

1693 Oct 27 1845
out of print & rare

OXFORD
SCINDIA HOUSE



THE
CYCLOPÆDIA OF BOTANY.
OR A .
History and Description
OF ALL PLANTS
BRITISH OR FOREIGN
FORMING A COMPLETE
BOOK OF HERBS
AND VOL. I
FAMILY HERBAL.



RODDERSFIELD:
PRINTED BY K. BROOK, DUXTON ROAD.

2093

LIBRARY

COMPLETE BOOK OF HISTORY

HISTORY AND GEOGRAPHY

OF THE WORLD

AND THE HISTORY OF THE

LIBRARY

THE LIBRARY OF THE

LIBRARY OF THE

NEW
CYCLOPÆDIA OF BOTANY
AND
COMPLETE BOOK OF HERBS :
FORMING A
HISTORY AND DESCRIPTION
OF ALL PLANTS,
BRITISH OR FOREIGN.

VOL. I.



LONDON :
W. M. CLARK, WARWICK LANE.
HUDDERSFIELD: R. BROOK, PUBLISHER, BUXTON-ROAD.

REFERENCE

R
58(03)
NEW-1



Ra. 475]- per set of 2 vols.

P R E F A C E .

It has with truth been said, that the glory of the Creator is manifested in his works ; but this glory cannot be discovered unless man does his part by endeavouring to investigate them. "The Heavens declare the glory of God, and the firmament sheweth his handy works." But it is not necessary for the purpose of witnessing the goodness, the wisdom and power of God, to study nothing but the laws which regulate the mighty orbs which gem infinity. The smallest and minutest part of creation—even the green speck of lichen which stains an old wall, is just as wonderful to the man who views it with an observing eye, as the solar system itself.

It must be obvious to all, that there are numberless properties in nature, that are of immense importance to man ; which it is intended that man should not find out without the most painful study. Like the fabled deity, Proteus, nature refuses her gifts to all but those who use violence, and resolutely follow her through all her changes. The Botanist, for instance, is frequently asked with a sneer, "What is the use of all your inquiries ?" "Why do you take all these Botanical rambles ?" "To what end are all these distillations, these extracts, these decoctions, these macerations of herbs and the like ?" And this question will in all likelihood be asked by the man while eating his apples after dinner ; which, without the labour and investigation of the Botanist would have been nothing but crabs. Or, it may be asked by the man who has been cured of some painful disease by means of that Botanical knowledge of plants, which he now finds it pleasant to affect to despise.

Without the study of the Botanist, the world would have been in a very different position to what it now is ;

all the various sorts of apples would have been nothing but sour crabs. All our delicious varieties of plums are improvements on the sloe. All the almost infinite varieties of the *Brassica* tribe—the turnip, the rape, the cabbage, the cauliflower, the brocoli, with their endless divisions of sorts, have their origin in a miserable looking sea-side plant, which is nothing but a weed—the *Brassica Oleracea*. And when we reflect upon the advantages which man has derived in a medical point of view, by the study of the salutary properties of the different herbs, roots, balsams, &c., it will be unnecessary to say another word on the value of the labours of the Botanists.

“What is the use of all this ?” said an ignorant, upstart, purse-proud aristocrat, to the philosopher who was exhibiting some electrical experiments, when that wonderful science was in its infancy, before the court of Frederick, king of Prussia. “I was asked the same question before,” was the dignified reply of the philosopher, “by C. Candlin, the rich grazier.” “You are answered,” said Frederick, turning to the nobleman. But what a triumph might not the philosopher have had, could he have peeped into futurity, and foreseen the wonderful results of that science which was then in its infancy. If he could have seen, how, by means of a few yards of copper wire, houses, and public buildings, would, with the utmost ease, be saved from the effects of thunderstorms. How conversation would be carried on by people five hundred or a thousand miles apart, almost as easy as if they were in the same room ; and how a facsimile of the likeness of the murderer would be waiting for him at a hundred railway stations at once, long before he could arrive by the quickest train. Yet this science, like all others, is but in its infancy—there are many more wonders to be developed ; but they will not be developed to the idle, the listless, and ignorant. It is the same in every other branch of study.

But there are other inducements. The study of Botany will amply repay the student for all his trouble, in the

additional pleasure which it will impart. If real pleasure is sought—if the body wants recruiting after the exhaustion of disease or misfortune, when the pressure upon the mental energies has been too great,—nowhere can a greater balm and comfort be found than in the sweet valleys, the mountain tops, and the renovating breezes of nature. “So, also, when the strength has failed, and the common occupations of life can no longer be followed, and its common amusements can no longer give pleasure—when wealth becomes uneasiness, honour a burden, the banquet palls on the appetite, and the ear is dull to the sweet sounds of music, and the eye dim to all the panoply of grandeur—place but the sufferer in society upon a green slope, where the landscape spreads wide and full before him, with its clustering woods, its opening glades, its blue uplands, and its varied and varying lights and shadows ; with its sparkling cataracts, its glittering streams, and its glassy lakes ; with its flocks, its herds, and its wild animals, roaming from pasture to pasture, or bounding from cover to cover ; with its flowers of every spot, and on every spray ; its living inhabitants, from the eagle that dashes heavenward, defying the ardours of the sun, to the eel that leaves not the ooze at the bottom of the water, save to perform its curious migration to the sea ; when the inspiring breath of the sweet south-west just puts the twigs and leaves into life, and the light summer-clouds, flinging their shadows, now here, now there, make the one view a thousand, ere the throbs of the renovated heart have counted the half of that number ; when, in short, all nature, is ‘beauty to the eye, music to the ear,’ essence to the smell, and life to the spirit ;—there comes a new lustre on the eye, a young perception on all the senses ; the arteries have more elasticity ; the whole system, that was withering in art, waxes green in nature ; and even near the brink of the grave man feels a triumph over death—a consciousness of immortality which no scepticism can shake, and no mortal misery cloud.”*

Mudie's Botanic Annual, page 2.

Great numbers of men come into the world, and remain even to old age, who never in fact saw the creation in any other manner than the brutes of the field. They see the verdure, and the various colours that clothe the earth; but they go not one step further. It is like a man taken into a beautiful garden, to see the immense variety of plants, brought together from all parts of the world with incredible trouble and expense—he goes away, observing that the leaves are green, and the flowers of various colours just as everywhere else. Could such a man be truly said to have seen the garden? And yet such is the manner which great numbers see the garden of the world.

However, better times are approaching—the study of natural history is now occupying the attention of all classes of the community. There is scarcely a town, or moderate-sized village, particularly in the manufacturing districts, which has not one or more flourishing Botanical Societies, principally composed of working men; and as a member of one of these societies, the compiler of the following work offers it to the world, in the hope that his labour will not altogether have been in vain.



Monandria.



Diandria.



Triandria.



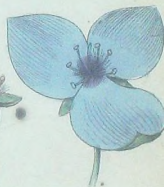
Tetrandria.



Pentandria.



Hexandria.



Heptandria.



Dodecandria.



Octandria.



Enneandria.



Decandria.



Icosandria.



Polyandria.



Didymia



Tetradymania



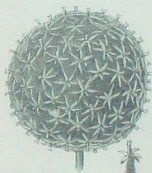
Monadelphina



Diadelphina



Polyadelphina



Syngenesia



Cynandria



Monocelia



Dicoelia



Polygamia



Cratogeomys



INTRODUCTION.

IT is difficult to imagine a more interesting, and at the same time a more profitable pursuit than the study of Botany. All our food, clothing, furniture, and luxuries, are in a great measure dependant upon the vegetable creation: but the pleasure of the the study, even for itself alone, is such, as amply to repay all the trouble (if trouble it may be called), which is spent in the investigation. All that poets have sung: all that the enraptured admirers of country life have expatiated upon, would sink into a blank without the Trees, the Shrubs and the Flowers. These are the gilding—the embroidery of creation; without which this beautiful world would be little altered from what it was, according to the language of the inspired penman, at the first, “without form and void.”

One great misfortune which this science has laboured under from the first; although it must be acknowledged that it had its advantages, is, that from “its very birth is has been looked upon merely as a part of medicine. This was the reason why every body was employed in finding or supposing virtues in plants, whilst the knowledge of the plants themselves was totally neglected: for how could the same man make such long and repeated excursions as so extensive a study demands; and at the same time apply himself to the sedentary labours of the laboratory, and attendance upon the sick; which are the only methods of ascertaining the nature of vegetable substances, and their effects upon the human body? This false idea of Botany, for a long time, almost confined the study of it to medicinal plants, and reduced the vegetable chain to a small number of interrupted links. Even these were very ill studied, because the substance was only attended to, and not the organization. How indeed could persons be much interested in the original structure of a substance, of which they had no other idea but as a thing to be pounded in a mortar! Plants were searched for, only to find remedies;

it was simples, not vegetables, that they looked after. This was very right, it will be said. May be so. Hence, nevertheless it follows, that, if men were ever so well acquainted with remedies, they were very ignorant of plants ; and this is all that I have here advanced.

"Botany was nothing : there was no such study ; and they who plumed themselves most upon their knowledge of vegetables had no idea of their structure, or of the vegetable economy. Every body knew by sight five or six plants in his neighbourhood, to which he gave names at random ; enriched with wonderful virtues, which he took it in his head they possessed ; and each of these plants, changed into an universal panacea, was alone sufficient to render all mankind immortal. These plants transformed into balsams and ointments, quickly disappeared ; and soon made room for others, to which new comers, in order to distinguish themselves, attributed the same effects. Sometimes it was a new plant, decorated with ancient virtues : sometimes old plants, under new names, sufficed to enrich new quacks. These plants had a different vulgar name in every province, and they who pointed them out for their drugs, at most gave them only those names by which they were known on the spot where they lived : thus, when their recipes travelled into other countries, it was no longer known of what plant they spoke of ; every body substituted another after his own fancy, without regarding any thing else but giving it the same name. Such is the whole art that the Myrepsuses, the Hildegardises, the Suarduses, the Villanovas, and the rest of the doctors of that time, employed in the study of those plants which they treat of ; and it would be difficult perhaps, for any body to know one of them by the names or descriptions which they have given them.

"Real botanists however began to be formed : such as Clusius, Cordus, Cesalpinus, Gesner ; good and instructive books on this subject began to be published, in which already appeared some traces of method ; and it has certainly been a loss that these pieces have become useless and unintelligible by the mere discordance of names. But these authors, beginning to unite species and separate genera, according to their own manner of observing the habit and apparent structure, occasioned new inconveniences, and a fresh obscurity ; because each author, regulating his new nomenclature by his own method, creating new genera, or separating old ones, as the characters of his own required. So that genera and species were so jumbled together as to leave scarcely any plant with-

out as many names as there were authors who described it ; which made the study of the nomenclature as tedious as that of the plants themselves, and frequently more difficult.

"At length the two illustrious brothers appeared ; who have done more for the advancement of Botany than all the rest put together who preceded, and even followed them, till Tournefort. Rare geniuses ! whose vast knowledge and solid labours, consecrated to Botany, render them worthy of that immortality which they have acquired. For till this part of natural history falls into oblivion, the names of John and Caspar Bauhin will live along with it in the memory of mankind.

"Each of these men undertook an universal history of plants ; but what more immediately relates to our present purpose is, that they each of them undertook to join to it a *Synonymy*, or exact list of the names that every plant bore in all the writers which preceded them. This labour was become absolutely necessary to enable us to reap any advantage from their observations ; for without that, it was almost impossible to follow and distinguish every plant among so many names."

But the great difficulty was still in the *nomenclature*, or the giving of a *proper name*, and one which should be universally recognised by all botanists, to every distinct plant. The most common observer will have noticed that there are numerous plants which have such an exact resemblance, as to have that sort of character which is described by the words "family likeness." Every body will have noticed this in the extensive family of Roses, Heaths, &c. Now that which was wanted first, was a name for the family itself, to be called the *generic* or family name ; and another to be added to this called the *specific name*, to distinguish each member of the family. And here was a great difficulty which has been experienced both with plants and men from the beginning. When a man talks of John Smith, William Jones, and the like ; he reflects little upon the trouble which our forefathers had in calling up the idea of the same parties, which would probably be something like the following : John, the son of James, the son of Robert, the son of William, who shod horses at the wood-nook : or, the more homely method, still practised in some parts of Lancashire, of Tummus O' William's, O' Margery's O' Ralph's, &c. It will easily be seen, that each addition to the family, would require an additional name to be tacked as it were to the string which had gone before. It was precisely so with Botany : each plant was

described by means of a long string of latin words, which it was utterly impossible for the best memory to retain.

"For instance—'*Dens Leonis qui Pilosella folio minus villosa. Doris que Jacobaea orientalis limonii folio. Titanokeratophyton quod Lythophyton marinum albicans.*'

"Thus, was the nomenclature loaded. The names of the plants became not only phrases but periods. I shall cite one of Plukenet's to prove that I do not exaggerate. '*Gramen myloicophorum carolinianum, seu gramen altissimum, panicula maxima speciosa, e spicis majoribus compressiusculis utrinque pinnatis blattam molendariam quodam modo referentibus, composita, foliis convolutis mucronatis pungentibus.*'

"I would have been all over with Botany if this practice had continued; the nomenclature, being now absolutely insupportable, could no longer subsist in this state; and it was become necessary either that a reformation should be made, or that the richest, the most lovely, and the easiest of the three parts of Natural History should be abandoned.

"At length Linnæus, full of his system and the vast ideas which it suggested to him, formed the project of new moulding the whole; a task which every body felt the necessity of, but no one dared to undertake. He did more, he executed it; and, having prepared in his *Critica Botanica* the rules by which it ought to be conducted, he determined the genera of plants in his *Genera Plantarum*, and afterwards the species in his *Species Plantarum*, in such a manner, that, by keeping all the old names that agreed with these new rules, and new casting all the rest, he established at length a clear nomenclature, founded upon the true principles of the art which he had set forth. He preserved all the ancient genera which were truly natural; he corrected, simplified, united, or divided the rest as their true characters required. And in forming his names he followed, sometimes somewhat even too severely, the rules which he had laid down."*

If Linnæus had done nothing more than this, he would have merited the eternal gratitude of all future botanists. As the long string of additions to the name of John became simplified into John Smith; so the *Veronica mas. vulgaris supina* became the *Veronica Chamædrys*; and every other plant was simplified in the same manner. The first name

*Roussseau and Martyn.

giving the name of the family, and the second pointing out the particular member of the family; and both names are given because of some particular property either in the character or appearance of the plant itself. The *Veronica*, for instance, is named because the flower has the appearance of the floriated cross of St. Veronica; and the second, or specific name *Chamædrys*, is given because the leaves of this species are like the leaves of Germander; the word *Chamædrys* being the latin for Germander.

But this was not all that was done by this great man, for the purpose of facilitating the study of this delightful science. Following up the division into families, he found that there were other divisions, embracing a wider field, and no less distinct. It will be clear to the most superficial observer that the Ferns are a distinct class of plants from the Mosses; and that the Funguses or Mushrooms, with Liverworts, Sea Weeds, &c. are different from both; and yet all these plants have one character—they agree in one particular: they either do no flower at all, or the flowers are so minute as to be *concealed* to our unassisted vision; and as all flowers contain both male and female parts—*stamens and pistils*, it was this connexion of males and females which Linnæus dignified by marriage—*Gamos*. Every class of the flowering plants has something different in the marriages, either in the number of the stamens and pistils, or in the situation, or in the proportionate length of each; and it is out of these differences that twenty-three out of the twenty-four classes are arranged; and the twenty-fourth, which includes the Ferns, Funguses, Mosses, and Sea Weeds is characterised by the *absence* or *concealment* of the sexes: hence, this class is called *Cryptogamia*, a compound greek word meaning concealed marriage. It is in this manner that all the other classes are divided; by which this science which before was nothing but confusion, has become quite easy. The observations at the head of each class throughout the book will be sufficient to give an idea of their characteristic distinctions; and I will now give instructions for compiling an Herbarium or *Hortus Siccus*, without which it is impossible that a person can become a botanist.

The instructions are taken from the works of Rousseau, an eminent French Botanist, which was given in a letter to his cousin.

“ON MAKING A HORTUS SICCUS, OR HERBARIUM.

“THE earth, dear cousin, begins to put on its green robe, the trees to bud, the flowers to open ; some are already past ; an instant of delay would see a loss of a whole year for Botany :—I proceed then without further preamble.

“I fear we have hitherto treated our subject in too abstract a way, by not having applied our ideas to determine objects : it is a fault which I have been guilty of, especially in the umbellate tribe. If I had begun by setting one of them before your eyes, I should have spared you a very fatiguing application to an imaginary object, as well as a very difficult description to myself, and such as a single look would have supplied. Unfortunately, at a distance to which the law of necessity restrains me, I am not able to deliver the objects into your hand ; but provided each of us can see with the same eyes, we shall understand one another very well, when we relate what we see. The whole difficulty is, that the indication must come from you ; for to send you dried plants from hence, would be doing nothing. To know a plant well, you must see it growing. A *Hortus Siccus*, or *Herbarium*, by which latin terms we call a collection of dried plants, may serve to put us in mind of the plants we have once known ; but it gives us only a poor knowledge of those we have never seen before. You therefore must send me such plants as you wish to know, and have gathered yourself ; and it is my business to name, class, and describe them ; till, by comparative ideas, become familiar to your eye and understanding, you arrive at classing, arranging, and naming, by yourself, those which you see for the first time : and this is the science which distinguishes the true botanist from the mere herbarist or nomenclator. My design then here is to teach you how to prepare, dry, and preserve plants, or specimens of plants, in such a manner as that they may be easily known and determined. In a word,

I propose to you to begin a *Hortus Siccus*. Here is a deal of business preparing at a distance for our little botanist; for at present, and for some time to come the address of your fingers must supply the weakness of hers.

"First, here is some provision to be made; namely, five or six quires of grey paper, and almost as many of white, of the same bigness, pretty strong and well sized, without which the specimens would rot in the grey paper; the plants, or at least the flowers, would lose their colour; and this, of all the parts, is that by which they are most easily known, and which it is most pleasant to see in a collection of dried plants. It were also to be wished that you had a press of the same size with your paper, or at least two pieces of boards well planed, between which you may keep your papers and specimens, pressed by stones, or any other weight with which you may load the upper board. When you have made these preparations, you must observe the following rules, in order to prepare your plants as as to preserve them and know them again.

"The precise time to gather your plant is when it is in full flower, or rather when some of the flowers begin to fall, to give place to the fruit, which begins to make its appearance. It is at this time, when all parts of the fructification are visible, that you must endeavour to gather the plant in order to dry it.

"Small plants may be taken whole with their roots, which must be brushed, that no earth may remain. If the earth be wet, it must either be dried, that it may be brushed, or else the root must be washed; but in this case you should wipe it well, and dry it before you put it into papers, without which it would infallibly rot and injure the plants near it. You need not, however, preserve the roots, unless they have some remarkable singularities; for in most plants the branching fibrous roots are so alike, that it is not worth the trouble. Nature, which has done so much for elegance and ornament, in the form and colour of plants, in whatever strikes our sight, has destined the roots entirely to useful functions; because, being concealed within the earth, to give them an agreeable structure would have been to hide a light under a bushet.

"Trees and all great plants can only be had by specimens; but even that specimen should be so well chosen as to contain all the constituent parts of the genus and species, that it may suffice to know and determine the plant from whence it is taken. It is not sufficient that all the parts

of the fructification are distinguishable, which would be enough to determine the genus; but the character of the foliation and ramification also must be sufficiently visible; that is, the origin and form of the leaves and branches, and even, as much as may be, some portion of the main stem itself; for, as you will see in the sequel, all this serves to distinguish the species of the same genus, which are perfectly alike in the flower and fruit. If the branches are too thick, they may be made thinner, by cutting them with a sharp knife nicely underneath, as much as may be, without cutting and mutilating the leaves. There are botanists who have the patience to slit the bark, and draw the wood out so nicely, that, when the bark is united again, the branch seems to be entire though the wood is gone: by which means, there are none of these inequalities and bumps which spoil and disfigure a collection, and give a bad form to the plants. Where the flowers and leaves do not come out at the same time, or grow too far distant from each other, you will take a little branch in flower, and another in leaf, and placing them together on the same leaf of your book, you thus have before you different parts of the same plant, sufficient to give you a complete knowledge of it. As to plants where you find only the leaves, the flower being either past or not yet come, you must wait with patience till they show their faces, to be fully acquainted with them; a plant being no more certainly to be known by its foliage than a man by his clothes.

