deserve a place in every collection of greenhouse plants.

Anthocercis littoreus.—A greenhouse plant, flowers yellow, with dark streaks in the inside.

Pimelea hypericifolia.—flowers white, having bright yellow anthers, interesting.

Mahernia pimata.—A pretty flowering greenhouse plant, profusely in bloom, flowers bright scarlet outside, and blush inside.

Hemerocallis rutilans.—The flower-stems rise about a foot high, having flowers of a golden yellow.

Lilium longiflorum.—A very fine specimen having fourteen large flowers, of a most pure white, and fragrant. The plant had four stems rising about four feet high; it deserves a place in every greenhouse.

PELARGONIUMS EXHIBITED BY MR. CATLEUGH.

Victory, lower petals nearly white, upper petals with a large dark spot, slightly streaked.

Florence, lower petals pale rose, upper petals having a large dark spot, slightly streaked. The flower is nearly white at the centre.

Sylph, lower petals pale rose, upper petals with a large dark spot, the flower becoming whiter at the centre. The flower is very large.

Stella, lower petals bright pink, upper petals rosy crimson, with a moderate sized dark spot.

Splendidum, upper petals of a bright rosy crimson, having a largish dark spot, lower petals rosy crimson. The flower is lighter towards the centre, and of a very superior form.

Rienzii, the flower is of a beautiful pale pink, with a large dark spot on each of the upper petals, streaked with a darker colour, and having a centre nearly white. It is of a very superior form.

Una, white slightly tinged with blush, a moderate sized crimson spot on upper petals. The flower is of a fine form.

Magna Charta, white tinged with blush, the upper petals having a large dark spot, and streaked with dark. Flowers of a fine form.

Orange Boven, lower petals of a beautiful rosy pink, upper petals rosy crimson, having a moderate sized dark spot.

Fanny Garth, lower petals of a pretty light pink, upper petals pink having a large dark crimson, spot which is streaked and veined with darker; a very fine flower.

Mary of Burgundy, flower of a fine rose colour, having a large dark spot on the upper petals; fine form.

Discount, lower petals pink, upper petals of a rosy crimson having a dark eye. A very profuse bloomer.

Floribunda, whitish blush, upper petals having a large dark spot. The flower is of a superior size.

Dowager Queen, lower petals of a pale blush, upper petals having a large dark spot shading off to a fine crimson towards the edge of the petals.

Rebecca, lower petals pink, upper petals crimson, having a large dark spot. Flower middle sized.

Polygonum amplexicaule.—A hardy perennial plant, whose flower stems rise to the height of three or four feet, blooming from July to September, producing numerous spikes of crimson flowers. It requires, like most of the family, to be grown near water, so that its roots may reach it. (Bot. Reg.)

Medicago clypeata.—Sent from the north of India, the flowers are uninteresting, but the seeds are curious, resembling those seen in seed shops called snails. (Bot. Reg.)

Phaius bicolor.—Ochridaceæ.—Sent from Ceylon to Messrs. Loddiges; flowers of a very bright deep red, with a yellow lip. (Bot. Beg.)

Goodyera rubicunda, Synonym, *Neottia rubicunda*.—It has the habit of *G. procera*, but rather a less plant. The flower spikes rise about a foot high; the flowers are of a cinnamon brown colour, with a white lip. (Bot. Reg.)

Maxillaria lentiginosa.—The flowers are very like those of *M. stapeliodes*, only the spots are redder. It is a native of Brazil. (Bot. Reg.)

Vanda congesta.—Somewhat resembles *V. multiflora* in its flowers, being of a yellow and brown colour.

Mr. Hartweg collected in the mountaneous districts of northern Mexico seeds of many species of *Pinus*'s, and Dr. Lindley states in his truly meritorious work, the Botanical Register, that six of them are quite new to this country, lengthened descriptions of each are given.

Pinus Hartwegii.—Found to be a tree rising sixty feet high, the branches are very stout, like *P. palustris*; the leaves are upwards of six inches long, produced in fours. The cones of seed are four inches long and about two in diameter.

Gompholobium versicolor.—A greenhouse climber, the flowers are of a reddish yellow colour, introduced by Captain Mangles.

Acacia cynophylla.—Introduced too, we believe, by Captain Mangles.

Grevillia thelamanniana.—A native of New Holland, which produces racemes of fine scarlet flowers, well meriting a place in every conservatory and greenhouse.

Canostylis juncea.—A stiff growing herbaceous greenhouse plant, producing numerous flowers, well shaped, yellow.

Thysanotus isanthera.—It is an herbaceous greenhouse plant, flowering freely; the flowers are of a fine purple, much fringed.

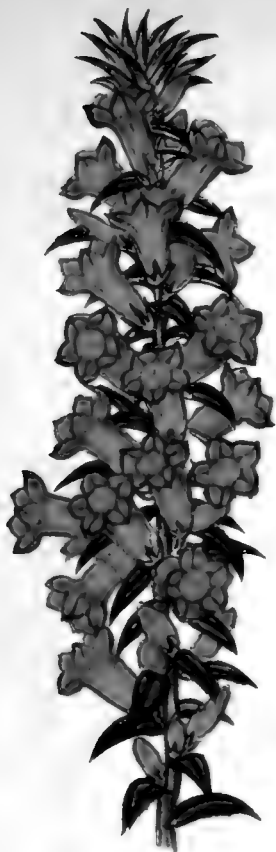
Glaucium rubrum.—Like the horned poppy, but of a deep red colour.

Centaurea pulchra.—An annual of considerable beauty; the flowers are of a fine deep blue, with a purple centre; it has flowered in the garden of the Hot. Society.

Gloxinia grandiflora.—Introduced from America; the flowers are like to *G. caulescens* in form and size, but of a lilac colour.

Thysanotus proliferus.—A native of the Swan River, and flowers for several successive months in the greenhouse. We believe it was introduced by





Ipomoea ...



Euphobium ...



... ..



Ipomoea ...

Captain Mangles; we saw it in bloom at the Clapton Nursery. The flowers are of a deep rich blush chocolate colour, having the petals beautifully fringed. It is a very neat and interesting plant, well deserving a place in the greenhouse.

Chorizema ovata.—A fine specimen three feet high with numerous branches, in profuse bloom, was exhibited by Mr. Butcher, gardener to Mrs. Lawrence. It was a most beautiful object.

REFERENCE TO PLATE.

EPACRIS COCCINEUS. We have remarked in a former Number of the Cabinet on this very beautiful flowering plant, where we stated it had been raised by Mr. Kynoch, gardener to A. Copeland, Esq., Leyton, Essex, where it had bloomed; we have since that time seen it in as profuse bloom at Mr. Lowe's, as the well known *E. impressa*. The present plant is of more robust habit than *E. impressa*, the foliage more dense, and of larger size. The flowers are larger, and more campanulate; plants are not yet to be procured, but when to be obtained, it deserves a place in every collection of greenhouse plants.

GOMPHOLOBIUM VERSICOLOR. This very pretty flowering greenhouse plant we recently saw in bloom. It was introduced from the Swan River Colony by Captain Mangles, R. N., and has flowered in the fine collection of R. Mangles, Esq., Sunning Hill, Berks. It thrives well in a compost of sandy peat and loam, and strikes freely by cuttings. The plant has a tendency like *G. polymorphum*, to grow up with but few lateral shoots, but if the leading shoot of a plant be pinched off it causes it to push lateral shoots, which if stopped too, will induce a production of shoots so as to make it quite a bushy plant. It deserves a place in every greenhouse.

TWEEDIA CÆRULEA. We have recently seen at the London Floral Exhibitions several plants in fine bloom. It is a handsome climbing plant, and when properly grown is very handsome. In consequence of its high price, those who procured plants, and not knowing its peculiar mode of treatment, have generally kept it in the hothouse or greenhouse, both of which situations are incongenial, and the plant becomes sickly; and in proportion to the height of the temperature the flowers become paler; when this has been the case, persons have been disappointed with it. It appears to require a greenhouse protection in winter, or a good cool frame, and to be turned out into the open border in May, trained against a good aspected wall, trellis, or some suitable support, where it is found it will bloom vigorously, and the flowers to be of a fine blue colour; it blooms from April to September. It has been supposed to be herbaceous, but plants have been kept for two years, and have now a shrubby habit. It is easily increased by cuttings; the plant deserves a place in every collection.

EPACRIS IMPRESSA var. *PARVIFLORA*.—The present kind was sent from New Holland by our much respected friend Mr. James Backhouse, to the York Nursery, under the name of *E. ruscifolia*; it is a very pretty and interesting plant, and like all the family of *Epacris* merits a place in every greenhouse; their neat and handsome flowers blooming from August to April, and thus are highly ornamental for winter, adorning the greenhouse. *Epacris*'s require to be carefully attended to, they ought not to be allowed to flag for want of water, and yet soon sustain injury by an excess; it is advisable to place the plant rather high in the centre of its pot, as should be done with heaths.

A sudden removal from extremes in temperature is also very injurious to the *Epacris*.

FLORICULTURAL CALENDAR FOR SEPTEMBER.

Annual flower seeds, as *Clarkia*, *Collinsia*, *Schizanthuses*, *Ten-week Stocks*, &c., now sown in pots and kept in a cool frame or greenhouse during winter, will be suitable for planting out in open borders next April. Such plants bloom early and fine, and their flowering season is generally closing when Spring sown plants are coming into bloom.

Carnation layers, if struck root, should immediately be potted off.

China Rose cuttings now strike very freely: buds may still be put in successfully.

DAHLIAS—Where the lateral shoots are numerous they should be thinned, so as to induce vigorous shoots and flowers. Seed from early blown flowers will be ready to gather by the end of the month.

Mignonette may now be sown in pots, to bloom in winter.

Pelargoniums, cuttings of, may now be put off; plants from such, will bloom in May.

Pinks, pipings of, if struck, should now be taken up and planted in the situation intended for blooming in next season.

Plants of Herbaceous *Calceolarias* should now be divided, taking off offsets and planting them in small pots.

Verbena Melindres (*chamædrifolia*) &c. Runners of these plants should now be taken off, planting them in small pots, and placing them in a shady situation. It should be attended to as early in the month as convenient.

Plants of Chinese *Chrysanthemums* should be repotted if necessary; for if done later, the blossoms will be small. Use the richest soil. Pinch off the heads of the plants having only single stems to induce lateral shoots, and obtain heads of flowers.

When *Petunias*, *Heliotropiums*, *Salvias*, *Pelargoniums*, (*Geraniums*,) &c., have been grown in open borders, and it is desirable to have bushy plants for the same purpose the next year, it is now the proper time to take off slips, and insert a number in a pot; afterwards place them in a hot-bed frame, or other situation having the command of heat. When struck root they may be placed in a greenhouse or cool frame to preserve them from frost during winter. When divided, and planted out the ensuing May in open borders of rich soil, the plants will be stocky and bloom profusely.

Lobelias, offsets of, should be potted so as to get well rooted before winter.

Tigridia, *pavonia* roots may generally be taken up about the end of the month, and a quantity of soil should be retained and be allowed to remain around it to dry, it contributes much towards preserving them through winter in a sound condition.

Greenhouse plants will generally require to be taken in by the end of the month, if allowed to remain out much longer, the foliage will often turn brown from the effects of cold air. The earlier succulents are the better.

Plants of *Pentstemons* should be divided by taking off offsets, or increased by striking slips. They should be struck in heat.

PANZIES.—The tops and slips of Panzies should now be cut off, and be inserted under a hand-glass, or where they can be shaded a little. They will root very freely, and be good plants for next season.

Evergreen hardy shrubs may be planted towards the end of the month, puddle and water freely till the autumn rains set in.

FLOWER GARDEN.—Towards the end of the month strong winds generally prevail, so that all plants should be securely tied up to prevent their being broken.

Seeds of many kinds of flowers will be ripe for gathering this month.

When *Lillies*, *Crown Imperials*, *Narcissuses*, &c. require dividing, take them up now, and replant them immediately.

THE
FLORICULTURAL CABINET,

OCTOBER 1st, 1839.

PART I.
ORIGINAL COMMUNICATIONS.

ARTICLE I.

ON THE CULTIVATION OF CALCEOLARIAS.

BY MR. E. BARNET, VICTORIA LODGE, REGENT'S PARK, LONDON.

THE admiration of this lovely tribe of flowers, as far as my observation goes, has been universal, their delicacy, graceful form, elegance, variety, and richness of coloring, with duration of a blooming period of eight successive months, alike combining to give them interest.

At some of the exhibitions of flowers recently held in and around the metropolis, there have been some most striking and beautiful spotted kinds exhibited, as the Conductor of the Cabinet would see, (We did;) white, cream, yellow, orange, scarlet, crimson, lilac and pink grounded flowers, charmingly spotted with dark.

I have a considerable collection of my own, and having paid more than the usual attention given by an amateur to their cultivation, I forward some remarks on the mode of treatment I have very successfully pursued, so as to have plants in pots three feet high with a profusion of flowering branches, so as to compose a compact head of ten feet in circumference.

Propagation.—The herbaceous kinds are readily increased by division of the offsets, which will generally be found rooted: in order to have plants to bloom vigorous the following year, they should be taken off early in August, and be planted in pots about four inches in diameter, and be placed in a cool frame, where

they may be kept till the following spring, by preserving them from frost and being over damp.

Half Shrubby and Shrubby kinds are easily increased by slips, taken off close to the stems they proceed from. Where an opportunity occurs of keeping plants to propagate from closely together, and they are placed upon a damp floor, or in a damp situation, that has the effect speedily to induce the production of small roots at the lower parts of many of the shoots, these shoots being taken off and potted in small pots in August or September, make fine plants for vigorous bloom the following year. Though slips and cuttings destitute of these infant rootlets, will strike if inserted in sandy peat and loam and placed in gentle heat in a hot bed frame, yet I find the foregoing method much more certain and much less trouble is occasioned.

During the autumn and winter I find my plants, so placed, afford me a numerous stock of rooted slips to take off, and I keep up my collection of young and handsome formed plants with little trouble, and am enabled to turn out into the open beds, not only my old plants, but any desired quantity of young ones too. During the last three years I have purchased one hundred and six of the best kinds I could meet with, and by this most easy method of propagation I have not lost one kind, but have a sufficient stock of each.

Compost.—I find equal portions of turfy sandy peat, loam, leaf mould, and well rotted hot-bed dung, well incorporated together for a few weeks before using to be the most suitable for growing the plants vigorously, I never have the compost sifted, but well chopped with the spade when going to use it for potting.

Potting.—A very free proportion of drainage is essential to their success, and I place in small pots, one inch deep of broken potsherds, and one inch of moss upon them, the largest pots I give two inches deep of each, upon this substrata the soil is placed. The Calceolaria imbibes a considerable portion of water by the roots, when it is in a healthy condition, to supply it with a fresh element of it, is therefore necessary; if there be not a free drainage to allow superabundant water to pass, the soil becomes saturated and sour, which occasions sickness, and often the death of the plant.

The time I repot my young plants, potted off in August and September, is about the middle of February; the most vigorous I plant in pots one foot in diameter and ten inches deep. Weakly

plants I put in pots half the size for a few weeks, and then repot them into the larger size, as the circumstances of growth require ; in pots of this size I bloom my stock generally, but when I see a plant in such a sized pot that would bear a larger I remove it into a size bigger.

After potting I place the plants in a greenhouse upon a moveable stage, which is fixed so that the plants may be about a yard from the glass ; (the stage is raised or lowered as desired by the turning of a wheel rack, with notch to secure at each end of the stage ;) here I keep them till they bloom, giving them a free supply of air, to prevent them growing up weakly. The surface soil in the pots is frequently stirred, so as to allow water to pass through regularly, and evaporation to rise to the plants. The Calceolaria is more susceptible of injury by watering than most plants in general cultivation, so that after all attention to draining, compost, and stirring the surface repeatedly, it is requisite to attend to a due order in giving a supply ; they should be so attended to as to keep the soil moist, not wet ; previous to the plants blooming I frequently sprinkle them overhead with water early in the morning, this keeps the foliage clean on its upper side, and the damp arising to the under side keep the plants free from the red spider, as well as promotes the rootlets before named. When the plants are in bloom I have a canvas cover over the roof of the house where the plants are. By keeping them in doors I have an opportunity of impregnating the flowers and obtaining seeds. I have a numerous progeny of seedlings now coming into bloom, many very beautiful and distinct. As soon as I gather the seed I have the plants placed out of doors where they are shaded from the sun from eleven to three o'clock, they push again here and bloom for the greenhouse in October ; if I want increase, I retain a few plants in a moist situation, as before observed.

E. BARNET.

Victoria Lodge, Regent's Park.

ARTICLE II.

REMARKS ON PROPAGATING THE HEARTSEASE.

BY PENSE.

My intention in sending the remark on propagating the Heartsease, is with a view to render an acceptable service to the public, for the success of a collection must depend mainly upon this process. I do not share in the fears that have been expressed, that I shall make the public so knowing, that they will not only strike their own plants, but also supply their neighbours, to the injury of the trade. It is no disadvantage to a nursery-man for a private person to amuse himself with striking a few cuttings; for though it may enable him to keep up his old sorts, he will naturally as he grows more and more fond of the fancy, purchase the new and beautiful kinds, which are annually raised from seed. Neither is there any objection to his giving away a few plants to his friends for it helps to extend the fancy, and those who began with a stock that cost them nothing, may soon become purchasers in their turn. All parties must remember, that if they wish to keep pace with the improvements that are continually going on, they must be always adding a few of the newest and best sorts to their collection; for the flower may still be said to be almost in its infancy, and what we admire one year is almost sure to be surpassed the next. I think, indeed, that novelty is a point to which the judges ought to pay more attention than they generally do at exhibitions, provided of course, that all other good qualities accompany it. And in this respect, as indeed in every other in which this flower is concerned, the amateur need not fear to compete with the nursery-man, for if his stock is smaller, his attention is probably less divided.

I have found there is an inconvenience, and frequent disappointment, attending the habit of putting in large pieces as cuttings I will therefore point out how I have succeeded in various ways in the use of small ones.

If they are intended to be struck under hand glasses, there should be a shady situation chosen for them. Then prepare some finely sifted mould, consisting of good loam and leaf mould, if it can be procured, to which add about one fourth-part of road sand, or river sand. Perhaps the best plan is to add the ingredients together first, and sift them afterwards, as this will mix them more

thoroughly than any other method. Then make a bed of not less than three inches deep, well pressed down with the hand or spade, and leave a margin of two inches beyond the space which the cuttings are to occupy. The earth should be watered with a fine rosed watering pot a few hours before it is planted, in order that the cuttings may be fixed more firmly in the ground. The person of course must be prepared with some number-sticks, about three inches long and not more than half an inch wide, to mark every sort as it is put in. All may begin numbering from either side, provided he always keep to the same way; but it is usual to commence counting from the left corner of the glass, to put the stick down first, and then the cuttings in succession behind it, till the next stick marks the commencement of a fresh variety. Leave about half an inch between the rows, and an inch between the cuttings in each row. The cuttings themselves should be about two inches long, taken off just below a joint, and then should be inserted about an inch deep, taking special care not to make the hole deeper than required, or else to fill it well in afterwards, that the bottom of the cutting may come immediately in contact with the soil, instead of being suspended in the air with a hole full of stagnant water below it. Press the soil gently but firmly round the cuttings, and sprinkle them lightly over with water. Then put the glass on, and when the sun shines powerfully let them be shaded with a mat till its strength is gone by. They will not require much water, the shoots being of a moist substance themselves; and if they are much wetted, or deprived entirely of the sun, they will be in danger of suffering from damp. After they have been in about a fortnight, the glass might be occasionally removed at night for the sake of catching the refreshing dews, and replaced in the morning. When it is perceived that they are beginning to grow, and the tops have extended themselves, pinch off the extreme points of them, and they will make snug bushy plants. Even if they have not rooted, which is sometimes the case after they begin to grow, this practice of pinching off the top will help to check the rising of the sap, and cause the roots to protrude earlier than they would otherwise have done. Those who have no hand glasses, or who have more cuttings to strike than their glasses will contain, must prepare a shady border in the manner already described, and cover it with a mat, which may be removed at night for the advantage of the dews, but the shade must be renewed by nine or ten o'clock in the morning, or all the previous labour will be thrown away.

There is another piece of advice, for which I think the beginner will be grateful, and that relates to the worms and insects, which he will often find very troublesome among his cuttings. If the cuttings are annoyed by worms, procure half a bushel of stone lime, and put it into a tub with about twelve gallons of water. When it is slacked, stir it occasionally; then let it settle till it is quite clear. After freeing the water from the scum that rises to the top, sprinkle the cuttings all over with it in the evening, about dusk, as then the worms will be either on the surface or very near it. If one watering is not sufficient, it must be repeated in a few days; and it would benefit not only cuttings, but rooted plants in your beds, destroying the slugs and grubs, especially if done on a moist evening, when they are most numerous and early in their appearance.

PENSE.

ARTICLE III.

ON THE CULTURE OF PELARGONIUMS, (GERANIUMS OF MOST.)

BY A FOREMAN OF A LONDON NURSERY.

THE very great addition to this lovely tribe of plants, during the present season as has been exhibited at the Floral meetings, held at the rooms of the London Horticultural Society, in Regent street, at the gardens of the society at Turnham Green, and other places, will render it quite unnecessary for me to apologize for sending the following remarks on the culture of so generally an esteemed family for insertion in the Floricultural Cabinet, they are the results of my mode of treatment with a collection of above ten thousand plants which are under my charge.

Propagating by Cuttings.—Early in June I take a sufficient quantity of cuttings of the different varieties, and after carefully preparing them, by taking off the lower leaf, and cutting horizontally through the stem just below a joint, I insert each sort separate, in pots previously filled with a mixture of three parts sharp sand, and one part sandy loam, using plenty of drainage at the bottom. After the cuttings are all put in, I give a good watering, and then remove them to a moderate hot-bed, and plunge the pots to the rim; I keep the lights shut close, except in the morning, when I admit a little air, and with due attention to shading and watering, I find them to be well rooted in about a month. Those kinds

in which we abound I prepare cuttings as above described, and prick them out in a bed of finely sifted soil, in a warm situation in the open air. By shading them for a short time they soon strike root. When this is perceived to be the case, I pot them singly into small 60s, shifting at the same time those that were inserted in the small pots. In potting I use a compost of equal parts of sandy loam, peat, and well decomposed manure, adding about one eighth part sand; when potted, I place them in a frame, where the lights are put on in the day time, in order to throw a mat over them to shade the young plants from the sun; the lights are taken off in the evening, and the plants supplied with water, until they have struck fresh root, when this is found to be the case, the lights are removed altogether, and the plants duly supplied with water. They remain in this state till the middle of August, when I carefully examine them, and shift those which have made sufficient roots into one size larger pots, being careful in this, as in all other shiftings, to use a sufficient quantity of drainage to carry off the superfluous moisture. Those plants not sufficiently rooted by that period, I defer shifting till the spring, as they succeed better when shifted at that time. After thus looking over all the plants, they are replaced in the frame, and treated the same as before, with this exception, that the lights are put on at night, and during heavy showers. About the first week in October they are removed to the greenhouse, where they receive all the air that can be admitted with a regular, but moderate supply of water. Fire heat is not used except to repel frost, or the dry damps arising from watering, or other causes; to avoid damps in a measure I find it best to water in the morning, so that the air admitted during the day assists to carry off the superabundant moisture. The surface soil in the pot is frequently stirred, and occasionally some of the old removed and renewed; all decayed leaves are removed, both on account of the well being of the plants, and to preserve neatness and order.

Potting.—The time of performing this operation is partly regulated by the state of the plants; those that were shifted in August, do not require shifting again till the middle of February, and again early in April, whilst those that were not shifted in the autumn require their first shift in February. In each successive shift I use one size larger, taking care to put plenty of drainage into the bottom, and to press the soil firm in the pots. I find the following compost to answer well: two barrowsfull of light hasel

loam, (from the surface of a rich pasture, which should be collected at least a twelvemonth before it is used,) one and a half barrowful of well rotted hot-bed manure, one barrowful of turfy peat, half a barrowful of pigeon's dung, two or three years old, and a quarter barrowful of sand, the whole being mixed in the autumn, and put under an open shed. In using it I do not sift it but it is chopped fine with a spade. As the spring advances I allow a more copious supply of water, and I find that by using liquid manure once a week after they begin to grow, the plants are greatly strengthened, and the size of the flowers increased. When the flowers begin to expand, I shade them from the sun, by rolling a canvass over the roof of the house, which contributes to heighten the colours, and they remain much longer in bloom. The plants are placed on stages, which are constructed so that the surface of the plants are not more than five feet from the glass and a free admission of air being admitted at the sides of the double roofed houses, as well as at the roof, the plants are stiff and robust. Attention is paid to placing the plants at a greater distance from each other, as they advance in growth, and thinning away the shoots so as to leave them regularly placed and properly tied to sticks so as to splay around and form compact heads.

In June the plants are removed from the greenhouses to an appropriate situation in the open air, where they receive the full influence of the sun till eleven, o'clock and by attention to watering many of them continue to bloom through the summer. Early in September, the plants are cut down to within a few inches of the pots; and they flower well the second year.

On Raising New Varieties.—This department of their culture may prove a source of great amusement and gratification to those who can devote sufficient time to it. Good varieties may often be obtained from seed saved promiscuously from fine flowers; yet in order to ensure success, it is necessary to have recourse to impregnation, in performing which, the following rules are strictly observed. The operation is performed with blossoms as nearly as possible, in the same state of advancement. The anthers are removed from the flower intended for impregnation in the morning, because the pollen is then moist, and not so likely to escape by accident, so as to confuse the experiment. A considerable quantity of pollen is used in such impregnation, both on account of the chance of a minute particle of the natural pollen having escaped, and also because it is more difficult to produce fecundation

with the other. Both before and after the operation, the flower impregnated is covered with a piece of thin gauze, to prevent the bees or other insects from intermeddling and rendering the operation vain. The colours of the parents are selected as distinct and opposite as possible as to colour. The plants after operation are placed in a situation in the greenhouse where they can receive the full influence of the sun. The seeds are gathered as soon as they begin to turn brown, otherwise, being furnished with a downy appendage, they are liable to be blown away by the wind; they are sown in pans or boxes, in light soil, and covered about a quarter of an inch with the same, but finely sifted, and placed in a hot bed frame. When they have made two or three pair of leaves, they are potted into small pots, kept in a greenhouse. Though few of the strongest plants flower the first summer, yet the greater part do not till the following spring.

ARTICLE IV.

ON THE CULTIVATION OF ERICAS.

(Continued from page 205.)