"Such is the choice that you should make in what you gather; you must have a choice also as to the time in which you do it. Plants gathered in the morning before the dew is off, or in the evening when it is damp, or in the day-time when it is wet; will not keep. You must absolutely choose a dry season, and even then the driest and hottest time of the day, which in summer is between eleven in the morning and five in the afternoon. Even then, if you find the least moisture on them, you must not take them, for they certainly will not keep.

"When you have gathered your specimens, you must bring them home as soon as you can, quite dry, to put and arrange them in your papers. For this purpose you lay down at least one sheet of grey paper, upon this half a sheet of white paper, and then your plant, taking great care that all the parts of it, especially the leaves and flowers, are well opened, and laid out in their natural situation. If the plant be a little withered, without being too much so, it will generally spread out better upon the

paper, with the fingers and thumb. But there are rebellious plants, which start up on one side whilst you are ranging them on the other. To prevent this inconvenience, I have leads, halfpence, and farthings, which I place upon those parts that I have just put in order, whilst I am arranging the rest; so that, when I have done, my plant is almost covered with these pieces, which keep it in its proper situation. Then you place another half sheet of white paper upon the first, pressing it with your hand, to keep the plant in the position you have given it, bringing your left hand that presses gradually forward, and at the same time taking away the leads, &c. with your right; then put another sheet of grey paper upon the second white paper, all the while pressing the plant, lest it lose the position you have given it: upon the grey paper place another half sheet of white, as before; upon this another plant is arranged and covered like the former, till you have placed your whole harvest, which ought not to be too numerous at once; both that your task may not be too laborious, and that your paper may not contract too much humidity during the drying; which would infallibly spoil your plants, unless you hastened to change the papers with the same attention as before: this, however, is what you must do from time to time, till your specimens have taken their bent, and are all very dry.

"Your pile of plants and papers, thus arranged, must be put into the press, without which your plants will not be flat and even: some are for pressing them more, others less: experience will teach you this, as well as how often the papers should be changed, without taking unnecessary pains. Lastly, when your plants are quite dry, put each of them separately into a sheet of paper, one upon another, without other papers between, for which there is no occasion; and you will thus begin a *Hortus Siccus*, which will continually increase with your knowledge, and at length contain the history of all the vegetation of the country. Take care always to keep your collection very close, and a little pressed; without which the plants, however dry they might be, will attract the humidity of the air, and again get out of form.

"Now the use of all these pains is to arrive at a knowledge of each particular plant, and to understand one another well when we talk of them.

"For this purpose you must gather two specimens of each plant; one larger to be kept, the other smaller to send me. You must number them carefully, so that great and little specimens shall always have the same

number. When you have a dozen or two of species thus dried, you will send them to me in a little parcel by the first opportunity. I will send you back their names and descriptions; by means of the numbers you will know them in the collection, and after that in their natural state, wherein, I presume, you first examined them. This is the certain way to make as secure and rapid a progress as you can at a distance from your guide.

“P. S. I forgot to tell you that the same papers may serve over and over again, provided you take care to air and dry them well. I should also add here, that your *Hortus Siccus* must be kept in the driest part of the house, and rather on the first than the ground floor.”

DIRECTIONS FOR THE
COLLECTION AND PRESERVATION
OF HERBS.

—0000—

From Sir John Hill's Family Herbal.

CONTAINING GENERAL RULES FOR THE GATHERING AND PRESERVING OF
HERBS, ROOTS, BARKS, SEEDS, AND FLOWERS; TOGETHER WITH THE
METHODS OF MAKING SUCH PREPARATIONS FROM THEM, AS MAY BEST
RETAIN THEIR VIRTUES, OR BE MOST USEFUL TO BE KEPT IN FAMILIES.

CHAPTER I.

The design and purpose of this work, and the method observed in it.

THE intent of the author in publishing this book, is to inform those who live in the country, and are desirous of being useful to their families and friends, or charitable to the poor in the relief of their disorders, of the virtues of those plants which grow wild about them: that they may be able to supply this necessary assistance, in places where apothecaries are not at hand; and that they may be able also to do it without putting themselves to the expence of medicines of price, when the common herbs, that may be had for gathering, will answer the same purpose.

* However, as there are cases, in which more help may be had from drugs brought from abroad than from anything we can procure at home, an account of those roots, barks, seeds, gums, and other vegetable productions, kept by the druggists and apothecaries, is also added; and of the several trees and plants from which they are obtained, together with their virtues.

This work therefore, will tend to instruct those charitable ladies who may be desirous of giving this great relief to the afflicted poor in their neighbourhood, and to remind apothecaries of what they had before studied: but the first mentioned purpose is by much the most useful, and the most considerable, and for this reason the greatest regard is paid to it.

The plants are disposed in the alphabet, according to their English names, that they may be turned to the more readily; and an account is given, in two or three lines, of their general aspect and place of growth,

that those who in part know them already, may understand them at once; if they are not perfectly known from this, a more particular description is added, by observing which they cannot be mistaken or confounded with any others; and after this follow, not only their virtues as others are content to set them down, but the part of each plant which contains them in most perfection is named, and the manner in which they are best to be given.

With regard to the virtues of plants, it has been the custom to attribute too many to most of them: so much is said more than the truth on these occasions, that those who would be informed, know not what they should believe. This is more cautiously regulated here. The real virtues alone are set down, as they are assured by experience: and the principle of these are always set in the most conspicuous light. Perhaps it may be allowed the author, to speak with more assurance than others of these things, because he has been accustomed to the practice of physic in that way. Very few things are named here that he has not seen tried; and if some are set down, which other writers have not named, and some, of which they have said most, are slightly mentioned, it is owing to the same experience which has added to the catalogue in some things, and has found it too great for truth in others.

Nature has, in this country, and doubtless also in all others, provided, in the herbs of its own growth, the remedies for the several diseases to which it is most subject; and although the addition of what is brought from abroad, should not be supposed superfluous, there is no occasion that it should make the other neglected. This has been the consequence of the great respect shewn to the others; and besides this, the present use of chemical preparations has almost driven the whole galenical medicine out of our minds.

To restore this more safe, more gentle, and often more efficacious part of medicine to its natural credit, has been one great intent in the writing this treatise; and it is the more necessary for the service of those who are intended most to be directed in this matter, since this is much less dangerous than the other: nay, it is hard to say, that this is dangerous at all, in most instances.

The apothecaries are apt, in their unfeeling mockery, to say they are obliged to the good ladies who give medicines to their sick neighbours, for a great deal of their business; for out of little disorders they make great ones. This may be the case where their shops supply the means; for chemical medicines, and some of the drugs brought from abroad, are not to be trusted with those who have not great experience; but there will be no danger of this kind, when the fields are the supply. This is the medicine of nature, and as it is more efficacious in most cases, it is more safe in all. If opium may be dangerous in an unexperienced hand, the lady who will give in its place a syrup of the Wild Lettuce, (a plant not known in common practice at this time, but recommended from experience in this treatise) will find that it will ease pain, and that it will cause sleep, in the manner of that foreign drug, but she will never find any ill consequences from it: and the same might be said in many other instances.

As the descriptions in this work, very readily distinguish what are the real plants that should be used, the great care will remain, in what manner

to gather and preserve, and in what manner to give them; it will be useful to add a chapter or two on those heads. As to the farmer, I would have it perfectly understood, because a great deal depends upon it; the latter cannot easily be mistaken.

Having displaced the drugs brought from abroad in a great measure from this charitable practice, I would have every lady, who has the spirit of this true benevolence, keep a kind of druggist's shop of her own: this should be supplied from the neighbouring fields, and from her garden. There is no reason the drugs should not be as well preserved, and as carefully laid up, as if the product of a different climate, though the use of the fresh plants will in general be best when they can be had.

As there are some which will not retain their virtues in a dried state, and can be met with only during a small part of the year; it will be proper to add the best methods of preserving these in some way, according to the apothecaries' manner; and these chapters, with that which shall lay down the method of making the preparations from them for ready service, will be sufficient to lead to the perfect use of the medicines of our own growth: and it will be found upon experience, that those who sufficiently know how to make a proper use of these, need seldom have recourse to any others.

CHAPTER II.

Concerning the methods of collecting and preserving plants and parts of them for use.

The virtues of different plants residing principally in certain parts of them, and those different according to the nature of the herb, these several parts are to be selected, and the rest left: and these are in some to be used fresh and just gathered; in others, either necessity, or the natural preference, make it proper to dry and preserve them.

In some only the leaves are to be used; in others the whole plant cut from the root; in others the flowers only; in others the seeds or fruits; in some the roots; and of some trees the barks; some the woods; and only the excrecences of others: while some vegetables are to be used entire, whether it be fresh gathered, or dried and preserved. Of all these, instances will be given in great number in the following sheets, and the matter will be specified under each article, as the part of the plant to be used will always be named; and it will be added whether it be best fresh, or best or necessarily dried or otherwise preserved; but it will be proper in this place to enter into the full examination of this matter, to save unnecessary repetitions under the several particular articles.

The whole of most plants native of our country, dies off in winter, except the root; and in many that perishes also, leaving the species to be renewed from the fallen seeds. When the whole plant dies, the root is seldom of any virtue; but when the root remains many years, and sends up new shoots in the spring, it commonly has great virtue. This may be a general rule; for there is very little to be expected in the roots of annual plants: their seeds, for the most part, contain their greatest virtues.

In others, the root lives through the winter, and there arise from it large leaves in the spring, before the stalk appears. These are to be distinguished from those which afterwards grow on the stalk, for they are more juicy, and for many purposes much better. In the same manner, some plants, from their seeds dropt in autumn, produce a root and leaves which stand all the winter, and the stalk does not rise till the succeeding spring. These are of the nature of those leaves which rise from the root of other plants before the stalks in spring; and are in the same manner to be distinguished from those which grow upon the stalks: they have the full nourishment from the root, whereas the others are starved by the growth of the stalk and its branches, and the preparations made by nature for the flowers, and seeds; which are the great purpose of nature, as they are to continue the plant.

For this reason, when the leaves of any plant are said to be the part fittest for use, they are not to be taken from the stalk, but these large ones growing from the root are to be chosen; and these where there is no stalk, if that can be; for then only they are fullest of juice, and have their complete virtue; the stalk running away with the nourishment from them. This is so much done in some plants, that although the leaves growing from the root were very vigorous before the stalk grew up, they die and wither as it rises.

When the juice of the leaves of any plant is required, these are the leaves from which it is to be pressed: when they are ordered in decoction, notice is always taken in this book, whether they be best fresh or dried; if fresh, they should be just gathered for the occasion; they should be cut up close from the root, and only shook clean, not washed, for in many that carries off a part of the virtue: they are to be cut into the pot. If they are to be dried, the same caution is to be used; and they are best dried, by spreading them upon the floor of the room, with the windows open; or often turning them. When thoroughly dried, they should be put up in a drawer, pressing them close down, and covered with paper. When the entire plant is to be used except the root, care is to be taken that it be gathered at a proper season. Nature in the whole growth of plants, tends to the production of their flowers and seeds, but when they are ripe, the rest begins to decay, having done its duty; so that the time when the entire plant is in its most full perfection, is when it is in the bud; when the heads are formed for flowering, but not a single flower has yet disclosed itself: this is the exact time.

When herbs are to be used fresh, it is best not to take them entire, but only to cut off the tops; three or four inches long, if for infusion, and if for other purposes, less: if they are to be beaten up with sugar, they should be only an inch or less, just as far as they are fresh and tender. The tops of the plant thus gathered, are always preferable to the whole plant for immediate use.

When the entire herb is to be dried, the season for gathering it is to be as just described, when the flowers are budding, and the time of the day must be when the morning dew is dried away. This is a very material circumstance, for if they be cut wet with the dew, they will not dry well, and if they be cut at noon-day, when the sun has made the leaves flag, they will not have their full power. Care must also be taken to cut them in a dry day; for the wet of rain will do as much harm as that of dew.

<lo.e

P «1«'

When the herbs are thus gathered, they are to be looked over, the decayed leaves picked off, and the dead ends of the stalks cut away: they are then to be tied up in small bunches (the less the better), and hung upon lines drawn across a room, where the windows and doors are to be kept open in good weather. The bunches are to be half a foot asunder, and they are to hang till perfectly dry. They are then to be taken softly down, without shaking off the buds of the flowers, and laid evenly in a drawer, pressing them down, and covering them with paper. They are thus ready for infusions and decoctions, and are better for distillation than when they are fresh.

The flowers of plants are principally used fresh, though several particular kinds retain their virtues very well dried; they are on these different occasions to be treated differently.

Lavender flowers, and those of *stœcha*, keep very well; they are therefore to be preserved dry; the lavender flowers are to be stript off the stalk, husk and all together, and spread upon the floor of a room to dry. The *stœchas* flowers are to be preserved in the whole head; this is to be cut off from the top of the stalk, and dried in the same manner: when dry, they are to be kept as the herbs.

When Rosemary flowers are dried, they are generally taken with some of the leaves about them, and this is very right, for the leaves retain more virtue than the flowers. Some dry Borage, Bugloss, and Cowslips, but they retain very little virtue in that condition. Rose-buds are to be dried, and for this purpose, their white heads are to be cut off; and the full blown flowers may be preserved in the same manner. The Red Rose is always meant, when we speak of the dried flowers.

For the rest of the flowers used in medicine, they are best fresh; but as they remain only a small part of the year in that state, the method is to preserve them in the form of syrups and conserves. Such as the syrup of Cloves and Poppies, the conserve of Cowslips, and the like. Of these a short general account shall be subjoined, that nothing may be wanting to make this book as useful for families, as the nature of such a one will admit.

Among the fruits of plants, several are to be used fresh, as the hip for conserve, and the Quince, Mulberry, and Black Currant, from the juices of which syrups are made. As to those which are to be dried, as the Juniper-berries, the Bay-berries, and the like, they are only to be gathered when just ripening, not when quite mellow, and spread upon a table or floor, often turning them till they are dry. But of these we use very few of our own growth; most of the fruits used in medicine are brought from abroad, and must be purchased of the druggist or apothecary.

With respect to the seeds and plants, it is otherwise; many of them are of our own growth, and nothing is so easy as to preserve them. These are all to be used dry; but nature has in a manner dried them to our hands, for they are not to be gathered till perfectly ripe, and then they need very little farther care. They are only to be spread for three or four days upon a clean floor, where the air is free passage, but where the sun does not come; and they are then ready to be put up.

The seeds used in medicine may be referred to three general kinds. They either grow in naked heads or umbels, as in fennel, parsley, and the

like; or in pods, as in mustard and cresses, or in large fleshy fruits, as in melon and cucumbers. In each case they must be left upon the plant till perfectly ripe; then they are only to be shook from the heads upon the floor, or if in pods, a smart stroke or two of the plant upon the floor, when they are thoroughly ripe, will dislodge them. In the other case, the fruit must be cut open, and they must be taken out from among the wet matter, separated from the membranes that are about them, and spread upon a table, in a dry place, where they must be often turned and rubbed as they grow dry, that in the end they may be perfectly dry and clean.

Among the roots a great many are to be used fresh, but a greater number are best dried. The black and white briony, the arum, and some others, lose all their virtues in drying; and many that retain some, yet lose the greater part of it: there are others which are excellent both fresh and dried, as the marshmallow and some more.

As to the few which lose their virtue entirely in drying, it will be best to keep some of them always in the garden, that they may be taken up as they are wanted. The others are to be managed according to their several natures, and they do a great deal toward the furnishing the druggist's shop, which should be filled with medicines, the produce of our own country. The best season for gathering roots for drying is in the earlier part of the spring: what nature does for plants when they are just going to flower, she does for roots when the leaves are just going to bud; the juices are rich, fresh, and full, and the virtue is strongest in them at this season, therefore they are to be then taken up.

In the end of February and the beginning of March, the ground should be searched for the first budding of leaves, and the roots taken up. They are to be wiped clean, not washed; and according to their several natures, prepared for drying.

Some are full of a mucilaginous juice, as marshmallow and above all other roots the squill, and in some degree many others of that kind: these must be cut into thin slices cross-wise, and they will dry best if laid upon a hair cloth stretched across a frame. They must be frequently turned; and be very thoroughly dry, before they are put up, else they will become mouldy: but, rightly prepared, they keep very well.

Other roots have juices, that evaporate more easily. These have the virtue either throughout the whole substance, or only in the outer part, and they are to be prepared accordingly. When roots are of one uniform substance, they generally have the virtue equal, or nearly so, in all parts. These should be split open length-wise, first cutting off the head, and the little end; or if considerably thick, they may be quartered; when this is done, they are to be strung upon a line, by drawing a needle threaded with a small twine through their thickest part, and they are then to be hung up to dry in the manner of the herbs; the line been stretched across a room, the doors and windows of which are to be kept open in good weather.

When roots consist of a sort of thick rind, or fleshy substance within the rind, and a hard sticky part in the middle, this fleshy substance under it possesses all the virtues, the hard inner substance having none; in this case, the root is to be split long-wise as before, and the hard woody part is to be taken out and thrown away; the rest is to be strung as before described, and dried in the same manner.

When roots consist of fibres, these are generally connected to a head, if it be ever so small, and the best way is to split this in two, and then string up the separate parts for drying.

It is needless to enumerate the examples of the several kinds of roots here; they follow in their places; but if the charitable lady would, on first looking over this book to see what are most useful, order her gardener to take out of his ground, and to seek in the fields, the several roots there mentioned, and see them dried and preserved according to these directions, she would be possessed of a set of drugs of a new kind indeed; but they would save the price of many brought from our countries, and might be used with less danger.

The bark of trees make but a small part of the English drugs, and most of them are best fresh; but such as will preserve and retain their virtues dried, are very easily prepared that way: nothing more is required, than to cut them into moderate pieces, and string them up in the same manner as the roots. When they are dry they are to be put up as the others; and they will keep ever so long; but in all this time they are for the most part losing of their virtues.

It may be prudent to preserve drugs brought from abroad a great while because of their price; but as these cost only the trouble of gathering and preserving them, I would advise, that the whole shop be renewed every year; what is left of the old parcel of every kind, being thrown away as the fresh one is collected in its season.

The place for keeping these should be a dry room, neither damp nor hot, and they should now and then be looked at, to see that they are in order, that they do not grow mouldy or smell musty through damp, or become lighter, and lose their virtue by too much heat.

It may be proper just to mention, that the woods which we use are best kept in the block, and shaved off as they are wanted; for being kept in shavings, they lose their virtue. And in the same manner as to the foreign woods, it is best to keep a block of *Sassafras*, and of *Lignum Vitæ* in the house, and cut them as they are wanted.

As to the excrescences, such as galls of the Oak, and the burr upon the Wild Briar, they are naturally so dry, that they only require to be exposed a few days to the air, upon a table, and then they may be put up with safety, and will keep a long time.*

Lastly, the funguses, such as Jew's-ears and the like, are to be gathered when they are full grown, and strung upon a line, that they may dry leisurely, or else they spoil. They must be very well dried before they are put up, else they will grow mouldy in damp weather, and if once that happens, no art can recover their virtues.

Thus may a druggist's shop of a new kind be filled, and it will consist of as many articles as those which receive their furniture from abroad, and there will be this advantage in having every thing ready; that when custom has made the virtues of the several things familiar, the lady may do from her judgment as the physician in his prescription, mix several things of like virtue together, and not depend upon the virtues of any one singly, when the case requires something of power. These roots and barks powdered, will make as handsome and as efficacious boluses and mixtures, as any, furnished by the apothecary.

CHAPTER III

Concerning the various methods of preparing simples for present use.

There is no form of medicines sent from the apothecary, which may not be prepared from the herbs of our own growth in the same manner as from foreign drugs. Electuaries may be made with the powders of these barks, roots, and seeds, with conserves of flowers, and of the tops of fresh herbs; and syrups, made from their juices and infusions: the manner of making which is very simple, and shall be subjoined to this Chapter, that all may be understood before we enter on the book itself. And in the same manner their boluses may be made, which are only some of these powders mixed up with syrup: and their draughts and juleps, which are made from the distilled waters of these herbs, with spirit, or without these syrups being added; and the tinctures of the roots and barks: the method of making which shall be also annexed in a familiar manner.