There is no subject in gardening more difficult to give written directions upon, than that of soils, so little, unfortunately, have they been chemically studied, so vague and unintelligible are the tests by which they are practically known. The soil which the *Ericææ* and many other fine rooted plants prefer, is called peat, bog mould, heath mould, moor earth, &c., and abounds in sufficient quantities in many places, particularly in uncultivated heaths. But of this soil there are both good and bad sorts, that is, sorts in which plants will grow to perfection, and others in which they languish and decay. Nor is it to be taken for granted that that peat which produces the finest and healthiest crops of our common heaths, such as *Erica Tetralix*, and *cinerea*, is always a fitting soil to be used for exotic plants of similar habits; for many, by contenting themselves with this test, have found out their error, when too late to remedy it. That peat is best which contains about one fourth or one fifth of coarse white sand, and is taken from a dry heathy common, which is never overflowed with water, and off a sub-soil in which the recently discovered chemical substance, creasote, which has deleterious effects upon all vegetables, does not abound. It might be well for the cultivator to have a chemi-

cal analysis made of his soil, by which the presence or absence of creasote would be determined, and which any respectable chemist would discover for him. When abundance of sand does not naturally abound in the peat, any coarse white sand, free of iron matter, may be added. It appears to be of little consequence whether or not good peat be prepared for any previous period in the compost yard prior to using; we rather think that the sooner it is used the better. As a substitute for peat, some have recommended very rotten dung, decayed leaves, &c., having a due proportion of gritty sand added; and others have suggested the addition of very rotten manure to be used with peat, with a view to increase the rapidity of the growth of the plants. The former may be used, in default of better, for hardy American plants, but the addition of the latter is by no means to be recommended.

Water.—Soft water alone should be used for watering plants of every denomination; that from a pond or large river, or such as is collected in cisterns from the roofs of buildings, to be preferred. Water pumped from wells, and such as may be procured from springs, should be exposed for as long a period as possible to the action of the sun and air before it can be usefully applied to plants. Water impregnated with mineral matter, such as iron, salt, &c., should be carefully avoided; and that containing much calcareous matter is injurious to many plants, and to none more so than the genus *Erica*.

Shifting and Potting.—Early in spring appears, from practical observation, to be the most proper time for shifting or potting plants of this order that they may make roots during summer; but to this rule there are some exceptions, namely, the state of health of such individuals as require shifting into other pots at various periods of the year. All plants whose roots have completely filled the pots, and whose balls are hard in consequence, should be shifted into pots of one size larger. All plants that appear in a weak and sickly condition, should be turned out of the pots and the roots examined, the dead ones cut away, the sour and exhausted mould displaced, and then planted into a pot somewhat smaller than that out of which it was taken. When a pot feels heavier than usual, it is a sign that the ball has absorbed too much water, either from an excess of that element having been supplied, or, as is more generally the case, from imperfect draining. When such is the case, reduce the ball, prune the roots, and re-pot it as recommended above. The mould should be prepared by being

chopped fine, or even put through a coarse sieve, of not less than one inch in the mesh, unless, indeed, the plants be young; for very large plants, the mould may even be much coarser than that which will pass through a sieve of the above dimensions. Whether for large or small plants, it is absolutely necessary that the mould be dry at the time of potting, as should also be the pots into which the plants are to be put. It is not always necessary that new pots should be used, but care should be taken that they are clean, and selected of sizes, to suit the plants to be operated on.

In potting, draining is of the first importance; for this purpose from one to three inches, according to the size of the pot, should be filled with broken pots, cinders, small stones, chippings of freestone, or small pebbles, over a piece of potsherd or oyster shell, placed over the hole in the bottom of the pot: over this drainage a thin layer of dry moss should be placed, to prevent the finer earthy particles from being washed down, and to stop the cavities through which the superfluous water is intended to pass; and as the various species of moss, *hypna*, &c., have the property of absorbing humidity, and also of retaining it for a considerable time, the roots will by this means be kept cool and moist, much to their advantage.

In placing the plant in a new pot, it has been recommended to keep the top of the ball considerably above the level of the top of the pot; in so far as the plant is concerned, this is admitted to have rather an unsightly appearance. The rationale of this mode of potting appears to be, that it prevents the plant suffering from excess of water, as the ball at the stem of the plant is so much above the level of the part next to the pot, that the water, instead of finding its way into the centre of the ball, passes down between it and the pot, where are all the roots that are capable of absorbing it for the use of the plant; the superabundant water passing off through the drainage.

The balls of heaths, if in good health, do not require to be broken, as is necessary with some other plants; it is in general sufficient if the sides of the balls be gently patted with the hand to loosen the outside fibres, which, in healthy plants, will be found in abundance round the outside of the ball, nor should any plant be shifted until such is the case.

It appears to me that the free or luxuriant growing sorts thrive best in rather large pots, and in a peat soil not over sandy, while the slow growing and slender sorts require much smaller pots, and

a soil in which more sand abounds, either naturally or by addition; it is also necessary that the pots into which the latter are to be placed should be completely drained. The latter also requires at all times much less water, because they are, for the most part, found indigenous in soils and on situations where little soil and less moisture abounds.

ARTICLE V.

ON THE CULTIVATION OF THUNBERGIA ALATA, AND T. LEUCANTHA.

BY CLERICUS.

WHEREVER I have seen these beautiful climbers cultivated in doors by professed gardeners or amateurs, I have invariably noticed the speckled, or sickly appearance of its leaves. This, I have no doubt arises more from the unsuitableness of the soil in which the Thunbergia is planted, than from any difference of temperature to which the plant is subjected.

The beauty of all flowers, especially those of light colours, is greatly increased by being contrasted, with a rich deep foliage. This desideratum may be obtained in the Thunbergia, by planting it, when five or six inches high, in a mixture of cow-dung and pure black peat (without sand): the composition can scarcely be too rank. In proof of the efficacy of this mode, I may mention, that I have had it with leaves, and grown in a south window, that measured four inches in length. During the last summer I had also two other plants, raised from seed in a cold frame, which were equally healthy although later in flowering.

Thunbergias are readily raised from seeds, which should be sown singly in pots three inches in diameter; these may be placed within a cucumber frame, kept moist; and have as much air as possible. When the runner is six inches high, prepare a compost of equal parts, cow-dung and peat; shake the plant and ball entire out of the small pot, and insert it in the centre of one seven inches in diameter, previously partly filled with the composition; then add more of the moist compost, not pressing it too close, that the roots of the plants may work through the interstices to the sides of the pot; dredge a little mould or sand on the top, to prevent too rapid evaporation; and then the plant may either be returned to the frame, or placed in a south window, until fairly rooted, and the

weather be suitable to place it out of doors. It will bloom in about ten weeks from the time of sowing the seed. For a window or otherwise, the plants looks and thrives best if the three leads be allowed each a small neat stick to climb up, which at a yard high may form a pyramid, and the plant be stopped when at the top; pendants will then be thrown out, and flower beautifully.

If the red spider ever attack a plant, I turn it upside down and immerse it in soap suds for a few minutes this never fails to destroy the insect.

I have grown both the kinds very freely in the open air, planting them against a wall which has a south-east aspect. I turned them out of pots the last week in April, sheltering them a little with a net till the end of May; the soil in which they grew was a mixture of peat and rich loam, I had some planted out into my flower beds, which are well sheltered from the prevalent westerly winds, and they too bloomed admirably; I allowed the plants grown against the walls to twine around upright wires, placed at an inch from the wall, the shoots reached nine feet high last season and bloomed most profusely, and I scarcely need add, produced a very pretty appearance, more especially so when I had a plant of fine blue purple flowered *Maurandia Barclayana* planted, between the buff and white *Thunbergias*, the contrast was pleasing: the plants I had in the open flower beds I had trained up a central wire stem, two feet high, having a head resembling an umbrella of three feet in diameter, the shoots soon covered the surface, and hanging pendant at the extremities were very interesting.

Northampton, July 2nd. 1839.

CLERICUS.

ARTICLE VI.

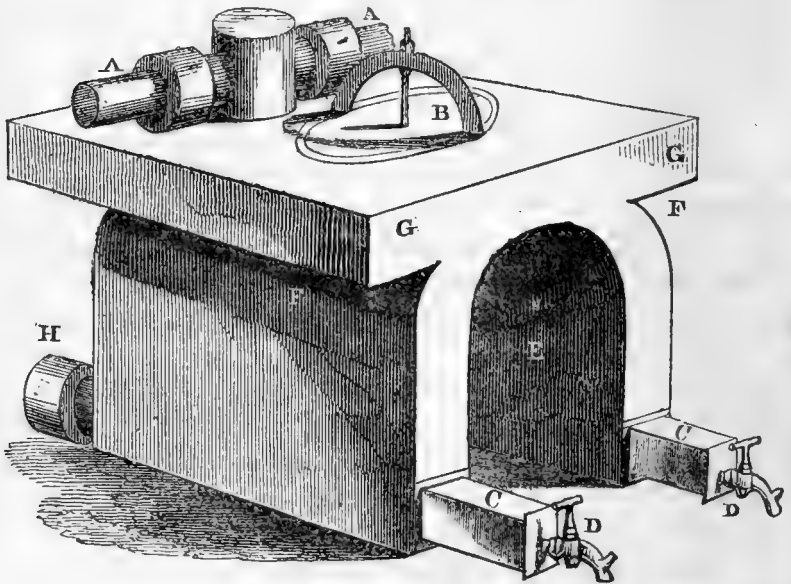
WILLIAMS AND Co's. PATENT WROUGHT IRON BOILER FOR HEATING GREENHOUSES, &c. WITH HOT WATER.

BY W. GARDENER, KNAP HILL.

PRESUMING that all subjects connected with the construction or heating of horticultural buildings will be acceptable to your numerous readers, I beg to direct their notice to the accompanying drawing of a boiler invented by Williams & Co., which in my estimation appears to possess merit peculiar to any other boiler used for heating greenhouses and other erections with hot water. The chief feature in the plan is the simple and easy mode adopted

for cleansing the inside, which appears to have been overlooked by makers of other descriptions of boilers used for the same purpose; the boiler is very compact, and every advantage appears to have been taken for the economizing of the fuel, which from the way in which the heat is caused to act upon every part of the boiler must be a very considerable saving of fuel.

Several of these boilers were erected last winter, and have given the greatest satisfaction from the testimonials which I have in my possession. The price of the apparatus does not exceed any common plan of hot water apparatuses.



A A the flow pipes. B man-hole. C C apertures of three inch square pipe, nine inch long with cocks. D D fixed on to the front with a moveable flange, to clear out the dirt, &c., from the inside. E the fire place. F the outside of the boiler forming the side flues, where the fire passes round. G the top of the boiler. H the return-pipe.

(We admire the plan adopted by the patentee in offering to guarantee the success of the boiler for five or more years. See advertisement.—COND.)

W. GARDENER.

Knap Hill, July 20th.

ARTICLE VII.

ON CHINESE GARDENS.

(Continued from page 208.)

In their plantations, the Chinese Artists do not, as is the practice of some European Gardeners, plant indiscriminately every thing that comes in their way; nor do they ignorantly imagine, that the whole perfection of plantations consists in the variety of the trees and shrubs of which they are composed: on the contrary, their practice is guided by many rules, founded on reason and long observation, from which they seldom or ever deviate.

“Many trees, shrubs and flowers,” sayeth Li-Tsong, a Chinese author of great antiquity, “thrive best in low moist situations; many on hills and mountains: some require a rich soil; but others will grow on clay, in sand, or even upon rocks; and in the water; to some a sunny exposition is necessary; but for others, the shade is preferable. There are plants which thrive best in exposed situations; but, in general, shelter is requisite. The skillful gardener, to whom study and experience have taught these qualities carefully attends to them in his operations; knowing that thereon depend the health and growth of his plants; and consequently the beauty of his plantations.

In China, as in Europe, the usual times of planting are the autumn and the spring; some things answering best when planted in the first, and some in the last of these seasons. Their Gardeners avoid planting, whenever the grounds are so moist as to endanger the rotting of the roots; or when the frosts are so near as to pinch the plants, before they have recovered the shock of transplantation; or when the earth and air are too dry to afford nurture to them; or when the weather is so tempestuous as to shake or overturn them, whilst loose and unrooted in the ground.

They observe, that the perfection of trees for Ornamental Gardening, consists in their size; in the beauty and variety of their forms, the colour and smoothness of their bark, the quantity, shape, and rich verdure of their foliage; with its early appearance in the spring, and long duration in the autumn; likewise in the quickness of their growth, and their hardiness to endure the extremities of heat, cold, drought or moisture; in their making no litter, during the spring or summer, by the fall of the blossom; and in the strength of their branches, to resist, unhurt, the violence of tempests.

They say, that the perfection of shrubs consists not only in most of the above mentioned particulars, but also in the beauty, durability, or long succession of their blossom ; and in their fair appearance before the bloom, and after it is gone.

“We know,” say they, “that no plant is possessed of all good qualities ; but choose such as have the fewest faults ; and avoid all the exoticks, that vegetate with difficulty in our climate ; for though they may be rare, they cannot be beautiful, being always in a sickly state ; have, if you please, hot-houses and cool-houses, for plants of every region, to satisfy the curiosity of botanists ; but they are mere infirmaries : the plants which they contain, are valetudinarians, divested of beauty and vigour ; which only exist by the power of medicine, and by dint of good nursing.”

Amongst their favourite trees, is the weeping willow, which they cultivate with great care, and plant near all their lakes, rivers, fountains, and wherever else it can be introduced with propriety ; dwarf kinds of it are raised in pots, for the apartments.

The excessive variety of which some European Gardeners are so fond in their plantations, the Chinese artists blame ; observing, that a great diversity of colours, foliage, and direction of branches, must create confusion, and destroy all the masses upon which effect and grandeur depend ; they observe too, that it is unnatural ; for, as in Nature most plants sow their own seeds, whole forests are generally composed of the same sort of trees. They admit, however, of a moderate variety ; but are by no means promiscuous in the choice of their plants ; attending, with great care, to the colour, form, and foliage of each ; and only mixing together such as harmonize and assemble agreeably.

They observe, that some trees are only proper for thickets ; others, only fit to be employed singly ; and others, equally adapted to both these situations. The mountain-cedar, the spruce and silver firs, and all others whose branches have a horizontal direction, they hold improper for thickets ; because they indent into each other : and likewise cut disagreeably upon the plants which back them. They never mix these horizontal branched trees with the cypress, the oriental arbor vitæ, the bambu, or other upright ones ; nor with the larix, the weeping willow, the birch, the laburnam, or any of a pendant nature ; observing, that the intersection of their branches forms a very unpicturesque kind of network.

(To be Continued.)

PART II.

NEW OR RARE PLANTS.

(Noticed since our last.)

GESNERIA ELONGATA; var. *Gesneria elongata*, var. (Bot. Mag.

DIDYNAMIA GYMNOSPERMIA. GESNERIACEÆ.

This plant was received at the Botanic Garden, Edinburgh, in September, 1836, from the Messrs. Young, Nurserymen, Epsom, under the name of *G. oblongata*, perhaps by an error in the transcriber. It flowers most freely, exhibits a long succession of blossoms, and is therefore very desirable in cultivation. It differs from *G. elongata* of Humboldt in its much shorter peduncles, in the more obtuse base of the leaves, in its less angular branches, in the colouring of the veins and lower surface of the leaves generally, and in the subulate segments of the calyx. In these respects, it more nearly agrees with *Gesneria mollis*, but from this it differs again, and agrees with *G. elongata*, by its four flowered umbel and much shorter pedicels, and the bracteæ opposite at their origin; the length of the peduncle being intermediate between its state in these two species. There are very many forms of *Gesneria* from the tropical parts of America, but I cannot think they ought all to be considered as species. This opinion is strengthened by the figures and descriptions of Humbolt, and the inspection of our present plant, which leads me to suspect that it may connect together as varieties *G. mollis* and *G. elongata*.

Whole plants villous. Stem (five feet high) shrubby, much branched; branches ascending. Leaves (three to six inches long, and one and a quarter to two and a quarter broad) opposite and decussating, petiolate, lanceolate, acuminate, neatly and subequally serrated, somewhat harshly pubescent and bright green above, white with soft tomentum below. Umbels four flowered, villous, shorter than the leaves; peduncle shorter than the petiole; pedicels about two thirds of the length of the peduncles; bracteæ two, opposite, lanceolate, at the subdivision of the umbel. Flowers unilateral. Calyx with small, spreading, ovatosubulate segments. Corolla (one inch long, half an inch across) tubular, clavato-ventricose, dilated and somewhat fleshy at its base. Stem contracted, and after being dilated, again slightly contracted at its mouth; villous on the outside, glabrous within; limb spreading, lobes subequal, rounded, crenate. Stamens inserted into the base of the corolla, and rising to the throat; filaments pubescent; anthers divaricated at the base, where the connective is dilated, cucullate and fleshy, fifth stamen rudimental. Pistil pubescent; stigma minute, truncated; style bent at its base, compressed; germen more than half imbedded in the adhering calyx, and surrounded at its free apex with five glands. Ovules numerous, and minute.

ONCIDIUM PULVINATUM. Cushion Oncidium. (Bot. Reg. 42.

GYNANDRIA MONANDRIA. ORCHIDACEÆ.

W. Harrison, Esq., sent this charming species from Rio Janeiro, in 1834, to R. Harrison, Esq., of Aighburgh, near Liverpool. It is equal to *Oncidium altissimum* in stature, producing a panicle of numerous flowers, three yards long. The flowers are one inch across of a golden yellow, marked and spotted with blood colour. It is a very desirable species.

PART III.

MISCELLANEOUS INTELLIGENCE.

QUERIES.

ON PANSIES.—When is the time to increase Pansies, so as to have them in a condition the best adapted to endure the winter? Is it usual to keep them through the winter in the open air, or to preserve some of the choice kinds in the greenhouse? P.

(Thrives best in pots, kept in a cool frame.—COND.)

ON GERANIUMS, &c.—Having a little collection of plants growing in beds, but which are principally Geraniums, would you, or any of your readers, be so obliging as to inform me, through your Magazine, how I can preserve them in the winter, having neither frame nor pot. Do you think cutting them down as soon as they have bloomed, and, about October, burying them in saw-dust, would succeed? LOUISA.

(We have seen that mode tried and the roots kept alive, but they grew very weakly the following season. It is far preferable to take the plants up, and place them as close as possible in a wicker basket, or box, and after filling up with soil, water them, and they may be kept in a cellar or kitchen, where it is cool; and plant out in spring.—COND.)

ON THE CRITERION OF A DAHLIA FLOWER.—The Conductor of the Cabinet would oblige many of his readers by informing them whether it is proper to take out the eye, (centre) of a Dahlia flower, before shewing it at an exhibition, and whether a flower so treated should be disqualified or not?

The question is asked in consequence of a dispute about the matter; one party considering it right to “take as much of what is judged to be defective from a flower as the person pleases, but, add nothing to it; whilst the other party contends, “let the flower be as it naturally grows, to be so taken from the plant, and thus exhibited.

If the latter be the condition, not even a defective petal can be allowed to be taken away without violation of the rule, in which case a pan of flowers in a perfect state would very rarely be seen. An answer in the September Cabinet will be esteemed a favor by HOPE.

(It is certainly not only our own decided opinion, but one, we believe, pretty generally admitted amongst growers, that every Dahlia bloom having the centre taken out is totally disqualified, and that a bloom having only some one or two defective petals extracted is not disqualified, and for several reasons, a primary one of which, is, that there are several kinds of Dahlias very rarely producing blooms without an imperfect centre, the taking out of such, and causing the inner petals to close over and conceal the hollow made by taking out the eye, deceives the spectators in a very material point, being an artifice, which, (from the circumstance of their being prohibited to touch a flower,) they are not likely to discover. By the deception thus practised, a false impression of the qualities of a flower is received and subsequently a number of plants are ordered, in many cases, solely to grow for competition, at exhibitions, these when blooming, not only create much dissatisfaction, but, depending upon what appeared positively to be a good

flower, the parties being misled are thus prevented having desirable flowers to shew, and thereby excluded from having a fair chance of obtaining the prizes. We have known several instances of this sort. If the evil was not even of a greater extent, than an attempt by disguise to deceive the censors, as it might do in instances where the exhibition is of great extent, and sufficient time is not allowed, so as to have an opportunity of minutely examining into the centre of each bloom. Not only the bloom so operated upon, or stand containing such bloom or blooms, should be rejected; but the exhibition of such ever after excluded the society, if it is ascertained he previously understood such proceedings would not be tolerated. In order to prevent any disputes of this kind, there ought to be a rule relative to it, and embodied in the general rules of the society, and also printed on the schedule of particulars.

With respect to extracting defective petals, it is perfectly admissible, and to which no individual can reasonably object, as it does not make any material alteration whatever in the general character of a flower. Every grower knows that in the most desirable and perfect kinds, imperfect petals are from some causality frequently produced, the removal of which adds to the symmetry of the bloom, whilst at the same time it does not give a false impression as to its real character. When such a deformed petal is discovered in a bloom intended for exhibition, it is usual to remove it immediately and not leave it to remedy when about to be shewn.—COND.)

REMARKS.

ON CHINESE GARDENS.—The article on the Chinese Gardens is entertaining; when you have given us the whole; let me suggest to you the Gardens of another country which it would not only be entertaining but useful to obtain very minute particulars of. I allude to the winter gardens of Russia: with the few hours of day light and their severe winters, how are they managed? what degree of heat compensate for want of sun? and what plants are placed in them? these are particulars which you could obtain for us: would be most highly welcome to every gardener we should acquire more information in the department of forcing than we now possess. And every person of large fortune would be desirous of possessing a conservatory so constructed that he could walk or sit there, surrounded by shrubs and odiferous plants, in the chill, damp and dreary days of December and January when no comfort could be found out of doors, in the streets, or fields. Or lighted up in the evening it might be made delightfully attractive by blending with plants and flowers, beautiful statues, vases, &c., in another retreat, the open fires that heat the flues may form a room surrounded with cases of stuffed specimens of Nature, history, Books &c on the subject; in another, fossils and minerals. The centre colonade would admit of any degree of Length, or width for a promenade of affording plenty of exercise.

A WORKING GARDENER.

(We will attend to the suggestions of our Correspondent.—COND.)

It has often struck me, that fruit and seeds might be protected from the depredations of birds, by placing imitations of cats and hawks, made of wood and painted in proper colours, with glass eyes, under the bushes; and if the heads were made (like the Chinese images) to nod with the wind, it would give the appearance of life.

CLEMATIS, SIEBALDII and **CLEMATIS CÆRULEA GRANDIFLORA.**—Are found to be perfectly hardy, both kinds having stood through winter, planted at the foot of a south aspect wall, and not having any other protection. We have seen plants pushed three or four feet high this season May 30th, and in profuse bloom. Such valuable acquisitions to our hardy climbers deserve a place wherever practicable. They grow freely and bloom profusely. Nothing more is required in their treatment than to be planted on a dry

sub-soil, and have a rich loamy soil. We have recently seen some fine specimens grown in the greenhouse, and trained to various formed wire trellis's, they had a beautiful appearance; one plant, *G. Siebaldii*, had near three hundred flowers upon it. Trained up a post to a wire frame in a flower garden or along a fence round a flower bed it would be beautifully neat.

The most common method of propagating these plants is by layers. By securing each bud of the shoots to be layered at a trifling distance below the surface of the soil, they will soon push root, and by the severance of the shoot between the buds, a quantity of plants, equal to the number of buds, will be obtained. A very quick mode of increase however, is that of grafting, them into the stock of the common kind of clematis. A young shoot (not too tender) inserted into a strong stock, soon unites and grows rapidly. Inarching the kinds upon a common and vigorous sort is the most certain and quickest mode of increase, and where practicable should be resorted to. Cuttings of the old shoots are struck with difficulty, and young ones often damp off; when plants are obtained by cuttings, they are not so liable to be lost as grafted or inarched ones are, for if even cut down, by a very severe winter, or other casualty, to within a few inches of the ground they will push again, but when a plant raised by the other modes dies down to where it was inserted the kind is lost.—(COND.)

VEGETATION OF THE CAPE OF GOOD HOPE AND VAN DIEMAN'S LAND.

How I thought of you at the Cape, that Paradise of flowers! though the first bloom was over on our arrival, yet enough was left to show what had been, nor without seeing can you imagine the profusion; there are actually no weeds. Our favorite little blue *Lobelia* is the chickweed of the place, the ditches and all damp places are filled with Cape Lillies, Heaths of all colours, the *Erica*, I believe *coccinea*, growing very high, *Diosmas*, *Crassulas*, &c. &c. I saw a great deal of the Cape, we were above a fortnight there, and travelled above a hundred and eighty miles into the interior. With the general appearance of the country I was disappointed, there are no trees. The silver tree, a *Protea*, is the highest indigenous plant that I saw. There are oaks in and about Cape Town, Constantia, Wyneberg, &c. and indeed wherever a house is built, a few trees are planted for shade, but the country for miles has nothing higher than heath, and for the greater part of the year is sterile looking. But in the season the whole face is covered with flowers; and such a face! fancy acres of heaths, of all colours, interspersed with *Gladioles*, *Ixias*, *Watsonias*, *Babianas*, *Lachenalias*, &c. without end, all growing and flourishing in their native luxuriance. Some bunches of *Mesembryanthemums* near Sir Lowry Cole's pass were actually too bright to look at. I lived in one constant whirl of delight, that extacy in which we behold perfection. I could not see fast enough. Most of the *Ixias* were out of bloom, but their remains were like patches of a hay-field in seed, only the stems closer together. Myrtle hedges were eight and ten feet high; the one I saw at Sir John Herschell's must have been more, and as close and substantial as our best holly hedges. We visited Villette's and Baron Ludwig's garden, but where the whole country is a garden, these were of less interest. The *Melia Azedarach*, with its sweet lilac blossoms, is a beautiful and ornamental tree which I did not see wild. We visited the Constantias; Great Constantia is beautiful, the soil is white, and looks like lime and sand intimately mixed. I thought of our gardener's recommendation of lime rubbish for vines.

To the Cape, Van Diemen's Land is a direct contrast. This is a country of hills, fringed to the very top, and perhaps about the thickest vegetation in the world. All is evergreen, and one dense mass of gloom. At first sight it is sombre enough, but like a dark beauty it has its charms: the wood is chiefly "gum" (*Eucalyptus*), growing to an immense height, and throwing its long white arms about in a wild *Salvator* style. The young "gums" are beautiful, and their new shoots of reddish brown lightening into a paler hue, and deep-

ening into myrtle green, with the light new shoots of the "wattle" (*Acacia*), give a rich beauty of colouring, delightful to the eye of a painter. Nature here must be painted to the life, there is nothing to soften.

There is a harshness and dryness in the texture of vegetation here that is very peculiar; even their kangaroo grass (*Anthistiria australis*), which is considered so nourishing, is hard and hairy, or rather wiry. The flowering shrubs are extremely pretty, but the flowers are very small. The *Epacris impressa* is in great quantities every where; but Heaths have not as yet been successfully cultivated here, and there are none native. The soil is very dry. But cultivation of any kind is only creeping in; a Horticultural Society has this last year been formed at Launceston, and it is to be hoped knowledge and emulation may thus be excited; hitherto sheep, sheep, from one end of the country to the other, with little more cultivation than each farm requires, land cheap, and labour dear, have caused this state of things; but the minimum price of land is now raised, and most of it is so bad that its value is far below that. Settlers must now rent from the great landholders, and the resources of the country must be made available. With science and judgement every thing and any thing may be done here: wherever English trees are planted there they flourish, but they are few and far between. The Sweetbriar is now seen in the woods, and grows to an immense size. The quantity of flowers and fruit, such as they are, is beyond belief, but there are none of the best kinds. Think of grafts here bearing the first year; an earnest of what might be. I succeeded in bringing here alive, but in bad health, the Lillies of the Valley which you gave me; four leaves are green, the only morsel in the Southern hemisphere.

NEW AND RARE PLANTS,

Recently noticed at various Nurseries and Floral Exhibitions.

(Continued from page 215.)

Acacia cuneata.—This plant, from the Swan River, has been raised at Vienna by Baron Hugel. It appears to have glaucous wedge-shaped truncated phyllodia, and solitary yellow capitula, whose peduncle is nearly half the length of the leaf. It does not entirely agree with the definition given by Mr. Bentham, both the angles of the phyllodia being tipped with a spine, the midrib forking above the middle, each of its arms being directed towards an angle, and the peduncles being much longer than the stipules, as well as much shorter than the phyllodia.

Conostylis juncea.—A rigid herbaceous plant, with leaves from six inches to a foot long, at the base of which grow heads of campanulate erect flowers. The tube of the perianth is yellowish green, covered with harsh hairs; the limb is divided into six, equal, acuminate segments, deep yellow at the base, whitish at the point, the stamens are six, and inserted equally into the throat of the perianth. It is a pretty greenhouse herbaceous plant, found on the south coast of New Holland by Baron Hugel, and raised at Vienna, where it has flowered.

Centaurea pulcra.—This most beautiful annual has been raised in the garden of the Horticultural Society from seeds collected in the north of India by Dr. Falconer. The leaves are narrow and hoary. The scales of the involucre are green, bordered with a silvery pectinated margin; the flowers are the deepest blue in the circumference and violet in the centre. No plant can be more worthy of cultivation as a hardy annual.

Dichæa ochracea.—A small Demerara plant, with narrow leaves, and pale yellow-ochre-coloured flowers. Messrs. Loddiges obtained it from Demerara.

Epidendrum Candollei.—The flowers are of a dull brown, with a dull yellow lip, striped with the same colour. It is a Mexican plant.

Erysimum Perofskianum.—This very pretty hardy annual plant, with bright orange sweet-scented flowers, has been raised in the garden of the London Horticultural Society, from seeds collected in the north of India by Dr. Falconer.

Grevillea Thelemaniana.—A beautiful New Holland shrub, with numerous racemes of crimson flowers, and narrow pinnatifid leaves. It has recently been raised at Vienna by Baron Hugel.

Glaucium rubrum.—This plant, a native of Asia Minor, and of Rhodes, is now a common biennial, under the name of *G. elegans*. It has handsome poppy-red flowers, not so large, but much richer than those of the common horned poppies.

Malva mauritiana.—This beautiful hardy annual, a native of Algiers, has lately been recovered by the French, who have dispersed it under the name of the Zebra Mallow. It has pale blush flowers, deeply stained with rich purple veins.

Oncidium unicorn.—This is a pretty little species, with a compound straggling raceme of pale yellow flowers. The singular horn on the lip, to which it owes its name of the "Unicorn," at once distinguishes it from all species previously described. It has bloomed at Messrs Rollinsons.

Papaver amœnum.—A beautiful annual poppy, raised by the Horticultural Society from seed sent from the north of India by Dr. Falconer. Its leaves are smooth and glaucous: its petals a most brilliant vermilion pink with a whitish base.

Pimelea prostrata.—This is a little shrub, with small decussating glaucous smooth leaves, hairy branches, and little lateral heads of white flowers, called in the gardens *P. novæ zelandicæ*. It is said to be a native of arid mountains in New Zealand. Its appearance is neat and pretty, but by no means showy.

Saponaria perfoliata.—An annual, with small pink flowers.

Veronica formosa.—This pretty small-leaved shrub, white-flowered, ever-green and hardy, inhabiting the highest mountains of Van Diemens Land, has lately flowered in the garden of the Horticultural Society. Its power of existing in water only is quite extraordinary.

Wistoria atrosanguinea, synonym, *W. floribunda*.—Seeds of this new species were sent to this country from Australia, by Mr. Drummond; we have not heard of its blooming in this country yet, but specimens of its flowers have been received from Australia, and were in form like the *W. Sinensis*, but somewhat larger, and of a deep blood colour. It will doubtless prove a valuable acquisition to that class of plants; we saw a fine plant of it at the Clapton Nursery.

Cæloquesia aromatica.—A greenhouse plant of some merit, not yet bloomed in this country that we have heard of. Mr. Low possesses it.

Banisteria tenuis.—A greenhouse climber with yellow flowers, and is showy when in bloom, it is well deserving a place with that interesting tribe (climbers) of plants. At Mr. Low's.

Kennedyia inophylla.—Plants of this new and fine species are now to be had at one guinea each. Its fine coloured flowers, produced plentifully, recommends it to every collection of greenhouse plants. All the *Kennedyas* are most desirable plants for training up pillars, or over a wire frame of interesting form. At Mr. Low's.

Epacris onosmifolia.—This new species has not bloomed in this country that we have heard of, we saw a plant of it at Mr. Low's.

Fabiana imbricata.—This new plant very much resembles a white-flowering *Erica*, somewhat resembling *E. Bowell*, or a white flowering *Menziesia pobjolia alba*, but having larger flower. The habit of the plant is that of the latter; at present it is very rare, but when seen in profuse bloom it is very interesting, and will merit a place in every collection. We saw it at the Tooting nursery, it is also in the collection of Messrs. Lucombe and Pince, Exeter.

Anigozanthus Manglesii.—We saw some fine specimens of this interesting plant in bloom at Mr. Henderson's, Pine Apple Nursery. Captain Mangles R. N. has greatly enriched the collections in this country by many valuable acquisitions from the Swan River, and other places; and the floriculturalists of this country are under great obligations to that Gentleman for the disinterested zeal, and great expence, that he has incurred, therein. The flower of this species we saw in bloom, and referred to above, has a green coloured limb, and the tubular part is of a bright scarlet, and very densely clothed with red hairs. It is ornamental for the greenhouse, and equally so when grown in the open bed during summer.

Dilwynia Speciosa.—A very showy flowering new species, well deserving to be in every greenhouse; the neat yellow and red flowers produced; being very showy.

Lillium Tenuifolium.—The flowers of this species are of a deep-red, each blossom being about two inches across, of the turban form. The plants we saw at Mr. Low's were grown in the Greenhouse, and the flower stem about half a yard high; but it is very probable that it flourishes in the open border during summer. The small, neat, and fine coloured flowers, strongly recommended it to any collection.

Lillium Thunbergianum.—We saw this new species at Mr. Low's but it was not in bloom.

Arbatus procera.—This fine leaved species, Mr. Low informed us, is quite hardy, it merits a place in every shrubbery, its leaves being not only large, but of a fine green.

Arbutus tomentosa.—This is found to be hardy, it is very singularly covered with hairs, plants are offered by Mr. Low at two guineas each.

Pæonia festiva albiflora.—Mr. Low possesses this new and fine plant, the flowers are delightfully fragrant, very large, and showy, they are white, with a tinge of crimson on the edge of the petals. The price per plant is twelve guineas.

Kennedyia Nova spec.—Some time back we received seeds of this new species from Edward Young Esq., Caddington, near Newark; and have been successful in raising a plant. We have been informed by a gentleman who has seen the species in bloom, that the flowers are of a very large size, and of a fine scarlet colour; the plant is a very vigorous grower, with the habit of the *K. rubicunda*, but of more rapid growth, and producing numerous branches. It is said very far to exceed in beauty any other species yet discovered. Its large fine scarlet and numerous produced flowers, rendering it very showy.

Tweedia grandiflora.—The plant in its appearance is very like *Pœonia tenifolia*. The flowers are of a pale blue rosy purple.

Rosizæ.—Mr. Henderson had in bloom three new species of this neat and interesting tribe, the flowers of one was entirely yellow, another, nearly all of a dark brown with a yellow keel, each kind is very pretty and when to be purchased deserve a place in every greenhouse.

Nuttallia cordata.—This pretty species has bloomed at the Nursery of Mr. Young's Epsom. The flowers are of a pretty rose colour and when grown in contrast with the higher coloured kinds, produced a pretty effect.

Nuttallia Malvifolia.—Mr. Young also possesses this new species, but we understood it had not bloomed with him.

Epacris ceriflorus.—This very neat flowering species produces its beautiful white flowers in a dense mass, in spikes of a foot or upwards long. It ought to be in every greenhouse.

Viburnum Japonicum.—A very fine species, with leaves about ten inches long, and four broad, of a fine deep green. If this prove hardy, it will be a fine addition to the shrubbery. This species is growing in the collection at the Epsom Nursery.

Ruelzia fragrans.—A hardy evergreen Shrub. The plant has a powerful scent like Pot Marjoram. This is in the collection at Epsom.

Bauhinia forficata.—A leguminous flowered plant, recently bloomed in the stove at the Glasgow Botanic Garden. The flowers are about six inches across, of a pure white, produced on a pendant raceme of ten or twelve on each.

Clethra tomentosa.—It appears to be known too as a variety of the *Clethra admifolia*, that kind it appears inhabits the middle and northern states of America, whilst the present kind is only found in the southern states. It is a pretty flowering hardy shrub producing numerous erect, long racemes of white flowers; It well deserves a place in every shrubbery, as does the *C. admifolia*. The flowers are not only pretty, but very fragrant. The shrub grows about a yard high, bushy; and blooms from July to the end of the summer.

Dendrobium bicamuratum.—Has bloomed in the collection of George Barker Esq., Springfield, Birmingham. It had been collected in India by Mr. Gibson, for the Duke of Devonshire, the flowers are produced in fours, small, of a dull yellow, spotted and streaked with purple.

Gongora nigrita.—Imported by S. Rucker, Junr. Esq., Streatham Hill, from Demerara. The flowers are in colour of a deep puce coloured velvet.

Spirea cuneifolia.—Discovered in the cold parts of India, and seeds sent to the Hort. Society. It is found to be a hardy shrub, producing numerous compact, corymbose panicles of white flowers.

Spirea vacciniifolia.—Also obtained from India and found to be hardy producing compact panicles of white flowers.

Spirea laxiflora.—Also from India and hardy. The flowers are white but are produced in loose shaggy panicles.

FLORICULTURAL CALENDAR FOR OCTOBER.

PLANT STOVE.—Plants of Cactuses that have been kept in the open air or greenhouse, now put into the stove, will bloom immediately.

GREENHOUSE-PLANTS.—Those plants that were removed into the greenhouse last month, should have plenty of air given them every mild day; but the lights should be close shut up at night, also when cold, damp, wet, or other bad weather prevails, excepting a little at the doors about the middle of the day. The plants should not be watered in the broad-cast manner, as it is termed, but should be attended to singly, so that no plant may be watered, but what is actually dry. To water in the evening is detrimental to the plants and ought to be avoided. Camellias, if wanted to flower early, should now be placed in a stove.

FLOWER GARDEN, &c.—Auriculas must now be removed to their winter quarters and all dead leaves picked off. Carnation layers potted off should be placed for protection during winter. Offsets of the herbaceous kinds of Calceolarias in beds or borders, should now be potted off. Cuttings of all greenhouse plants that have been grown in the open border, in bed, &c. such as Heliotropes, Geraniums, shrubby Calceolarias, should be taken off as early as possible in the month, and be struck in heat, in order to have a supply of beds, &c. the next year. Hyacinths and other bulbs, should be potted early in the month for forcing. Seeds of Schizanthus, Stocks, Salpiglossis, and similar kinds of plants wanted to bloom early next season, should be sown the first week in the month in pots, and be kept from frost during winter. Perennial and biennial flowers may be divided, and planted off where intended to bloom next year. A cover of soil round the roots should be given to Dahlias, lest a sudden frost coming should injure the crown buds. Seeds of all kinds of flowers not yet gathered, should be collected early in the month or they will be liable to injury by frost.

(REFERENCE TO PLATE.—See next month.)

THE
FLORICULTURAL CABINET,

NOVEMBER 1st, 1839.

PART I.
ORIGINAL COMMUNICATIONS.

ARTICLE I.

REMARKS ON FLOWERING TREES AND SHRUBS.

BY CLERICUS.

THERE is perhaps no season in which the flowering shrubs of British Gardens make so brilliant a display as in May, June, and July, particularly in the latter month, from the addition of the rhododendrons and roses. In this respect we have great advantages over our ancestors, for nearly all the most beautiful of our flowering shrubs are of modern introduction. The different ornamental kinds of Ribes, the American barberries, and many other of our most beautiful shrubs, have been introduced since 1824, and two thirds of the remainder since 1810. It is amusing and scarcely credible to see how very few ornamental shrubs and low trees were known to our ancestors. In the days of Queen Ann, and of George I., almost the only ornamental trees and shrubs were variegated hollies, and a few of the commoner kinds of roses. What our ancestors wanted in the variety, and, we may add, quality, of their shrubs, was however, made up in the great quantity of each sort that was planted. High box, yew, or holly hedges, wildernesses of hornbeam, and bowers of roses, were the staple ornaments of their pleasure grounds, and a few lilacs and laburnams were introduced by those who wished it to be thought that they possessed a taste for botany. During the whole reign of Ann, according to Loudon's "Arboretum Britannicum," not above half a dozen flowering shrubs were introduced; and in

the reign of George I. not above nine or ten more. About the middle of the century, the American rhododendrons and kalmias began to be planted in English gardens; and from that period to the present time, the taste for, and, consequently, the importation of foreign trees and shrubs have increased so rapidly, that between 1811 and 1830 above seven hundred new ornamental trees and shrubs were introduced into British pleasure grounds. The finest trees and shrubs of these introductions have also speedily become well known and in general cultivation, and instead of lingering for a century or two as formerly, in the hands of a few individuals, they are now found to spread in a few years, even before they have lost the first freshness and bloom of their novelty, into cottage gardens; and the demand increases so fast, that collectors are at this moment in almost every unexplored region of the globe catering for the vigorous appetite that has been created.

One of the most beautiful, and, at the same time, one of the most numerous, families of flowering shrubs now cultivated in our gardens, consists of the numerous species belonging to the genus *Ribes*. Nearly all the ornamental species of this genus are of quite recent introduction. Till lately, but few persons had any idea that the genus *Ribes* included any plants worth cultivation but the common gooseberry and the red and black currants; for though some few other species were introduced about the middle of the last century, they were not sufficiently ornamental to attract general notice. In 1812, the first really ornamental kinds of *Ribes* were introduced, viz. those with yellow flowers. The handsomest of these (*Ribes aureum*) has large golden yellow flowers, which generally appear in May, and which are succeeded by blackish yellow fruit, very inferior to the common currants of our gardens in size and flavour. The shrub grows from four to six feet high. The common yellow-flowered currant is one of the earliest flowering kinds, but there is a variety of it which does not flower till the middle of June.

In 1822, *Ribes multiflorum* was introduced; and though its flowers are green, they are, perhaps, more beautiful than those of any other species, on account of the long and elegant drooping racemes in which they are disposed. This species flowers a fortnight or three weeks later than the other kinds, and it is one of the very few species of this genus that are found wild in Europe, it being a native of Croatia. Though a most abundant flowerer,

it seldom produces fruit : and the fruit, when it does appear, is a red currant of small size and very little flavour ; the leaves are large and handsome ; and the whole shrub, though seldom growing to a large size, forms a vigorous, healthy-looking and compact bush. It is comparatively little known ; but it is sufficiently common in the nurseries to be sold at a low price : while, as it is quite hardy, it requires very little care in its cultivation.

Ribes sanguineum, the red-blossomed currant, was introduced in 1826 ; and when we look at the immense number of these shrubs lately planted in the Horticultural Society's garden, and consider how many are scattered over the country, it seems scarcely credible that so short a time has elapsed since its introduction. The history of this shrub is rather curious ; it was discovered about fifty years ago on the north-west coast of America, by Archibald Menzies, Esq., who was surgeon and botanist to the expedition under Captain Vancouver. But though this gentleman brought specimens of the flowers to England, no farther notice was taken of the shrub ; and it was never introduced till seeds of it were sent home by Douglas in 1826. There is a variety of it now sold with flowers of a fine scarlet colour. *Ribes speciosum* was discovered by Mr. Menzies in the same manner, and specimens of it brought home, though the living plant was not introduced till 1829. The flowers of the latter plant are scarlet, and bear a slight resemblance to those of the fuchsia ; but they are too small, and too widely apart to make so brilliant a show as those of *Ribes sanguineum* ; the fruit of *Ribes speciosum* is a gooseberry, but it has no flavor ; that of *Ribes sanguineum* is a black currant, resembling in appearance and taste a bilberry. *Ribes glutinosum* is only a variety of *R. sanguineum*, with paler flowers, and a slightly viscid stem. *Ribes malvaceum* is another variety, with flowers that have a lilac tinge ; and there is another variety of *Ribes sanguineum*, which is always acknowledged to be such, and which has deep scarlet flowers.

Ribes niveum, introduced in 1826, and *Ribes cereum*, in 1827, have white flowers ; those of the latter species being sufficiently large to be showy. The leaves of *R. cereum* are round, and covered with a white waxy substance, whence the plant takes its name. *Ribes nivum* is almost the only ornamental species of the genus that has a palatable fruit ; it is one of those species which form a link between the currant and the gooseberry ; it resembles in form, colour, and manner of growth, a black currant, but when cut open it is decidedly a gooseberry. It has a very agreeable and

somewhat perfumed flavour; and though rather too acid to be eaten raw, it is excellent in pies and puddings.

Ribes punctatum has bright yellow flowers, and fragrant evergreen leaves. It is a native of Chili, introduced in 1826, and is too tender to live without a wall in England. It is yet scarce, and it has never ripened fruit in this country; though, as it throws up suckers, which no other gooseberry does, it is easily propagated. It is very ornamental, and in warm sheltered situations it is certainly well worth cultivating.

The *Escallonias* are pretty little shrubs, introduced since 1827; the flowers of which, taken separately, bear some resemblance to those of the currant. *Escallonia rubra* has red flowers, produced singly, or in very small side bunches; and *E. montevidensis* has white flowers, produced in a large handsome terminal bunch.

The family of flowering shrubs which may be considered next in beauty to the currants consists of the Barberries and Mahonias: these are very numerous, and they are all beautiful, though not half so much cultivated as they deserve to be. Every body knows the common barberry, (*Berberis vulgaris*), though but few persons are aware of its numerous varieties, the fruit of some which is sweet,—of others, seedless,—and of others yellow, white, violet, black, or purple. The barberry bears rather a bad reputation, from its alledged power of infecting corn growing near it with the mildew. Modern botanists have, however, proved that the parasitic plant, vulgarly called the mildew, which attacks the barberry, is of a different genus to that which attacks wheat.

The pretty South American barberry (*Berberis dulcis*), which was introduced, in 1831, from the Straits of Magellan, has drooping, bell-shaped, yellow flowers, hanging on long footstalks. The berries are sweet, round, and black, not unlike black currants. The plant is quite hardy and evergreen.

The Nepal barberries (*Berberis floribunda*, *asiatica*, and *aristata*) are all very handsome bushes, and produce abundance of flowers. The fruit of *Berberis aristata*, called *Chitria* by the natives, is dried in Nepal, as grapes are in Europe to make raisins. *Berberis dealbata* is a Mexican species, with evergreen leaves, which are of a glossy green above, and white below, and scarcely any spines. This species is very scarce and dear, it being sold last year at a guinea a plant.

The common ash barberry (*Mahonia aquifolium*) has glossy, holly-like leaves, and upright racemes of rich yellow flowers; it

is a native of North America, and was introduced in 1823. This species was ten guineas a plant as late as 1830, but plants may now be procured in the nurseries at 3s. 6d. or 5s. each. This rapid fall in the prices of new plants, and, in short, of every thing that is new, is one of the most striking effects of the diffusion of knowledge. Formerly, even so late, indeed, as the beginning of the present century, rare plants were only bought by wealthy individuals, and they retained the high prices at which they were originally sold for many years afterwards, because there was not a sufficient demand for them to make it worth while to propagate them extensively; now, no sooner is any thing new introduced, than it is known to every body, and every body wishes to possess it.

There are several other species of ash barberry, all of which are in the gardens of the Horticultural Society at Turnham Green, and all of which bear their large branches of brilliant yellow flowers in May and June.

The thorns begin to flower early in April, and continue till the latter end of June, the different species producing their flowers in succession; the earliest is *Cratægus purpurea*: this is not a handsome tree; on the contrary, it has a miserable, and rather a stunted appearance, but its flowers are remarkable for their black anthers, and the fruit for the variety of its colours, white, pale yellow, red, and purple haws being found on the same tree. *C. nigra* is another early blossoming kind, with very small black fruit; this tree is said to attract nightingales, because, according to Mr. Loudon, "it is particularly liable to be attacked by insects, and because numerous caterpillars are to be found upon it about the time that nightingales are in full song."

In May and June appear the blossoms of the common hawthorn, and those of all its numerous varieties. Perhaps no tree has produced more varieties than this. Loudon enumerates thirty kinds, and we believe there are many more. The most remarkable of these is the Glastonbury thorn, which is generally in flower at Christmas. The Glastonbury thorn is, indeed, in leaf, flower, or fruit almost all the year; and it has, generally, all three at once on it at Christmas. The original tree grows at Glastonbury; and, according to the legend, was the staff of Joseph of Arimathea, which being stuck into the ground on Christmas day miraculously took root, and instantly produced leaves, flowers, and ripe fruit. Queen Mary's thorn has drooping branches, and long fleshy fruit,

which are good to eat. The original tree is said to be still standing, and, if this be true, it must now be nearly 300 years old.

The other varieties of the hawthorn have probably originated from seedlings observed in some hedge, and transplanted into a nursery. In this manner the new beautiful bright scarlet hawthorn was discovered, and also the double-flowered pink kind, which is so ornamental in our shrubberies, both when its blossoms first expand, and are of a pure white, and when in about a fortnight they begin to take a pinkish tinge, which deepens gradually as they decay. Some of the varieties have bright yellow fruit, and in some it is quite black; in some the leaves are shaped like those of the oak, and in others they are slender and deeply cut, like those of the fern. One kind grows stiff and upright, like the Lombardy poplar, and the branches of another kind are curled and twisted together like gigantic ringlets. In some the leaves are variegated, and in others smooth and shining: in short, it is scarcely possible to set any limits to the varieties. The red-blossomed hawthorn was one of the earliest discovered, it having been found in the time of Ray; and we may easily imagine what a valuable acquisition it must have been to the slender stock of flowering shrubs possessed by our ancestors. It is somewhat remarkable that all the red-blossomed hawthorns have not been propagated from the same tree but that several red-blossomed seedlings have been found at different times, and at different places. Nearly all the other varieties appear to have been discovered accidentally; and their number is accounted for by the fact of more plants of the hawthorn being raised from seed than of any other tree, from the great length of time that the hawthorn has been used for a hedge plant. There is a double white blossomed kind very handsome.

The cockspur thorn is a noble species, and it has some singular varieties. One of these *C. crus-galli salicifolia* has a flat head, spreading like a miniature cedar of Lebanon. A dwarf sub-variety of this, which does not grow more than five feet high, is well adapted for planting in children's gardens. *C. coccinea*, or the scarlet fruited-thorn, *C. glandulosa*, and *C. punctata*, are all well worth growing in a shrubbery, or on a lawn; and when seen together, they will be found very distinct.

The principal large-fruited thorns are *Cratægus Azarolus*, *C. Aronia*, *C. orientalis*, or *odoratissima*, and *C. tanacetifolia*. These plants are all late in flowering, seldom expanding even their leaves till the latter end of May or beginning of June, and being some-

times much later. The fruit of all of them is not only eatable, but very good. *C. Orientalis* and *C. tanacetifolia* have both whitish leaves; the fruit of the first is of a brilliant coral colour, and of the latter yellow. There is a variety of the first species with fruit of a port-wine colour; and Lee's seedling variety of the latter is one of the handsomest plants of the genus. Notwithstanding the resemblance of the leaves, these two species are easily distinguished, not only by the colour of the fruit, but by their habits of growth; *C. orientalis* being a handsome spreading tree, and *C. tanacetifolia* upright-growing.

One of the late flowering varieties is *C. parviflora*, which does not flower till late in June, and which bears pear-shaped green fruit. The leaves of this species and its varieties, and of *C. virginica*, are very small, *C. cordata* is the latest flowering of all the kinds, as it rarely produces its flowers before the middle of July. There are many other species, and among others *C. microcarpa*, with its brilliant bright scarlet fruit, and *C. mexicana*, with its large yellow fruit, looking like golden pippin apples; but we have said enough to show what ornamental plants the thorns are, not only in their flowers, but in their fruit. *Cratægus*, or *mespilus pyracantha*, may be added to the above, as it is a very ornamental shrub, not only from its evergreen leaves, but from its brilliant scarlet berries, which are so abundant as to occasion the French to call it *buisson ardent*. In short, every tree belonging to the genus is worth growing; and I am glad to see that Mr. Loudon in the "Arboretum Britannicum," and Dr. Lindley in the "Botanical Register," have contrived within the last two or three years to bring ornamental thorns into fashion.

The amelanchiers, the commonest species of which is well known under the name of the snowy mespilus; the cotoneasters with their coral berries; the ornamental kinds of pyrus, including the mountain ash, the Siberian crab, the garland flowering apple-tree, and showy Chinese crab-tree; the *Photinia serrulata*, with its large showy bunches of flowers, and beautifully-tinted leaves in spring and autumn; the loquat-tree, with its large woolly leaves; the Nepal white-beam tree, and many others, deserve especial notice from the planter and landscape gardener.