But beside these several forms of giving them, there are others much more simple, easy, and ready, and these are generally more efficacious. I shall arrange these under three kinds,—juices, infusions, and decoctions. These are the forms of giving the medicines most frequently mentioned in the course of the work, and there is less trouble in them than in the others. They are not indeed contrived for show, nor would they answer the purpose of the apothecary, for his profits would be small upon them; but when the design is only to do good, they are the most to be chosen of any.

Juices are to be expressed from leaves or roots, and in order to do this they are to be first beaten in a mortar. There is no form whatever in which herbs have so much effect, and yet this is in a manner unknown in the common practice of physic.

These are to be obtained in some plants from the entire herb, as in Water Cresses, Brook-lime, and others that have juicy stalks; in others the leaves are to be used, as in Nettles and the like, where the stalk is dry, and yields nothing, but is troublesome in the preparation. When the juice of a root is to be had, it must be fresh taken up and thoroughly beaten. A marble mortar and wooden pestle serve best for this purpose, for any thing of metal is improper: many plants would take a tincture from it, and the juice would be so impregnated with it, as to become a different medicine, and probably, very improper in the case in which it was about to be given.

As these juices have sometimes an ill taste, and as some of them are apt to be cold upon the stomach, or otherwise to disagree with it, there are methods to be used, to make them sit better upon it, and in some cases these increase their virtues.

When the thick juice, fresh drawn, is too coarse for the person's stomach, it may be suffered to settle and grow clear: a little sugar may be added also in beating the herb, and in many cases, as in those juices given for the scurvy, the juice of a Seville Orange may be added, which will greatly improve the flavour.

To the roots it is often proper to add a little white wine in the bruising, and they will operate the better for it. Thus for instance, the juice of the Flower-de-luce root will not stay upon many stomachs alone; but with a little white wine added in the bruising, all becomes easy, and its effects are not the less for the addition. The same addition may be made to some of the colder herbs; and if a little sugar, and, upon occasions, a few grains of powdered ginger be added, there will be scarcely any fear of the medicine disagreeing with the stomach, and its effects will be the same, as if it had been bruised and pressed alone.

Infusions are naturally to be mentioned after the juices, for they are in many cases used to supply their place. Juices can only be obtained from fresh plants, and there are times of the year when the plants are not to be had in that state. Recourse is then to be had to the shop, instead of the field: the plant whose juice cannot be had, is there to be found dried and preserved; and if that has been done according to the preceding directions, it retains a great part of its virtues: in this case it is to be cut to pieces, and hot water poured upon it extracts so much of its qualities, as to stand in the place of the other. Often, indeed, the virtues are the same: in some plants they are greatest from the infusion, but then some others lose so much in drying, that an infusion scarce has anything. But it is not only as a help in the place of the other that this preparation is to be used, for infusions are very proper from many fresh herbs, and are of great virtue from many dry ones, of which, when fresh, the juice would have been worth little.

Infusions are the fittest forms for those herbs whose qualities are light, and whose virtue is easily extracted: in this case, hot water poured upon them takes up enough of their virtue, and none is lost in the operation, others require to be boiled in the water. From these are thus made what we call decoctions, and as these last would not give their virtues in infusion, so the others would lose it all in the boiling. It would go off with the vapour. We know very well, that the distilled water of any herb is only the vapour of the boiled herb caught by proper vessels, and condensed to water; therefore, whether it be caught or let to fly away, all that virtue must be lost in boiling. It is from this, that some plants are fit for decoctions, and some for infusions. There are some which if distilled give no virtue to the water, and these are fit for decoctions, which will retain all their virtue, as Bistort and Tormentil roots, and the like. On the contrary, an infusion of Mint or Pennyroyal, is of a strong taste and excellent virtue; whereas a decoction of these herbs is disagreeable or good for nothing.

There are herbs also which have so little juice that it would be impossible to get it out; and others whose virtue lie in the husks and buds, and this would be lost in the operation. An infusion of these is the right way of giving them. Thus Mother of Thyme is a dry little herb, from which it would be hard to get any juice, and when gotten, it would possess very little of its virtues; but an infusion of Mother of Thyme possesses it entirely.

Infusions are of two kinds. They are either prepared in quantity to be drank cold, or they are drank as they are made in the manner of tea. This last method is the best but people will not be prevailed upon to do it, un-

less the taste of the herb be agreeable; for the flavour is much stronger hot than it is cold.

Infusions in the manner of tea are to be made just as tea, and drank with a little sugar: the others are to be made in this manner. A stone jar is to be fitted with a close cover; the herb, whether fresh or dried, is to be cut to pieces; and when the jar has been scalded out with hot water, it is to be put in: boiling water is then to be poured upon it; and the top is to be fixed on: it is thus to stand four, five, or six hours, or a whole night, according to the nature of the ingredient, and then to be poured off clear.

It is impossible to direct the quantity in general for these infusions, because much more of some plants is required than of others; for the most part, three-quarters of an ounce of a dried plant, or two ounces of the fresh gathered. The best rule is to suit it to the patient's strength and palate. It is intended not to be disagreeable, and to have as much virtue of the herb as is necessary; this is only to be known in each kind by trial, and virtue may be heightened, as well as the flavour mended by several additions. Of these sugar and a little white wine are the most familiar, but Lemon juice is often very serviceable, as we find in Sage tea; and a few drops of oil of vitriol give colour and strength to tincture of Rose. Salt or tartar makes many infusions stronger also than they would be, but it gives them a very disagreeable taste. It is, therefore, fit only for such as are to be taken at one draught, not for such as are to be swallowed in large quantities time after time.

Among the herbs that yield their virtues most commodiously by infusion, may be accounted many of those which are pectoral, and good in coughs, as Colt's-foot, Ground Ivy, and the like; the light and aromatic, good in nervous disorders, as Mother of Thyme, Balm, and the like; the bitters are also excellent in infusion, but very disagreeable in decoction; thus boiling water poured upon Roman Wormwood, Gentian-root, and Orange-peel, makes a very excellent bitter. It need only stand till the liquor is cold, and may be then poured off for use.

It is often proper to add some purging ingredient to this bitter infusion; and a little fresh Polypody root excellently answers that purpose, without spoiling the taste of the medicine.

Several of the purging plants also do very well in infusion, as Purgings Flax and the like, and the fresh root of Polypody alone is a very good one: a little lemon juice added to the last named infusion does no harm, and it takes off what is disagreeable in the taste, in the same manner as it does from an infusion of senna.

Thus we see what a great number of purposes may be answered by infusions, and they are the most familiar of all preparations. Nothing is required but pouring some boiling water upon the plants fresh or dried as already directed, and pouring it off again when cold.

Decoctions are contrived to answer the purpose of infusions, upon plants which are of so firm a texture that they will not easily yield forth their useful parts. In these the ingredients are to be boiled in the water, as in the others the boiling water was to be poured over them. In general leaves, flowers, and entire plants whether fresh or dried are used in infusions, the roots and barks in decoctions.

An earthen pipkin with a close cover is the best vessel for preparing

these, for many of those medicines which are little suspected of it, will take a tincture from the metal; and it would be as improper to boil them in a copper pan (as is too common a custom), as to beat the herbs and roots in a metal mortar.

Fresh roots are used in decoction, as well as those which are dried; and the barks and other ingredients in like manner. When the fresh are used, the roots are to be cut into thin slices, and the barks and woods should be shaved down; as to the leaves and entire plants, they need be cut but little. When dry ingredients are used, the roots and barks are best pounded to pieces, and as to the herbs and flowers little is to be done to them, and in general, they are best added toward the end of the decoction.

It is always best to let the ingredients of a decoction stand in the water cold for twelve hours before it is set on the fire, and then it should be heated gradually, and afterwards kept boiling gently as long as is necessary: and this is to be proportioned to the nature of the ingredients. Generally a quarter of an hour is sufficient, sometimes much longer is necessary. They are then to be strained off while they are hot, pressing them hard, and the liquor set by to cool: when they are thoroughly cold, they are to be poured off clear from the settlement, for they always become clear as they cool, and sweetened with a little sugar. Frequently also it is proper to add to them a little white wine, as to the infusions.

CHAPTER IV.

Concerning Distilled Waters, and other Preparations to be kept in the house.

I shall bring the charitable lady further in this matter than perhaps she was aware at the first setting out, but it will be with little expense, and little trouble. She will find that I now intend she should keep a sort of chemist's or at least an apothecary's shop, as well as a druggist's, but it will be founded upon the same materials. No drugs brought from abroad, or to be purchased at a great price, will have place in it; they are all natives of our own country, and the preparation of these medicines from them will cost only a little spirit, a little sugar, and the labour of a servant.

That spirit is best which is called molasses spirit; it is to be bought at a small price at the distillers; and as to the sugar, the most ordinary loaf kind will do for most purposes, where other is necessary, it will be particularly named.

Few families are without an alembic or still, and that will be of material service. With that instrument the simple waters are to be made, with no expense besides the fire; and it will be proper to keep those of the following ingredients.

Mint-water, Peppermint-water, and Pennyroyal-water are to be made of the dry herbs. Three lbs. of each is to be put into the still, with four gallons of water, and two gallons are to be distilled off. Milk-water is to be made thus, a pound and a half of Spear-mint, a pound of Rue, half a pound of Roman Wormwood, and half a pound of Angelica leaves are to be put

pl" «i" U; they

into the still with five gallons of water, and three gallons are to be distilled off. Common Mint-water is good in sicknesses of the stomach, Pepper-mint-water in colics, and Pennyroyal to promote the menses. Milk-water is good in fevers, and to make juleps: it used to be made with milk, but that answers no purpose. Only one simple water more need be kept, and that for colics: it is best made of Jamaica pepper—a pound of Jamaica pepper is to be put into the still over night, with three gallons of water, and the next morning two gallons of water distilled off.

It has been customary to keep a great many simple waters, but these are all that are necessary or proper. The other herbs are better to be given in infusion and decoction.

As for cordial waters, they are made as the others, only with the addition of spirit. It may be proper to keep the following, and no more are necessary.

1. Cinnamon-water, which is made by putting into the still a pound of cinnamon, a gallon of spirit, and a gallon of water, and the next day distilling off a gallon. This is good in sickness at the stomach, and is a fine cordial.

2. Spirituous Milk-water, made from a pound of Spear-mint, half a pound of Angelica, and a quarter of a pound of Roman Wormwood, all green. To these is to be put a gallon of spirit, and a gallon of water, and a gallon to be distilled off; to which is to be added a pint of vinegar: this is good to promote sweat, and is used instead of treacle-water, being better.

3. Strong Pennyroyal-water, which is used instead of hysteric water, in all hysteric cases, and to promote the menses, is made of a pound and a half of dry Pennyroyal, a gallon of spirit, and six quarts of water, drawing off a gallon.

4. Anniseed-water, which is good in the colic, is made with a pound of Anniseed, a pound of Angelica seed, and two gallons of spirit, with one gallon of water, distilling off two gallons. No more of these are necessary but before I close this article of distilling, I shall add the making of lavender water, spirit of lavender, and Hungary water, which are preparations of the same kind, and very easy.

Lavender water, is made from a pound of fresh lavender flowers, and a gallon of molasses spirit, with two quarts of water; five pints are to be distilled off. Hungary water is made of a pound and a half of Rosemary tops with the flowers, a gallon of spirit, and a gallon of water, distilling off five pints. To make the spirit of Lavender, or Palsy-drops, mix three pints of Lavender-water and one pint of Hungary-water, and add to this half an ounce of cinnamon, the same quantity of nutmegs, and three drachms of Red Saunders-wood; these are to stand together till the spirit is well coloured.

This is all the family practitioner will need with distilling: a short account, but sufficient.

As for tinctures, which are a great article with the apothecary and chemist, making a great shew, and really very useful; I would have several of them kept, and they are as easily made as the waters, nay, more easily. Molasses spirit is all that is necessary for this purpose.

It would be well to keep tinctures of all roots and barks, which are said to be good dried in the course of this work, for a tincture will contain more

or less of the virtue of every one of these, and be often convenient where the powder or decoction could not be given. It is needless to enumerate these, and one rule of making serves for them all: two ounces of the ingredient is to be cut into thin slices, or bruised in a mortar, and put into a quart of spirit; it is to stand a fortnight in a place a little warm, and be often shook: at the end of this time it is to be taken out, strained off, and made to pass through a funnel, lined with whitish brown paper, and put up with the name of the ingredient.

To these the Tinctures of the English roots, barks, and seeds, it would be well to add a few made of foreign ingredients. As,—

1. The Bitter Tincture for the stomach, is made of two ounces of Gentian, an ounce of dried orange-peel, and half an ounce of Cardamom-seeds, and a quart of spirit; or otherwise, it may be made in white wine, allowing two quarts.

2. Tincture of Castor, good in hysteric complaints, and made with two ounces of castor and a quart of spirit.

3. Tincture of Bark, which will cure those who will not take the powder, made of four ounces of bark, and a quart of spirit.

4. Tincture of Soot for fits, made with two ounces of wood-soot, one ounce of assafetida, and a quart of spirit.

5. Tincture of steel, for the stoppage of the menses, made of flowers of iron four ounces, and of spirit a quart.

6. Tincture of Myrrh, made of three ounces of myrrh, and a quart of spirit, good for curing the scurvy in the gums.

7. Tincture of Rhubarb, made of two ounces of Rhubarb, half an ounce of Cardamom-seeds, and a quarter of an ounce of Saffron, with a quart of spirit.

8. Elixir Salutis, made of a pound of stoned raisins, a pound of senna, an ounce and a half of caraway-seeds, and half an ounce of cardamoms, in a gallon of spirit.

9. Elixir of Vitriol, made of six drachms of cinnamon, three drachms of cardamoms, two drachms of long pepper and the same of ginger, and a quart of spirit; to a pint of this tincture strained clear off, is to be added four ounces of oil of vitriol: this is an excellent stomachic.

10. To these it may be well to add the famous Friar's Balsam, which is made of three ounces of benjamin, two ounces of strained storax, one ounce of Balsam of Tolu, half an ounce of aloes, and a quart of spirit of wine, such as is burnt under lamps. This spirit may be made by putting a gallon of molasses spirit into the still, and drawing off two quarts, and this will be useful for spirit of wine and camphire, which is made by dissolving an ounce of camphire in a quart of the spirit.

Lastly. We are to add what is called the Asthmatic Elixir, made with flower of benjamin and opium, of each a drachm, camphire two scruples, oil of anniseed forty drops, liquorice-root half an ounce, honey one ounce, and a quart of spirit. This is a gentle opiate, and is much better in families than the strong laudanum.

As to the tinctures made with white wine instead of spirit a few will be sufficient. Steel-wine is made of a quarter of a pound of filings of iron, and half an ounce of mace, and the same quantity of cinnamon, put into two quarts of Rhenish. Hiera-Picra is made of half a pound of aloes two

ounces of Winter's-bark, and five quarts of white wine. The first is a restorative cordial and strengthener, the latter is sufficiently known as a purge. Laudanum is made of two ounces of opium, a drachm of cloves, a drachm of cinnamon, and a pint of wine. Viper wine is made of two quarts of white wine; and the tincture of Ipecacuanha for a vomit, of two ounces of that root, half an ounce of dry orange-peel, and a quart of sack. Lastly, what is called Elixir Proprietatis is made of aloes, myrrh, and saffron, of each an ounce, sal ammoniac six drachms, and salt of tartar eight ounces, in a quart of mountain wine.

These are all the tinctures and wines that need be kept in a family, whose charity is designed to be very extensive; the expence of the whole is a trifle, not worth naming, and the trouble scarce anything. Books are full of directions in particular for every tincture, as if every one were to be made a different way; but the best method is to give a good deal of time, and frequent shaking, and that will stand in the place of heat in most things of this kind: nevertheless, I advise that they should stand in a room where a fire is kept while they are making; and those which require heat, that is, those that take a colour most slowly, are to be placed nearest to it.

Easy as these are, they are by far the most difficult part of the task, the rest is as it were nothing. Conserves, syrups, and ointments will be wanting, but in the same manner one direction will serve for the making the whole assortment of each, and the ingredients will be at hand. As to plaisters in general, they do more harm than good. Surgeons at this time make very little use of them; and in the course of this work, many herbs will be named, the bruised leaves of which are better than all the plaisters in the world.

Conserves should be made of Rue, Mint, Scurvy-grass, Wood-sorrel, and Roman Wormwood. As to the four first, the leaves are to be picked off from the stalks, and beaten up with three times the weight of sugar. The tops of the young shoots of the latter are to be cut off, and they are to be beat up in the same manner. In the course of this work many plants will be named, the green tops of which contain their virtue, these may all be made into conserves in the same manner, or as many of them added to those here named as shall be thought proper.

Conserves of the flowers of Rosemary, Mallows, Archangel, and Lavender, are to be made also in the same manner, and of Red Rose buds. These last are to be picked from the husk, and the white heels are to be cut off. They are all to be beat up with three times their weight of sugar: and in the same manner may be made conserves of Cowslip-flowers, and of those of many other plants mentioned in the following pages.

The outer rinds of Seville oranges and lemons, are also to be made into conserves in the same manner, beating them first to a pulp, and then adding the sugar; and to these must be added the conserve of Hips and Sloes, which are to be made in a particular manner. The Hips are to be gathered when fully ripe, afterwards set by in a cellar till they grow very soft; then they are to be laid upon the back of a large hair sieve, a dish being put underneath; they are to be broke with the hand or a wooden pestle, and rubbed about till all the soft matter is forced through the hair-cloth, the seeds and skins only remaining. This soft matter is to be weighed,

and to be beat up in a mortar with twice its weight of loaf sugar, but first powdered.

Sloes are to be gathered when they are moderately ripe, and they are to be set over the fire in water, till they swell and are softened, but not till the skin bursts; they are then to be laid upon a sieve, and the soft matter driven through as in the other case, and three times the quantity of sugar is to be mixed with this that it may make a conserve by beating together.

Syrups are to be made of many ingredients: they may be made indeed of any infusion, with sugar added to it in a due quantity; and the way to add this so that the syrups shall keep and not candy, is to proportion the sugar to the liquor very exactly. One rule will serve for all this matter and save a great deal of repetition. The liquor of which a syrup is to be made may be the juice of some herb or fruit, or a decoction, or an infusion; which ever it be, let it stand till quite clear, then to every wine pint of it add a pound and three-quarters of loaf sugar, first beat to powder: put the sugar and the liquor together into an earthen pan that will go into a large saucepan, put water in the saucepan, and sit it over the fire. Let the pan stand in it till the sugar is perfectly melted, scumming it all the time; then as soon as it is cold, it may be put up for use, and will keep the year round without danger.

This being set down as the general method of making the liquor into a syrup, the rest of the descriptions of them will be easy. They are to be made in this manner. For syrup of cloves, weigh three pounds of clove July flowers picked from the husks, and with the white heels cut off: pour upon them five pints of boiling water. Let them stand all night, and in the morning pour off the clear liquor, and make it into a syrup as directed above. In the same manner are to be made the syrups of Violets and Red Poppies, but less of the Violet-flowers will do, and more of the Poppies may be added: thus also, are to be made the syrups of Damask Roses, Peach blossoms, Cowslip-flowers, and many others which will be recommended in this book.

Syrup of Buckthorn is to be made by boiling the juice down to half its quantity, with a little cinnamon, ginger, and nutmeg, and then adding the sugar.

The Syrups of Lemon-juice, Malberries, and the like, are to be made with a pound and a half of sugar to every pint of the clear juice, which is to be melted as in the former manner.

Syrups of Garlic, Leeks, Orange-peel, Lemon-peel, Mint, and many other things are to be made of strong infusions of those ingredients, made as before directed, with the first-mentioned quantity of sugar added to them, when they have stood to settle.

Syrup of Marshmallows, and of Poppy-heads, and some others are to be made in the same manner with the strongest decoctions that can possibly be made from these ingredients, with the same quantity of sugar as is first mentioned.

Syrup of Balsam is made by boiling a quarter of a pound of Balsam of Tolu, in a pint and a half of water in a close vessel, and then making the water into the syrup, with the usual quantity of sugar, and thus may be made syrups of any of the balsams.

Syrup of Saffron is made of a strong tincture of Saffron in wine. An

ounces of Winter's-bark, and five quarts of white wine. The first is a restorative cordial and strengthener, the latter is sufficiently known as a purge. Laudanum is made of two ounces of opium, a drachm of cloves, a drachm of cinnamon, and a pint of wine. Viper wine is made of two quarts of white wine; and the tincture of Ipecacuanha for a vomit, of two ounces of that root, half an ounce of dry orange-peel, and a quart of sack. Lastly, what is called Elixir Proprietatis is made of aloes, myrrh, and saffron, of each an ounce, sal ammoniac six drachms, and salt of tartar eight ounces, in a quart of mountain wine.

These are all the tinctures and wines that need be kept in a family, whose charity is designed to be very extensive; the expence of the whole is a trifle, not worth naming, and the trouble scarce anything. Books are full of directions in particular for every tincture, as if every one were to be made a different way; but the best method is to give a good deal of time, and frequent shaking, and that will stand in the place of heat in most things of this kind; nevertheless, I advise that they should stand in a room where a fire is kept while they are making; and those which require heat, that is, those that take a colour most slowly, are to be placed nearest to it.

Easy as these are, they are by far the most difficult part of the task, the rest is as it were nothing. Conserves, syrups, and ointments will be wanting, but in the same manner one direction will serve for the making the whole assortment of each, and the ingredients will be at hand. As to plaisters in general, they do more harm than good. Surgeons at this time make very little use of them; and in the course of this work, many herbs will be named, the bruised leaves of which are better than all the plaisters in the world.

Conserves should be made of Rue, Mint, Scurvy-grass, Wood-sorrel, and Roman Wormwood. As to the four first, the leaves are to be picked off from the stalks, and beaten up with three times the weight of sugar. The tops of the young shoots of the latter are to be cut off, and they are to be beat up in the same manner. In the course of this work many plants will be named, the green tops of which contain their virtue, these may all be made into conserves in the same manner, or as many of them added to those here named as shall be thought proper.

Conserves of the flowers of Rosemary, Mallows, Archangel, and Lavender, are to be made also in the same manner, and of Red Rose buds. These last are to be picked from the husk, and the white heels are to be cut off. They are all to be beat up with three times their weight of sugar: and in the same manner may be made conserves of Cowslip-flowers, and of those of many other plants mentioned in the following pages.

The outer rinds of Seville oranges and lemons, are also to be made into conserves in the same manner, beating them first to a pulp, and then adding the sugar; and to these must be added the conserve of Hips and Sloes, which are to be made in a particular manner. The Hips are to be gathered when fully ripe, afterwards set by in a cellar till they grow very soft; then they are to be laid upon the back of a large hair sieve, a dish being put underneath; they are to be broke with the hand or a wooden pestle, and rubbed about till all the soft matter is forced through the hair-cloth, the seeds and skins only remaining. This soft matter is to be weighed,

and to be beat up in a mortar with twice its weight of loaf sugar, but first powdered.

Sloes are to be gathered when they are moderately ripe, and they are to be set over the fire in water, till they swell and are softened, but not till the skin bursts; they are then to be laid upon a sieve, and the soft matter driven through as in the other case, and three times the quantity of sugar is to be mixed with this that it may make a conserve by beating together.

Syrups are to be made of many ingredients: they may be made indeed of any infusion, with sugar added to it in a due quantity; and the way to add this so that the syrups shall keep and not candy, is to proportion the sugar to the liquor very exactly. One rule will serve for all this matter and save a great deal of repetition. The liquor of which a syrup is to be made may be the juice of some herb or fruit, or a decoction, or an infusion; which ever it be, let it stand till quite clear, then to every wine pint of it add a pound and three-quarters of loaf sugar, first beat to powder: put the sugar and the liquor together into an earthen pan that will go into a large saucepan, put water in the saucepan, and sit it over the fire. Let the pan stand in it till the sugar is perfectly melted, scumming it all the time; then as soon as it is cold, it may be put up for use, and will keep the year round without danger.

This being set down as the general method of making the liquor into a syrup, the rest of the descriptions of them will be easy. They are to be made in this manner. For syrup of cloves, weigh three pounds of clove July flowers picked from the husks, and with the white heels cut off: pour upon them five pints of boiling water. Let them stand all night, and in the morning pour off the clear liquor, and make it into a syrup as directed above. In the same manner are to be made the syrups of Violets and Red Poppies, but less of the Violet-flowers will do, and more of the Poppies may be added: this also, are to be made the syrups of Damask Roses, Peach blossoms, Cowslip-flowers, and many others which will be recommended in this book.

Syrup of Buckthorn is to be made by boiling the juice down to half its quantity, with a little cinnamon, ginger, and nutmeg, and then adding the sugar.

The Syrups of Lemon-juice, Mulberries, and the like, are to be made with a pound and a half of sugar to every pint of the clear juice, which is to be melted as in the former-manner.

Syrups of Garlic, Leeks, Orange-peel, Lemon-peel, Mint, and many other things are to be made of strong infusions of those ingredients, made as before directed, with the first-mentioned quantity of sugar added to them, when they have stood to settle.

Syrup of Marshmallows, and of Poppy-heads, and some others are to be made in the same manner with the strongest decoctions that can possibly be made from those ingredients, with the same quantity of sugar as is first mentioned.

Syrup of Balsam is made by boiling a quarter of a pound of Balsam of Tolu, in a pint and a half of water in a close vessel, and then making the water into the syrup, with the usual quantity of sugar, and thus may be made syrups of any of the balsams.

Syrup of Saffron is made of a strong tincture of Saffron in wine. An

•ounce of Saffron being put to a pint of mountain, and this, when strained off, is to be made into a syrup, with the usual quantity of sugar.

At one time it was a custom to keep a quantity of syrups of a particular kind under the name of honies. They were made with honey instead of sugar, and some of them, which had vinegar in the composition, were called Oxymels. A few of the first kind, and very few, are worth keeping, and two or three of the latter, for they have very particular virtues. The way of making them is much the same with that of making syrups; but to be exact, it may be proper just to give some instance of it.

Honey of Roses is the most useful, and it is to be made of an infusion of the flowers and honey in this manner. Cut the white heels from some Red Rose-buds, and lay them to dry in a place where there is a draught of air: when they are dried, put half a pound of them into a stone jar, and pour on them three pints of boiling water; stir them well, and let them stand twelve hours, then press off the liquor, and when it has settled, add to it five pounds of honey, boil it well, and when it is of the consistence of a thick syrup put it by for use. It is good against sore mouths, and on many other occasions. In the same manner may be made the honey of any flower; or with the juice of any plant thus mixed with honey and boiled down, may be made what is called the honey of that plant. As to the oxymels, they are also made in a very uniform manner. The following are so useful, that it will be proper always to keep them in readiness.

For Oxymel of Garlic, put half a pint of vinegar into an earthen pipkin, boil in it a quarter of an ounce of carraway-seeds, and the same quantity of Sweet Fennel seeds, at last add an ounce and a half of fresh Garlic-root sliced thin; let it boil a minute or two longer, then cover it up to stand till cold, then press out the liquor, and add ten ounces of honey, and boil it to a consistence.

For Vinegar of Squills, put into a pint of vinegar three ounces of dried squills; let it stand two days in a gentle heat, then press out the vinegar, and when it has stood to settle, add a pound and a half of honey, and boil it to a consistence. Both these are excellent in asthmas.

To these also should be added the common Simple Oxymel, which is made of a pint of vinegar, and two pounds of honey boiled together to the consistence of a syrup.

Finally, as to Ointments, nothing can be so easy as the making them of the common herbs, and the expence is only so much hog's-lard. The lard is to be melted, and the fresh gathered leaves of the herb are to be chopped to pieces, and thrown into it: they are to be boiled till the leaves begin to feel crisp, and then the lard is to be strained off. It will be green, and will have the virtues of the herb, and must be called ointment of such an herb. To these I shall take the opportunity of adding the way of making two or three more, which, though not the produce of English herbs, are very useful, and our charitable shop should not be without them.

1. The White Ointment, called Unguentum: this is made by melting together four ounces of white wax, and three ounces of spermaceti, in a pint of salad oil, and adding, if it be desired, three ounces of cenneth, and a dram and a half of camphire. But it is better for all common purposes without these.

2. Yellow Basilicon, which is made by melting together yellow wax, res-

in, and burgundy pitch, of each half a pound, in a pint of oil of olives, and adding three ounces of turpentine.

3. Black Basilicon, which is made by melting together in a pint of oil of olives, yellow wax, resin, and pitch, of each nine ounces.

4. The Mercurial Ointment, which is thus made: rub together in an iron mortar, a pound of quicksilver, and an ounce of turpentine; when then are well mixed, add four pounds of hog's-lard melted, and mix all thoroughly together. The Ointment of Tutty is prepared with levigated tutty, and as much viper's fat as will make it into a soft ointment: these are only to be mixed together upon a marble, by working them with a thin knife. This is for disorders of the eyes, the foreprepping for the itch, and many other complaints, but it must be used cautiously. And those which were before named for old sores.

Of the same nature with the ointments, are, in some degree, the oils made by infusion of herbs and flowers in common oil. These are also very easily prepared, and an instance or two will serve to explain the making of them all. The most regarded among these is the Oil of St. John's wort, and that is thus made: pick clean a quarter of a pound of the flowers of Common St. John's-wort, pour upon them a quart of olive oil, and let them stand together till the oil is of a reddish colour. Oil of elder is made of a pound of Elder-flowers, which are to be put into a quart of olive oil, and boiled till they are crisp, and the oil is then to be strained off.

What is called the Green Oil is thus made. bruise in a marble mortar three ounces of Green Chamomile, with the same quantity of Bay-leaves, Sea Wormwood, Rue, and Sweet Marjoram; then boil them in a quart of oil of olives, till they are a little crisp: the oil is then to be poured off, and when cold put up for use.

Those oils are used to rub the limbs when there is pain and swellings: their virtues will be found at large, under the several herbs which are the principal ingredients: and after one or other of these methods, may be made the oleum by infusion, or by boiling of any plant, or of any number of plants of like virtue.

Lastly, though herbs are now left out of the composition of plasters, even the Melelot being now made without the herb from which it was first named: it may be proper to add the way of preparing a few that are most useful, and ought to be kept in families.

1. The Common Plaster is thus made: boil together a gallon of oil, five pounds of powdered litharge, and a quart and four ounces of water. When the water is boiled away, the rest will be united into a plaster, but it must be stirred all the time: this used to be called diachylon. To make diachylon with the gums, add to a pound of the last described, two ounces of galbanum, and an ounce of common turpentine, and the same quantity of frankincense. Melt them all together, the gums first, and then add the plaster.

2. For a strengthening plaster, melt two pounds of the common plaster, and add to it half a pound of frankincense, and three ounces of dragon's blood.

3. For a drawing plaster, melt together yellow wax and yellow resin, of each three pounds, and a pound of mutton-suet. This is used instead of the old melilot plaster to dress blister; and the blister plaster itself is

made of it, only by adding half a pint of vinegar, and a pound Spanish-flies in powder, to two pounds of it, just as it begins to cool from melting. The quicksilver plaster is thus made: rub three ounces of quicksilver, with a drachm of balsam of sulphur, till it no longer appears in globules, then pour in a pound of the common plaster melted, and mix them well together.

To close this chapter, I shall add a few waters made without distillation which are very cheap and very serviceable, and the family shop will then be quite complete.

1. Lime-water. This is made by pouring gradually six quarts of water upon a pound of quick-lime; when it has stood to be clear, it must be poured off. If a pound of *Lignum Vitæ* wood, an ounce of liquorice-root, and half an ounce of sassafras-bark be added to three quarts of lime-water, it is called compound lime-water; and is excellent in foulnesses of the blood.

2. The Blue Eye-water. This is made by putting a drachm of sal-ammoniac into a pint of lime-water, and let it stand in a brass vessel, till it is of a sky blue colour.

3. Alum-water. It is made by boiling half an ounce of white vitriol, and the same quantity of alum in a quart of water, till they are dissolved.

Thus have we described all the drugs and compositions that need be kept in the charitable shop of the family, which intends to relieve a neighbourhood of poor in their greatest of all distresses, that of sickness. The diseases for which these remedies are to be used will be found enumerated at large, under the several heads of the principal ingredients, as described in the succeeding pages. It only remains to say a few words about the manner of putting these things most conveniently together, and we then shall have prepared for all that follows.

CHAPTER V.

Concerning the best methods of putting medicines together for present taking.

In the first place, although these several forms of syrups, conserves, and the like, have been named, as what will be sometimes necessary. The great practice in the country will lie in the infusions and decoctions of the fresh plants and roots.

The strength of these infusions and decoctions is to be proportioned to the taste: for as they are made to be swallowed in quantities, if they be made so strong as to be very disagreeable, that end will be defeated: they may be rendered more pleasant by sweetening them with sugar, about an ounce of which is to be allowed to a quart: and occasionally a little white wine, or a small quantity of some of the cordial waters may be added to them. The dose of either decoction or infusion will be in general about half a pint, except where they are intended to purge or vomit; there they must be more carefully and exactly proportioned to the strength, than can be told in this general manner.

Of the simple waters, about a quarter of a pint is a dose, and of the cordial waters, less than half that quantity. These may be occasionally given alone; but they are mostly intended for mixing with other ingredients.

The tinctures are to be given in drops, from ten to an hundred, according to their strength and nature; but to name a general dose, it is about five and twenty drops. These, however, will be also more serviceable in mixtures than singly. Of the purging tinctures in wine, and elixir salutis, three, four, or more spoonfuls is the dose.

It would be well to keep tinctures of many of the roots recommended in nervous cases, as cordials, astringents, and of many other kinds, and also to keep powders of these roots in readiness: and thus the common forms of medicines, as sent from apothecaries, will be very easy.

For a julep, six ounces of one of the simple waters, two ounces of one of the compound waters or those made with spirit, two drachms of a syrup, and fifty drops of a tincture, make a very agreeable one. Thus for an hysterical julep, let the simple water be pennyroyal, the strong water the strong pennyroyal, the syrup that of saffron, and the tincture of castor, and it is a very pleasant julep; and so of all the rest. If a pearl cordial be desired, it is only mixing the simple and strong waters without syrup or tincture, and adding two drachms of sugar, and half a drachm of levigated oyster-shells. The apothecaries will not be pleased with this disclosing the mysteries of their profession, but the public good is of more consequence than their pleasure.

Draughts are only little juleps, with more powerful ingredients added to them. An ounce and half of a simple water, three drachms of a strong water, one drachm of a syrup, and forty drops of a tincture make a draught, but to these may be added a simple of some power to increase the virtue. What waters, tinctures, syrups, or powders shall be used will be determined from the case itself.

Boluses are made with these powders in a certain dose. A scruple or half a drachm is made into a sort of paste with syrup. The custom is to cover it with a little leaf-gold, but this is better let alone; some use leaf-brass, which is abominable.

Electuaries are to be made of powders, conserves, and syrups; they differ from boluses in this, as well as in the size, that the dose is smaller, although the piece taken be as large; which is owing to the conserve, that having in general only little virtue in comparison of the other ingredients. This is the form most convenient for medicines that are to be taken for a continuance of time, and the dose of which needs not to be so very punctually regarded.

Thus for an electuary against an habitual looseness, when it exceeds the proper bounds; mix together an ounce of conserve of red roses, and six drachms of syrup of cloves, add to these two drachms of powdered bistort root, one drachm of powdered tormentil, and half a drachm of toasted rhubarb. This makes an electuary, a piece of which, of the size of a nutmeg, taken once in two days will check the abundance of stools, without stepping the customary looseness entirely: it will also be a pleasant medicine. If a draught of the tincture of roses,—which will be described in the following part of this work, under the article of Red Rose,—be taken after this, it will increase the power.

In this manner the charitable lady may supply the place of the apothecary, to those who could not afford such assistance; and experience is so good a guide, that she will be able in most cases to save the expence of the doctor also: and there will be this satisfaction in her own mind, that while she deals principally with those innocent sort of medicines which the fields afford her, she will be in very little danger of doing harm. The Galenical physic perhaps will be found effectual in many more cases, by those who stick to it solely, than they are aware who do not use it: as to the mischief of medicine, that is almost entirely chemical. It would be idle to say that chemical medicines do not do great good; but they require to be in skilful hands: when the ignorant employ them, death is more likely to be the consequence, than the relief from the disorder any other way.

One useful observation may serve well to close this introduction. Opium, and medicines of that kind, to compose persons to rest and to take off pain, will be often necessary; but as they are the most powerful medicines the charitable practitioner will have to do withal, they are the most capable of doing harm: the great care will therefore lie in the right use of these.

As there are three different preparations described in this book for answering this purpose, beside the opium, and the solution of it in wine called laudanum, I would advise that these two latter be used very seldom. A syrup made of the juice of Wild Lettuce, is an excellent medicine; the syrup of diacodium, which is made of a strong decoction of Poppy-heads, is a little stronger than this; and if something more powerful than these is required, there is the asthmatic elixir. One or other of these may almost on every occasion serve the purpose; and it is almost impossible that the use of them should be attended with danger. I would therefore advise that opium or laudanum be very rarely used; perhaps it might be well to say, not used at all; for the others will be able in almost all cases, if not universally, to answer the purpose.

A G L O S S A R Y

OF

TECHNICAL TERMS USED IN BOTANY,

ARRANGED IN ALPHABETICAL ORDER.

A.

- Abreviatum perianthium*, shortened, when the Cup is shorter than the Tube of the Flower.
- Abortiens flos*, barren Flowers, such as produce no Fruit.
- Acaulis*, without stalk or stem.
- Acerosum folium*, chaffy Leaves, when they are linear and abiding, as in *Pinus*, &c.
- Acini*, the small Berries which compose the Fruit of the Bramble.
- Acotyledones*, Plants, whose Seeds have no Cotyledons or seminal Leaves.
- Aculei*, Prickles, fixed in the Rind or surface of the Bark.
- Aculeatus caulis*, a Stalk or Stem furnished with Prickles.
- Acuminatum folium*, a Leaf ending in a Point.
- Adnatum folium*, the Disk of the Leaf pressing close to the Stem of the Plant.
- Adscendens caulis*, a Stalk or Branch inclining upwards.
- Aggregatus flos*, an assemblage of Flowers coming in Clusters.
- Ala*, a Wing, the Side Petals of a papilionaceous Blossom, or a Membrane added to a Seed, Stalk, &c.
- Alatus petiolis*, when the Foot-stalk of a Leaf is winged with Membranes.
- Albuminum*, the White Substance that lies between the inner Bark and the Wood of Trees.
- Alterni Rami folia*, when they come out singly, and follow in gradual Order.
- Amentum*, a Catkin.
- Amplexicaule folium*, embracing the Stalk when the base of the Leaf embraces the Stem sideways.

- Androgyna, Plants bearing male and female Flowers on the same Root.
 Angustifolia, narrower-leaved.
 Angiospermia, the second Order of the Class Didynamia of Linnæus; containing Plants whose Seeds are covered with a Capsule.
 Annuæ radix, an annual Root; that which lives but one year.
 Anthera, the summit of the Stamina bearing the Pollen, and is a part of the principal male Organ of Generation.
 Apetalus flos, having no Petals or Corolla.
 Apex, the Top, or Summit.
 Aphyllus caulis, destitute of Leaves.
 Apophysis, an Exerescence from the Receptacle of the Musci.
 Approximata folia, Leaves growing near each other.
 Arbor, a Tree.
 Arcuatum ligumen, arched, a Pod that is curved or bent.
 Arillus, the proper exterior Coat of a Seed that falls off spontaneously.
 Arista, the Beard of Corn, or Grasses.
 Arma, Arms, Weapons, one of the seven kinds of Fulcra of Plants.
 Articulis culmi, the straight part of the Stalk between the two Joints.
 Assurgentia folia, first bent down, but rising erect towards the Apex.
 Attenuatus pedunculus, when the Foot-stalk grows smaller towards the Flower.
 Auctus calyx, augmented, having a series of distinct Leaves, shorter than its own, that surround its base.
 Avenia folia, Leaves which have no visible Veins.
 Auriculatum folium, an Ear-shaped Leaf, when the Leaf towards the base has a Lobe on each Side.
 Axillaria folia, growing out of the Angles formed by the Branches and the Stem.
- B.
- Bacca, a Berry; or a pulpy Pericarpium with Valves, in which the Seeds are naked.
 Barbatum folium, when a bunch of strong Hairs terminate the Leaves.
 Biennis radix, a Root which continues to vegetate two Years.
 Bifaria folia, a Leaf pointing two ways.
 Biferæ plantæ, flowering twice in the Year.
 Bifidum folium, divided or cloven into two Parts.
 Biflorus pedunculus, bearing two Flowers on a Foot-stalk.