Among the flowering trees of May and June may be reckoned that splendid climber *Wistaria sonsequana*, or, as some call it, *Glycine sinensis*. The flowers of this tree resemble those of the laburnam in form, but are of a delicate lilac. Nothing can exceed

the vigorous growth of this tree, or the profusion of its blossoms ; the specimen in the Horticultural Society's garden at Turnham Green extends nearly eighty yards along the wall. This splendid plant is a native of China, from which country it was brought in 1816. At its first introduction, and for a year or two afterwards, plants were six guineas each ; but they are now to be had in any nursery for a shilling or eighteen-pence.

Next to the *Wistaria* may very appropriately be placed the laburnums, which, notwithstanding their beauty, are now become so common as to be little valued. Some of these are sweet-scented and remarkably long in their drooping racemes of flowers. The purple-flowered laburnum, as it is called, though in fact its blossoms are of a dirty pink, is a hybrid between the common laburnum and the purple *cytiscus*, and it possesses the extraordinary power of reproducing its parents. Trees of this kind in different parts of the country have been known to produce a sprig of the purple *cytiscus* from one branch, and of the common laburnum from another, without any grafting, and yet each quite distinct.

The Judas tree (*Cercis siliquastrum*) is another ornamental tree belonging to the Leguminosæ. This tree produces its pretty pink flowers on its trunk and thick branches, and the flowers have a slight acidity that makes them form an agreeable dish, when dipped in batter and fried as fritters. The tree takes its name from its being supposed to be that on which Judas hanged himself ; but Gerard gravely assured us that this was not the case as he hanged himself on an elder.

The peat-earth plants belonging to the order Ericaceæ are a host in themselves. The rhododendrons, the *kalmias*, the *arbutus*, the heaths, and their allied species, are all so beautiful that no garden should be without them. The rhododendrons, it is well known, vary very much in the colour, though not much in the form, of their flowers, and some of the hybrids between the Nepal tree species and the common kinds are extremely splendid. The rhododendrons are generally considered American plants ; but one of the commonest kinds, *R. ponticum*, is a native of Asia Minor. The number of varieties and hybrids of this species almost exceed belief ; between thirty and forty named kinds are in the nurseries. It has been said that honey, which Xenophon tells us produced so injurious an effect on the Greeks in their celebrated retreat, was produced by the flowers of this shrub ; but others attribute this poisonous honey to the *Azalea pontica*.

Rhododendron catawbiense, so called from its principal habitat being near the head of the Catawba, is the most common American species, and it is a great favourite, from its hardiness, and its being an abundant flowerer. The hybrids raised between this species and *R. Aboreum*, the Nepal tree rhododendron, are not only very handsome, but they are much hardier than those raised between the Nepal species and *R. ponticum*; and they stood out without protection during the severe frost of 1837-8, when all the hybrids raised from *R. ponticum* were killed.

R. maximum is the tenderest of the American rhododendrons, and the longest before it flowers. The plant also is not healthy looking. It was introduced in 1736, but did not produce any flowers in England till twenty years afterwards. There are two varieties of this species, one with pure white, and the other with fragrant flowers. Besides these there are several dwarf rhododendrons with leathery leaves, and small brilliant coloured flowers.

Some of our modern botanists include the azaleas in the genus rhododendron; and it is certain that the two kinds hybridise freely together. The commoner kinds of azalea, *A. pontica*, *A. nudiflora*, and *A. viscosa*, have produced almost innumerable hybrids, some of which are very beautiful. *Rhodora canadensis*, another plant belonging to this order, is worth cultivating for the earliness of its flowering.

The Nepal rhododendrons, and the Indian and Chinese azaleas, are very beautiful, but they require the protection of a greenhouse.

The kalmias are called by the Americans, Calico flowers; a name admirably adapted to express the peculiar appearance of the flower, which is more like an artificial flower cut out of cambric, muslin, or calico, than a real one. The different kinds of whortleberry and cranberry, the heaths, and all the newly made genera formerly comprised under the genus *Erica*, the *Andromeda* and the *Arbutus*, complete the list of these plants, all of which are splendid ornaments to the British gardens in June and July. In some places the rhododendrons and azaleas have been sown in the woods, as at High Clere and Bagshot Park. At these places and at Waterer's nursery at Knaphill near Bagshot, these plants in the flowering season are completely a blaze of beauty. The rhododendrons, grafted standard high in Waterer's nursery, so as to form

small trees with drooping branches, are particularly beautiful, and would be very ornamental on a lawn.

The roses are the last of the flowering shrubs that we shall here notice, and their beauty is so universally acknowledged, that it requires very little comment. The number and variety of the roses are not, however, generally known ; but it is a fact that Messrs. Loddiges, and Wood, of Maresfield, possess nearly two thousand named species and varieties.

Amidst this wilderness of sweets it would be difficult to choose, had not the whole mass been arranged by Messrs. Wood, Rivers, and others, under seventeen or eighteen different heads. Of the moss roses, there are twenty-four sorts, including the white moss, which is very delicate, and extremely difficult to keep alive, and the dark crimson moss, called the Rouge du Luxembourg. Of the cabbage or Provence roses there are twenty-five sorts ; these were the hundred-leaved roses of the ancients ; and as the flowers are, perhaps, more fragrant than those of any other species, it is from these roses that rose-water and oil of roses are generally made. The perpetual roses, of which there are fifty kinds, are most beautifully tinted with a rich glowing colour ; and they are valuable for the great length of time that they continue producing flowers. There are eighty-nine sorts of the hybrid China roses, seventy of the China roses, fifty-one of the tea-scented, and twenty five of the white roses, all very beautiful and tolerably distinct. The conserve of roses, and other medical preparations of this flower, are prepared from the damask roses, of which there are twenty-five sorts, and the French or Provins roses, of which there are ninety-nine sorts. The French rose has less scent than most of the other kinds, and yet is often confused with the fragrant hundred leaved rose, from the similarity of the words Provins and Provence. The former of these names only signifies, however, a small place near Paris, where roses of this kind are grown in large quantities for the use of the Parisian druggists.

Of the climbing roses there are fifty-three superior sorts ; and these, when trained on a wooden frame, or pegged down to cover a sloping bank, have a beautiful effect. The fairy roses, of which there are sixteen sorts, are very delicate and pretty ; and the noisette roses, of which there are sixty-six sorts, are very beautiful. Besides these, there are Macartney roses, musk roses, Isle de Bourbon roses, Scotch roses, sweet briars, and many others.

One of the prettiest of the new roses, of 1838 is the double yellow, or rather cream-colour sweet briar. There are many other flowering shrubs well deserving of notice, which I shall notice in subsequent papers.

August, 20th 1839.

CLERICUS.

ARTICLE II.

ON THE DOUBLE YELLOW ROSE.—(ROSA SULPHUREA.)

BY ROSA.

ON this most beautiful Rose Mr. Rivers, in his *Rose Amateur's* guide remarks, "The origin of this very old and beautiful rose, like that of the moss rose seems lost in obscurity. In the botanical catalogues, it is made a species, said to be a native of the Levant, and introduced into this Country in 1629, and never to have been seen in a wild state bearing single flowers. It is passing strange, that this double rose should have been always considered a species. Nature has never yet given us a double flowering species to raise single flowering varieties from; but exactly the reverse. We are compelled, therefore, to consider the parent of this rose to be a species bearing single flowers. If this single flowering species was a native of the Levant, our botanists, ere now, would have discovered its habitats; I cannot help, therefore, suggesting, that to the gardens of the east of Europe we must look for the origin of this rose, and to the Single Yellow Austrian Briar (*Rosa lutea*), as its parent: though that, in a state of nature, seldom if ever bears seed, yet, as I have proved, it will, if its flowers are fertilised. I do not suppose that the gardeners of the East knew of this, now common, operation; but it probably was done by some accidental juxta-position, and thus, by mere chance, one of the most remarkable and beautiful of roses was originated. From its foliage having acquired a glaucous pubescence, and its shoots a greenish yellow tinge, in those respects much unlike the Austrian Briar, I have sometimes been inclined to impute its origin to that rose, fertilised with a double or semi-double variety of the Damask Rose, for that is also an eastern plant.

As yet, we have but two roses in this division; the Double Yellow, or "Yellow Provence," with large globular and very double bright yellow flowers, and the Pomponne Jaune, or dwarf Double Yellow, both successively shy of producing full-blown flowers,

though they grow in any moderately good soil with great luxuriance, and show an abundance of flower-buds ; but some " worm i' the bud" generally causes them to fall off prematurely. To remedy this, various situations have been recommended ; some have said, plant it against a south wall ; others, give it a northern aspect, under the drip of some water-trough, as it requires a wet situation. All this is quackery and nonsense. The Yellow Provence Rose is a native of a warm climate, and therefore requires a warm situation, a free airy exposure, and rich soil.

At Burleigh, the seat of the Marquis of Exeter, the effect of situation on this rose is forcibly known. A very old plant is growing against the southern wall of the mansion, in a confined situation, its roots cramped by a stone pavement ; it is weakly, and never shows a flower-bud. In the entrance court is another plant, growing in front of a low parapet wall, in a good loamy soil and free airy exposure ; this is in a state of the greatest luxuriance, and blooms in fine perfection nearly every season.

Mr. Mackintosh, the gardener, who kindly pointed out these plants to me, though the latter a distinct and superior variety, as it was brought from France by a French cook, a few years since ; but it is certainly nothing but the genuine old Double Yellow Rose.

In unfavourable soils it will often flourish, and bloom freely, if budded on the Musk Rose, the Common China Rose, or the Blush Boursault ; but the following pretty method of culture, I beg to suggest, though I must confess I have not yet tried it. Bud or graft it on some short stems of the Dog Rose ; in the autumn, pot some of the strongest plants, and, late in spring, force them with a gentle heat, giving plenty of air. By this method the dry and warm climate of Florence and Genoa may, perhaps, be partially imitated ; for there it blooms in such profusion, that large quantities of its magnificent flowers are daily sold in the markets during the rose season.

The Rose has very much engaged my attention for several years, in order to ascertain by what means the evil of the buds being injured, and dropping off might be avoided, and I am now enabled to state that if the following treatment be pursued a splendid bloom may certainly, and invariably, be obtained.

The plant requires to have a good loamy soil, upon a dry substratum, moderately enriched. It must be planted against a good aspected wall, either full south or as near as circumstances admit of the latter.

The plant must be trained as is done to a peach tree, and early in summer, when the shoots are young, a suitable portion must be secured by the wall, as is done to the peach, and all others be taking clean away.

As soon as it is perceived the shoots have embryo buds upon them, a cover of canvas, or something that will cause shade, must be fixed so as to cover the entire plant.

This shading is essential to success. If the covering is placed so as to keep the rains from the border, recourse must be had to watering, also an occasioned sprinkling by means of syringe must be given over the foliage.

When the blooming is over, the shading is no longer requisite, and its removal is necessary to facilitate the ripening of the shoots for next year's supply, which is an essential point to be obtained.

My first success with blooming the rose successively was by the following circumstance. A plant was growing at the south side of a vase placed on a pedestal, around which the branches were trained. At the blooming season I found all the buds on the South (sunny side) went off in the usual way, but all that portion of the plant which was on the shady side produced perfect bloom in perfection.

It appears to me to be essential to obtain well ripened wood, and then to give shade during the period from buds being formed to blooming. These being obtained success is certain. I have a plant which now annually produces a profusion of fine flowers treated in the manner above specified.

During the first summer that I trained the plant against the wall, a considerable quantity of young shoots was produced, in order to assist the shoots that had buds upon them, I cut off all others, which amounted to three parts of them, so sudden a destitution caused all the buds to drop off, but when the shoots are stripped off at an early stage this evil is entirely obviated.

Sept. 4th, 1839.

Rosa.

ARTICLE III.

ON THE CULTURE OF CLIANTHUS PUNICEUS, AS A STANDARD PLANT.

BY CLERICUS.

THE *Clianthus Puniceus* is well worthy of a place in every collection, both for its beautiful foliage and pendant racemes of red flowers. When grown as a standard, it far surpasses in beauty

and elegance any plant I have seen of its kind : I shall mention a few words regarding its culture as a standard. Select cuttings from a plant about the beginning of May or June ; the cuttings should not exceed four inches in length, and taken from the same year's growth ; recollect that the extremity or point of the cuttings must not be pinched off. After making the cuttings, allow them to remain for a day or two before potting, to dry some of the superabundant moisture from them, which is an advantage gained by the cuttings rooting two days sooner. A 32-sized pot should be filled with white sand, and the cuttings inserted therein to the depth of two or more inches ; they will strike readily in a heat of 70 or 75 degrees ; if they are covered with a bell-glass the strike will be more successful. After struck, they should be potted off separately, in thumbs or small sixties, amongst a compost of sand, leaf, loam, with a little well-decomposed cow-dung all well incorporated together ; when potted, they should be placed in a bottom heat till they have matured roots enough to support themselves. Then they should be removed, to a more airy situation, either to a greenhouse or conservatory, and great care and attention must be paid to the repotting and watering, or without, the plants will soon form a sickly, stunted appearance. For to make good standards, all side-shoots must be pinched off as soon as they appear, training the plant up with a clear stem to the necessary height required ; then, after they have attained the required height, the tops should be pinched off ; and that causes them to throw out latterals, and these latterals again stopped, makes them still to throw out the more, till at last the plants attain a most luxuriant head, richly decorated with thick but dense pale green foliage. When treated after the above method that I have laid down, then planted out in a conservatory, amongst good rich mould, one-half fresh loam, one-quarter leaf mould, and one-quarter decomposed cow-dung, along with a little vegetable mould and sand ; all these to be well incorporated together, and a pit made for the reception of the plants three feet square, by two and a half deep, filling it up with the above composts, then insert the plant, putting it about an inch deeper than it was in the pot ; then there should be a stake of durable wood procured to fasten it to. When planted out. it grows more luxuriant than in pots, and has always a more healthy appearance. When in flower, what can surpass it ? the bunches of pale red flowers hanging the one upon the other, out of a dense thicket, as it may be termed.

PART II.

NEW OR RARE PLANTS.

(Noticed since our last.)

AGAVE SAPONARIA. The Soap Aloe. (Bot. Reg. 55.)

HEXANDRIA MONOGYNIA.

This species, unlike the gigantic kinds *A. americana*, &c., flowers very freely and does not then perish. The blossoms are produced on a long spike, and before opening, have the appearance of a tuberoso spike, they are green outside and yellow within; each flower is about an inch across.

In Peru the plant is used as a substitute for soap. It requires but a simple treatment to induce it to bloom freely. It must be kept in the greenhouse, dry in winter, and watered on the return of spring; equal portions of loam and sand form a suitable soil in which it grows satisfactory. *Agave*, from *Agavon*, *Admirable*, alluding to its many useful purposes.

AMYGDALUS INCANA. Hoary leaved. (Bot. Reg. 58.)

ICOSANDRIA MONOGYNIA.

This species has been confounded with *A. mana*, but it is very different its leaves being thickly covered with hoariness beneath, whilst the *A. nana* is smooth on both sides; the leaves of the latter are finely serrated, and the other coarsely. The flowers are of a pale rose, each blossom being about half an inch across; the shrub is quite hardy, middle sized, and has bloomed in the shrubbery of Sir Oswald Mosley, Bart., Rolleston Hall, Derby.

ANGELONIA GARDNERII. Mr. Gardner's. (Bot. Mag. 3754.)

DIDYNAMIA ANGIOSPERMIA.

Mr. Gardener sent seeds of this pretty flowering species from Brazil to the Glasgow Botanic Garden in 1838, and plants have bloomed this summer in the plant stove; the plant appears to be half shrubby, growing erect to about three feet high; the flowers are produced at the ends of the branches, in long fracted racemes, they are of a fine purple, each having a white centre beautifully spotted with red, and being about an inch across. It is very probable it will be found to flourish well in the greenhouse, if so, it will be highly ornamental through the summer, *Angelonia*, from *Angelon*, the native name of one species.

ARISTOLOCHIA CILIATA. Fringe flowered. (Bot. Mag. 3756.)

GYNANDRIA HEXANDRIA.

Seeds of it were sent by Mr. Tweedie, from Buenos Ayres, to the Glasgow Botanic Garden, where a plant has bloomed; it appears to flourish in the greenhouse; the stem is weakly, yet not climbing. The flower is of a greenish yellow outside, and internally of a deep purple brown, with yellow reticulations, which produce a very pretty effect; the edge of the flower has a fine fringe near half an inch long which has an interesting appearance.

BURRIELIA GRACILIS. Slender. (Bot. Mag. 3758.

SENECCOIDEÆ. SYNGENESIA SUPERFLUA.

This genus is nearly allied to *Lasthenia*; the present and two other species were discovered by Mr. Douglas, in California. The present species is sometimes grown in our flower gardens under the name of *Lasthenia Californica*; it is a hardy annual, flowering for several successive months. The plants rise from six to nine inches high, producing numerous solitary flowers, of a fine yellow, and when in masses has a very lively and showy appearance; each blossom is rather more than an inch across. It is very useful as an edging for a flower bed or border, where the plants in the bed are of an opposite colour.

DANBENYA FULVA. Tawney colored. (Bot. Reg. 53.

LILIACEÆ. HEXANDRIA MONOGYNIA.

A bulb of this singular flowering species had been sent from the Cape of Good Hope, but had probably been collected in Madagascar, or the East Coast of Africa, to Robert Barchard, Esq., of East Hill, Wandsworth. The flowers are produced in a central scape, and on a dense raceme, they are of a tawny colour, and produce little show.

ERYSIMUM PEROFKIANUM. Treacle Mustard. (Bot. Mag. 3757.

CRUCIFERÆ. TETRADYNAMIA SILIQUOSA.

A native of Persia, and is either annual or biennial; the stem rises about half a yard high, branching, each branch terminating in a long spike of fine deep orange colored flowers, similar in appearance to a single flowered wall-flower; each blossom is about three-quarters of an inch across. The plant is found to flourish much better when grown in the open ground, being rather languid when grown in a pot. It is highly ornamental, and deserves a place in every flower garden or greenhouse; we recently saw some fine specimens of it in bloom, and doubt not but it will soon become general.

ONCIDIUM TRULLIFERUM. Trowel-lipped. (Bot. Reg. 57.

ORCHIDACEÆ. GYNANDRIA MONANDRIA.

Imported from Brazil, by Messrs. Loddiges', where it has bloomed; the flowers are produced numerously upon a stiff and erect scape, they are yellow, marked with red; the lip very much resembles in form a bricklayer's trowel. It is an interesting and pretty species, growing freely when cultivated in the damp stove, either in a pot or secured to a piece of wood.

LUPINUS BARKERI. Mr. Barker's. (Bot. Reg. 56.

LEGUMINOSEÆ. DIADELPHIA DECANDRIA.

This new species was obtained by George Barker, Esq., Springfield, near Birmingham, from Mexico; the flowers are produced densely upon a long spike, and are of a mixture of lilac, blue, white, and rose, in the same flower; it may be treated as a half hardy annual or as a biennial. It continues to bloom from June to the end of the season.

LELIA ALBIDA. White flowered. (Bot. Reg. 54.

ORCHIDACEÆ. GYNANDRIA MONANDRIA.

A native of the head quarters of Mexican Orchideæ, viz., Oaxaca; it is the only *Leelia* which has white flowers. It has bloomed with J. Bateman, Esq., and Thomas Harris, Esq.; each flower is about two inches across.

PART III.

MISCELLANEOUS INTELLIGENCE.

 QUERIES.

ON CERTAIN HERBACEOUS PLANTS.—A Correspondent would be glad to know where the following plants are to be obtained, and would feel obliged to any Nurseryman who may have them for sale, to state in the Floricultural Cabinet the prices.

Claytonia virginica, *Trillium grandiflorum*, *Rhexia virginica*, *Gentiana saponaria alba*, *Pulmonaria dahurica*, *Dodecatheon giganteum*, *Statice sinuata*, *Alstræmeria ovata*, *Lilium catesbæa*, *Lilium Philadelphicum*.

He would also be very glad to know how *Belladonna* Lilies can be made to bloom well when cultivated out of doors.

September 23rd, 1839.

ON PREVENTING BULBS THROWING OUT SHOOTS DURING A VOYAGE.—Will you inform me through any of your correspondents, in what way roots, such as dahlias or bulbs, may be conveyed to the Antipodes, a four months voyage, so that they may not throw out any shoots in the interim.

August 26th, 1839.

S.

P. S. I suppose the voyage to commence about February or March.

ON THE CULTURE OF GERANIUMS.—In the Floricultural Cabinet for July, you promise your Subscribers to place before them the method of management of the splendid Geraniums exhibited at the Horticultural Exhibition the May preceding. I have been in anxious expectation of seeing the accomplishment of your promise in one of the two successive Numbers, but without success. Will you permit me to remind you of this engagement, which is looked forward to by, doubtless, many of your readers, and by no one with greater desire than, yours very sincerely,

A Subscriber from the commencement of your Work.

September 25th, 1839.

[Will be given in December Number.—COND.]

 REMARKS.

BIRMINGHAM GRAND DAHLIA SHOW.—The fourth of these annual exhibitions took place at the Town Hall on Wednesday and Thursday the 11th and 12th of September, and for the number of exhibitors, the distance from which the flowers were brought and their great excellence, it has never, we believe, been equalled in the kingdom. The entries for showing exceeded one hundred and fifty in number, and eighty-six stands of flowers (exclusive of seedlings) were placed for competition. Mr. Edward Davis, of Bath, an amateur, was the successful competitor for the premier prize: the blooms exhibited by Mr. Sadler, gardener to Sir Charles Throckmorton, Bart., being the next best. The weather was unpropitious, but the show was attended by a very numerous and highly respectable company. The following were the successful exhibitors:

Premier Prize—Silver Cup, value £20 manufactured by Messrs. Horton and Son, High-street)—Mr. Davis, Bath, for Diadem de Flora, Bowling-green Rival, Stuart Wortley, Evans's Wallace, Royal Standard, Contender Clark's Julia, Rosetta, Eva, Ovid, Marshall Soult, Lady Flora, Grace Darling, Topaz, Conductor, Lewisham Rival, Dodd's Mary, Springfield Rival, Lady Dartmouth, Climax, Unique, Ruby, Sunbeam and Horwood's Defiance.

Amateurs, 24 Blooms.—1. Mr. Davis, Bath; 2. Mr. Sadler, Coughton Court, Warwickshire, for Royal Standard, Virgin Queen, Ringleader, Topaz, Marquis of Lothian, Gaines's Victoria, Essex Rival, Copland's Linnæus, Knight's Perfection, Welbury Rival, Suffolk Hero, Eva, Rienzi, Unique, Springfield Rival, Climax, Dodd's Mary, Bontisholl, Forsyth's Anlaby, Lewisham Rival, Rival Sussex, Ne plus Ultra, Conductor, and Duchess of Devonshire; 3. W. Searle, Esq., Cambridge, Sarah, Middlesex Rival, Countess of Torrington, Cambridge Hero, Royal Standard, Victory, Miss Johnstone, Marquis of Lothian, Essex Rival, Springfield Rival, Lady Kinnaird, Suffolk Hero, Glory of the West, Dodd's Mary, Clark's Julia, Bowling-green Rival, Lilac Perfection, Lady Homer, Lewisham Rival, Rienzi, Unique, Hedley's Perfection, Marchioness of Lansdowne, and Robert Buist; 4. Mr. Hillier, Oxford, Metropolitan Yellow, Royal Standard, Virgin Queen, Suffolk Hero, Ruby, Alpha, Miss Johnstone, Unique, Mrs. Pierpont, Bontisholl, Lady Kinnaird, Sir H. Fletcher, Eva, Springfield Rival, Queen of Jesmond, Victory, Dodd's Mary, Middlesex Rival, Warminster Rival, Conductor, Topaz, Rienzi, and Rosalie; 5. Mr. E. Philips, Birchfield, Birmingham, Etonia, Don John, Ovid, Phillips's Marshal Soult, Jeffries's Triumphant, Duke of Rutland, Purple Perfection, Conqueror of Europe, Conductor, Hope, Scarlet Perfection, Lord Byron, Eva, Springfield Major, Mackett's Helena, Egyptian King, Middlesex Rival, Sarah, Rienzi, Sir H. Fletcher, Ruby, Glory of Plymouth, Oxford Rival, and Berkshire Champion; 6. Edmund Peel, Esq.: Mackett's Helena, Yellow Perfection, Middlesex Rival, Gaines's Victoria, Stuart Wortley, Tamworth Hero, Etonia, Topaz, Major Peel, Eva, Grant Thornburn, Dodd's Mary, Oxford Rival, Marquis of Lothian, Queen of Scots, Suffolk Hero, Cambridge Hero, Royal Standard, Springfield Rival, Conqueror of Europe, Knight's Victory, Unique, Bowling-green Rival, and Triumphant.

Amateurs, 12 Blooms—1. Mr. Davis, Bath, for Western Rose, Springfield Major, Eva, Amato, Dodd's Mary, Grace Darling, Springfield Rival, Rosetta, Climax, Suffolk Hero, Julia and Royal Standard; 2. Mr. Lawes, Salisbury, Hylas, Bowling-green Rival, Knight's Victory, Sir F. Burdett, Queen of Sarum, Dodd's Mary, Cupped Crimson, Fisherton Champion, Duchess of Richmond, Ruby, Lewisham Rival, and another; 3. Rev. A. Newby, Tillbrook, near Kimbolton, Bedfordshire, Countess of Torrington, Amato, Dodd's Mary, Knight's Victory, Unique, Hope, Suffolk Hero, Conductor, Rival Sussex, Gaines's Primrose, Glory of the West, and Fisherton Champion; 4. W. C. Burman, Esq., Arden House, Henley-in-Arden, Hope, Sir R. Lopez, Conqueror of Europe, Marquis of Lothian, Unique, Duchess of Richmond, Purple Perfection, Eva, Lady Kinnaird, Sir H. Fletcher, Comte de Paris, and Coronation; 5. Mr. Burbury, Stoneleigh, Royal Standard, Cambridge Hero, Stuart Wortley, Sir J. Astley, Conductor, Hope, Ringleader, Etonia, Virgin Queen, Topaz, Suffolk Hero, and Duke of Devonshire; 6. Mr. Hillier, Oxford, Ruby, Suffolk Hero, Rienzi, Metropolitan Yellow, Unique, Rosalie, Conductor, Eva, Springfield Rival, Frances, and Middlesex Rival.

Amateurs 6. Blooms—1. Rev. A. Newby, for Dodd's Mary, Sir J. Astley, Conductor, Climax, Rival Sussex, and Caliope; 2. Mr. Davis, Bath, Lady Flower, Horwood's Defiance, Julia, Springfield, Ovid, and Grace Darling; 3. Mr. Lawes, Salisbury, Dodd's Mary, Topaz, Queen of Sarum, Springfield Rival, Rival Sussex, and Lewisham Rival; 4. Mr. Sharp, of Stoke, near Coventry, Climax, Suffolk Hero, Sarah, Ne Plus Ultra, Topaz, and Rienzi; 5. Mr. Kimberley, of Pinley, near Coventry, Royal Standard, Cambridge Hero, Queen of Sarum, Ringleader, Suffolk Hero, and Advancer; 6. Mr. Mayle, of Bedford, Ruby, Climax, Eva, Mary, Glory of Kilbert, and Suffolk Hero.

Nurserymen, 24 Blooms—1. Mr. Shepherd, Bedford, for Ovid, Dodd's Mary, Victory, Royal Standard, Hope, Gaines's Queen Victoria, Amato, Cambridge Hero, Diadem de Flora, Lady Dartmouth, Conductor, Rival Queen Superb, Horatio, Springfield Rival, Unique, Coriolanus, Glory of Plymouth, Diomede, Climax, Ruby, Egyptian King, Eva, Bowling-green Rival, and Marquis of Lothian; 2. Mr. Mitchell, Piltown, Sussex, Advancer, Diomede, Lady Dartmouth, Climax, Miss Colt, Grace Darling, Hero of Wakefield, Lewisham Rival, Springall's Conqueror, Antiope, Queen of Sarum, Invincible, Duchess of Richmond, Ovid, Rival Sussex, Unique, Egyptian Prince, Jones's Frances, Pilate, Rienzi, Royal Standard, Maresfield Hero; 3. Mr. Catleugh, Chelsea, Climax, Ellen of Eaton, Eva, Ne Plus Ultra, Lady Dartmouth, Springfield Rival, Unique, Columbus, Bowling-green Rival, Superb Yellow, Ovid, Hope, Mount Blanc, Metropolitan Yellow, Dodd's Mary, Egyptian Prince, Masterpiece, Knight's Victory, Flavius, Duke of Wellington, Topaz, Lord Byron, and Amato; 4. Mr. Widnall, Cambridge, not named; 5. Mr. Pamplin, Hornsey-road, London, Clark's Julia, Suffolk Hero, Contender, Premier, Victory, Royal Standard, Rosa, Virgin Queen, Ne Plus Ultra, Ruby, Don John, Ion, Duke of Sussex, Sir F. Burdett, Unique, Lady Dartmouth, Hope, Lewisham Rival, Rienzi, Amato, Mount Pleasant, Rival; 6. Mr. Bates, Oxford, Knight's Victory, Virgin Queen, Souter Johnny, Masterpiece, Cambridge Hero, Topaz, Hope, Marquis of Lothian, Horwood's Defiance, Evans's Wallace, Eva, Rienzi, Ruby Superb, Conductor, Frances, Springfield Rival, Unique, Ringleader, Pre-eminent, Dodd's Mary, Suffolk Hero, Duchess of Richmond, Magician, and Egyptian King.

Nurserymen, 12 Blooms—1. Messrs. Brown, Slough, Julia, Annot Lyle, Eva, Amato, Contender, Lewisham Rival, Ruby, Climax, Grace Darling, Unique, Springfield Rival, Hope; 2. Messrs. Mountjoy and Son, Ealing, Rival Granta, Royal Standard, Ovid, Amato, Rosa, Dodd's Mary, Lady Kinnaird, Springfield Rival, Beauty of Wandsworth, Rienzi, Unique, Egyptian King; 3. Mr. Willmer, Sunbury, Frances, Egyptian King, Dodd's Mary, Sir R. Lopez, Hero of Nottingham, Sir F. Burdett, Eva, Don John, Hope, Conductor, Duchess of Portland, Unique; 4. Mr. Shepherd, Bedford, Royal Standard, Dodd's Mary, Victory, Lady Dartmouth, Middlesex Rival, Eva, Rival Queen Superb, Hope, Conductor, Climax, Gaines's Queen Victoria, Napoleon; 5. Mr. Bates, Oxford, Unique, Suffolk Hero, Mary of Burgundy, Hope, Eva, Vanguard, Topaz, Cupped Crimson, Rienzi, Yorkshire Hero, Springfield Rival; 6. Mr. Earl, Bristol-road, Birmingham, Duchess of Portland, Horwood's Defiance, Ovid, Topaz, Don John, Conductor, Lewisham Rival, Egyptian King, Perolla, Rienzi, Eva, and Ringleader.

Amongst the Seedlings there was one which attracted the attention of the growers as having the requisites, of a most superior flower, but, on inspection by the judges, it was found to be gummed in the eye, which, had it not been detected, would have deceived the public, and therefore it becomes the duty of the committee to expose the fact. An exhibitor was also seen on the evening of the Wednesday, whilst the committee and greater part of the exhibitors were at dinner, to select some of the best flowers, from different stands and carry them away, and as the flowers exhibited are considered the property of the committee, a resolution has been passed by the committee that neither of the aforesaid persons be allowed to exhibit at their future shows.

WARWICKSHIRE FLORAL AND HORTICULTURAL SOCIETY'S EXHIBITION.—The third exhibition of the Warwickshire Floral and Horticultural Society took place, at the Town Hall. The attendance on the occasion was numerous and highly respectable, and it must be a source of great satisfaction to the Society to find that their exertions to afford the admirers of flowers an opportunity of viewing some of the choicest floral productions, are fully appreciated. The exhibition is considered to have surpassed any of those of this Society on former occasions; and we believe that so fine a display of roses was never before seen in this town.

The following is a list of the prizes awarded on the occasion.

Roses—Premier prize, Great Royal, J. Pope, and Sons.

Purple, Scarlet, and Crimson—1. Grandiflora, Mr. Tew, gardener to Edmund Peel, Esq. ; 2. Ranunculiflora, Mr. Beach ; 3. Boquet Royal, J. Gough, Esq. ; 4. Violet Blue, J. Pope and Sons ; 5. Cormin Feu, Mr. Tew ; 6. Bonnie Genevieve, Mr. Coudrey.

Blush, Pink, and Lilac—1. Duke of Devonshire, J. Pope and Sons ; 2. La Tourterelle, E. Hill ; 3. Belle Helena, Mr. Moore ; 4. Ruga, Mr. Phillips ; 5. Cabbage Provence, J. Gough, Esq. ; 6. Blush Provence, Mr. Coudrey

White, Cream, and Yellow—1. White Hip, Mr. Dickenson ; 2. White Blush, Mr. Coudrey ; 3. Madame Hardy, Mr. Tew ; 4. Unique, H. Pope ; 5. White Damask, J. Gough, Esq. ; 6. Camellia Blanche, Mr. Tew.

Shaded, Mottled, Striped, or Edged—1. Royal Crimson, Mr. Dickenson ; 2. Ornament du Parade, Mr. Moore ; 3. One Hundred Leaved Rose, ditto ; 4. Le Triomphe, Mr. Dickenson ; 5. Rosa Mundi, Mr. Moore ; 6. Royal June, Mr. Beach.

Moss—1. Crimson, Mr. Moore ; 2. Provence, Mr. Phillips ; 3. Blush, J. Gough, Esq. ; 4. Crested, Mr. Phillips.

Cluster—1. De Meaux, Mr. Moore ; 2. Duke of Tuscany, ditto ; 3. Purple Grevillea, Mr. E. Hill ; 4. Grevillea, Mr. Phillips.

Roses, in pots—1. Seven Sisters, Mr. Moore ; 2. Provence, Mr. Coudrey ; 3. Sebastian, ditto ; 4. Tourterelle, Mr. Dickenson ; 5. Unique, Mr. Moore ; 6. Moss de Meaux, Mr. Phillips.

Pinks—Premier prize, Duke of St. Alban's, Mr. Coudrey.

Purple Laced—Duke of St. Alban's Mr. Coudrey ; 2. Sir J. Banks, Mr. Walthew ; 3. Omnibus, Mr. Coudrey ; 4. Lord Codrington, Mr. T. Barker ; 5. Brilliant, Mr. Coudrey ; 6. Prudence, Mr. E. Hill.

Red Laced—1. Bossom's Elizabeth, Mr. Coudrey ; 2. Seedling, Mr. W. T. Barker ; 3. Admiral Codrington, Mr. Coudrey ; 4. Lord Althorp, Mr. W. T. Barker ; 5. Criterion, Mr. E. Hill ; 6. Burton's George the Fourth, Mr. W. T. Barker.

Plain—1. Seedling, Mr. Brittian, ; 2. Seedling, Mr. W. T. Barker ; 3. Seedling, Mr. Brittian ; 4. Union, Mr. E. Hill.

Ranunculuses—Premier prize, Lucas's Stripe, Mr. Phillips.

Purple, Crimson, and Scarlet—1. Premier, J. Pope and Sons ; 2. Emilius, Mr. Phillips ; 3. Naxara, ditto.

White Ground, Spotted and Edged—1. Thomson's King, Mr. Phillips ; 2. Seedling, ditto ; 3. Ditto, ditto ; 4. Carlo Dolci, J. Pope and Sons.

Yellow Ground, Striped, Spotted, and Edged—1. Orange Boven, J. Pope and Sons ; 2. Seedling, Mr. White ; 3. Seedling, Mr. R. C. Brown ; 4. Quaker, J. Gough, Esq.

Stove Plants—1. Clerodendrum speciosum, Mr. Dickenson ; 2. Bignonia grandiflora, ditto ; 3. Pancratium speciosum nova, D. Houghton, Esq. ; 4. Hæmanthus puniceus, ditto ; 5. Calathea Zebrina, ditto ; 6. Rusellia juncea, Mr. Dickenson.

Greenhouse Plants—1. Pimelia decussata, J. Gough, Esq ; 2. Nerium splendens, Mr. R. Tongue ; 3. Anigozanthus coccinea, J. Pope, and Sons ; 4. Siphocampylus bicolor, Mr. J. Moore ; 5. Swansonia galegifolia, J. Gough, Esq. ; 6. Dipsacus puniceus, Mr. J. Moore ; 7. Boronia serrulata, Mr. Dickenson ; 8. Erodium incarnatum Mr. J. Moore ; 9. Cactus Jenkinsonia, Mr. Jagger ; 10. Nierembergia filicalis, Mr. J. Moore.

Orchideæ—1. Cattleya intermedia, J. Pope and Sons ; 2. Epidendrum fragrans, D. Houghton, Esq. ; 3. Oncidium papilo, J. Pope and Sons ; 4. Bletia tuberosa, Mr. J. Moore.

Ericas—1. Gemifera, Mr. W. T. Barker ; 2. Ventricosa superba, Mr. White, 3. Osbornii, Mr. Dickenson ; 4. Odora rosea, ditto ; 5. Vestita, fulgida, Mr. H. Pope.

Calceolarias—1. Arborea maculata, Mr. Jagger ; 2. Fine Lake, Mr. Moore ; 3. Mirabilis punctata, Mr. Phillips ; 4. Fulgida, Mr. J. Moore ; 5. Guttata, J. Gough, Esq. ; 6. Virgin Queen, Mr. Jagger.

Geraniums—1. Jewess, Mr. Dickenson ; 2. Prima Donna, ditto ; 3. Fosteri rosea, ditto ; 4. Foster's Alicia, Mr. Moore ; 5. Chef-d'œuvre, Mr. Dickenson ; 6. Garth's Perfection, ditto ; 7. Oliver Twist, ditto ; 8. Invincible, ditto ; 9. Miller's Adonis, Mr. Moore ; 10. Alexandrina, Mr. White.

Herbaceous Plants—1. *Alstroëmaria aurea*, D. Houghton, Esq. ; 2. *Spirea arancus*, Mr. Moore ; 3. *Delphinium Barlowii*, Mr. Dickenson ; 4. Mule Pink, Mr. White ; 5. *Phlomis Semia*, Mr. J. Moore ; 6. *Iris Clarimond* Mr. Dickenson.

Frame Plants—1. *Lillium eximium*, Mr. Phillips ; 2. *Campanula muralis*, Mr. J. Moore ; 3. *Verbena Nivenii*, Mr. Jagger ; 4. *Lychnis fulgens*, Mr. Moore ; 5. *Campanula garganica*, Mr. Gough ; 6. *Verbena Tweediana*, Mr. Dickenson.

Tender Annuals—1. *Thunbergia Alata*, Mr. Baylis ; 2. *Rhodanthe Manglesii*, J. Gough, Esq. ; 3. *Martynia proposita*, Mr. IZONS ; 4. *Clintonia pulchella*, Mr. H. Pope.

Hardy Annuals—1. *Collinsia bicolor*, Mr. Coudrey ; 2. *Cladanthus arabicus*, ditto ; 3. *Schizanthus Priestii*, ditto ; 4. *Iberis umbellata* ditto.

Pansies in Pots—1. Fair Maid of Perth, Mr. Earl ; 2. Raphael, ditto ; 3. Edgbaston Hero, Mr. Coudrey ; 4. Royal Purple, ditto ; 5. Lilac Perfection, ditto ; 6. Helena, ditto.

Pansies (collections), 24 Blooms—1. Mr. Earl, Diomede, Cupid, Widnall's Belzoni, Widnall's Eliza, Chimpanzee, Lilac Perfection, Earl's Beauty of Edgbaston, Lady Ann, *Purpurea grandiflora*, Earl's *Cerulea grandiflora*, Lord Napier, Lord Warwick, Widnall's Don John, Venus, Apollo, Raphael, Earl's Laura, and seven Seedlings ; 2. Mr. Coudrey, Edgbaston Hero, Beauty of Edmonton, Clara, Thompson's Victoria, Lady Sondes, Juliet, Royal Purple, King of Pansies, Masterpiece, Hamlet, Duchess of Kent, *Crocea superba*, Admiral Codrington, Dauphin, Lord Calthorpe, Lilac Perfection, Lady Peel, Thompson's Venosa, Rainbow, *Lutea purpurea*, Pluto, Corinne, Premier, and Queen of Heartsease ; 3. Messrs. Pope and Sons, Seedling, Tamworth Hero, Camilla, Goliah, *Purpurea grandiflora*, Sultan, Maria, Beauty of Ealing, *Sulphurea elegans*, Maria (new), Rainbow, Seedling, Victoria, Masterpiece, Seedling, Climax, Vesta, Carlo Dolci, Silenus, Miss Malcolm, Betsy, Belzoni, Diomede, and Othello ; 4. Mr. Walthew.

Ditto. 12 Blooms—1. Mr. Earl, Chimpanzee, Lilac Perfection, Apollo, Raphael, Earl's *Cerulea grandiflora*, Thompson's King, Fair Maid of Perth, *Purpurea grandiflora*, and four Seedlings ; 2. Mr. Coudrey, Hero of Edgbaston, Masterpiece, Daphne, Lord Calthorpe, Thompson's Victoria, Clara, Venosa, Lady Sondes, King of Pansies, Pluto, Beauty of Edmonton, and Corinne ; 3. Mr. Walthew ; 4. Mr. E. Hill, Seedling, Warwickshire Lad, Widnall's Amato, Widnall's Eliza, Dauphin, *Purpurea grandiflora*, Lilac Perfection, Cupid, Widnall's Victoria, Zoe, Duchess of Buccleugh, Queen Adeliade, Widnall's Guido ; 5. J. Pope and Son's, Seedling, Tamworth Hero, Camilla, Goliah, Beauty of Ealing, Maria, Climax, *Purpurea grandiflora*, Masterpiece, Belzoni, Dorothea and Alpha.

Ditto, 6 Blooms—1. Mr. Earl, Earl's Beauty of Edgbaston, Lord Napier, Antionette, *Purpurea grandiflora*, Bellona, and Seedling ; 2. Mr. Coudrey, Page's Eclipse, Edgbaston Hero, Lady Sondes, Lord Calthorpe, King of Pansies, and Beauty of Edmonton ; 3. Mr. E. Hill, Daphne, Widnall's Amato, Widnall's Eliza, Widnall's Victoria, Cupid, and *Purpurea grandiflora* ; 4. Messrs. Pope and Son's, Sutton, Tamworth Hero, Seneca, Camilla, Hero of Surrey, and Apollo ; 5. Mr. Phillips, Lord Warwick, Raphael, Lady Anne, *Rotundifolia*, Phœbus, and Fair Maid of Perth.

Cut Specimens—1. J. Gough, Esq. ; 2. Mr. Dickenson ; 3. Mr. White ; 4. J. Gough, Esq. ; 5. Mr. Coudrey ; 6. Mr. Dickenson.

Nozegay, or Groups of Flowers—1 and 2. Mr. Coudrey.

Plants not in Bloom, but remarkable for fineness of growth, &c.—1. *Cycas revoluta*, J. Pope and Sons ; 2. *Charlwoodia Australis*, ditto ; 3. *Aloe Africanus*, Ditto.

Unclassed Specimens—1. *Cytisus nigricans*, Mr. Dickenson; 2. *Azalea* (early red), Ditto; 3, *Rhododendron hirsutum*, Ditto; 4. *Buddlea globosa*, J. Pope and Sons.

ON AN AMERICAN ALOE, &c.—If you think this worth putting into your pleasing publication, I beg you will; Mr. Bamford Hesketh, of Gwrych Castle, eighteen years ago, pulled down an old hot-house, in which there was an American Aloe, (then about sixty years old,) not considering it any ornament in the new house, it was laid against a south wall in the garden in its old decayed box, where it has remained ever since without ever having been matted or covered; last winter, 1838, it was a little pinched, but it quite recovered its appearance in the summer, and is now as healthy and vigorous as it ever was.

Can the following be accounted for? I sowed sixpennyworth of Hollyhock seed, and transplanted them, they all turned out yellow and double. An answer is solicited from some reader of the Cabinet.

Abergele, August 19th, 1839.

J. B. H.,

NEW PLANTS.

Angræcum armeniacum.—Orchidaceæ.—A native of Seirre Leone, bloomed at Messrs. Loddiges; the flowers are of an uniform apricot colour, produced closely, arranged on a horizontal lateral spike. (Bot. Reg.)

Malachenia clavata.—Orchidaceæ.—From Rio; it has bloomed with R. Bateman, Esq.; the flowers are of a dull green, spotted with purple. The scape rises about nine inches. (Bot. Reg.)

Senecio odoratus.—Why called "Sweet scented?" for it is scentless. The leaves are like an evergreen shrub; the plant rises to two feet high; the flower heads are yellow, small, rayless, and arranged in corymbose panicles. It is a native of New Holland. (Bot. Reg.)

Eurybia glutinosa.—From Van Dieman's Land; it is an erect growing shrub, much the appearance of the Rosemary; the flowers are produced in corymbose heads, the starry ray of each blossom is of a clear pale violet colour. It is a good additional conservatory plant.

Portulacea grandiflora; *rutila*.—A beautiful variety of this pretty flowering greenhouse perennial plant; the flowers are of the richest crimson, more bright than *P. Gillesii*, and about as large as half-a-crown when full blown.

Stenochilus longifolia.—From New Holland; it forms a small bush; each flower is about an inch long, of a dullish green-red colour.

Stenochilus incanus.—From New Holland; it forms a grey bush, looking like an olive, or some leafless acacia; the flowers are solitary, a little more than an inch long, of a dull green colour.

Asteracantha longifolia.—A handsome flowering greenhouse herbaceous perennial plant; it forms a bright rich green bushy plant, bearing numerous whorls of gay blue labiate flowers.

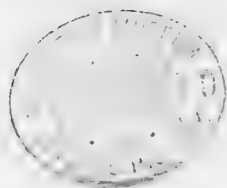
Cytisus Weldenii.—The flowers are produced in erect racemes; they are of so deleterious a quality that the scent will produce headache.

Nepeta salviifolia.—An Himalayan perennial plant, producing its flowers in long stalked cymes, they are white, and of little beauty.

Ipomea longifolia.—Stems erect, not twining, the flowers grow singly in the axils of the leaves; they are white with a delicate noyea scent, and as large as one of *Calonyction bona nox*. The plant is a perennial, with fleshy tuber like root, and if treated as is done with the dahlia root, will bloom freely in the open border.

Solanum candidum.—A noble looking shrubby plant, with leaves a foot long and nine inches broad, producing clusters of large and handsome white flowers. It has bloomed in the collection of George Barker, Esq., by whom it had been received from Mexico.

Nuttallia Malvæflora.—The flowers are of a pale pink colour; The plant grows about half a yard high, and deserves a place in every flower garden; it has bloomed in the Epsom Nursery.





Scilla elegans

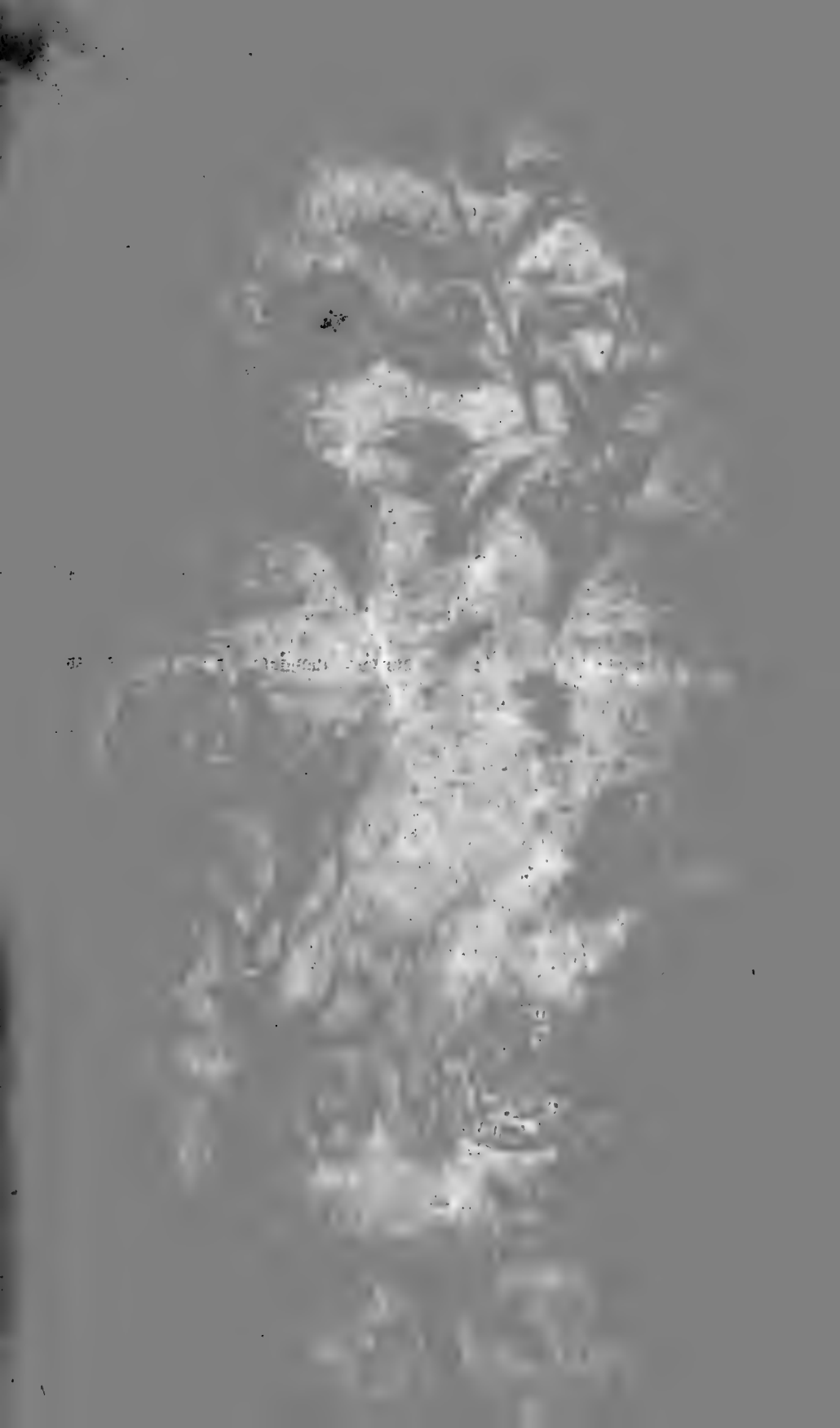
Fuchsia straminea



Salvia erythraea



Solanum ramosum





Hibiscus violaceus



Siphocampylus spiralis *Pentstemon gentianoides* var. *coccineus*

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REFERENCE TO PLATE FOR OCTOBER.

ROELLA ELEGANS.—The plant grows about nine inches high, bushy, and blooms very profusely; the beautiful and numerous flowers produce a very fine effect, no collection of stove plants, or in a warm greenhouse, ought to be without it; it blooms for nine months in the year.

Our figure represents only a single branch, but the plant seldom exceeds nine or ten inches in height, and forms a peculiarly neat and symmetrical object. Although its habit appears to be herbaceous, we have never observed it destitute of stems or leaves, so that these are evidently produced in constant succession. It is probable that the plant is suffruticose; but neither its superficial aspect nor a close examination warrant us in making such an assertion.

As its general mode of growth seems to be different from most other herbaceous stove plants, some variation from the usual course of treatment is necessary in its cultivation. With regard to soil, it prefers a sandy loam, with a very trifling addition of heath-mould. The smallest pot into which the roots can be inserted, without undue compression, will be the most suitable, as too much pot-room is decidedly prejudicial. As with other stove plants, a period of dormancy is beneficial; still it must be supplied with water during the entire season, and will not be injured by being continually subjected to a moderately high temperature. Indeed, if kept in a hothouse, it will flower during the whole of the winter months. Especial care should be taken to place it in a position alike free from the shade of other plants and the droppings from them or from the roof of the house, caused by the condensation of vapour, or admitted from the exterior surface. It should be kept on a dry stage or shelf; but a slightly-humid atmosphere will be rather propitious than otherwise.

Seeds are liberally matured, and germinate successfully if sown in very light soil in shallow pans, and these plunged in a moderate bottom heat. Cuttings also succeed very well under the ordinary treatment, with all due precaution in preserving them from superabundant moisture.

FUCHSIA WORMALDII.—A very pleasing plant of this celebrated family; we have never seen it bloom in the open bed, there it grows too much into foliage, but in a pot, rather confined, it blooms freely, if kept in an airy part of a greenhouse.

SALVIA CONFERTIFLORA.—A native of Brazil. The flowers are of the woolly section, and are produced in a pendant raceme, and though small, being bright, are pretty. The plant grows several feet high, having large woolly leaves eight inches long, and five or six broad. The plant will flourish either in the greenhouse, or open border in summer, but blooms best in the former, being of a very vigorous habit; in the open border it produces too much foliage.

LOBELIA RAMOSA.—A very highly ornamental plant for the greenhouse or open border in summer; it grows to four or five feet high, produces very numerous spreading branches, which flower profusely. It deserves a place in every collection, it grows rapidly and is easily propagated.