- Bijugum folium*, a winged Leaf, bearing two pairs of Foliola.
- Bilabiata corolla*, a Corolla with two Lips.
- Bilobum folium*, a Leaf consisting of two Lobes.
- Binata folia*, a digitate Leaf, consisting of two Foliola.
- Bipartitum folium*, a Leaf divided into two Segments.
- Bipinnatum folium*, doubly winged, when the Foliolæ of a pinnate Leaf are pinnate.
- Biternatum folium*, when there are three Foliolæ on a Petiole, and each Foliolæ is ternate; as in *Epimedium*.
- Divalve pericarpium*, consisting of two Valves, as in the *Siliqua*, &c.
- Bractæa*, a floral Leaf, these are generally of a different Shape and Colour from the other Leaves of the Plant, and are always seated near the Fructification.
- Bracteatus*, having a *Bractæa* growing out of it.
- Bulbosa radix*, a bulbous Root, and is either *Squamosa*, scaly, as in *Lilium*; *tunicata*, coated, as in *Cepæ*; *duplicate*, double, as in *Fritillaria*; or *Solida*, as in *Tulipa*.
- Bullatum folium*, when the surface of the Leaf rises above the Veins, so as to appear like Blisters.

C.

- Caduceus calyx*, to fall off; a Term signifying the shortest Time of Duration, falling off at the first opening of the Flower.
- Calcarium nectarium*, a kind of Nectarium resembling a Spur, as in the *Delphinium*.
- Calyptra*, a Veil, in Mosses, where it is placed over the *Antheræ*.
- Calyx*, a Flower Cup of which there are the following Kinds, viz: *Perianthium*, *Involuerum*, *Amentum*, *Spatha*, *Gluma*, *Calyptra*, and *Volva*.
- Campanulata corolla*, Bell-shaped Flowers.
- Canaliculatum folium*, Leaves having a deep Channel running from the Base to the Apex.
- Capillaceum folium*, Capillary, exemplified in the *Ranunculus aquatilis*.
- Capillaris pappus*, hairy Down, as in *Hieracium* and *Sonchus*.
- Capitati flores*, Flowers collected into Heads, as in *Mentha aquatica*, and *Thymus serpyllum*.
- Capreolus*, a tendril.

- Capsula**, a Capsule, a hollow Pericarpium, which cleaves or parts in some determinate manner, and consists of *Valvula Dissepimentum*, *Columnella*, and *Loculamentum*.
- Carina**, the Keel of a Boat, or Ship, the lower Petal of the papilionaceous Corolla.
- Carinatum folium**, when the Back of the Leaf resembles the Keel of a Ship.
- Cartilagineum folium**, a Leaf whose Brim is furnished with a Margin of different Substance from the Disk.
- Caryophylli**, Carnations or Pinks, an Order of Plants in the *Fragmenta methodi naturalis*, of Linnaeus.
- Candex**, the Stem of a Tree.
- Caulina folia**, Leaves growing immediately on the Stem.
- Cernuus**, nodding, or hanging down its Head.
- Cespitosa**, Plants which produce many Stems from one Root, and form a surface of Turf or Sod.
- Ciliatum**, whose Margin is guarded by parallel Bristles, formed like the Eye-lash.
- Circumscissa capsula**, cut transversely, as in *Anagallis*.
- Cirrhiferus pedunculis**, a Peduncle bearing a Tendril, as in *Vitis*.
- Cirrhus**, a Clasper, or Tendril, one of the Fulera of Plants.
- Classis**, a Class, is declined by Linnaeus to be an Agreement of several Genera in the Parts of Fructification, according to the Principles of Nature distinguished by Art.
- Clavatus petiolus, pedunculus**, when the Foot-stalk of the Leaf or Flower is Club-shaped, tapering from the Base to the Apex.
- Clavicula**, a little Key, a Tendril.
- Clausa corolla**, when the Neck of the Corolla is close shut in with Valves.
- Cochleatum legumen**, a Pod like the Shell of a Snail, as in *Medicago*.
- Columnella**, a little Column, the Substance that passes through the Capsule, and connects the several Partitions and Seeds.
- Coma**, a Bush, or Head of Hair, a species of Fulera, composed of large Bractea, which terminates the Stalk as in *Lavandula*, *Salvia*, &c.
- Communis gemma**, regards the Contents of the Gemma, containing both Flower and Fruit.
- Communis calyx**, when a Cup contains both Receptacle and Flower.
- Comosa radix**, the Fibres which put forth at the Base of a bulbous Root, resembling a Head of Hair.

- Compositus caulis*, a Compound Stem, diminishing as they ascend.
- Compositum folium*, when the Petiole bears more than one Leaf, of which are the following Species, viz, *Articulatum*, *Digitatum*, *Conjugatum*, *Pedatum*, *Pinnatum*, *Decompositum*, *Supra-decompositum*.
- Compositi*, *syngenesia*, an Order of Plants in the *Fragmenta methodi naturalis* of Linnæus.
- Compressus caulis, folium*, a Leaf resembling a Cylinder compressed on the opposite Sides.
- Conduplicatum folium*, doubled together, when the Sides of the Leaf are parallel, and approach each other.
- Confertus verticillis, flos, et folia*, when Flowers and Leaves are formed into Whorles round the Stalk and crowded together.
- Confluentia folia*, to flow together, as in the pinnated Leaf, when the Pinnæ run into one another.
- Conglomeratus flos*, Flowers irregularly crowded together.
- Congesta umbella*, Flowers collected into a spherical Shape, as in the *Allium*.
- Conica scabrities*, a Species of Setaceous Scabrities, scarce visible to the naked Eye, on the Surface of the Plants, formed like Cones.
- Coniferae*, Plants bearing Cones, such as *Cupressus*, *Pinus*, &c. An Order of Plants in the *Fragmenta methodi naturalis*, of Linnæus.
- Conjugatum*, to join or couple together, a Species of pinnate Leaf, where the Foliolæ come by Pairs.
- Connatum*, to grow together, when two opposite Leaves unite at their Base, so as to have the Appearance of one Leaf.
- Connivens corolla*, when the Apices of the Petals converge, so as to close the Flower, as in *Trollius Europæus*.
- Coniventes antheræ*, approaching or inclining together.
- Continuum folium*, continued, when the Leaf appears to be a Continuation of the Substance of the Stalk.
- Convexum folium*, a Leaf rising from the Margin to the Centre of the Leaf.
- Convolutis cirrhus*, a Tendril twining in the same Direction as the Sun's Motion.
- Convolutum folium*, a Term in Foliation, when the Leaf is rolled up like a Scroll of Paper.
- Census*, see *Strobilus*.
- Cerculum*, the Heart and Essence of the Seed.

- Coriaceum folium*, the Heart-shaped Leaf.
- Corolla*, a Wreath or Crown, one of the seven parts of Fructification.
- Corona feminis*, a Crown adhering to many kinds of Seeds serving them as Wings, which enables them to disperse.
- Cortex*, the outer Rind or Bark of Vegetables.
- Corymbus* is a kind of Spike, the Flowers of which have each its proper Pedicellus, or partial Foot-stalk raised to a proportional Height, as in *Spirea opulifolia*.
- Cotyledon*, a Side-lobe of the Seed, of a porous Substance, and perishable, or seminal Leaves.
- Crenatum folium*, a notched Leaf, when the Margin is cut into Angles that point towards neither of the Extremities, obtusely crenate, when the Angles are rounded; or acutely crenate, when the Angles are pointed.
- Crispum folium*, a curved Leaf, when the circumference becomes larger than the Disk admits of.
- Cristatus flos*, when the Flower has a tufted Crest, as in *Polygala*.
- Cruciformes flores*, Cross-shaped Flowers, consisting of four Petals, disposed in the form of a Cross, as in the Class *Tetradynamia*, of *Linnaeus*.
- Cryptogamia*, hidden Marriages, the Twenty-fourth Class of the Linnæan System.
- Cucullatum folium*, Leaves rolled up lengthways, in form of a Cone, as in *Geranium cucullatum*, &c.
- Cucurbitaceæ*, Gourds, an Order of Plants in the *Fragmenta methodi naturalis*, of *Linnaeus*.
- Culmus*, a Reed or Straw, the proper Stem or Trunk of a Grass.
- Cuspidatum folium*, a Leaf whose Apex resembles the Point of a Spear or Lance.
- Cuneiforme folium*, a Wedge-shaped Leaf.
- Cyathiformis corolla*, Flowers in the form of a Cup.
- Cylindracea spica*, a Spike of Flowers in the form of a Cylinder.
- Cyma*, that runs into long fastigate Peduncles, proceeding from the same universal Centre, but with irregular partial ones.
- Cygnus flos*, see *Cyma*.
- D.
- Dædaleum folium*, a Leaf whose Texture is remarkably beautiful and exquisitely wrought.

Debilis caulis, a weak, feeble Stalk.

Decagynia, ten Females, the fifth Order in the tenth Class; Flowers that have ten Styli.

Decandria, ten Males, the tenth Class of Linnaeus.

Decaphyllus calyx, a Calyx consisting of ten Leaves.

Decidium folium, Leaves that fall off in winter.

Decumbens, to lie down.

Decurrens folium, running down, when the Base of a sessile Leaf extends itself downwards along the Stem, beyond the proper Base or Termination of the Leaf.

Decussata folia, to divide, when Leaves grow in pairs, and opposite, each Pair being opposite alternately.

Demersum folium, in aquatic Plants, Leaves sunk below the surface of the water.

Dentatum folium, Leaves having horizontal Points of the same consistence of the Leaf, and standing at a little distance from each other.

Dependens folium, to hang down, when the Sides rise higher than the Disk.

Diadelphia, two Brotherhoods, the seventeenth Class in the sexual system.

Diandria, two Males, the second Class in the sexual System.

Dichotyledones, when the Seeds have two Cotyledones that are the Placenta of the embryo Plant, and afterwards the Seed Leaves.

Didyma anthera, Twins, when Anthera come by twos on each Filament.

Didynamia, the Superiority of two, the fourteenth Class in the sexual System.

Difformia folia, different Forms, when Leaves on the same Plant come of different Forms.

Dissusus caulis, when the Branches of the Stalk spread different Ways.

Digynia, two Females, the second Order in each of the first thirteen Classes, except the Ninth.

Dioccia, the twenty-second Class in the sexual System.

Dipetala corolla, Flowers consisting of two Petals, as in *Circea*, and *Camelina*.

Diphyllus calyx, a Calyx consisting of two Leaves, as in the *Papaver* and *Fumaria*.

Discus, a Disk, the middle Part of a radiate compound Flower.

Disperma, Plants producing their Seeds by twos, as in the *Umbellatae*.

Dissectum folium, Leaves cut into Lacinia, or Divisions.

Dissiliens siliqua, Pods bursting with Elasticity.
Distans verticillus, when the Whorles of Flowers, in verticillate Plants stand at a great distance from one another.
Divaricata rami, Branches standing wide from each other in different Directions.
Dodecandria, twelve Males, the eleventh Class in the sexual System.
Dodrantalis, nine Inches.
Dolabriforme folium, a Leaf resembling an Axe, as in *Mesembryanthemum dolabriforme*.
Dorsalis arista, an Awne, or Beard, fixed to the Back or external Part of the Gluma.
Drupa, a pulpy pericarpium, without Valves, containing a Stone, as in the Plum and Peach.
Duplicata radix, a double Root, a species of bulbous Root, consisting of two solid Bulbs, as in some species of Orchis.
Duplicato serratum folium, sawed double, with lesser Teeth within the greater.

E.

Ebracteatus racemus, without a Bractæ, or floral Leaf.
Ecaudata corolla, without a Tail or Spur, as in *Antirrhinum cymbalaria*.
Echinatum pericarpium, Pods beset with Prickles, like the Hedgehog.
Emarginatum folium, when the Apex of a Leaf terminates in a Notch—the same may be applied to Petala, and Stigma.
Enneandria, nine Males, the ninth Class in the sexual System.
Enneapetala corolla, a Flower consisting of nine Petals.
Erectus caulis, ramus, folium, upright, perpendicular.
Erosum folium, gnawed, when the Leaf is sinuate, and the Margin appears as if it were gnawed or bitten.
Exserta stamina, standing forth, when the Stamina appear above the Corolla.

F.

Fascicularis radix, bundled, tuberous Roots growing in Bundles.
Fasciata planta, when many Stalks grow together, like a Faggot or Bundle.
Fastigiati pedunculi, Pedunculi pointed at the Apex.
Fauces, the Jaws or Chops,
Femina planta, a Plant bearing female Flowers on the same Root only.
Fibrosa radix, a fibrous Root.

- Filamentum**, a Thread, applied to the thread-like part of the Stamina.
- Filices**, Ferns, one of the Seven divisions of the Vegetable Kingdom, and an Order of Plants in the *Fragmenta methodi naturalis*, of Linnæus.
- Filiiform filamentum**, thread-shaped Stamina.
- Fimbriata petala**, a fringed Petal, as in *Menyanthus*.
- Fisum foliū**, a Leaf split or cleft half way down.
- Fistulosus caulis**, a piped or hollow Stem.
- Flabellatum folium**, a fan-shaped Leaf.
- Flaccidus pedunculus**, the foot-stalk of a Flower that is feeble and slender.
- Flagellum**, a Twig or Shoot, like a Whip or Thong.
- Flexuosus caulis**, a Stalk, having many turnings or bendings taking a different direction at every joint.
- Floralia folia**, floral Leaves that immediately attend the Flower.
- Flos**, a Flower.
- Flosculus**, a little Flower.
- Foliaceæ glandulæ**, Glands growing on the Leaves.
- Foliaris cirrus**, a Tendril growing from a Leaf.
- Foliaris gemmatio**, Leaf-buds.
- Foliatio plantæ**, the complication of the Leaves, whilst folded within the Gemma, or Bud.
- Foliatus caulis**, a leafy Stalk.
- Foliifera gemma**, a Bud producing Leaves.
- Foliolum**, a little Leaf, one of the single Leaves, which together constitute the compound Leaf.
- Foliosum capitulum**, covered with Leaves amongst the Flowers at the Tops of the Plant.
- Folium**, a Leaf.
- Fornicatum petalum**, vaulted or arched, as in the upper Lip of the Flowers in the Class *Didynamia*.
- Frequens planta**, Plants growing frequently, or commonly, everywhere.
- Frondeſcentia**, the Season of the Year when the Leaves of plants are unfolded.
- Fructeſcentia**, the time of the year when a plant scatters its ripe Seeds.
- Fructificatio**, the temporary part of a Vegetable appropriated to generation, terminating the old Vegetable, and beginning the new.
- Fruſtranea polygamia**, to no purpose, the third Order of the Class *Syngeneſia*.

Frutex, a Shrub.

Fruticosus caulis, a shrubby Stalk.

Fuleratus caulis, Branches having Props see Fulcrum.

Fulcrum, a Prop or Support.

Fungi, a kind of Mushroom, one of the seven Families of plants, an order of plants in the *Fragmenta methodi naturalis* of Linnæus.

Furcata, Forked.

Fusiform radix, a spindle-shaped Root.

G.

Galea, a Helmet, applied to the Corolla of the Class Gynadria, as in *Orchis*,
* *Galeatum labium*, the Lip of a Flower shaped like a Helmet.

Geminæ stipulæ, Stipula growing in pairs.

Geminatus pedunculus, double Foot-stalks growing from the same point.

Gemma, a Bud, an Hibernaculum on the ascending Caudex.

Genera Plantarum, Genera of Plants, the second subdivision in the Linnæan system; it comprehends an assemblage of species, similar in their parts of fructification, under the same Class and Order.

Geniculatus caulis culmis, pedunculus, a jointed Stalk, Straw, or Foot-stalk of a Flower.

Germen, a Sprout or Bud, the base of the Pistillum, the rudiment of the Fruit yet in embryo.

Glaber, smooth, having an even surface.

Gladiata siliqua, a sword-shaped Pod.

Glandulæ, a Gland or secretory Vessel.

Glandulifera scabrities, a kind of bristly roughness on the surface of some Plants, on which there are minute Glands at the extremity of each Bristle.

Globosa radix, a round Root.

Glomerata spica, Flowers crowded together in a globular form.

Gluma, a Husk or Chaff, a species of Calyx, peculiar to Corn and Grasses.

Glutinositas, like Glue or Paste.

Gramina, Grasses, one of the seven Families of the vegetable Kingdom.

Granulata radix, Roots consisting of many little knobs, like Seeds of Grain, attached to one another by small strings, as in *Saxifraga granulata*.

Gymnospermia, naked seeded, the first Order of the Class Didynamia.

Gynadria, when the male and female parts are joined together, the twentieth Class in the Linnæan system.

H.

Habitualis character, the character or description of a plant, taken from its habit, which consists in the *Placentacio*, *Radificatio*, *Ramificatio*, *Foliatio*, *Stipulatio*, *Pubescentia*, *Inflorescentia*.

Habitus, the external appearance; Linnæus defines it, the Conformity or Affinity that the congeners of vegetables have to one another, in *Placentation*, *Radification*, &c.

Hastatum folium, Leaves resembling the head of a Spear or Halbert.

Heptandria, seven Males, the seventh Class of the sexual system.

Herba, an Herb; according to Linnæus. it is the part of the vegetable which arises from the Root; it is terminated by the *Fructification*, and comprehends the Stem, Leaf, Props, and *Hibernacula*.

Herbaceæ plantæ, are perennial plants, which annually perish down to the Root.

Herbaceus caulis, Stalks that dry annually.

Hermaphroditus flos, Flowers that contain both sexes, as *Anthera* and *Stigma*.

Hexagonus caulis, a Stalk with six angles.

Hexandria, the sixth Class in the sexual system, which produce hermaphrodite Flowers, with six Stamina of equal length.

Hexagynia, an Order of plants that produce six Styles.

Hirsutus, rough, hairy.

Hispidus caulis, a Stalk covered with strong fragile Bristles.

Horizontalis flos, Flowers growing with their Disk parallel to the Horizon.

Hybernaculum, Winter-lodge, the Part of a Plant that encloses and secures the Embryo from external injury.

Hybrida, a Bastard, a monstrous Production of two Plants of different Species, like the Mule in the animal Creation.

Hypocrateriformis corolla, a monopetalous Flower shaped like a Cup or Salver.

I.

Icosandria, the twelfth Class in the sexual System.

Imbricatus, tiled, when the Scales of the Stalk, or Flower Cup, lie over one another in the Manner of Tiles of a House.

Impar, odd, applied to a pinnated Leaf terminating in an odd Lobe.

Inequalis corolla, an unequal Flower.

Incanum folium, Leaves covered with whitish Down.

- Incisum folium*, Leaves cut into irregular segments.
Incompletus flos, imperfect Flowers without Petals.
Incumbens anthera, Anthera which are affixed to the Filament sideways.
Indivisum folium, unarmed, a Leaf without Bristles or Prickles.
Inferus flos, Flowers whose receptacle are situated below the German.
Inflatum perianthium, a Calyx puffed out like a Bladder.
Inflorescentia, Inflorescence, signifies the various modes in which Flowers are joined to the Plant by the Pedunculus.
Infundibuliformis corolla, a monopetalous Flower shaped like a Funnel.
Integrum folium, an entire or undivided Leaf.
Integerrimum folium, an entire Leaf, whose margin is destitute of Incisions or Serratures.
Interfoliaceus pedunculus, Flower-stalks arising from between opposites Leaves.
Interruptum folium pinnatum, when the large Foliolæ of a winged Leaf are interrupted alternately by pairs of smaller ones.
Interrupta spica, a Spike of Flowers, interrupted or broken by small Clusters of Flowers between the larger ones.
Introfoliaceæ stipulæ, Stipulæ growing on the inside of the Leaves of the Plant.
Involucellum, a partial Involucrum.
Involucrum, a Cover, the Calyx of the umbelliferous Plants standing at a distance from the Flower.
Involuta folio, rolled in, Leaves when their lateral margins are rolled spirally inwards on both sides.
Irregularis flos, irregular Flowers of deformed shapes.
Juba, a Crest of Feathers.