 REFERENCE TO PLATE.

HIBISCUS VIOLACEA.—Another of the fine introductions into this country from the Swan River, by Captain Mangles, R. N. We recently saw it in fine bloom at Mr. Henderson's Nursery, Edgware Road, London; it was grown in a cool place in their plant stove, it appears that it would flourish and bloom well in a greenhouse, and would be one of the most interesting plants for culture there; the plant is very neat in its growth even without flowers.

SIPHOCAMPYLUS SPICATA.—This species is much neater in growth than the *S. bicolor*, it blooms much more abundantly, and its bright yellow flowers are very showy. The plant deserves a place in every greenhouse; it will, as well as the other species named, thrive in the open air, trained against a trellis or south aspect wall, and are well worth cultivating.

PENTSTEMON GENTIANOIDES var COCCINEUS.—This splendid kind has been raised by Mr. Lowe, of the Clapton Nursery, from Mexican seeds, and of whom we procured plants, being so superior a variety. The plant is as hardy as *P. gentianoides*, and blooms as profusely; it deserves a place in every flower garden.

FLORICULTURAL CALENDAR FOR NOVEMBER.

All greenhouse plants should now be housed without delay, and air admitted, except when it is frosty. The plants should not be watered in the evening, but in the early part of the day, so that the damps may be dried up before the house is closed, as they are during the night prejudicial to the plants. The soil in the pots should frequently be loosened at the surface, to prevent its forming a mossy or very compact state.

The plants of the Cactus that have been kept in the open air during the summer, may be brought to bloom successively, by taking such as are desired to bloom immediately into the heat of a forcing pine house. Other plants to bloom afterwards, should be kept in a greenhouse protected from the frost.

The plants of the *Calceolaria* that have been grown in the open borders during the summer months, should now be taken up and potted, afterwards kept in a cool frame, or cool part of the greenhouse, being careful not to give too much water, just sufficient to keep the soil moist will only be necessary.

The Chinese Primroses that have been grown in the open borders, will require to be taken up.

The plants of some of the *Chrysanthemums* that are grown in pots, and taken into the greenhouse, will be found to have pushed a number of suckers. If the offsets are wanted for the increase of the kind, it is advisable to pinch off the tops, so as to prevent their exhausting of the plant to the weakening of the flower. If the offsets are not wanted, it is best to pull up the suckers entire. Attention will be required to watering, as the roots absorb much if given. If the plant is allowed to wither, it checks the flowers, whether in bud or expanded. And so much do we admire this handsome genus of flowers, that we are fully persuaded their beautiful blossoms, exhibited in form and colour, will most amply repay for any labour that may be bestowed on the plants.

The *Dahlia* seed, if not cut off by frost, will now be perfected. They are best retained in the heads as grown, spread singly, where they will not be liable to mould, and kept in a dry, but not too hot a situation; being thus kept in the chaff, the small seeds will not shrivel, but be kept plump. The roots will now require taking up, if not done last month.

Dutch roots may in this month be successively planted, (see Articles on in former numbers.

Fuchsias and greenhouse plants intended to be inured to the open air, will require to have protection at the roots, &c.

Tubers of *Commellinas*, and bulbs of *Tigridias*, should be taken up and preserved dry through winter.

Newly planted shrubs in exposed situations should be secured to stakes, Herbaceous border plants may still be divided and replanted.

In taking and potting greenhouse plants &c. that have been grown in the open ground during summer, do not head them down entire as it would cause a production of fresh shoots, which being weak, from the season of the year, often perish during Winter, it is best to head them only partially.

Plants of *Rhododendrons*, *Persian lilacs*, *Azaleas*, *Roses*, &c. intended to force into bloom by Christmas, should immediately be taken in for the purpose.

Neapolitan Violets should be placed in a cool frame to get into bloom early. As should be done too with pinks, &c.

THE
FLORICULTURAL CABINET,

DECEMBER 1st, 1839.

PART I.
ORIGINAL COMMUNICATIONS.

ARTICLE I.

ON TAKING IMPRESSIONS OF FLOWERS, &c., BY THE PHOTOGENIC PROCESS.

BY FLORA.

THIS new mode of taking drawings of flowers having created considerable excitement in the floral community. I forward the particulars of it (as given in the Magazine of Natural History), for insertion in the Floricultural Cabinet. I have tried it and find it give a very correct representation of the specimen.

The operation is a little tedious as to its chemical preparation, but when once practised is done very readily, it is well worth adopting, especially to obtain a correct form of what is desired.

The mode of fixing the images of the camera obscura, and copying engravings, by means of the chemical action of light on paper prepared with a solution of chloride of silver, has attracted so much notice, and produced so much popular excitement, that a few observations on this interesting process will not perhaps be considered out of place in your magazine. I venture to occupy your pages with the less reluctance, because I feel that the application of this heliographic or photogenic art will be of immense service to the botanist, by enabling him to procure beautiful outline drawings of many plants, with a degree of accuracy, which, otherwise, he could not hope to obtain.

That light will act on chloride of silver is by no means a novel discovery, and paper prepared with it was long ago used by Ritter

and Wollaston, in testing the chemical action of the rays of the solar spectrum ; still, in this country it was not, I believe, applied to any purpose likely to be of use to the naturalist and traveller, until brought into notice by the researches of Mr. Talbot. It is not a little amusing to observe how many pretenders to the discovery have started up since the announcement of Mr. Talbot's discovery, and that of M. Daguerre in France. The latter gentleman has, through M. Arago, at a late meeting of the French Institute, announced his mode of preparing a sensitive paper, far exceeding that of Mr. Talbot in delicacy, but otherwise possessing the same property of indicating intensity of light by depth of colour, and consequently differing from that marvellous preparation which he is said to possess, and which represents shadows by depth of colour, precisely as in nature.

M. Daguerre prepares his heliographic paper by immersing a sheet of thin paper in hydrochloric ether, which has been kept sufficiently long to be acid ; the paper is then carefully and completely dried, as this is stated to be essential to its proper preparation. The paper is next dipped into a solution of nitrate of silver (the degree of concentration of which is not mentioned,) and dried without artificial heat in a room from which every ray of light is carefully excluded. By this process, it acquires a very remarkable facility in being blackened on a very slight exposure to light even when the latter is by no means intense ; indeed by the diffused day-light of early evening in the month of February. This prepared paper rapidly loses its extreme sensitiveness to light, and finally becomes not more readily acted upon by the solar beams than paper dipped in nitrate of silver only. M. Daguerre renders his drawings permanent by dipping them in water, so as to dissolve all the undecomposed salt of silver.

This process is very inconvenient, for many reasons, among which are the difficulty of procuring, as well as the expense of hydrochloric ether ; on this account I prefer Mr. Talbot's process, although it is to be regretted that this gentleman has not stated more explicitly the proportions in which he uses the ingredients employed in the preparation of his sensitive paper. I have performed a set of experiments on this subject, and can recommend the following proportions as the most effective and economical. Two hundred grains of common salt are to be dissolved in a pint of water, and sheets of thin blue wove post paper saturated with the solution, which, for this purpose, should be poured into a dish,

and, the paper being immersed, the application of the solution to every part should be insured by the use of a sponge. The paper is then to be removed, drained of its superfluous moisture, and nearly dried by pressure between folds of linen or bibulous paper.

Two hundred and forty grains of fused nitrate of silver are then to be dissolved in twelve fluid ounces of water, and this solution is to be applied by means of a sponge to one side of each sheet of the previously prepared paper, which side should be marked with a pencil, so that when the paper is fit for use the prepared side may be distinguished. The sheets of paper are then to be hung upon lines in a dark room to dry, and when nearly free from moisture, their marked sides are to be once more sponged over with the solution of silver, and finally dried; they are then to be cut into pieces of convenient size, and preserved from light, or even too much exposure to air, by being wrapped up in several folds of brown paper, and kept in a portfolio.

The proportions above recommended are sufficient for the preparation of a quire of the kind of paper alluded to; if more of the salt of silver were used, the paper would indeed become darker by the action of light, but its expense would be proportionally increased; and when prepared in the manner directed, it assumes by less than a minute's exposure to the rays of the sun, a rich mulberry brown tint, of sufficient intensity to define an outline very beautifully, which indeed is all that is required.

To use this paper, the specimen, of which a drawing is required, is removed from the herbarium, placed on a piece of the paper, and kept *in situ* by a pane of common glass pressed by weights; a piece of plate glass, however, is preferable, as it is sufficiently heavy to press the plant close to the paper. The whole is then placed in the sunshine, and in less than a minute all the uncovered parts of the paper will assume a rich brown tint. The paper should then be removed from the direct influence of the sun, and placed in a book until the drawing be made permanent: the specimen, quite uninjured by the process, may then be replaced in the herbarium, and the drawing of another taken, and so on. So rapidly is this process executed, that twenty-five or thirty drawings may be obtained in an hour, providing we are favoured with a direct sunbeam; if, however, we have only the diffused day-light five or ten minutes, and sometimes even more, are required to produce a drawing with well defined outlines.

If drawings of recent plants be required, specimens of proper size should be cut, and if not too rigid, placed on a piece of paper, and kept in a proper position by means of a pane of glass, as in the case of dried specimens; but if the plant be rigid, the specimens should be placed for twenty-four hours between folds of blotting paper, under a heavy weight, before placing them on the sensitive paper. Having obtained as many drawings as are required, the next thing is to fix them, so that their otherwise evanescent character may not deprive them of their value. For this purpose place them in a dish, and pour cold water over them; allow them to soak for ten minutes, and then transfer them to, or sponge them over with, a solution, made by dissolving an ounce of common salt in half a pint of water, to which half a fluid ounce of the tincture of sesqui-chloride of iron has been added. The drawings thus prepared may be dried by pressure between folds of linen, and exposure to the air; and may then be examined without danger. On looking at them, every one must be struck with the extreme accuracy with which every scale, nay, every projecting hair, is preserved on the paper; the character and habit of the plant is most beautifully delineated, and if the leaves be not too opaque, the venation is most exquisitely represented; this is particularly the case with the more delicate ferns, as *Polypodium Dryopteris*. Among those classes of plants which appear to be more fitted than others for representation by this process, may be ranked the ferns, grasses, and umbeliferous plants; the photogenic drawings of the former are indeed of exquisite beauty.

The fact of the object being white on a brown ground does not affect the utility of this mode of making botanic drawings; indeed I almost fancy that their character is better preserved by this contrast to tint, than by a coloured outline on a white ground. Every one will be fully aware of the value of this process to the botanist, in obtaining drawings of rare plants preserved in the herbaria of others, and which he would otherwise have probably no means of obtaining.

If the drawing of a tree or a large shrub be required, a box blackened inside, having a hole at one end about one and a quarter inch in diameter, must be provided; in this hole should be placed a lens of five or six inches focus; if one of longer focus be used, the dispersion of light becomes too great to insure an accurate representation. When the tree or shrub is well illuminated by the solar beams, the lens should be presented towards it, at a distance

varying of course with the height of the object. A piece of cardboard should then be placed in the box, a little beyond the true focus of the lens, and the former until a well-defined bright image of the tree, etc. is formed on the card, of course in an inverted direction. The box is then to be placed on any convenient support in this position, and a piece of the prepared paper fixed on the card, the lid of the box is then to be closed, and the whole left for half an hour, at the end of which time a beautifully accurate outline of the object will be found on the paper, which is then to be rendered permanent in the usual manner. It is obvious that this plan is unavailable on a windy day, on account of the branches of the tree, &c. being continually moving, so that it is of far less use to the botanist than the above described process for obtaining drawings of small specimens.

FLORA.

ARTICLE II.

LONICERA PERICLYMENUM.—HONEYSUCKLE OR WOODBINE.

BY CLAUDIA.

It received the generic name of *Lonicera*, as a compliment from Plumier to Adam Lonicer, a physician at Frankfort. We name it Woodbine, because it winds itself as it were in wedlock to every tree and shrub in its neighbourhood, which it graces by its well attired branches in return for the support it borrows; from hence it is styled the Bond of Love.

“The woodbines mix in am’rous play,
And breath their fragrant leaves away.”

In the time of Edward the Third, it appears to have been emblematical of true love, as Chaucer, the father of English poetry, says,

“And tho that were chapèlets, on her hede,
Of fresh wodebind, be such as never were
To love untrue, in word, in thought, ne dede;
By ay stedfast; ne for plesance ne fere.
Tho that they shulde hir hertes all to tere,
Woud never flit, but ever were stedfast,
Till that hir lives there asunder brast.”

This climbing plant always turns from east to west, and so firmly does it hold its supporter in embrace, that we often see young

trees and branches indented like a screw by the pressure. As the gentle Desdemona clung to the dark warrior, so have we seen the delicate and supple stalks of the woodbine endeavour to embrace the trunk of the sturdy oak, and in the bold attempt it is often seen thrown off to perish on the ground, unless caught by humbler shrubs, who seem proud to display the flowery festoons which the monarch of our woods had rejected. So have we seen modern Desdemonas turn from support within their reach, aspiring to climb by means too large for their grasp; they have been drawn up, in weak hopes, by a slight hold, which the first winds severed throwing them to the earth, too feeble to catch the most lowly plant.

We love to see shrubs "o'er-canopied with luscious woodbine," but in the oak of the forest its beauties wither in the shade of its too grand supporter.

The name of Honeysuckle, we presume, was given to this plant, from the trick of children, who draw out the trumpet-shaped corollas from the calyx, to suck the honey from the nectary.

This flower is what is termed a tubulose nectary, and the sweet liquid laying at the bottom is secure from the reach of the industrious bee; but the hawk-moth, a species of the sphinx, hovers over these flowers in the evening, and with its long tongue extracts the honey from the very bottom of the flower. Other insects that have not the advantage of so lengthened a tongue, tap the bulbs of the flower, by making a puncture towards the bottom, and then revel in the luxurious sweet.

The nectary of a flower is that part of the blossom which contains a liquid honey, and we are inclined to think that this saccharine juice is distilled from the plant, and conveyed to the nectary for the double purpose of giving nourishment to the parts of fructification and decomposition to the farina.

"These, nature's works, the curious mind employ,
Inspire a soothing melancholy joy."

The woodbine has a light and elegant, but negligent air, better calculated to ornament rural groves than to embellish stately gardens, and a more suitable climber for the rustic porch than the modern portico. Cunningham has given it to the Cottage of Content.

"Green rushes were strewed on her floor,
Her casement sweet woodbines crept wantonly round,
And decked the sod seats at her door."

The perfume of the honeysuckle being of the most agreeable kind, it should be frequently met with in the shrubbery; when planted near the fore-ground it ought to be kept as a shrub, which, as well as giving neatness, ensures a succession of flowers. In the wilderness walks, it should have liberty to climb the trees, and hang its wreaths from branch to branch; and where the ivy gives verdure to the bare trunk, there should the woodbine display its blossoms and shed its odours; as also over the rural arbours of the present day, as it did o'er those of Shakspeare's.

— — — — — “Beatrice, who e'en now
Is couched in the woodbine coverture.”

MUCH ADO.

The nurserymen of this country now offer us many distinct species of the *Lonicera*, besides many varieties of the common woodbine. The dutch honeysuckle, *Lonicera Belgica*, may be trained with a stem, and formed into a head like a tree; the flowers of this variety are of a reddish colour on their outsides, and yellowish within, of a very delightful odour. There are two varieties of the Dutch honeysuckle, one of which is called the Long blowing, as it blossoms in June, July, and August; the other succeeds it, and is therefore called the Late Red-blowing Honeysuckle, *L. serotina*. Both of these should be planted in considerable quantities. The latter kind has only been introduced about a century; for in 1715 it was esteemed a great curiosity, and is supposed to have been first brought to this country by the Flemish florists, who were then in the habit of coming over annually with plants for sale.

The Virginia trumpet honeysuckle, *Lonicera sempervirens*, was cultivated in this country by John Tradescant, jun. as long back as 1656, and although it is without odour, it is a desirable evergreen climber, the bright scarlet flowers being so ornamental from May to August. There is a new scarlet flowered variety very superior to the old kind which deserves a place in every shrubbery, trellis, or harbour. This kind of honeysuckle requires a south aspect, and a sheltered situation. The branches being weak and rambling, it is generally trained to a wall; but it has a better effect when its branches are interwoven with the cypress, or any other evergreen, which will shelter it, from the north, and support its gay trumpets to advantage.

The common honeysuckles will grow in almost any soil or situation, and there are few inmates of the shrubbery more desirable than these odiferous stragglers, which perfume the air to a great

distance, particularly in the morning and evening. They are easily propagated, either by layers or cuttings; but the latter are preferred. The cuttings should have four joints, three of which should be buried in the earth, and the fourth above the surface, from which the shoots are produced. September is the best month for planting the woodbine cuttings. How greatly would our hedges be improved by a few cuttings being stuck in the ground; how little the trouble, the expence none,—but the delightful air would well repay the labour.

We should have passed over the medicinal qualities of this plant, had we not accidentally opened the work of a student in physic, who flourished in London, in the year 1681; and as we conclude it is but little known to the students of 1839, we extract it for the sole purpose of benefiting the faculty—*by a laugh*.

This learned Æsculapian author says, under the head 'Woodbind,' "It is a plant so common, that every one that hath eyes knows them; and he that hath none cannot read a description if I should write it. Doctor Tradition, that grand introducer of errors that hater of truth, that lover of folly, and that mortal foe to Doctor Reason, hath taught the common people to use the leaves of flowers of this plant in mouth waters; and by long continuance of time hath so grounded it in the brains of the vulgar, that you cannot beat it out with a beetle. All mouth waters ought to be cooling and drying, but honeysuckles are cleansing, consuming, and digesting, and therefore no ways fit for inflammations; thus Doctor Reason. And, if you please, we will leave Doctor Reason awhile, and come to Doctor Experience, a learned gentleman and his brother. Take a leaf and chew it in your mouth, and you will quickly find it likelier to cause a sore mouth, or throat, than to cure it. It is an herb of *Mercury*, and appropriated to the lungs; the celestial *crab* claims dominion over it, neither is it a foe to the *Lion*; if the lungs be afflicted by *Jupiter*, this is your cure."

The leaves of the woodbine are the favourite food of the goat hence the French have named this plant, *Chevre-feuille* (Goat's-leaf.)

ARTICLE III.

REMARKS ON SUPERB PINKS.

BY MR. BENJAMIN WILLIAMSON, MANOR STREET, CLAPTON.

HAVING frequently seen applications in your Floricultural Cabinet, for a list of the best Florist's flowers, and where they may be purchased; in reply to which, I beg to state, that I am a great admirer of Florist's flowers in general, but a principal object of my attention is turned to that beautiful flower the Pink (which I am proud to see taking so prominent a station in the minds of the Floricultural World,) and which I spare no trouble to obtain, as I generally endeavour to procure every good sort. Having visited many places and having had an opportunity of seeing many growers, I can safely state, that I never met with any to excel what are grown at Woolwich and its Neighbourhood, either as a Collection, or for Blooming: as a proof of which, I beg to refer to the Metropolitan Show on the 26th of June last, when three prizes out of four, were taken by the Woolwich Growers, the first was awarded to Mr. Norman; the second to Mr. Ibbett; and the fourth to Mr. Ward; all of whom reside at Woolwich. Being myself an Amateur Grower, I consequently grow none for sale, and when in want of any Plants, I apply to Mr. Ibbett of Woolwich, who invariably is sure to supply me with the best sorts, and perfectly correct under their proper names, I can therefore without hesitation recommend him. The following are the best sorts in cultivation that I can recommend to notice, and can be obtained of him at the proper season, from the latter end of September till the beginning of November.

Creed's President.
 Deakin's Burdett.
 Knight's Lady Auckland.
 " Emma.
 Bexley Beauty.
 Norman's Queen Victoria.
 " Defiance.
 Knight of Henley.
 Miss Cheese.
 Ward's Queen.
 Weeden's Queen Victoria.
 Young's Joe Miller.
 Clark's Roseana.
 Barrett's Conqueror.

Dry's Earl of Uxbridge.
 Cousin's Victoria.
 Knight's Lord Brougham.
 Bridge's Queen.
 Ibbett's Triumphant.
 Clark's ditto
 Marshall's Defiance.
 Barlow's George IV.
 Mann's Dr. Summers.
 Aker's Lord Brougham.
 Unsworth's Omega.
 Hopkin's One in the ring.
 Earl of Cheltenham.
 Seal's Miss Austin.

Hardstone's Adelaide.

“ No. 1.

Wilmore's Queen Victoria.

Eldridge's Superb.

Smith's No. 88.

Any of the above can be obtained from Mr. Ibbett, (Florist,) Mount Pleasant, Woolwich, as also a splendid collection of Carnations, Picotees, Ranunculuses, &c.

Should you think the above worthy your notice in your Cabinet, I shall feel great pleasure at all times in forwarding any useful information.

B. WILLIAMSON.

[We shall feel much obliged by any further communications our respected Correspondent may favor us with.—COND.]

ARTICLE IV.

ON THE CULTURE OF THE CARNATION.

BY DIANTHUS.

I HAVE been a grower of that lovely plant the Carnation (for showing at competition) for upwards of twenty years, during which time, I have had an opportunity of ascertaining what mode of treatment is required to grow it to the best advantage; I therefore offer the following remarks for insertion in the Cabinet, for November or December, as it is the period when the best layers may be obtained, having established themselves after removal from the parent plant.

When the plants are about mid-bloom I perform the layering in the usual manner, and as soon as I discover they are sufficiently rooted, which varies, some kinds being much longer than others, as season and situation too operate to create a difference; I take the layers up carefully and put four plants into each twenty-four sized pot, placing the layers near the side of the pot, but not for the stem to touch it, for I have found many of the tender sorts die from that circumstance.

The compost which I use is light; as soon as potted, they are well watered, and placed in a close frame and shaded: to those who have not the the convenience of a frame, a shady sheltered situation should be selected. After having been shaded about ten days, they will bear full exposure to the sun; but to prevent inju-

ry from heavy rains, the glass should be placed over the plants during the night.

On the approach of winter, the pots are plunged in coal ashes, this is, of course, within the frame, and has the effect of preventing the pots from drying, as well as to guard them against severe frosts. They remain in this situation till the following March, and are then more fully exposed to the air, about the first week in April, they are finally removed into the pots in which they are intended to flower, viz. twelve inches deep and ten across, and others, fourteen deep and twelve across. In the former, I only put two plants, and in the latter I put four; I however, very much prefer the former, as the roots run much more freely in pots comparatively small, when they can easily reach the sides. Drainage is an essential consideration in the culture of the Carnation; in order, therefore, that the water may escape from the earth in the pot with great readiness, I use about three inches of broken pots or stones; these are first placed in the bottom of the pot, and to prevent the earth mixing with this drainage, it is covered with an inch of moss. When all are potted, I then remove them to a situation where they are sheltered from the north winds; as the season advances, and the rays of the sun become powerful, I remove the pots where they receive partial shade from the mid-day sun, and in this situation they are allowed to flower. As soon as the flower stalks begin to grow, the stakes are placed in the centre of the pot, and the stems secured by ties of matting, according as at the time the buds begin to be formed, I place some finely broken manure on the surface of the pots, being watered through this, it greatly invigorates the plants and strengthens the bloom. When the buds are nearly ready to expand, I assist them by using a sharp knife, to part the extremities of the calyx, they then burst much more freely. I also find it to be of the utmost consequence to protect the calyx from bursting, by tying a piece of matting neatly round its centre; some flowers will bloom without this precaution, but by far the greater number require it. As soon as the blossoms begin to expand, I shade the flowers with paper covers. Sometimes the flowers are in danger from earwigs, these I prevent from getting to the flower by a small gauze bag being placed under each flower to stop their progress up the stem, which is quite effectual.

For the compost I take equal portions of fresh loam, rotted cow-dung, a year old at least, river sand, and leaf mould; I have it

looked over to see no wire worm is in it, when I apprehend there are small ones which escape notice, I have some fresh lime stones thrown into a tub of water, have it well stirred up, and after confusion has subsided, and the water becomes clear as at first, I pour it in its clear state over the compost, this effects the destruction of any remaining.

DIANTHUS.

ARTICLE V.

ON CHINESE GARDENS.

(Continued from page 232.)

Neither do they employ together the catalpha and the acacia, the yew and the willow, the plane and the sumach, nor any of such heterogenous sorts; but on the contrary, they assemble in their large woods, the oak, the elm, the beech, the tulip, the sycamore, maple and plane, the Indian chesnut, the tong-shu, and the western walnut, the arbeal, the lime, and all whose luxuriant foliages hide the direction of their branches; and growing in globular masses, assemble well together; forming, by the harmonious combination of their tints, one grand group of rich verdure.

In their smaller plantations, they employ trees of a smaller growth, but of the same concordant sorts; bordering them with Persian lilacs, gelder-roses, seryngas, coronillas or sennas of various sorts, flowering raspberries, yellow jessamine, hypericum or St. John's wort, the spiræa frutex, altheas, roses, and other flowering shrubs peculiar to China; such as the moli-wha, the quey-wha, the lan-wha, and the wen-quang-shu; intermixed with flowers, and with the tallow-tree and padus of various species, the tse tang or rose tree, elder, mountain ash, acacia, double blossomed thorn, and many other sorts of flowering trees: and wherever the ground is bare, they cover it with white, blue, purple and variegated periwinkle, the convolvulus minor, dwarf stocks, violets, primroses, and different kinds of creeping flowers; and with strawberries, tutsen and ivy, which climbs up and covers the stems of the trees.

In their large plantations, the flowers generally grow in the natural ground; but in flower-gardens, and all other parts that are highly kept, they are in pots, buried in the ground; which, as fast as the bloom goes off, are removed, and others are brought to

supply their places ; so that there is a constant succession, for almost every month in the year ; and the flowers are never seen, but in the height of their beauty.

Amongst the most interesting parts of the Chinese plantations, are their open groves ; for as they spend much of their time there, care is taken to situate them as pleasantly as possible, and to adorn them with all kinds of natural beauties.

The ground on which they are planted, is commonly uneven, yet not rugged : either on a plain, raised into many gentle swellings ; on the easy declivity of a mountain, commanding rich prospects ; or in vales, surrounded with woods, and watered with springs and rivulets. Those which are in an open exposure, are generally bordered with flowery meadows, extensive corn-fields, or large lakes ; the Chinese Artists observing, that the brilliancy and gaiety of the objects, form a pleasing contrast with the gloom of the grove ; and when they are confined in thickets, or close woods, the plantations are so contrived that, from every approach, some part of the grove is hid ; which opens gradually to the eye of the passenger, satisfies his curiosity by degrees.