L.

- Labiatus flos*, a lipped Flower.
Lacerum folium, a Cleft or Fissure, Leaves whose margin is cut into segments, as if rent or torn.
Lacinia, Segments or Incisions.
Laciniatum folium, a Leaf cut into irregular Incisions.
Lactescens, milky, those plants are called milky whose juices are white, yellow, or red.
Lacunosum folium, Leaves that are deeply furrowed, by the Veins being sunk below the surface.

- Lacustris* planta, Plants which grow in Lakes of water.
Lana, Wool, a species of Pubescence, which covers the surface of Plants.
Lanatum folium, a woolly Leaf.
Lanceolatum folium, a lance-shaped Leaf.
Laterales flores, Flowers coming from the sides.
Legumen, Pulse, a Pericarpium of two Valves, in which the seeds are fixed along one Suture only.
Lenticularis scabrities, a species of glandular Scabrities, in the form of Lenticles.
Leprosus, spotted like a Leopard, exemplified in Lichen.
Lævis caulis, smooth, having an even surface.
Laber, the inner Rind or Bark of a Plant.
Lignosus caulis, a woody Stem.
Lignum, Wood.
Lineare folium, a narrow Leaf, whose ~~opposite~~ Margins are almost parallel, as in *Pinus*.
Lineatum folium, Leave whose Superficies are marked with parallel lines, running lengthways.
Lingulatum folium, a Leaf shaped like a Tongue.
Lobatum folium, when Leaves are divided to the Middle into Parts that stand wide from each other, and have their Margins convex.
Locus foliorum, the particular part of the Plant to which the Leaf is affixed.
Longum perianthium, when the Tube of the Calyx is equal in length to that of the Corolla.
Lucidum folium, clear, shining.
Lunatum folium, Moon-shaped Leaves, when they are round and hollowed at the Base like a Half Moon.
Luxurians flos, a luxuriant Flower.
Lyratum folium, Leaves shaped like a Harp or Lyre.

M.

- Mas planta*, Male Plants, see Class *Diœcia*.
Masculus flos, Male Flowers, containing *Antheræ*, but no *Stigma*.
Medulla, Marrow, the Pith or Heart of a Plant.
Membranaceum folium, when Leaves have no distinguishable Pulp between their surfaces.
Membranatus caulis, a Stalk covered with thick Membranes.
Monadelphia, one Brother, the sixteenth Class in the sexual System.
Monandria, one Male, the first Class in the sexual System.

Monocotyledones, a term in Placentation, applied to Plants whose Seed have a single Cotyledon.

Monœcia, one House, the twenty-first Class in the sexual System. **Monogynia**, one Female, the first Order of the first thirteen Classes in the Linnæan System.

Monopetala corolla, a Flower having one Petal.

Monophyllum involucrem, consisting, of one Leaf.

Monosperma, having one Seed.

Miliaris scabrities, a species of glandular roughness appearing on the surface of some Plants like Grains of Millet.

Mucronatum folium, a Leaf terminating in a sharp point.

Multifidum folium, a Leaf divided into many linear Segments or Divisions.

Multiflorus pedunculus, a Foot-stalk bearing many Flowers.

Multipartitum folium, a Leaf divided into many parts.

Multiplicatus flos, a luxuriant Flower whose Corolla is multiplied so as to exclude some of the Stamina.

Musci, Mosses, one of the seven Families of the Vegetable Kingdom, and an Order of Plants in the *Fragmenta methodi naturalis* of Linnæus.

N.

Natans folium, a Leaf which swims on the surface of the water.

Navicularis valvula, when the Valve of a Seed Vessel resembles a ship.

Necessary polygamia, necessary Marriages, the fourth Order of the nineteenth Class in the sexual System.

Nectarium, that part of the Corolla that contains the Honey Juice.

Nervosum folium, Leaves whose surface is full of Nerves or Strings.

Nidulantia femina baccarum, Seeds nestling in the Pulp of a Berry.

Nucleus, a Kernel.

Nutans caulis, a nodding Stalk.

Nux, a nut.

O.

Obcordatum petalum, a heart-shaped Petal, with its Apex downwards.

Oblongum folium, an oblong Leaf.

Obtusum folium, Leaves blunt or rounded at the Apex.

Oetandria, eight Males, the eighth Class in the sexual System.

Officinalis, Plants used in medicine, and kept in the Apothecaries Shops.

Operculum, a Cover, as in the Mosses.

Oppositi rami folia, Branches and Leaves that grow by Pairs opposite each other.

Orbiculatum folium, round Leaves.

Ordo, Order.

Ovale folium, an oval Leaf.

Ovalium, the Germen.

Ovatum folium, an oval, or egg-shaped Leaf.

P.

Pagina folii, the Surface of a Leaf.

Palea, Chaff, a thin Membrane rising from a common Receptacle, which separates the *Flosculi*.

Paleaceus pappus, chaffy Down.

Palmata radix, a handed Root, as in *Orchi-*

Palmatum folium, a Leaf shaped like an open Hand.

Palustris, marshy or fenny.

Panicula, a Panicle, or loose Spike of Grass.

Papilionaceus, butterfly-shaped Flower, as in the Class *Diadelphia* of *Linnaeus*.

Pappus, Down.

Parasitica planta, Plants that grow only out of other Plants, as the *Viscum*.

Partialis umbella, a partial Umbel.

Partiale involucreum, when at the Base of the partial Umbel.

Partitum folium, a divided Leaf.

Patens caulis, ramus, &c., spreading Stalks and Branches.

Pedatum folium, a species of compound Leaf, whose Divisions resemble the Toes of a Foot, as in *Helleborus Foetida*.

Peduncularis cirrhus, a Tendril proceeding from the Foot-stalk of a Flower.

Pedunculati flores, Flowers growing on Foot-stalks.

Pedunculis, the Foot-stalk of a Flower.

Peltatum folium, when the Foot-stalk is inserted into the Disk of the Leaf, and not into its Base.

Pentagonus caulis, a five-angled Stalk.

Pentagynia, five Females, the fifth Order of a Class.

Pentandria, five Males, the fifth Class in the sexual System of *Linnaeus*.

Pentapetala corolla, a Flower consisting of five Petals.

Pentaphyllus calyx, a Calyx consisting of five Leaves.

GLOSSARY.

- Perennis radix*, a perennial Root, continuing for many Years.
- Perfectus flos*, Flowers having Petals, the perfect Flowers of Ray, Tournefort, and other Botanists.
- Peffoliatum folium*, when the Base of the Leaf entirely surrounds the Stem, or when the Stalk grows through the Centre of the Leaf, as in *Crassula perfoliata*.
- Perianthium*, a kind of Calyx, so called when contiguous to the Fructification.
- Pericarpium*, a Species of Pod that contains the Seed.
- Perpendicularis radix*, a perpendicular or downright Root.
- Pes*, a Foot.
- Petaliformis stigmata*, a Stigma resembling the Shape of a Petal.
- Petalodes flos*, a Flower having Petals.
- Petalum*, the corollaceous Teguments of a Flower.
- Petiolaris cirrus*, a Tendril proceeding from the Foot-stalk of a Leaf.
- Petiolatum folium*, a Leaf growing on a Foot-stalk.
- Petiolus*, a little Foot-stalk.
- Pileus*, a Hat or Bonnet, the orbicular Expansion of a Mushroom, which covers the Fructification.
- Pilosum folium*, Leaves whose Surface is covered with long distinct Hairs.
- Pinnatum folium*, a winged Leaf.
- Pistillum*, the Style, or Female Organ of Generation, whose Office is to receive and secrete the *Farina Fecundans*.
- Placentatio cotyledons*, of the Seed.
- Planipetalus flos*, a Flower with plain flat Petals.
- Plantæ*, Plants, one of the seven Families of Vegetables, comprehending all which are not included in the other six Tribes.
- Planum folium*, plain flat Leaves.
- Plenus flos*, a full or double Flower.
- Plicatum folium*, a plaited Leaf.
- Plumata seta*, a feathered Hair or Bristle.
- Plumosus pappus*, a Kind of soft Down.
- Plumula*, the ascending scaly Part of the *Corculum*.
- Pollen*, Meal, the prolific Powder contained in the *Anthera*.
- Polyadelphia*, many Brotherhoods, the eighteenth Class in the sexual System.
- Polyandria*, many Males, the thirteenth Class in the sexual System.

Polygamia, many Marriages, the twenty-third Class in the sexual System.
 Polygynia, many Females, an Order of some of the Classes in the sexual System.

Polypetala corolla, a Flower consisting of many Petals.

Polystachius culmus, a Stalk of Grass having many Spikes.

Pomum, an Apple.

Præmorsa radix, a Bitten Root, when it ends abruptly, as in Scabiosa.

Procumbens caulis, lying on the Ground.

Prolifer flos, Flowers growing through, or out of one another, either from the Centre or the Side.

Proprrium involucrium, an Involucrium when at the Base of an umbellated Flower.

Pseudo, a Bastard.

Pubes, Down or Hair, one of the seven Kinds of Fulcra.

Pulposum folium, a Leaf having a pulpy or fleshy substance.

Pulveratum folium, a Leaf powdered with a kind of Dust like Meal, as in Primula Farinosa.

Punctatum folium, a Leaf sprinkled with hollow Dots or Points.

Q.

Quadrifidum folium, a Leaf having four pairs of Foliioles.

Quadrilobum folium, a Leaf consisting of four Lobes.

Quadrupartitum folium, a Leaf consisting of four Divisions down to the Base.

Quinquejugum folium, when a pinnated Leaf has five Pairs of Foliioles.

Quinquelobum folium, a Leaf having five Lobes.

R.

Racemus, a Bunch of Grapes or Currants or any other Bunch of Berries that bears that resemblance.

Rachis folii pinnati, the middle Rib of a winged Leaf, to which the Foliioles are affixed.

Radiatus flos, a Species of compound Flowers, in which the Florets of the Disk are tubular, and those of the Radius ligulate, as in the Class Syngenesia.

Radicalia folia, Leaves proceeding immediately from the Root.

Radicans caulis, a Stalk bending to the Ground, and taking root where it touches the Earth.

- Radicatum folium*, Leaves shooting out Roots.
- Radius*, a Ray, the ligulate Margin of the Disk of a compound Flower.
- Radix*, a Root.
- Ramosissimus caulis*, Stalks abounding with Branches irregularly disposed
- Ramus*, a Branch of a Tree.
- Ramosus caulis*, a Stalk having many Branches.
- Receptaculum*, a Receptacle, the Basis on which the Parts of Fructification are connected.
- Recurvatum folium*, a Leaf bent backwards.
- Regularis corolla*, a Flower whose Parts are regular in its Figure and Magnitude.
- Remotus verticillus*, when the Whorls of Flowers and Leaves stand at a Distance from one another.
- Reniforme folium*, a Leaf having a bending or waved Margin, without any Angles.
- Repens radix*, a creeping Root extending horizontally.
- Repens caulis*, a creeping Stalk either running along the Ground, on Trees, or Rocks, and striking Roots at certain Distances.
- Reptans flagellum*, creeping along the Ground, as in *Fragaria*.
- Revolutum folium*, a Leaf rolled back.
- Rhombeni folium*, a Leaf whose Shape nearly resembles a Rhombus.
- Rhomboidum folium*, a Leaf of a geometrical Figure, whose Sides and Angles are unequal.
- Rigidus caulis folia*, stiff, hard, rigid.
- Rimosus caulis*, abounding with Clefts and Chinks.
- Ringens*, grinning and gaping.
- Rosaceus flos*, a Flower whose Petals are placed in a Circle, in Form like those of a Rose.
- Rostellum*, a little Beak, the descending plain part of the Coraculum of the Seed.
- Rotatus limbus, corolla*, a wheel-shaped Flower, expanding horizontally, having a tubular Basis.
- Rotundatum folium*, a roundish Leaf.
- Rubra lactescentia*, red Milkiness in Plants.

S.

- Sagittatum folium*, an arrow-shaped Leaf.

- Sermentosus caulis*, the Shoot of a Vine, naked between each Joint, and producing Leaves at the the Joints.
- Scaber caulis*, et *folium*, scabby and rough, having Tubercles.
- Scandens caulis*, a climbing Stalk.
- Scapus*, a Species of Stalk which elevates the Fructification, and not the Leaves, as in *Narcissus*.
- Scariosum folium*, Leaves dry on the Margin that sound when touched.
- Scutellum*, a Species of Fructification which is orbicular, concave, and elevated in the Margin, as in some Species of Lichen.
- Secretoria scabrites*, a Species of glandular Roughness on the Surface of some Plants.
- Semen*, Seed.
- Sempervirens folium*, an ever-green Leaf.
- Serratum folium*, a sawed Leaf.
- Sessile folium*, a Leaf growing immediately to the Stem, without any Foot-stalk.
- Seta*, a Bristle, a Species of Pubescens, covering the Surface of some Plants.
- Setaceum folium*, Leaves shaped like Bristles.
- Sexus plantarum*, Plants are distinguished by the Sex of their Flowers, which are either male, female, or hermaphrodite.
- Siliqua*, a Pod, a Pericarpium consisting of two Valves, in which the Seeds are fixed alternately to each Suture.
- Siliquosa*, the second Order in the Class *Tetradynamia*.
- Siliquosae*, an Order of Plants in the *Fragmenta methodinaturalis*, of *Linnaeus*.
- Simplex caulis*, a simple or single Stem.
- Situs foliorum*, the Disposition of Leaves on the Stem and Branches, which are either starry, by threes, opposite, alternate, scattered or crowded.
- Solidus caulis*, a solid Stalk or Stem.
- Solitarius pedunculus*, when only one Flower-stalk proceeds from the same Part.
- Spadix*, the *Receptaculum* of a Palm, a *Pedunculus* which proceeds from a *Spatha*.
- Spatha*, a species of Calyx resembling a Sheath.
- Spatulatum folium*, a Leaf in form of a Spatula, an instrument used to spread Salve.

- Spica*, a spike, a species of Inflorescence resembling an ear of Corn.
- Spinæ*, Thorns or rigid Prickles.
- Spinosus caulis*, strong Prickles, whose Roots proceed from the Wood of the Stem, and not from the Surface of the Bark.
- Spirales cotyledones*, seminal Leaves twisted spirally.
- Squamosa radix*, a scaly Root,
- Squarrosus*, rough, scaly, or scurfy.
- Stamen*, the Filaments that sustain the Anthera.
- Stellata folia*, Leaves surrounding the Stem, like the Rays of a circle.
- Stellatæ feta*, a Species of Pubescens called Bristles, when they arise from a Centre in form of a Star, as in the *Mesembryanthemum barbatum*.
- Stipula*, one of the kinds of Fulora of Plants, generally growing on each Side of the Base of the Foot-stalks of Leaves or Flowers, and are either by twos, single, deciduous, abiding, adhering, loose, on the Inside of the Foot-stalks or on the Outside.
- Stipulares glanulæ*, Glands produced from *Stipulæ*.
- Striatus caulis*, calmus, &c., channelled Streaks, running lengthwise in parallel Lines.
- Strictus caulis*, straight stiff Shoots.
- Strigæ*, Ridges, Rows.
- Strobilus*, a Species of Pericarpium, formed from Amentum, as the Cone of the Pine-tree.
- Stylus*, that part of the Pistillum which elevates the Stigma from the Germen.
- Submersum folium*, when aquatic Plants have their Leaves sunk under the Surface of the Water.
- Sumbramosus caulis*, a Stalk having few Branches.
- Subtrodundum folium*, a Leaf almost round.
- Subulatum folium*, an awl-shaped Leaf.
- Superflua polygamia*, superfluous, the second Order in the Class *Syngenesia*.
- Supra-axillaris pedunculus*, the Foot-stalk of a Flower, whose Insertion is above the Angle formed by the Branch.
- Supra-decomposita folia*, are composite Leaves which have little Leaves growing on a subdivided Foot-stalk.
- Supra-foliaceus pedunculus*, the Foot-stalk of a Flower inserted into the Stem immediately above the Leaf.
- Surculus*, a Twig, the Stalks or Branches of Mosses.

Syngonésia, to generate together, the nineteenth Class in the sexual System.

T.

Tegumentum, a Cover, the Perianthium and Corolla.

Teres caulis, folium, a cylindrical Stalk, or Leaf.

Tergeminum folium compositum, a Leaf three Times double, when a dichotomus petiolus is subdivided, having two Foliola on the Extremity of each Division.

Terminalis flos, Flowers terminating a Branch.

Terna folia, Leaves in Whorles by three's.

Ternatum folium, a chequered Leaf whose Squares are of different Colours.

Tetradynamia, the Superiority or Power of four, the fifteenth Class in the sexual System.

Tetragonus caulis, a four-cornered or square Stalk.

Tetragynia, four Females, the fourth Order of some of the Classes in the sexual System.

Tetrandria, four Males, the fourth Class in the sexual System.

Tetrapetala corolla, a Flower consisting of four Petals.

Tetraphyllus calyx, a Flower-cup consisting of four Leaves.

Theca, a Sheath.

Thyrus, a Spike like a Pine-cone.

Tomentosus caulis folia, a Stalk and Leaf covered with a whitish Down like Wool.

Tomentum, a Species of Pubescence, covering the Surface of some Plants of a woolly or downy Substance.

Torosum pericarpium, brawny Protuberances, like the Swelling of the veins when a Pericarpium is bunched out by the inclosed Seeds.

Tortilis arista, Awns or Beards of Corn twisted like a Screw.

Transversum dissepimentum, when the Dissepiments are at right Angles with the sides of the Pericarpium.

Triandria, three Males, the third Class in the sexual System.

Triangulare folium, a triangular Leaf.

Tricocca capsula, a Capsule with three Cells, and a single Seed in each.

Tricuspidata, three-pointed.

Trisidum folium, a Leaf divided into three linear Segments, having straight Margins.

Triflorus pedunculus, a Foot-stalk bearing three Flowers.

- Trinervum folium*, a Leaf having three strong Nerves running from the Base to the Apex.
- Trioccia*, three Houses, the third Order in the Class Polygamia in the sexual System.
- Tripartitum folium*, a Leaf divided into three Parts down to the Base.
- Triphyllus calyx*, a Cup consisting of three Leaves.
- Triplinatum folium*, *compositum*, a Leaf having a triple Series of Pinna, or Wings.
- Triplinerve folium*, a Leaf having three Nerves running from the Base to the Apex.
- Trignetrum folium caulis*, Leaves and Stalks having three plain Sides.
- Trisperma*, three-seeded, as in *Euphorbia*.
- Trinatum folium*, *compositum*, a compound Leaf when the Divisions of a triple Petiolus are subdivided into three's.
- Trivalve pericarpium*, a Pod consisting of three Valves.
- Truncus*, the Body or Stem of a Tree.
- Tuberosa radix*, a tuberous or knobbed Root.
- Tubulatum perianthium*, tubular Flowers, as in the Class Didynamia.
- Tubus*, a Tube, the lower and narrower Part of a monopetalous Flower.
- Tunicatus radix*, a Species of bulbous Root, having Coats lying one over another from the Centre to the Surface, as in the Onion, Tulip, &c.
- Turbinatum pericarpium*, a kind of Pod shaped like a Top, narrow at the Base and broad at the Apex.
- Turgidum legumen*, swollen, puffed out, as in *Ononis*.

V.

- Valvula*, a Valve, a Partition of the external Cover of that sort of Pericarpium called Capsula.
- Venosum folium*, the Veins which run over the whole Surface of a Leaf.
- Ventricosa spica*, a Spike narrowing at each Extremity, and bellying out in the Middle.
- Ventriculosus calyx*, a Flower-cup bellying out in the Middle, but not in so great a degree as *Ventricosus*.
- Veprecula*, a Briar, or Bramble, an Order of Plants in the *Fragmenta methodi naturalis* of Linnaeus.
- Verrucosa capsula*, a Capsule having little Knobs or Warts on its Surface.
- Versitillis anthera*, when the Anthera is fixed by the Middle on the Point of the Filament, and so poised as to turn like the Needle of a Compass.