Some of these groves are composed of evergreens, chiefly of pyramidal form, thinly planted over the surface, with flowering shrubs scattered amongst them : others consist of lofty spreading trees, whose foliage affords a shady retreat during the heat of the day. The plants are never crowded together ; sufficient room being left between them for sitting or walking upon the grass ; which, by its shady situation, retains a constant verdure ; and, in the spring, is adorned with a great variety of early flowers, such as violets, crocus's, polyanthus' primroses, hyacinths, cowslips, snow-drops, daffodils and daisies. Some trees of the grove are suffered to branch out from the very bottom of the stem upwards ; others, for the sake of variety, have their stems bare ; but far the greater number are surrounded with rose-trees, sweet-briar, honey suckles, scarlet beans, nasturtiums, everlasting and sweet-scented peas, double blossomed briar, and other odoriferous shrubs, which beautify the barren parts of the plant, and perfume the air.

Sometimes too their open groves are composed of lemon, orange, citron pompelmoose, and myrtle-trees ; which, as the climate varies, either grow in the earth, or in buried tubs and pots, that are removed to greenhouses during the winter. They also have groves of all sorts of fine formed fruit-trees ; which, when they blossom, or when their fruit is ripe are exceedingly beautiful : and to add to

the luxuriance of these scenes, the Chinese Artists plant vines of different coloured grapes near many of the trees, which climb up their stems, and afterwards hang in festoons from one tree to another.

In all their open groves are kept young broods of pheasants, partridges, pea-fowls, turkies, and all kinds of handsome domestic birds, who flock thither, at certain times of the day to be fed ; they also retain in them, by the same method, squirrels, pe-che-li-cats, small monkees, cockatoos, parrots, hog deer, spotted capritos, lambs, Guinea pigs, and many other little beautiful birds and animals.

The trees which the Chinese Gardeners use in their open groves, and also for detached trees, or groupes of two, three, or four together, are the mountain-cedar, the spruce, silver, and balm of Gilead firs, the larix, the smooth stemmed pine, the arbor vitæ, and cypress ; the weeping willow, the u-kyew-mu, the birch, the maple, the western walnut, arbeal, tulip acacia, oak, elm, and all others that grow in picturesque forms ; and whenever they loose their natural shape, either by too quick vegetation, or other accidents, they endeavour to reduce them to an agreeable form, by lopping off their exuberances ; or by forcing them into other directions. The Indian, or horse-chesnut, the lime, and some others of a stiff, formal growth, they never use detached ; but find them on account of their rich verdure, their blossom, and abundant foliage, very fit for thickets, woods and avenues.

They have particular plants for the dressed gay parts of the Garden ; others in their wilds and scenes of horror ; and others appropriated to monuments and ruins ; or to accompany buildings of various sorts ; according as their properties fit them for these different purposes.

In planting, they are nicely attentive to the natural size of their plants ; placing such as are of humble growth in the front ; and those that are higher, gradually inwards : that all may be exposed to view at the same time. They appropriate certain plants to low moist situations ; and others to those that are dry and lofty ; strictly attending therein to Nature : for though a willow, say they, may grow upon a mountain, or an oak in a bog, yet are not these by any means natural situations for either.

The lakes and rivers are well stored with fish and water-fowl ; all the vessels are contrived for fishing, hunting, and other sports that are profitable as well as entertaining ; and in their borders

they plant, instead of flowers, sweet herbs, celery, carrots, potatoes, strawberries, scarlet beans, nasturtiums, endive, cucumbers, melons, pineapples, or other handsome fruits and vegetables ; while all the less sightly productions for the kitchen, are carefully hid behind espaliers of fruit-trees. And thus, they say, every farmer may have a Garden without expense : and, that if all landholders were men of taste, the world might be formed into one continued Garden, without difficulty.

Such is the substance of what I have hitherto collected relative to the Gardens of the Chinese. My endeavours, in this Article, have been to give the general outline of their style of Gardening, without entering into trifling particulars, and without enumerating many little rules of which the Artists occasionally avail themselves ; being persuaded that, to men of genius, such minute discriminations are always unnecessary, and often prejudicial, as they burden the memory, and clog the imagination with superfluous restrictions.

The dispositions and different artifices before mentioned, are those which are chiefly practised in China, and such as best characterize their style of Gardening. But the artists of that country are so inventive, and so various in their combinations that no two of their compositions are ever alike : they never copy nor imitate each other ; they do not even repeat their own productions ; saying, that what has once been seen, operates feebly at a second inspection ; and that whatever bears even a distant resemblance to a known object, seldom excites a new idea. The reader is therefore not to imagine that what has been related is all that exists ; on the contrary, a considerable number of other examples might have been produced : but those that have been offered, will probably be sufficient : more especially as most of them are like certain compositions in music, which, though, simple in themselves, suggest, to a fertile imagination, an endless succession of complicated variations.

To the generality of Europeans, many of the foregoing descriptions may seem improbable ; and the execution of what has been described, in some measure impracticable : but those who are better acquainted with the East, know that nothing is too great for Eastern magnificence to attempt ; and there can be few impossibilities, where treasures are inexhaustible, where power is unlimited and where munificence has no bounds.

European artists must not always hope to rival Oriental grandeur : they will seldom find islands for ostriches, or forests for elephants, where property is much divided, where power is confined, and wealth rare : men of genius may often conceive more than it is practicable to execute ; yet let them always boldly look up to the sun, and copy as much of its lustre as they can : circumstances will frequently obstruct them in their course, and they may be prevented from soaring high ; but their attention should constantly be fixed on great objects, and their productions always demonstrate, that they knew the road to perfection, had they been enabled to proceed on the journey.

Where twining serpentine walks, digging holes and crooked ditches for earth to raise mole-hills, scattering shrubs, and ringing never-ceasing changes on lawns, groves and thickets, is called Gardening ; artists will have few opportunities of displaying their talents ; it matters little there who are the Gardeners ; a cabbage planter may rival a Claude, and a clown outwine a Poussin ; the meanest may do the little there is to be done, and the best could reach no farther. But wherever a better style is adopted, and Gardens are to be natural, without resemblance to vulgar Nature, new without affectation, and extraordinary without extravagance ; where the spectator is to be amused, where his attention is constantly to be kept up, his curiosity excited, and his mind agitated by a great variety of opposite passions, there parts will be necessary ; and Gardeners must be men of genius, of experience and judgement ; quick in perception, rich in expedients, fertile in imagination, and thoroughly versed in all the affections of the human mind.

ON CHINESE GARDENS.

ARTICLE VI.

ON THE CULTURE &c. OF THE TULIP.

BY MR. J. FORBES, STANLEY, YORKSHIRE.

As the period is approaching for planting this long admired favorite, the Tulip, I forward for insertion in the Cabinet, some remarks upon its history, descriptive properties, and mode of culture, extracted from the observations of a Continental Grower of celebrity, (M. Trippet,) who forwarded me the same, along

with a fine collection of splendid kinds of Tulips. He observes that the Tulip grows naturally on the Savoy mountains, and in the neighbourhood of Nice. It furnishes varieties of which the two principal are, first, Bizarres, and second, those on a white ground. The first are those which have a yellow tinge, mingled with other colours, but entirely exclude white.

They were in great esteem forty or fifty years back, but are looked on less favourable at present. Many persons, however, cultivate them still, to form a contrast, by their dark shades of colour, with those on a white ground. The last named kinds, on the contrary, have not the slightest trace of yellow. Sometimes, indeed, at the moment of blowing, a few exhibit a pale shade of yellow, but the rays of the sun soon render them of a pure white. These are again sub-divided into two classes: the first into tulips, on a white ground, streaked with red, pink, crimson, &c.; and, secondly, those on a white ground, streaked with violet, amaranth, purple, lilac, &c. The tulips, commonly called Dutch, are the only ones now admitted into a choice collection, and of these there are about 700 good varieties.

In order to be admitted into this privileged class, certain conditions have been laid down by lovers of the flower, which the tulip should fulfil, and to fail in even a single regulation is sufficient to cause it to be rejected. These conditions are, first, regularity of form; secondly, harmony of proportions between the several parts; thirdly, firmness of the stalks and petals; and, fourthly, on each of these a union of at least three colours clearly defined.

With respect to the first condition, it is indispensable that, from the point of junction, the petals should bend themselves gracefully about a third part of their height, and then describe a straight line to the top, so as to form a sort of cup with a circular opening. The summit of the petals must not be in the slightest degree, blunt or jagged at the edge.

Referring to the second condition, the width of the flower ought to be about three-quarters of its height. The nicest harmony of proportions ought to reign, not only in the different parts of the corolla, but also between this latter and the stem. The bulk of this ought to be co-ordinate, both with its own height, and with the colour of the corolla. Thus a flower, with breadth equal to its height, a long stem supporting a diminutive flower, or a fine corolla inserted into a weak, bending, or ridiculously short stem,

are blemishes which the severe taste of good judges proscribe as fatal.

As to the third law, we may remark that strength and straightness of stem are indispensable. Here the petals must be well furnished, for they then resist more easily the power of the solar rays.

To satisfy the fourth condition, it is necessary that at least three colours should appear, harmoniously combined, so that the eye may love to rest on the union. They must be well defined, bright and formed into regular designs—they must continue perfect up to the time of the flower going off, without running into each other from the effects of rain, or becoming weak and dried from the rays of the sun.

Tulips are obtained in two different manners—by seed and offsets. Experience proves that any variety of tulip is not reproduced by seed; and hence amateurs always have recourse to this mode of propagating it, when they desire to obtain new kinds which kinds they denominate *Conquests*. In order to obtain the accomplishment of their wishes with more certainty, they take care not to employ any seed but that which comes from tulips having the bottom of the petals of a pure white, because the colours of tulips proceeding from such seed develop themselves more rapidly than those produced from other seed. Tulip seed ought to be placed in the earth about the month of October, in ground well prepared for its reception. It should be protected from the frost by layers of leaves or mats. When carefully attended to, the plants will appear above ground towards the end of February. From the size of a pea the first year, the root will increase considerably in the two following springs. “At each of these periods, when the young leaves are faded,” I spread over my plants about an inch of earth, such as covered the seed originally, and the bulbs remain untouched. This I allow a second winter, when the bulbs being a good size, I take them up and afterwards treat them as others. When I replant I place them at a depth of three inches, and two or three inches apart. Latterly, each year, I replant them in fresh ground; convinced by experience, that they reach perfection sooner by changing the soil, particularly if it has been well manured and fertilised by having grown other plants. No matter what care may have been devoted to the seed, few perfect flowers are obtained in the first blow, which does not usually take place before the fourth year; in

the following years, gradual amelioration of the colours take place, and those which at first were vague and indeterminate, finish at last, though in no fixed time, by assuming clear and distinct characters, until they reach all the perfection of which they are capable. Every tulip produced by seed, and as yet in a state of immaturity, is called a breeder, and in this state may continue from two to ten years. From the first blowing all flowers whose form is ill made, or whose petals are thin, or whose stem is weak and bending, or is tinged with yellow, are thrown away. When the petals fall, the seed vessels are broken off in order to give more strength to the root. After the fourth year, the roots are treated as those of a collection already formed. The offsets of a tulip always re-produce a plant identical with that from which they proceed. The period of their coming into bloom is from the first to the fourth year. They are planted in September, about three inches apart, in proportion to their size, in ground prepared the month before. A great number would perish from being dried up, if planting them was delayed to November. In taking them up and replanting, the same order is observed as is followed in an established collection. The advantage of offsets is great, as they serve to repair losses which a severe season or accident may cause to the old collection. In a tulip collection, the size of the roots is a matter of importance. It has been remarked that some of them, of a large size, produce petals which are not properly proportioned. Most frequently they become open and loose, whilst when the roots, are of moderate size, the flowers are perfect. Experience, however, is the safest guide in selecting the roots.

It is not sufficient to unite the most beautiful tulips in the same place, as if they are thrown together by chance or without harmony. Not only must the heights agree, but also the colours. Art in this respect comes to the embellishment of Nature. In order to display as much as possible the richness and value of a fine collection, the following precautions ought to be attended to, as they will be found to facilitate the labour in a high degree.

If, for instance, I have 300 tulip roots to plant, whose height and colour I am perfectly acquainted with, I provide six drawers with fifty compartments in each. In these I place the roots, in some position where the air will have a free access. I place the drawers in a case, one over the other, with a space between to let in the air, and the whole is surrounded with a wire grating, to

keep away rats and mice. As I know accurately the classification of my tulips, according to height and colour, yet I place the roots in proper order in the compartments. Its first series hold those whose stem is highest, and which are planted on the top of the bed : the other compartments hold others less high, until all are filled. The colours alternate as symmetrically as possible, so that the same colour never appears twice together, either longitudinally or transversely. It will result from this disposition of the plants, that, in looking at the the bed obliquely, they appear like a draught-board, with lines formed of an uninterrupted colour. When I have properly arranged the roots in these compartments, the next step is to choose out a piece of ground, not moist, open, exposed to the south-east in preference to the south west, and distant at least fifteen feet from any wall, or hedge, I find it best to give the bed a certain inclination, in order first to see the position of the flowers more easily, and next to facilitate the flowing off of rain or other moisture. When I make a second bed, I place it opposite and parallel to the other, with a walk of about four feet between, and with the lower part of one bed next to the lower part of the other. By this means the two beds incline towards each other. In order to renew certainly the principles which are indispensable to bring tulips to perfection, the earth is changed every two years ; and in order to preserve to the plants, the second year, a vegetation as favourable as the first, it is well watered with liquid manure, poured over the ground in July or August ; and in order that every particle of the earth should be impregnated with it, the whole soil is dug up in a month after, and well mingled together. This is far preferable to mixing up dung with the soil as is usually done, I find the flowers are equally fine, and of much clearer and finer colours. When the earth is properly prepared thus, from the 12th to the 20th of November, the planting of the roots takes place. The bed is carefully measured, and the roots placed at equal distances. A small portion of sand placed at the bottom of each hole, and the root covered with a little, allows the moisture to pass through it quickly, and the roots are protected from insects. When the roots are placed thus, they are covered by the hand with a small quantity of earth ; not pressing it too closely, as if done so, the earth is rendered too compact by the pressure, so that the roots do not vegetate easily, and the plant is liable to be injured by moisture, which finds some difficulty in passing through. The edges of my beds are supported, with stone, which keeps out all insects.

Tulips, from being exposed to the intemperature of the atmosphere, are subject to certain diseases, which it is of consequence to prevent. From the middle of February, to the middle of April, they have generally to encounter snow, hail, and cold rains. The cups formed by the young leaves, at the bottom of which the bud lies shut up, get filled with rain, and the result is, that the water remains there until it insinuates itself into the interior of the root, and often spoils it, or impedes its opening. To obviate any inconvenience arising from exposure to the weather, it is necessary to shelter the flowers with a covering of canvass, which, by means of cords and pulleys, I can extend or roll up at will. The bed is covered with this in unfavourable weather, but exposed to the rays of the sun, and to gentle rain. When the flowers are open the covering is kept over the bed during rain, and from nine to four o'clock in case of sun, by this means the duration of blowing, is prolonged, and the beauties of the flowers can be admired without any exposure to rain or sun.

When the flowers are open I take a particular survey of my stock to see that each kind is true to the catalogue register, and regulate if required. When the bloom is over, the seed vessels are cut off, in order that the roots may profit by the sap, which otherwise would have been absorbed. The time for taking up the roots is easily ascertained. When the stems roll themselves round the fingers without breaking, then I am certain that the time for taking up has arrived. This takes place generally towards the end of June, and I am careful to observe the same order as was adopted in planting them. Too tender to resist the action of the sun after being taken from the ground, the roots are liable to perish by being exposed to its rays, so that care is taken to avoid such injury.

In taking them up I gently uncover the ground at the sides of the roots, and then uncover them; after they have been deprived of their shoots, of their dry skins, and separated from the offsets, I place them in cases destined to receive them. I then leave them to dry in the shade from morning to evening, for four or five days. During a month, I occasionally expose them to the air, in order to guarantee their perfect dryness, and thus contribute to their better preservation. Some other remarks on Florist's flowers are sent me which I reserve for future occasions.

PART II.

NEW OR RARE PLANTS.

(Noticed since our last.)

BAUHINIA CORYMBOSA. Corymb-flowering Bauhinia (Bot. Reg. 47.

FABACEÆ. TRIANDRIA, MONOGYNIA.

A very pretty climbing shrub, introduced from China some time ago, but we believe all attempts to bloom it had been unsuccessful, until September 1838, when a plant under the treatment of Mr. Wells, of Redleaf, produced an abundance of flowers, which are of a delicate bluish color. In the Linnean classification this plant suits, equally well, no fewer than eight classes or orders. It succeeds best when placed in a cool part of the stove, and planted in a fresh and rich soil composed of peat, loam, and decayed manure.

CORYANTHES MACULATA, var. PARKERI. Spotted lipped Coryanthes, Mr. Parker's variety. (Bot. Mag. 3747.

ORCHIDACEÆ. GYNANDRIA, MONANDRIA.

Introduced from Demerara, and cultivated by C. S. Parker, Esq.; the raceme produces numerous flowers, each is about three inches across, yellow, with a labellum of a brownish purple, spotted with darker purple spots.

OXALIS BARRELIERI. Barrellier's Shrubby Wood Sorrel. (Bot. Mag. 3748.

OXALIDÆ. DECANDRIA PENTAGYNIA.

A hothouse species, growing about a foot high, each branch bearing several flowers of a pretty yellow colour, spotted with brown. Each blossom is about half an inch across.

TOURETTIA LAPPACEA. Bur-fruited. (Bot. Mag. 3749.

BIGNONIACEÆ. DIDYNAMIA ANGIOSPERMIA.

A native of Peru, introduced in 1837 into the Glasgow Botanic Garden, by J. M'Lean, Esq., of Lima, where it has bloomed. The plant is annual climbing to five feet high; the flowers are produced in terminal spikes of about ten blossoms on each; the calyx is at first of a bright red, changing to green; the corolla is of a dark purple, slightly streaked. Each flower is about half an inch long.

ODONTOGLOSSUM ROSSI. Mr. Ross's (Bot. Reg. 48.

ORCHIDACEÆ. GYNANDRIA MONANDRIA.

Mr. Ross the collector for G. Barker, Esq., sent this very pretty flowering plant from Mexico; each flower has a bright white lip, lying, as it were, in the centre of a rich green, yellow, and blue star of three points, and produces a beautiful and interesting appearance. Each flower is about two inches across; the flower scape rises to about six or eight inches high.

RHOPODENDRON CAMPANULATUM. Bell-flowered. (Bot. Mag. 3759.)

ERICÆ. DECANDRIA MONOGYNIA.

This very fine flowering species has rarely bloomed in this country, it has however, flowered with Mr. Dickson, at the Newton Nursery, Chester; Mr. Dickson states, that the plant has been growing in the open ground for seven years, and during the severest winter has been uninjured; that gentleman, having to remove the plant from its situation, placed it in a tub in November 1838, and put it in a greenhouse, where it bloomed the last spring. The plant is near five feet high, and bushy, and when in bloom was a most splendid object; the flowers are of a very delicate rose colour, dotted with a rosy purple, and tinged with yellow in the tubular part. Each blossom is about two inches and a half across, of a bell shaped form, and are produced numerously in fine heads.

CLEMATIS LATHYRIFOLIA. Large flowered erect Clematis. (Bot. Reg. 61.)

RANUNCULACEA. POLYANDRIA POLYGYNIA.

A very showy hardy perennial plant, the stems grow erect to about four feet high, producing a profusion of white blossoms from July to the end of the summer.

DENDROBIUM FORMOSUM. Beautiful Tree-bloom. (Bot. Reg. 64.)

ORCHIDACEÆ. GYNANDRIA MONANDRIA.

Collected on the Nepal Mountains, by Dr. Wallich, who observes that it grows in large tufts upon trees or rocks; it is a magnificent flowering species. The flowers are produced on racemes, each having from four to seven blossoms; the flower is about three and a half inches across, of a beautiful delicate white, having a large yellow spot on the labellum. It has a very agreeable perfume.

FABIANA IMBRICATA. Imbricated. (Bot. Reg. 59.)

SOLANACEA. PENTANDRIA MONOGYNIA.

This very neat and pretty flowering plant was originally discovered in Chili, it has very much the resemblance of some of the profuse white flowering heaths; the blossoms are produced in spikes of six or more inches long; each flower is near an inch in length, and as a very neat and delicate appearance. The plant is shrubby, having a bright green foliage, rather resembling in form the Tamarisk; the shrub, however, forms a pretty bush, and when grown in the greenhouse, is loaded with blossoms. It thrives well in sandy peat, and may be kept out of doors in summer, as is done by some with Heaths, but requires a little shade from mid-day sun. It has bloomed in the collection of Messrs. Lucombe, Pince, &c., Exeter, and Messrs. Rolissons, Tooting. We have seen it exhibited at the Hort. Societies' Rooms, London.

PATERSONIA SAPPHARINA. Sapphire. (Bot. Reg. 60.)

PATERSONIA. IRIDÆA. MONADELPHIA TRIANDRIA.

A native of the Swan River, and introduced by that indefatigable florist, Captain Mangles. The plant is of the Iris tribe in growth, but the flowers have more the appearance of the Tradescantia; the stems rise to about two feet high, and terminate with a spatha of numerous flowers. Each blossom is about two inches and a half across, of a most beautiful violet blue, shaded with darker. The flowers are of short duration, but are produced in continued succession. A greenhouse or cool frame treatment we judge to be suitable; it is well worth growing.

PART III.

MISCELLANEOUS INTELLIGENCE.

QUERIES.

ON BLOOMING *TROPÆOLUM TUBEROSUM*.—Having been a Subscriber to your Floricultural Cabinet for some time, I take the liberty of stating that I have grown the *Tropæolum tuberosum* for two years, both in the pot, and turned out in the open ground; in the former way I found it did not grow very strong, but in the ground it grew very vigorous, and covered an immense space of the wall against which it was placed, it was twelve feet high, but I cannot get it to flower, it grows on until the frost takes it, and never shews the least inclination to bloom; nor am I singular in this, as several of my friends have tried it with the same result. Now, if you can give me a reason for this, or directions for a more fortunate cultivation of this plant, in your next Number, you will confer a great favor on
W. R.

Liverpool, October 1st, 1839.

P. S.—I raised it first in the hotbed and turned it out in May.

[We never saw it grown and trained against a wall, but it is very probable that the heat of the wall, as well as situation, would encourage the plant to grow too quickly, and run into shoots too weak to bloom, though extending considerably in length. In such a situation a good supply of water would be required, to have vigour to extent of shoots.

When grown in the open border where the plants have the sun most of the day, we have seen the plants bloom freely; they were planted in good rich soil, and had some branching sticks placed around them, so that as they extend, they formed bushes about the size of a moderate sized gooseberry bush. The open situation would prevent the over-rapid growth, and have a tendency to promote blooming; the plants we saw were tolerably good ones when turned out in May.

We hope that any of our Readers who have bloomed the plant successfully when trained, will forward us particulars of situation and mode of treatment.—COND.]

ON BLOOMING *TECOMA JASMINOIDES*, AND *IPOMÆA HEDERACIFOLIA*.—I have had a plant of *Tecoma Jasminoides* and another of *Ipomœa hederacifolia* in my possession for about twelve months, and have had them kept in a greenhouse. They have each grown to six feet, and are in excellent health, but have not shown any symptoms of flowering; they were grown in peat, but I have lately transplanted them into a richer soil, with no better effect as to blooming. I should be obliged to any of the Readers of the Cabinet who would furnish me with any information on the culture of the above named plants, so as to succeed in blooming them.
M. L. R. M.

October 5th, 1839.

[*Ipomœa hederacea*, and *Ipomœa hederifolia* are annuals, and usually bloom, whether grown in pots or planted out into the open border. It is probable the *Ipomœa* named, is not correct as to kind; if it be a greenhouse species it will very probably bloom next season, sometimes the removal of a plant from a warm to a cold temperature will prevent its blooming the first

season, or its tuber, (if of that class) may not be large enough to give vigour for blooming the first season. If it be a hothouse species, it will, of course, require such a temperature. The Tecoma does not usually bloom till it has got well established. It is highly probable it will bloom next year.—COND.]

ON A SELECT LIST OF TULIPS.—If some of your numerous readers would furnish a list of some really good, but not high priced Tulips, such as come within the reach of Amateurs of moderate means. The colours also, and any observations which would be a guide to the purchase of a small collection, it would I am confident be useful to many of your readers, and more particularly so, to
E. N. N.

[The following is a selection of superior kinds grown in the splendid collection of Messrs. Lockhart's, Seedsmen, Cheapside, at their grounds Fulham.

TULIPS.—BLYBLOEMS AND ROSES.

	s. d.		s. d.
Ambassadeur de Hollande	7 6	Imperatrice Romaina	2 6
Bienfait Incomparable	5 0	“ de Maroc	5 0
Cerise Prine	2 6	Do little	2 6
Grotuis	5 0	Comte de Vergennes	7 6
La Majestueuse	5 0	Armida	5 0
L'arbre de Diane	5 0	Abigail	2 6
Roi de Siam	7 6	Belle Jacomine	1 6
Washington	2 6	“ Judaïque	1 6
Rose Hébé	1 6	General Woronzow	2 6
“ Reine des Fleurs	3 6	Maitre partout	2 6
“ Pretiosa	2 6	Bacchus	5 0
“ Miniature	1 6	La Sultane	7 6
“ Vestalis	3 6	Princess d'Austria	2 6

BIZARDS.

Aeolus	3 6	Gargantua	1 6
Asdrubae	2 6	Gordianus	2 6
Charbon Noir	2 6	La Lueur	3 6
Feu de Courtray	2 6	Mallagrida	2 6
Francis des Princes	5 0	Pontifex Maximus	2 6
Gloria Mundi	5 0	Prince de Roebec	2 6
Kirrhus	2 6	Mount Vesuvius	1 6
Goud beurs	1 6	Goudberg	1 6
La Mignonne	1 6	Passe d'Alost	5 0
Le Devil	1 6	Brisson	10 6
Trafalgar	1	Abbé de St. André	1 6
Surpasse Catafalque	7	Electeur de Cologne	1 6
Caravuta	3	Incomparable Premier	2 6

COND.]

ANSWER.

ON SENDING DAHLIAS TO THE ANTIPODES.—In answer to S., who wishes to know how to send Dahlias to the Antipodes, I beg to say, that in November 1838, I dispatched a collection to Bombay which were remarkably long on the voyage, exceeding four months, and they arrived in very fine preservation. The method is simply packing them in pounded charcoal in a deal box. I hope soon to give you an account of their altered nature; in August I heard they had grown to the height of twenty feet, with a stem the thickness of a man's arm, and covered with bloom; they flowered during the rains. Is it probable they may become perennials? (the Dahlia is—COND.)