- Verticalia folia*, Leaves so situated that their Base is perpendicular above the Apex.
- Verticillati rami flores, folia*, Branches, Flowers, or Leaves surrounding the Stem, like the Rays of a Wheel.
- Verticillus*, a Species of Inflorescence, in which the Flowers grow in Whorles, as in *Mentha*.
- Vesicula*, a little Bladder.
- Vesicularis scabrities*, a Kind of glandular Roughness, resembling *Vesiculæ*.
- Vexillum*, a Standard, the upright Petal of a papilionaceous Flower.
- Villosus caulis folium*, a Stalk, or Leaf, covered with soft Hairs.
- Virgatus caulis*, Stalks shooting out; slender, straight Branches or Rods.
- Viscidum folium*, a Leaf whose Surface is clammy.
- Viscositas*, glewy, clammy.
- Volva*, the membranaceous Calyx of the Fungi.
- Volubilis caulis*, a twining Stalk.
- Vulgaris*, common, the trivial Name of many Plants in the Books of the old Botanists.

U.

- Uliginosa loca*, boggy places.
- Umbella*, an Umbel or Umbrella.
- Umbellatus flos*, an umbellated Flower, as in *Pentandria Digynia*.
- Umbilicatum folium*, a peltate Leaf, shaped like a Navel at the Insertion of the Foot-stalk.
- Undatum folium*, a waved Leaf, whose surface rises and falls in Waves towards the Margin.
- Undulata corolla*, a Flower whose Petals are waved.
- Unguis*, a Nail, or Claw, that part of a Petal that is joined to the Receptacle.
- Unicus flos*, one Flower.
- Unicus radix*, a single Root.
- Uniflorus pedunculus*, one Flower on a Foot-stalk.
- Unilateralis racemus*, a Bunch of Flowers growing on one Side.
- Universalis umbella*, an universal Umbel.
- Urceolata corolla*, a pitcher-shaped Flower.
- Urens caulis folium*, a Leaf, or Stalk, burning, stinging, as Nettles.
- Utriculi*, a Species of glandular, secretory Vessels, on the Surface of various Plants.

NEW FAMILY HERBAL.

CLASS I.

MONANDRIA.



1 STAMEN.

Plants with one stamen (1).

ORDER I.

MONOGYNIA.



1 PISTIL

Plants with one pistil (2).

INTRODUCTORY REMARKS ON THIS CLASS.

THERE are very few native British plants to be found in this class, and, unless the student should happen to live near the sea-coast, or can have access to a good greenhouse, he will find some difficulty in meeting with a specimen. There is also another difficulty connected with this class, which is indeed more or less connected with all the others, and which I think it best to mention here at the outset, which is this:—all the plants which are placed in their respective classes do not, at all times and under all circumstances, agree in the necessary characters of the class; for instance, class *Monandria* is supposed to embrace all the plants whose flowers have only *one stamen*; but it sometimes happens that specimens of *Salicornia* may be found with *two stamens*; and specimens of *Hippuris* are frequently found with none. Again, some of the *Valerians* ought, strictly speaking, to belong to this class, although they are placed in the third, as the *Valerian Rubra* has only one stamen. The truth is, it is impossible for the wisest of men to frame a system for the classification of plants which will be *perfect*: the only thing which can be done is to adopt that system which presents the fewest difficulties. Although the *Salicornia* is sometimes found with two stamens, the majority of the tribe have only one. It is the same with *Hippuris*; and although some of the *Valerians* are found to deviate from the character of the class in which they are placed, nearly all the others *do agree*, and therefore they are all retained in the same class. I shall notice these variations as they occur in the course of the work, and thus be the means of removing that which has caused great trouble and perplexity to many a young beginner in botanical studies.

MARANTA ARUNDINACEÆ.

Indian Arrow Root.

An herbaceous, perennial plant, native of South Africa, where it grows to the height of two or three feet. It has broad pointed leaves, and bears a spike of small white flowers. It is cultivated to a considerable extent in the West Indies, for the purpose of extracting the farinaceous powder from

the roots, well known as the Arrow Root of the shops,—a name it has received by confounding it with another plant, from the roots of which the Indians were in the habit of extracting a poison for their arrows. The fine Arrow Root is procured by beating the root in a mortar, and submitting the pulp to several washings, until it becomes perfectly clean and white, after which it is placed out in the sun to dry. As an article of food for weak and delicate people, it cannot be sufficiently recommended.

CANNA INDICA.

Indian Shot.

This plant is somewhat like the last, and the roots are capable of being reduced to a powder; but as the Arrow Root is much superior the Canna is neglected. Like our chicory, the root of this plant is used in the West Indies as a substitute for coffee. The seeds are round and black like shot—hence its name. The flowers are very beautiful, not unlike the Iris, but much more splendid, which has caused it to become a considerable favourite in the greenhouses.

AMOMUM CARDAMOMUM.

Cardamom.

An East Indian plant, in many respects resembling our reeds. It grows ten or twelve feet high. The stalk is an inch thick, round, smooth, green, and hollow, but with a pith within. The leaves are half a yard long, and as broad as a man's hand. Besides these stalks, there arise from the same root others which are weak, tender, and about eight inches high: these produce the flowers which are small and greenish, and after every flower one of the fruits, called the lesser cardamoms, which are a light, dry, hollow fruit, of a whitish colour, and somewhat triangular shape; of the bigness of a horse-bean, and of a dry substance on the outside, but with several seeds within, which are reddish and very acrid, but pleasant to the taste.

These fruits are the lesser cardamoms, or, as they are generally called, the cardamom seeds of the shops. They are excellent to strengthen the stomach, and assist digestion. They are also good for disorders of the head, and they are equal to anything against colics; they are best taken by chewing them singly in the mouth, and their taste is not at all disagreeable.

The two other kinds are the middle cardamom, a long fruit very rarely met with, and the great cardamom, otherwise called the grain of paradise, much better than the cardamoms.

The following preparations of cardamom are ordered by the London College:

TINCTURE OF CARDAMOMS.

Take of the seeds of the lesser Cardamom | Proof spirit.....two pints.
Free from their husks and bruised...3 oz. |

Digest for eight days, and strain the tincture.

COMPOUND TINCTURE OF CARDAMOMS, formerly called STOMACHIC TINCTURE.

Take of the seeds of the lesser Cardamoms husked and powdered,	Cinnamon, bruised,.....half an ounce
Caraway seeds, powdered,	Raisins, stoned.....four ounces.
Cochineal, powdered, .. three drachms each.	Proof spirits.....two pints.

Digest for fourteen days, and strain the tincture.

Of the cardamoms it is probable there is but one kind, although two are mentioned; and it is evident that the compound tincture has less power than the simple, and the admixture of raisins, which must blunt the powers of the other ingredients, is rather extraordinary.

The dose of the *Tincture of Cardamoms* is from two to three drachms, and of the *Compound Tincture* from three drachms to half-an-ounce. These are seldom ordered alone, but joined with more powerful ingredients. In dyspeptic habits I have seen much good arise from half a glass taken before dinner to rouse the nerves of the stomach and aid digestion, acting in such cases much after the manner of a condiment.

AMOMUM ZINGIBER.

Common Ginger.

An East Indian plant, found also in other places, and very singular in its manner of growth. It produces two kinds of stalks, the one bearing the leaves, and the other only the flowers. The first grows two or three feet high, and are themselves composed in a manner of the lower parts of leaves; so that they seem to be bundles of leaves rolled together at the bottom. These are long, narrow, and in some degree resemble the leaves of our common flags. The other stalks are tender, soft, and about a foot high: they have no leaves on them, but only a kind of films, and at the tops they produce the flowers, in a spike: these are small, in shape like those of our orchis, and of a mixed colour, purple, white and yellow. The root spreads irregularly under the surface.

The root is the only part used: we have it dry at the grocers; but the best way of taking it, is as it comes over preserved from the East Indies. It is a warm and fine stomachic, and dispeller of wind. It assists digestion, and prevents or cures colics. It is also an excellent addition to the rough purges, to prevent their griping in the operation.

SYRUP OF GINGER.

Take of ginger, bruised.....four ounces. | Boiling distilled water.....three pints.
Macerate for four hours, and strain the liquor; then add double-refined sugar, and make into a syrup according to the mode prescribed.

TINCTURE OF GINGER.

Take of ginger, in coarse powder..2 ounces. | Proof spirit.....two pints.
Digest in a gentle heat for seven days, and strain.

This tincture is cordial and stimulant, and is only employed as a corrective to purgative draughts.

PRESERVED GINGER.

The root for this purpose is dug up when the shoots do not exceed five or six inches in height. Being picked and washed, these are scalded till they are rendered tender

KÆMPFERIA GALANGA.

[Class I. Order 1.]

then put into cold water, and afterwards scraped and peeled. During this process the water is often changed. The roots are then put into jars, and covered with a thin syrup, which, after two or three days, is removed, and a richer syrup substituted in its place. This is sometimes removed, and a fourth put on; but they seldom employ more than three syrups. This is what is imported into England, and is used much as a dainty, but not for any medicinal purpose.

GINGER WINE.

Take twenty quarts of water, five pounds of sugar, three ounces of white ginger, and an ounce of stick liquorice, and boil them well together; when it is cold, put a little new yeast upon it, but not too much; then put it into the barrel for ten days, and after that bottle it: put a lump of powdered white sugar into every bottle.

This is an excellent wine for gouty habits, and I have been much in the habit of recommending it in such cases in lieu of any other wine.

KÆMPFERIA GALANGA.

Galangal.

The root of the Kæmpferia is tuberos and creeping: it runs under the surface in various directions, and is crooked and knotty. Its general thickness is that of a man's finger, but it is not unfrequently an inch in diameter; it is surrounded with circular bridges in many places, and swells into frequent protuberances: its colour is a pale brownish red on the surface, and yet paler within; its smell aromatic; its taste extremely acrid and pungent; it emits fibres in great number, from several parts, and propagates itself a great way, in a little time, by spreading; from the several knots of the root arise the leaves, in a little time, by spreading; from the several knots of the root arise the leaves; they stand on erect, broad, and flattish, hollow pedicels: they stand opposite to one another, and are of a roundish figure, and hollowed with a small sinus at the base; they are of a thick, fleshy structure, and bright green colour, except at the edge, where they are generally purplish. They are of a fine aromatic smell, and acrid taste. The flowers stand on long pedicels, which arise from the centre, between the two leaves. They are white within, and toward the base of a deep purple, and in some parts yellowish and greenish. Every flower lasts, from the time of its opening, to the evening when it falls off, and in the morning after a fresh set appear.

This plant is frequent in Ceylon, Malabar, and many other parts of the East Indies. Its root is the Galangal of the shops. The apothecaries, and even the people in general who have written of the *Materia Medica*, distinguish two kinds of Galangal, the greater and the lesser; the latter is, of the two, much the stronger, and more acrid, and it has been supposed that they were the roots of two different plants, but they are, in reality, both the root of this species, and the larger are only the older and less vigorous ones. We have the plant in some of our gardens, but it requires a stove heat, and very seldom flowers with us. It never produces any fruit in our country; rarely, when native.

The root is a carminative and stomachic; it is a common ingredient in bitter infusions, and enters some of the shop compositions.

CURCUMA LONGA.

Turmeric.

Turmeric is a perennial plant, a native of the East Indies. The roots



Cardamom



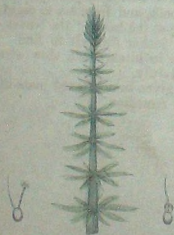
Cardamom



Ginger



Glasswort



Mare's Tail



European Olive

are tuberous, knotty, long, and wrinkled, externally of a pale yellow colour, and internally of a shining saffron brown. They have a weak, aromatic smell, and a slightly bitter aromatic taste. They contain a very little essential oil; and Neumann got from 960 parts, 320 watery and afterwards 50 alcoholic extract, and inversely 150 alcoholic and 210 watery.

Turmeric when taken internally, tinges the urine of a deep yellow colour, and acts as a gentle stimulant. It has been celebrated in diseases of the liver, jaundice, cachexy, dropsy, intermittent fevers, &c. But its internal use in this country is almost confined to its being a principal ingredient in the composition of curry-powder, in which form it is used in immense quantities in the East Indies. It is also a most valuable dye, and an excellent chemical test of the presence of uncombined alkalies; for the yellow colour of turmeric is changed by them to a reddish brown.

SALICORNIA HERBACEA.

Jointed Glasswort.

A common wild plant, on the sea-coasts of many parts of Europe, and a native of our own country. It is called cochleated kali, from the form of its seed vessels, which are twisted in the manner of a snail's shell. It grows to a foot and a half in height. The stalk is round, thick, fleshy and brittle. The leaves are few, and they stand irregularly; they are oblong and blunted at the ends, and of a bluish green colour. The flowers are small, inconsiderable, and yellow.

The juice of the fresh plant is said to be an excellent diuretic; some say the seed vessels have the same virtue, and give them in infusion; but we have better remedies of the same kind. The whole plant is burnt for its fixed salt, which is used in making glass.

HIPPURIS VULGARIS.

Mare's Tail.

The root of this plant is jointed and most curiously whorled at each joint. The leaves are of a dark green, smooth, and from six to eight in a whorl. The flowers are small, and growing at the base of the leaves,—so small indeed that they are, in many cases, rather difficult to find. The whole plant is of a dark green: common in ditches and slow streams throughout England. Flowers in June and July.

An infusion of Mare's Tail is sometimes given in a relaxed state of the bowels; but we have much better and safer remedies.

ORDER II.

DIGYNIA.



2 PISTILS.

Plants with two pistils.

CALLITRICHE VERNA.

Vernal Starwort, or Water Starwort.

This name was given to a plant by some ancient Botanists, which was supposed to be like a beautiful hair, from *kallos*, beautiful, and *thrix trichos*, a hair. But the English plant has nothing to do with the Greek plant. Some modern Botanists have removed *Callitriche* out of this class, and placed it in *Monæcia*, because some of the specimens are occasionally found in accordance with this latter class; but as a majority of the genus agree with *Monandria*, it appears to me to be unwise to remove it, more especially as all former Botanists have agreed to keep it in this class. Besides, all changes should be adopted with the utmost caution, as they are calculated to perplex and puzzle the young student, and to disgust him with a study which ought to give, and *will* give, great pleasure when properly followed.

This is a curious plant, growing on standing waters throughout Europe, with linear leaves laid crosswise on the water, so as to resemble a star:—hence its name.

There are two sorts, one flowering in spring, and the other in autumn; they sometimes grow so thick, and are so closely matted together, that a person may walk upon them without sinking. The plant is not used in medicine, and I merely mention it to give a specimen of the order.

CLASS II. .

DIANDRIA. ¹  ² STAMENS.*Plants with two stamens (1).*

ORDER I.

MONOGYNIA. ²  ¹ PISTIL.*Plants with one pistil (2).*

INTRODUCTORY REMARKS ON THIS CLASS.

There is scarcely a class in the whole twenty-four that includes a greater variety of plants than this. It embraces the majestic Ash of the forest, and the humble Speedwell, whose small but lovely blue flowers just peep out above the grass on a sunny bank early in spring. It also includes plants most opposite, both in their natures and general appearance, such as Sage, Rosemary, and Water Horehound, together with the sweet-scented Vernal Glass, and the hot and fiery Pepper Plant. Considering the smallness of the number of plants belonging to the class, none exhibits specimens more opposite in their natures; but they all agree in that which gives the character, namely, in having only *two stamens*, and that is quite sufficient for the purpose of classification.

OLEA EUROPEA.

European Olive.

This is an evergreen, with oblong, narrow willow-like leaves, and monopetalous whitish flowers, cut into four sections or segments, followed by a cluster of oval black fruit, containing under a fleshy pulp a hard rough stone. It bears the ordinary winters of our climate.

The olive tree is a native of the south of Europe and north of Africa. It is cultivated in France, Spain, and Italy, for the sake of its fruit, and the oil expressed from it. Olives, when fresh, have an acrid, bitter, and extremely disagreeable taste; but they are only eaten when pickled. They are first steeped for several days in a ley of wood-ashes, and then pickled in a strong solution of muriate of soda.

They are principally valued for the oil they afford by expression. For this purpose they are gathered when fully ripe, and immediately bruised and subjected to the press. The finest oil flows first, and a very bad oil is obtained by boiling the magma, which remains after expression, in water. According to Baume, they are gathered when sufficiently ripe; they are then dried, to deprive the mucilage, of which they contain a large quantity, of its water, and they are expressed after being bruised, and moistened with a little water, to render the oil more fluid. By rest, the mucilage and

water which may have passed with it separate. Olive oil is sometimes mixed with oil of poppy seeds; but by exposing the mixture to the freezing temperature the olive oil freezes, while that of the poppies remains fluid; and as oils which freeze with most difficulty are most apt to become rancid, olive oil is deteriorated by the admixture of poppy oil.

Good olive oil should have a pale yellow colour, somewhat inclining to green, a bland taste, without smell, and should congeal at 31o Fahrenheit. In this country it is frequently rancid and sometimes adulterated.

Taken internally, it operates as a gentle laxative, and is given in cases of worms. It is also given in large quantities to mitigate the action of acrid substances taken into the stomach. It is used externally in frictions, in gargles, and in clysters; but its principal employment is for the composition of ointments and plasters.

LIGUSTRUM VULGARE.

Privet.

A little wild shrub in our hedges. It grows four feet high. The stalks are slender, tough, and covered with a smooth brown bark. The leaves are oblong and narrow; they are small, of a dusky green colour, broadest in the middle, and placed in pairs opposite to one another, and they are of a somewhat firm substance, and have no indenting at the edges. The flowers are white and little, but they stand in tufts at the end of the branches, and by that make a good appearance. The fruit is a black berry: one succeeds to every flower in the cluster.

The tops are used; and they are best when the flowers are just beginning to bud. A strong infusion of them in water, with the addition of a little honey and red wine, is excellent to wash the mouth and throat when there are little sores in them, and when the gums are apt to bleed.

SYRINGA VULGARIS.

Common Lilac.

This is a large shrub. It rises to eight or ten feet high, and sends out a great number of branches. Its trunk is two or three inches in diameter, and is covered with a bark of a pale brown. The leaves grow two at a joint, and are large, oblong, and of an ovated figure, somewhat cordated at the base. They stand on moderately long pedicles, and are even at the edges, and of a pale colour, both on the upper and under sides. The flowers are small, but they grow in great clusters, and are of a very sweet smell: they are naturally bluish, but frequently of a pale rose red, or quite white.

This species is common in our gardens: it is a native of Egypt and the East Indies, yet it perfectly well bears the cold of our climate. A decoction of the bark of Lilac makes a cooling and useful drink in fevers.

FRAXINUS EXCELSIOR.

Ash.

A common tree in our hedges and woods. The bark of the branches is



Enchanter's Nightshade



Holy Thistle



Rosemary



Salvia



Syon oleracea



Black Pepper

grey, and the leaves are winged; the small ends of which they are composed are oblong and dented. The flowers are of a whitish green, and come before the leaves: the seeds are what they call ash-keys: these ripen in September.

The bark of the young branches is good in obstructions of the liver and spleen, and therefore is of great service in dropsies, jaundice, and other complaints of that origin; it works by urine. The seeds have the same virtue, but in a less degree.

JASMIMUM OFFICINALE.

Common Jessamine.

A common shrub in all good pleasure grounds, forming, as it does, a great ornament to them. As it does not support itself, it is commonly nailed against walls. The trunk is covered with a greyish bark: the young shoots are green. The leaves stand two at each joint, and they are very beautiful: each is made up of about three pairs of narrow, oblong, and pointed leaves, with a very long one at the end. They are both of a deep green colour: the flowers are long, hollow, open at the end, and white; half a dozen or thereabouts, grow on each stalk, and they are of a very delicate and fragrant smell; these are succeeded by berries, which ripen in the warmer countries.

The flowers are the part used. Pour a pint of boiling water upon six ounces of the fresh gathered and clean picked flowers of jessamine; let it stand twelve hours, and then pour it off; add honey enough to make the liquor into a thin syrup, and it is an excellent medicine in coughs.

CIRCÆA LUTETIANA.

Enchanter's Nightshade.