Narcissus and other bulbs were dispatched in the same way, and have succeeded equally well. But I should particularly advise S. not to wait till the Spring, but send them when in a state of rest. I sent at the same time a box of plants packed by a Nurseryman in dry moss, which he expected certainly to succeed, but they arrived a mass of rottenness; I should be glad to know from any experienced exporter, if he has succeeded in any way besides that of sending them in those small greenhouses now used by Messrs Loddiges, &c.

J. G.

REMARKS.

ON THE TRANSMISSION OF SEEDS FROM REMOTE COUNTRIES. &c.—London Horticultural Meeting, September 18. 1838. Extracts were read from a letter, addressed to the Vice-Secretary, by Dr. Hugh Falconer, Superintendent of the Botanical Garden of Saharunpur, and dated Cashmeer, January 24. 1838.

" I have been gratified to find that the Himalayan seeds, sent by me, succeeded so well with the Horticultural Society.

" As the result seems to have interested you, I may mention the mode in which the collection and package were managed. The seeds are collected generally on a march along an extensive tract of country; as a general rule, the pericarps are not detached, but the fruit and seed immediately packed up in paper; the closed paper packets, especially those containing baccate or juicy fruits, are daily exposed freely to the sun! and, to increase the heating effect of the solar rays, the packets are spread out on a black blanket, and kept so till the paper of the packets feels dry, a man being employed in turning them occasionally: the paper imbibes moisture during the night, and the process is repeated till all moisture is thoroughly dissipated. In the rains, which embrace about half the seed season in the Himalayas, the sun is not available, and the packets are daily dried before a gentle fire, till the same effect is produced; but the result is much more uncertain as regards subsequent germination. In packing up the packages for transmission to Europe, the little packets are folded up loosely in a couple of envelopes of paper; and an invariable caution is given along with them, never to let the packages get into a box or trunk, much less into the ship's hold; but to suspend them loosely from an airy corner of the cabin, free from the risk of moisture and spray.

" On a march, where you move daily under canvass from place to place, the amount or duration of shade required for drying seeds, or their fleshy coverings, is not unavailable, or I should certainly never torrefy the packets in the sun; all that can be said of the method is, that it speedily dries the seeds without killing them. The management on board ship appears to me to be every thing; loose wrappers, free exposure to the air in shade, and exemption from boxes, trunks, or the hold.

" The exposure to the sun, with the augmented heating effect produced by radiation on a black blanket, is perhaps interesting with reference to the conditions mentioned by you at p. 304. of your Introduction to Botany, 2d edition; but the effect is probably merely a heating one, as the opacity of the paper, and the reflecting purity of the light colour, must prevent the luminous rays being transmitted to the seeds. I should certainly expect a different result in the end, with reference to seeds for germination, if the seeds were directly exposed.

" On one occasion, I received from England a large investment of garden vegetable seeds from a London seedsman. They were packed in the thick dark brown paper which is generally used by grocers and seedsmen, and which, for the facility of folding, is usually in a somewhat damp state. The packages were nailed up in a large wooden box, with numerous folds of this paper, and the box then hermetically sealed in a tin case; it then found its way into the ship's hold. The damp paper, which, in the temperature of

England, say at 50°, would have mattered little, became an important agent when the ship got into the tropics ; at about 80° the damp became a hot vapour, and, when the seeds reached me, I found them all in a semipulpy and mildewed state, in fact parboiled by the steam process ; and, out of a 301. investment, not a seed germinated.

“ I shall soon have the pleasure of sending you another collection, made on the hills to the westward, and in Cashmeer, where I now am.

“ I have found the Prangos pabularia growing in the valley.”

With reference to this communication, it was stated that by far the greater part of the seeds alluded to by Dr. Falconer were in a fresh state when they reached the Society, and presented a remarkable contrast with those which usually arrive from Calcutta and elsewhere. There can be no doubt, that the most important precaution to observe, in conveying seeds safely through a long voyage, consists in exposing them freely to the air ; because, if that is attended to, the damp, which, when in combination with a high temperature, contributes so much towards destroying the germinating power of seeds, is dissipated as fast as it is formed. It was added, that, in the experience of the Vice-Secretary, no better plan was known for sending to great distances most kinds of seeds, than, after being well dried, packing them loosely in common brown paper, and enclosing them, without pressure, in small coarse canvass bags, suspended from the sides of the cabin, where they could be kept dry. The society has tried various other methods, such as packing in sugar, and in charcoal : enclosing in tin cases, in bottles sealed up, &c. ; and all such plans invariably proved unfit for the preservation of the germinating principle of seeds ; especially the two last, which had long been known to be a means of destroying, rather than preserving, life, although still persevered in.

It was added, in illustration of these observations, that the most successful instance of introducing seeds of the deodar cedar, from India, occurred some years since ; when a plan, similar to that now recommended for adoption, was adhered to. In the year 1831, the Honourable T. Leslie Melville, on his return to England, brought with him some cones of the deodar, thrown-loosely into a drawer in his cabin ; these were presented to the Society, by that gentleman, and were so fresh, that nearly the whole of them germinated immediately upon being sown ; and, in fact, furnished the principal part of the plants which the Society has been for some years distributing of this most valuable tree.

ON A NEW METHOD OF WRITING ON ZINC, FOR LABELLING PLANTS.—Mr. Henry Braconnot, the celebrated French Chemist of Nancy, to whom we are indebted for the curious transformation of rags and other similar vegetable substances into starch, gum, and sugar, by the agency of oil of Vitriol, and whose name is well known in the chemical world for various researches connected with the analysis of vegetable substances, has given in the last number of the *Annales de Chimie et de Physique*, a preparation for writing on plates of zinc to label plants. The writer having a dislike to painting in oil which is often inconvenient, and never endures a long time, resolved to turn his attention to some other way which would prove both ready and durable. The system of writing on zinc with a black crayon, which was accidentally discovered by M. Symon an Amateur at Brussels, and noticed in the *Revue Horticole* for October 1832 and the *Bon Jardinier*, for 1832, possessing many imperfections, Mr. Braconnot to try some experiments, being anxious to obtain a liquid, or a species of ink, which would be perfectly durable when exposed to the changeableness of the weather, and also one with which, he could write with ease. This end, after several proofs, he is induced to believe he has in a great measure attained. If it answers he will have done both the botanists and amateurs a real service. The preparation is as follows :—

Take Verdigris in powder one part,
Salamoniac in powder one part,

Lamp black (Mori de Fumea) half a part,
Water ten parts ;

Mix these in a glass or pot Mortar, at first only adding as much water as will mix it well, then add the remainder of the water, when placed in a vessel, let it be well shaken up from time to time and in a few days it will be ready for use. This is not only excellent for labelling plants, but also for marking objects it is wished to preserve in low, wet, situations, and for marking key, becoming quickly dry and being very durable.

FLORAL EXHIBITIONS.

We have had numerous accounts of the Floral exhibitions held throughout the country, forwarded to us. In several instances, however, the names of the persons winning prizes were only given, and not the names of the flowers ; from the first of our commencing the Floricultural Cabinet we have refused to insert such accounts, not having in them anything to benefit our readers. Where the names of the flowers are given we consider it of interest and value, inasmuch as it shows which kinds are most superior for the desired purposes, especially with what are usually termed Florist's flowers, such as Dahlias, Carnations, Pinks, &c.

HULL AND EAST RIDING FLORAL AND HORTICULTURAL SOCIETY.—This Society held their fifth exhibition on the 15th of August at the Public-rooms, Jarratt-street. The flowers possessed most superior excellence of quality ; the piccotees upon yellow grounds surpassed everything hitherto exhibited in this place, particularly the pans shown by Dr. Horner, and Mr. H. S. Norman. The plants, by Mr. Simon Appleton, gardener to Avison Terry, Esq., merit great praise. A pan of Seedling Carnations and Piccotees, raised by Dr. Horner, and bloomed this season for the first time, were of superior quality, and many of them offer as first-rate flowers. A stand of very beautiful and rare flowers were exhibited by Messrs. Forsyth and Ward, of Anlaby, as also a fine tray of splendid Panzies, all from their nursery. The whole exhibition was most pleasing and gratifying to the numerous visitors, and reflected great credit to the members of the Society.

The following is a list of prizes, and to whom awarded :—

Premium by Joseph Sykes, Esq.—Carnations.—Dr. Horner, Ely's Lovely Ann ; Ditto by J. C. Parker, Esq. ; Dr. Horner, Horner's Judith Ann ; ditto by Mr. Wm. Burstall ; Dr. Horner, Ely's Mango ; ditto by a friend, Dr. Horner, Ely's Lord Milton.

Pink Bizarre—1. Dr. Horner, Ely's Lord Milton ; 2. Mr. Burman, ditto ; 3. Dr. Horner, Paul Pry ; 4. and 5. ditto, ditto ; 6. Mr. John Hodgson, Ely's Lord Milton.

Scarlet Bizarre—1 and 2. Dr. Horner, Ely's jolly Dragoon ; 3. Mr. Oglesby, Ditto ; 4. Dr. Horner, Seedling, 1839, Horner's Thunderbolt ; 5. and 6. Mr. Burman, Ely's Jolly Dragoon.

Purple Flake.—1. Dr. Horner, Ely's Mango ; 2. Ditto, Lascelle's Queen of Sheba ; 3. Ditto Turner's Princess Charlotte ; 4. Ditto Leighton's Bellerophon ; 5. Mr. John Hodson, Ely's Lady Hewley ; 6. Mr. Burman, Ely's Mango.

Pink or Rose Flake—1 and 2. Dr. Horner, Ely's Lovely Ann ; 3. Mr. Burman, Ditto ; 4. Dr. Horner, Ditto ; 5. Mr. Burman, Ely's Miss Molly ; 6. Dr. Horner, Seedling, 1839.

Scarlet Flake.—1. Dr. Horner, Wilson's William the Fourth ; 2. Mr. Burman, Cheshire Hero ; 3. Dr. Horner, Seedling, 1839, Horner's Firefly ; 4 and 5. Ditto, Wilson's William the Fourth. 6. Mr. Burman, Taylor's Festival.

Self—1. Dr. Horner, Horner's Judith Ann ; 2. Ditto, Seedling, 1839, Horner's Miss Fanny ; 3. Mr. Burman, Purpurea ; 4. Ditto, No. 145 ; 5. Dr. Horner, Seedling, 1839 ; 6. Mr. Burman, Beauty.

Piccotees—Premium by William Lowthrope, Esq. ; Dr. Horner, Hemmingford Beauty ; Ditto by William V. Norman, Esq. ; Dr. Horner, Seedling, 1839, Horner's Dewdrop ; Ditto, by Dr. Horner, for the best Pan of Yellow.—Piccotees, not less than six, Dr. Horner.

Purple-edged or Striped—1. Dr. Horner, Seedling, 1839, Horner's Dew-drop; 2 Mr. Burman, Ely's Dr. Horner; 3. Mr. Bell, Wood's Agrippina; 4 Mr. Burman, Star of Brunswick; 5. Dr. Horner, Hufton's Miss Willoughby; 6. Ditto, Ely's Vanquisher.

Red Scarlet, or Pink-edged or Striped—1. Dr. Horner, Hemmingford Beauty; 2. Ditto, Hogg's Miss Campbell; 3. Ditto, ditto; 4. Ditto, Ely's Criterion; 5. Ditto, Geddin's Miss Desbrough; 6. Ditto, Hemmingford Beauty.

Yellow Ground edged or Striped—1. Dr. Horner, Rosalie de Rohan; 2. Ditto, Princess; 3. Mr. H. S. Norman, Ugolina; 4. Dr. Horner, Ariel, 5. Ditto, Rosalie de Rohan; 6. Dr. Burman, Barron's Queen Adelaide.

Yellow Self—1. Mr. H. S. Norman, No. 1. 2. Ditto; 3. Dr. Horner, Golden Drop; 4. Ditto, Goldfinch; 5. Mr. Burman; No. 1; 6. ditto, No. 1.

A NATIONAL ARBORETUM.—We have been informed that a National Arboretum is about to be planted in the New Forest, Hampshire, by Mr. Page of Southampton.

The ground being national property is under the direction of the commissioners of Woods and Forests. It will be situated about two miles from Lyndhurst.

CONDUCTOR.

A SUBSCRIPTION BOTANIC GARDEN—is in contemplation, by taking a considerable quantity of the grounds at White Knights. Of the specimens of rare trees and shrubs, in what is termed the wilderness, many of them, are unequalled in this country.

ROYAL BOTANIC SOCIETY.—The ground at the circle Regent's Park is in rapid progression for its object. A charter of incorporation has been granted to the society "for the promotion of Botany in all its branches, and its application to medicine, arts, and manufacturers; and also for the formation of extensive botanical and ornamental gardens." President: the Duke of Richmond;—Treasurer: Mr. Majoribanks—Council: the Duke of Norfolk, Earl of Albermarle, J. Rushbrook, P. Barnes, and J. C. Sowerby, Esqrs.

ON INCREASING THE NUMBER OF FLOWERS ON THE CHINESE PRIMROSE.—When the first flowers appear in autumn pinch them off, this induces a more vigorous and numerous production to follow; I have practised this mode of treatment for the last two years with astonishing success.

A. A.

ON INDIAN BOTANY.—The name of Dr. Wallich is familiar to every botanist in this country, as having been a most indefatigable collector of Indian plants. After the death of Dr. Ruxburgh, Superintendent of the Calcutta Botanic Garden, Dr. Wallich took the management of it, and by his skill and activity aided by the East India Company, the garden has attained a high degree of prosperity; upwards of three hundred Gardeners and workmen are attached to it. Numerous travellers are employed by the Company, to traverse the extent of the country subject to its domination, with a view to add to the collection of plants, and which have considerably enriched the science of Botany by numerous discoveries. Dr. Wallich, has commenced the publication of two works, on the vegetables and flowers of India, the latter contains colored figures of the rarest plants of Asia. During the last fifty years the Company have collected an immense quantity of dried specimens (from seven to eight thousand) which have been sent to London and preserved in the Company's Museum. Through the liberality of a recent decision, the court of Directors has instructed Dr. Wallich to distribute the valuable collection among the principle botanists of Europe, at the same time taking suitable measures to insure their publication for the benefit of the country. The distribution has commenced, and we are confident the friends of science will highly estimate this act of extensive liberality.

All the species are arranged under their different families, and each family is sent to the Botanist who has given proof of his peculiar fitness for its examination. Mr. G. Bentham, the Caryophyllea and Labiateæ; Dr. Lindley the Roseacæ; Mr. De Candolle the Umbellifera, Caprifoliacæ, Lorantheæ &c; M. A. De Candolle the Campanulacæ; And M. Choisy the Convolvuli. Each of these gentlemen receives the first disposable duplicates in the portion confided to him, and is to make them known to the Public. The other specimens are to be divided into collections and distributed into the different countries, so as to prove most efficient in extending a knowledge of the Botany of India.

NEW PLANTS.

LONDON HORTICULTURAL SOCIETIES GARDEN.—The first portion of the very splendid conservatory is rapidly progressing, it is glazed, and the interior in a very forward state. It has the advantage of a greater portion of light than any other erection of the kind we ever saw; its construction, elegance, and utility are admirably combined. The portion now in progress forms the west wing of what is ultimately to have attached a circular centre, and an east wing. The length of the west wing is one-hundred and eighty-three feet, in breadth thirty feet, and height to the centre of the roof thirty-two feet, forming already a necessary and valuable appendage to the gardens, and we hope the liberality of those gentlemen who have duplicates of new and fine plants, will be extended to furnish it well at an early period. We were much gratified on examining the plants trained against the south wall of the arboretum, several, which are usually grown in the greenhouse, we found growing and flowering freely against the wall.

A plant of *Leycesteria Formosa* had extended five feet high, and spread widely, it had numerous heads of flowers, the red, purple, and whitish calyxes producing a very pretty effect.

Cercis Siliquastrum.—We saw in May and June, clothed with thousands of its lovely rose colored blossoms, this plant covering the wall to a great extent, and now appearing like a large trained fig tree destitute of its foliage, it is now, November, loaded with seed, which gives it an interesting appearance. The plant deserves a place wherever it can be introduced, its charming blossoms somewhat the form of those of *Rose Acacia*, but not on long racemes, it has a most beautiful appearance when in bloom. The tree grows rapidly.

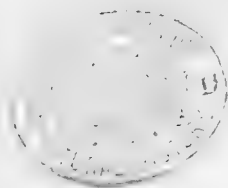
Brugmansia Sanguinea.—Several plants had extended some distance, and were then in fine bloom.

Solanum laciniatum.—This was nine feet high, equally extended; its fine stags horn looking foliage giving it an attractive appearance. The flowers are tolerably sized of a pretty lilac, and are succeeded by fine red fruit having the appearance of good sized capsicums.

Physianthus Albicans.—This plant extended ten feet high by ten broad; the foliage is very pretty, the flowers are white, much the appearance of those of a *Syringa*; these are succeeded by large green fruit, each about four inches long and three in diameter. It blooms profusely, and is a liberal fruit bearer. It merits a place wherever practicable.

Lavatera Trilobata.—Extending nine feet by nine, its fine rosy pink flowers (each about three inches across) giving it a very showy and beautiful appearance.

Ceanothus azareus, *C. azareus palligus*.—The former with its numerous and beautiful blue heads of flowers; and the latter with those nearly white were objects of attraction. The plants are neat and rapid in growth, free in blooming, showy and handsome, and ought to be grown wherever they can. Description of many more will be given in our following numbers. A temporary construction, for covering the plants, was erected; a wooden coping extended a foot from the wall, with sloping supporters in front, against which canvass, or woolen netting can be spread, as found necessary.





Erythraea flammula



Trichostema clavellatum



Portulaca grandiflora var. rubra

REFERENCE TO PLATE.

ERYSIMUM PEROFSKIANUM.—Orange flowered Treacle Mustard. This very handsome and ornamental plant is said to be a native of Persia. Seeds of it were sent to the Edinburgh Botanic Garden in 1838. Lady Mary Cathcart, of Cathcart, received seeds of it from Caboul, and with them a statement that it was a native of Persia. Her Ladyship has observed upon it, that when grown in pots the plants are weak, but when in the open border they are vigorous as the common wall flower, and produce numerous heads of flowers in succession. We have seen it grow in the open borders in vast profusion in the garden of the London Horticultural Society, and there it produced a fine effect. The plant appears to be annual, seeding abundantly, and self sown, produces a host of plants around it, similar to the well known Candy Tuft. The plant grows about half a yard high, with numerous shoots each having a fine spike (some near a foot long) of its showy blossoms. It deserves a place in every flower garden or border, as it blooms freely, is very showy, and continues for several months in bloom. We have procured a stock of it.

FUSCHIA CHANDERII.—This very striking kind has been raised by Messrs. Chandlers of the Vauxhall Nursery, London. It is a production between *Fuchsia Fulgens* and one of the older kinds, probably *globosa*. The seed was from the latter. It is stated by persons who have had ample means of ascertaining, that *fuchsia fulgens* impregnated by the other kinds produces plants with flowers similar to the small kinds, but the smaller kinds impregnated with *fulgens* produces plants having flowers partaking of the form and colour of the latter.

PORTULACCA GRANDIFLORA RATILA. This appears to be a variety raised from *grandiflora* impregnated with (probably *P. Gillesia*) some other. It is a very beautiful flowering plant, well meriting a place in every flower garden during summer, or to be kept in pots in an airy greenhouse. The plant, like the other kinds, is difficult to keep through winter, frequently dying off by being kept too damp; it requires to be planted in pots with a good deal of drainage, and be placed high in the centre of the pot, and with any common care may then be easily kept.

FLORICULTURAL CALENDAR FOR DECEMBER.

PLANT STOVE.—Roses, Honeysuckles, Jasmines, Persian Lilacs, Azaleas, Rhododendrons, Carnations, Pinks, Primroses, Mignonette, Stocks, Aconites, &c. required to bloom from January, should be brought in early in the present month, the plants should be placed at first in the coolest part of the house, never allow them to want water. Pots or boxes containing bulbous rooted flowering plants as Hyacinths Narcissuses, Persian Irises, Crocuses, &c., should occasionally be introduced so as to have a succession of bloom. All stove plants will require occasionally syringing over the top in order to wash off any accumulated dust from the foliage. Cactus plants that have been kept out of doors or in the greenhouse, should occasionally be brought into the stove for flowering, which gives a succession. If any of the forced plants be attacked with the green fly, a syringe with diluted Tobacco water will destroy them. If the leaves appear bit, and turn brown the effect of damage by red spider, a syringe of soap suds at the under side of the leaves is effectual to destroy them. The glutinous substance remaining not only kills those it is applied to but presents others returning there.

GREENHOUSE.—As much fire as will barely keep out frost will be necessary and for the purpose of drying up damp arising from foggy nights, or from

watering ; all possible air should be admitted in the day time, but mind to keep the plants from damage of frost. Chrysanthemums will require a very free supply of air, and a good supply of water. By the end of the month many will be going out of bloom, such should be cut down and if any kind be scarce, the stalks may be cut in short lengths and be struck in heat, always cut the lower end of the cutting close under the joint. If greenhouse plants require watering, or syringing, over the tops, let it be done on the morning of a clear day when air can be admitted, and towards evening a gentle fire heat should be given.

FLOWER GARDEN.—Be careful to protect beds of, what are technically called, Florist's Flowers, should severe weather occur. Calceolarias that were cut down and repotted last month will require attention, not to water too much or they will damp off, keep them in a cool and airy part of the greenhouse or pit. Whilst in a cool and moist atmosphere the shoots will often push at the underside numerous rootlets, where such are produced the shoots should be taken off and potted, they make fine plants for next season, and are easier propagated now than at any other season.

Auriculas and Polyanthuses will require plenty of air in fine weather, and but little water ; the like attention will be required to Carnations, Pinks &c., kept in pots. Dahlia roots should be looked over to see if any are moulding or likely to damage, let the roots be dry before they are laid in heaps. Newly planted shrubs should be secured, so that they are not loosened by the wind. The pots of Carnations and Piccotees should be placed in a situation where they may have a free air, and be raised above the ground ; if they are under a glass case, it will be much better than when exposed to the wet and severity of the winter, or many will, in all probability, be destroyed. Where it is desirable to leave patches of border flowers undistributed, reduce them to a suitable size by cutting them round with a sharp spade. When it is wished to have a vigorous specimen, it is requisite to leave a portion thus undisturbed. Ten week stocks, and mignonette, in pots for blooming early next spring to adorn a room or greenhouse, must not be overwatered, and be kept free from frost. A cool frame, well secured by soil or ashes at the sides and plenty of mats or reeds to cover at night will answer well. Tender evergreens newly planted, would be benefited by a little mulch of any kind being laid over the roots. During hard frosts if additional soil be required for flower beds, upon grass lawns, advantage should be taken to have it conveyed at that time, so that the turf be not injured by wheeling.

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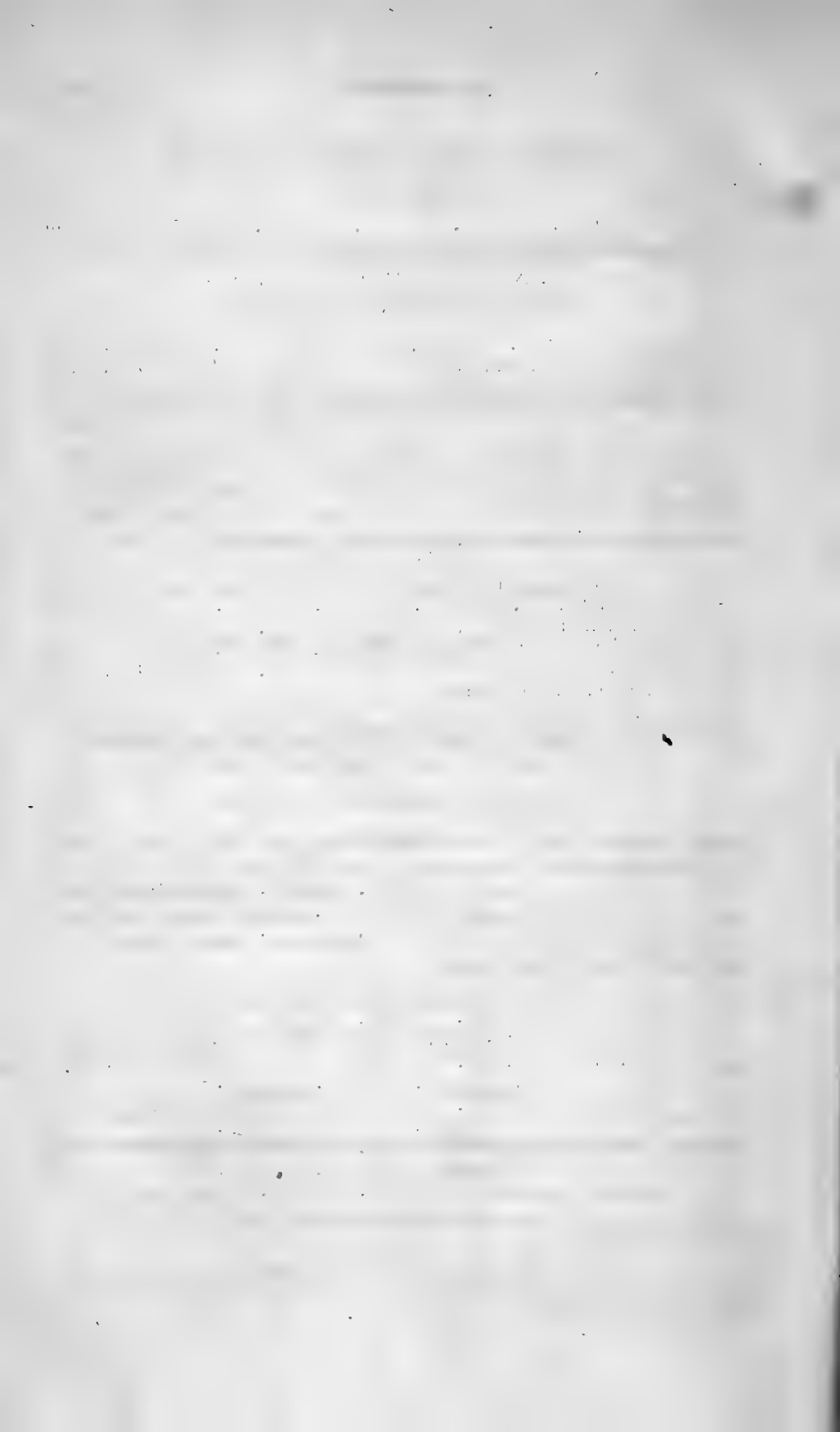
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