This is a very beautiful, as well as a very singular, plant. It rises to five, six, or ten inches, or more, high. Its root is oblong, white, and creeping, frequently jointed, and full of fibres. The stalk is round, of the thickness of a straw at the bottom, smaller all the way up, lightly hairy, and never much branched. It often rises single to the top; sometimes from about the middle of its height it sends out a couple of branches, of two, three, or four inches long. The leaves stand in pairs, opposite to one another; they stand on pedicles of half an inch in length, and are broad, and of a sort of oval figure, but pointed, thin, of a pale green, and lightly indented at the edges. The upper part of the main stalk, and of the branches, runs up into a kind of spike, on which stand the flowers: they are very small, but very beautiful, and stand at distances, on short pedicles.

This elegant plant is common with us, and all over Europe, in woods, and among bushes. It flowers in April.

VERONICA.

Speedwell.

There are one hundred and seventy-eight varieties of this plant, many of which are foreign, and about a score natives of these islands. The most ordinary observer of

nature must have felt a thrill of pleasurable sensations on beholding the lovely blue flowers of the Germander Speedwell, *Veronica Chamedrys*, on some sunny bank early in spring, the exquisite beauty of which no painter can imitate, nor no pen can describe. There are only two kinds that are at present made use of as medicines, and these are not as much used as they ought to be.

VERONICA BECCABUNGA.

Brooklime.

It is a very beautiful plant when in flower; its stalks are round, thick, and succulent, and grow to ten inches or a foot in length; but they do not entirely erect but are procumbent in part, and often take fresh root at the joints, where they touch the ground. They are sometimes single often branched, and when cut through appear of a spongy nature. The leaves are oblong, rounded at the ends, and serrated at the edges; they stand in pairs, two at every joint of the stalk opposite to each other; they are near an inch long, smooth on the surface, and somewhat glossy, of a thick substance, and of a dark or blackish green colour. The flowers are of a beautiful sky-blue colour, divided into four segments at the edge, and are succeeded by small seed-vessels, flat and of a kind of cordated form, in which are formed a number of small seeds in two cells. The root is small and creeping, and of a white colour. It grows in great abundance with us, the companion of water cresses, and propagates itself very quickly by the spreading of its root.

If any good effects be expected from Brooklime, it should be used as food.

Rutty says that its juice is saponaceous, and taken in a large quantity opens the body in the easiest manner.

Dioscorides mentions a use that deserves the attention of modern practitioners. He says, "Its leaves drunk in wine relieves the strangury, and diseases of the bladder."

The juice is said neither to turn sour or putrid by keeping, and can only be esteemed as a mild refrigerant.

VERONICA OFFICINALIS.

Common Speedwell.

A common little plant in our dry pastures, and on heaths. The stalks are six or eight inches long; the leaves are short, and of an oval figure. The stalks are not upright; they trail along the ground, only rising at the upper parts. The leaves are of a pale green colour, a little hairy, and dentated at the edges: the flowers are small and blue; they grow in slender spikes, arising from the bosoms of the leaves. The root is small and fibrous.

The whole herb is used, and it is best fresh. An infusion of it drank in quantities, works by urine, and opens all obstructions: it promotes the menses. There was an opinion lately that this plant would cure the gout. The dried leaves picked from the stalks, were sold in our markets, and people made a tea of them. The opinion was so prevalent, that the plant was in a manner destroyed for many miles about London, but like all other things that want truth for their foundation, it came to nothing.

GRATIOLA OFFICINALIS.

Hedge Hyssop.

The root of this is oblong, of the thickness of a goose-quill, and creeps under the surface of the earth: it is white, and jointed, and sends out a multitude of fibres from the several joints. The stalk is round, of a reddish colour at the bottom, and greenish towards the top: it grows to five, six, or eight inches high. The leaves stand in pairs opposite to one another, and at small distances: they are oblong, broadest in the middle, and terminate in a point; they usually are even at the edges, but sometimes are slightly dentated. The flowers stand on short branches, arising from the axils of the leaves: they are single, oblong, striated, and are of a yellowish colour at the base, and white or reddish in all other parts of the surface, and a little yellowish within. The whole plant is remarkably bitter.

It is a violent purge and vomit. People, in places where it is to be had, often take an infusion of it in dropsies, jaundices, and many other chronic cases. It is a rough medicine, but a powerful one, and the safest is to let it alone, except in extreme cases.

LEMNA TRISULCA.

Ivy-leaved Duckweed.

A small green herb, consisting of single, little roundish leaves, which float upon the surface of the water, and send their roots into it for nourishment, without sticking them into the mud. It is the small green herb that covers all our standing waters in summer. There are two other kinds of it, one with smaller leaves, and many fibres from each; another with only one fibre from each leaf: both these are green all over; and a third kind with larger leaves, which are purple underneath, but all these have the same virtue, and it is no matter which is taken. The juice is to be given; and it is to be continued for several days.

It works powerfully by urine, and opens obstructions of the liver; jaundices have been cured by it singly.

PINGUICULA.

Butterwort or Yorkshire Sanicle.

There are four varieties of this interesting plant, growing wild on wet bogs on the moors, in elevated situations in the north of England and Scotland. This, with its fellow the *Bladderworts*, are remarkably beautiful water and bog plants, which has led to their cultivation in gardens. The *Butterwort* is easily known, by its violet coloured flowers, and its thick plantain shaped leaves growing at the root.

The remarkable greasy feel of the leaves, have caused it to be applied to chaps and sore nipples; the juice of the leaves will coagulate milk, hence its name—it is sometimes called *Marsh Violet*.

LYCOPUS.

Gipsywort.

Judging by the general appearance of this and the two following plants, we should naturally conclude that they ought not to be in this class, but in the fourteenth. If the reader will just walk into a garden at the proper season, and pull up a sprig of mint and compare it with a sprig of sage, he will observe that the appearance of the two have such a *family likeness*, as it were, that he will have no doubt that they both belong to the same class; but if he will take the trouble to look minutely into the flowers of each, he will perceive that the sage has only two stamens, and the mint will have *four*, two of which will be longer than the remaining two, which gives the character of the fourteenth class. With a few exceptions, all the labiate plants do belong to the fourteenth class, and the following are the exceptions. I recollect being sorely perplexed with this very plant, as I never thought of looking for it in any other than the fourteenth class, when a botanical friend helped me out of the difficulty by bidding me look into the sewer.

LYCOPUS EUROPEUS.

Gipsywort, or Water Horehound.

The root of this species is long, slender, and creeps under the surface of the ground. It sends down fibres in great abundance, and from the several parts of it there rise a great number of stalks. These stand singly, they grow to be three feet high, and are square, green, hairy, and hollow: they usually send off some, but not many, branches. The leaves stand in pairs, on the stalk, at small distances: they are oblong, of a pale green colour, very rugose, and deeply serrated about the edges; they terminate in a point. They have no pedicles, and the lower ones are usually somewhat divided, especially towards the base; the rest are only serrated. The flowers grow in clusters round the stalks; at the insertions of the leaves, they are small, white, and remain but a little time on the plant. The cup remains long, and contains the seeds.

This species is extremely common with us in meadows and by ditch-sides. It abounds in colouring matter, and it is said that the gipsies make use of it for colouring their skins;—hence its name.

SALVIA.

Sage.

According to Don's Gardeners' Dictionary, there are nearly three hundred varieties of this useful, and in many cases, most beautiful plant. The most splendid sorts are of foreign growth. Many of the sorts are exceedingly showy plants when in bloom, and grow to a large size. To a person accustomed only to the common Sage of our gardens, it will appear strange that there are varieties growing from twelve to fifteen feet high, whose flowers are from six to eight inches long! The *Salvia Longiflora*, a native of Peru, is said sometimes to attain the height of twenty feet! Rather marvellous Sage this! Most of the *Salvia* thrive in a light rich soil. The shrubby kinds are readily increased by cuttings under an hand-glass; the herbaceous, by dividing the roots; the seeds of the annual and biennial kinds only require sowing on an open border, where they are intended to remain. The sorts in general use are the following.

SALVIA OFFICINALIS.

Garden Sage.

The common and well-known Sage of our gardens. The leaves and tops

of this useful plant are used, and they are best fresh; the common way of taking them is in infusion, or in form of what is called Sage tea, is better than any other: they are cordial, and good against all diseases of the nerves: they promote perspiration, and throw any thing out which ought to appear upon the skin. The juice of Sage works by urine, and promotes the menses.

SALVIA MINOR.*Sage of Virtue.*

Another shrubby plant, very like the former in its manner of growth, but wanting its red colour. It is a foot or two in height, and very bushy. The stem is woody; the branches are numerous; the leaves are oblong, narrower than in common Sage, and of a whitish green colour; there is often a pair of small leaves at the base of each larger. The flowers grow in the same manner as in the red Sage, but they are smaller. The whole plant has a pleasant smell.

The green tops are used, and their virtues are much the same with those of the former, but they are less. It got into use from an opinion that the other was too hot; but this was idle.

SALVIA VERBENEA.*Clary.*

Clary is a common plant in our gardens, not very beautiful, but kept for its virtues. It grows two feet and a half high; the leaves are rough, and the flowers of a whitish blue. The stalks are thick, fleshy, and upright; they are clammy to the touch, and a little hairy. The leaves are large, wrinkled, and of a dusky green, broad at the base, and smaller to the point, which is obtuse. The flowers stand in long loose spikes; they are disposed in circles round the upper parts of the stalks, and are gaping and large, the cups in which they stand are robust and in some degree prickly.

The whole herb is used fresh or dried. It is cordial, and in some degree astringent. It strengthens the stomach, is good against head-aches, and stops the whites; but for this last purpose it is necessary to take it a long time, and there are many remedies more powerful.

There is a kind of wild Clary on our ditch banks, and in dry grounds, which is supposed to possess the same virtue with the garden kind. The seeds of this are put into the eyes to take out any little offensive substance fallen into them. As soon as they are put in, they gather a coat of mæilage about them, and this catches hold of any little thing it meets with in the eye. Dr. Parsons has perfectly explained this in his book of seeds.

ROSMARINUS OFFICINALIS.*Rosemary.*

A pretty shrub, wild in Spain and France, and kept in our gardens. It is five or six feet high, but weak, and not well able to support itself. The trunk is covered with a rough bark; the leaves stand very thick on the

branches, which are brittle and slender: they are narrow, an inch long, and thick, and they are of a deep green on the upper side, and whitish underneath. The flowers stand at the top of the branches among the leaves; they are large and very beautiful, of a greyish colour, with a somewhat reddish tinge, and a very fragrant smell. Rosemary, when in flower, makes a very beautiful appearance.

The flowery tops of Rosemary, fresh gathered, contain its greatest virtue. If they are used in the manner of tea, for a continuance of time, they are excellent against head-aches, tremblings of the limbs, and all other nervous disorders. A conserve is made of them also, which very well answers this purpose: but when the conserve is made only of the picked flowers, it has less virtue. The conserve is best made by beating up the fresh gathered tops with three times their weight of sugar. The famous Hungary water is made also of the flowery tops of Rosemary. Put two pounds of these into a common still with two gallons of molasses spirit, and distil off one gallon and a pint. This is Hungary water.

SPIRIT OF ROSEMARY.

Take of the fresh tops of Rosemary, a pound | Proof Spirit..... a gallon.
and a half. | Distil off in a water-bath..... five pints.

This is useful as an outward application in strains and bruises, and, given internally, is said to have cured a queen of Hungary of a paralytic affection. The College mention also in their Pharmacopœia an ESSENTIAL OIL OF ROSEMARY. As a cephalic, four or five drops of the oil are given in a dessert-spoonful of the spirit; also in hysterics.

The spirit properly enters into the composition of the COMPOUND TINCTURE OF LAVENDER; also of the SOAP LINIMENT.

The tops are used as a kind of tea, but are not so good as the Sage tea for domestic use.

ORDER II..

DIGYNIA.



2 PISTILS.

Plants with two pistils.

ANTHOXANTHUM ODORATUM.

Sweet-scented Vernal Grass.

This is that sweet-scented grass which gives the delightful fragrance to new mown hay. The root is composed of a number of white, and not very thick, fibres: the leaves are four or five inches long, about a third of an inch broad, and of a yellowish-green: the stalk is slender, jointed, and six or eight inches high; at every joint there stands a leaf, like the radical ones, and, at its top, a short lax spike, about three quarters of an inch long, and less than half an inch broad, and of a brownish or yellowish-green colour. It is a very common grass in our meadows, and flowers early in spring.

The usual colour of the spike is a pale yellow, whence its generic name *Anthoxanthum*. From the sweetness both of the flowers and leaves, which it imparts to new-mown hay, it has derived its specific or trivial name *odoratum*, or *sweet-scented*. From the earliness of its flowering, the beginning or middle of May, it has acquired its other English name of *Vernal* or *Spring-grass*.

It grows on almost any kind of soil, but seems to prefer that which is moderately dry. In a rich soil the leaves have a great tendency to curl. It is common in meadows and pastures; and also in woods, where the spikes are usually slender and loose. The seed is ripe about the middle of June, and may easily be separated by rubbing; this grass, however, is not very abundant in seed.

Mr. Stillingfleet remarks, that from its being found on such pastures as sheep are fond of, and from whence excellent mutton comes, it is most likely to be a good grass for sheep pastures. That he has found it on all grounds, from the most sandy and dry to the most stiff and moist, and even in bogs. That it is very plentiful in the best meadows about London, as about Hampstead and Hendon; and that it is very easy to gather.

Mr. Curtis recommends it for its earliness, its readiness to grow in any soil or situation, and for its agreeable scent. He thinks it may be cultivated to considerable advantage, as it forms a thick tuft of leaves at bottom. Though in point of crop it is not so productive as some other grasses,

ORDER III.

TRIGYNIA.



3 PISTILA

Plants with three pistils.

PIPER NIGRUM.

Black Pepper.

The root is composed of a number of black fibres: the stalks are numerous, green, somewhat woody, and jointed; they are not robust enough to stand erect, but lie upon the ground, unless supported, and, as they trail on the ground, they send out roots from the joints. The leaves stand singly at the joints, and are large, of a roundish figure, and have four or five high, longitudinal ribs on them: they are four inches long, three broad, and of a firm texture. The flowers are small, and stand in clusters, on the spikes; they are succeeded by the fruit, which is the common Pepper: twenty or thirty grains of this grow on each spike, and have no pedicles.

It is a native of Java, Sumatra, and Malabar; and is described in the Hortus Malabrieus, under the name of Molago Coddii.

There is a variety of this plant, the fruit of which is white: the plant, in all other respects, is the same. The common Black Pepper of our shops is the fruit of the first, and the genuine and native White Pepper of the second: this genuine White Pepper, however, rarely comes to us; what we have is made by art, from the Black, by taking off the rind.

Respecting Pepper as a medicine, it cannot be doubted that it has a warm cordial effect upon the stomach; but as it does not dispose the blood to attract more oxygen; therefore it does not inflame it, and hence accelerates not the circulation. But it invigorates the powers of digestion, stimulates the fauces to pour out an abundant supply of saliva, and the stomach the gastric solvent, and finally the bowels to a better peristaltic motion.

It is mostly used as a corrective of the coldness and flatulence of a vegetable diet, and seems admirably suited for warm climates, where the food is naturally aqueous, and of a cold nature. Hence we use it with most vegetables, especially cucumbers and peas. It serves as a condiment to fish. In gout, dropsy, rheumatism, cold phlegmatic habits, the use of pepper is advisable, and taken in a large dose is said to cure intermittents. In incipient quinies, before the tumour has broken, a bason of gruel well seasoned with pepper, taken at bed-time, will resolve it. The free use of pepper comes naturally recommended in palsy.

CLASS III.

TRIANDRIA.



3 STAMENS.

Plants with three stamens (1).

ORDER I.

MONOGYNIA.



1 PISTIL.

Plants with one pistil.

INTRODUCTORY REMARKS ON THIS CLASS.

The student will find less difficulty with this class, considering the number of plants which it includes, than most of the others. Many of them are large flowers, such as the Flage, Iris, Crocus, &c., whose parts of fructification are easily seen. With one or two exceptions, it includes the entire family of the grasses,—the most important tribe of plants on the face of the earth. A small magnifying glass will be quite sufficient to enable the student to examine the sexual character of the grasses, and a very little study will be sufficient to know the different grasses from each other.

VALERIANA.

Valerian.

Of this Genus there are twenty-six species of plants, the majority of which are natives of these Islands. The most useful are the following.

VALERIANA OFFICINALIS.

Great Wild Valerian.

A tall and handsome plant, frequent in our woods and upon heaths, possessing great virtues. It is a yard high. The stalks are round, striated, upright, hollow, and of a pale green. The leaves are large and beautiful; they are each composed of several pairs of smaller set on a common rib, and with an odd one at the end. These are long, narrow, dentated at the edges, of a faint green colour, and a little hairy. The flowers stand in large tufts like umbels at the tops of the stalks, and are small and white with a blush of reddish. The root is of a whitish colour, and is composed of a great many thick fibres. It is of a very strong and disagreeable smell.

The root is used; it is best dried and given in powder, or in infusion. It is an excellent medicine in nervous disorders. It is said that it will cure the falling sickness, but its good effects against head-aches, low-spiritedness, and tremblings of the limbs, are well known.

The Royal London College directs the following preparations:—

TINCTURE OF VALERIAN.

Take of wild Valerian root, grossly powdered, four ounces. | Proof spirit, two pints.

Digest with a gentle heat for eight days, and strain the tincture.

VOLATILE TINCTURE OF VALERIAN.

Take of wild Valerian root, four ounces. | Compound spirit of ammonia, two pints.

Digest for eight days and strain the tincture. The dose is half a drachm to half an ounce three times a day in any convenient vehicle. In my formulae I am in the habit of ordering the powder, tincture, and compound tincture, in the same mixture, with the addition of the camphorated mixture.

Valerian is usefully directed as an electuary thus:—take of wild Valerian, in powder, one ounce; syrup of orange peel, as much as is sufficient to make an electuary, of which give one or two small tea-spoonfuls three times a day in a single glass of simple peppermint water.

FEDIA OLITORIA, OR, VALERIANA LOCUSTA.

Common Corn Salad.

The root of this species is small and oblong, and at the end is furnished with many fibres. The plant rises to six inches high; the stalks are angulated, slender, of a yellowish-green, and diffuse: the ramifications always going off two by two. The leaves stand in pairs on the stalks; they are about three quarters of an inch long, and a third of an inch, or more, in breadth: they are thin, and of a pale green. The flowers stand in little tufts or clusters; about the extremities of the stalks, they are whitish and small.

This species is very common with us in corn-fields, and is cultivated sometimes in gardens, as a salad, under the name of Lamb's lettuce.

CROCUS SATIVUS.

Saffron Crocus.

A very pretty plant, of the same kind with what are called crocuses in our gardens. It is planted in fields, in some parts of England, and yields a very profitable kind of produce. The flowers of this plant appear in autumn, but the leaves not till sometime after they are fallen. These flowers have, properly speaking, no stalk; they rise immediately from the root, which is roundish, and as big as a large nutmeg, and they stand a little way above the surface of the ground; they are of a purplish blue and very large; the lower part is covered with a skinny husk. In the centre of these stand three stamina, or threads with yellow tops, which are useless, but in the midst between these rises up what is called the pistil of the flower. This is the rudiment of the future seed-vessels; it is oblong and whitish, and at its top separates into three filaments; these are long, and of an orange scarlet colour; these three filaments are the only part of the plant that is used; they are what we call saffron. They are carefully taken out of the flower and pressed into cakes, which cakes we see under the name of English saffron, and which is allowed to be the best in the world.

called the

The leaves are long and grassy, of a dark green colour, and very narrow. They are of no use.
Saffron is a noble cordial.

IRIS PSEUD-ACORUS.*Iris, or Flower-de-Luce.*

A common flower in our gardens. The plant grows three feet high. The leaves are a foot and a half long, narrow, flat, and in all respects like the leaves of flags, and of a bluish green. The stalks are round, or a little flattened; thick, firm, upright, and of a greener colour. The flowers are large and of a deep blue. The root spreads about the surface and is thick, and of a brownish colour, and marked with rings.

The juice of the fresh roots of this plant bruised with white wine is a strong purge; it will sometimes also vomit; but that is not hurtful. It is a cure for dropsies. Gordon, an old physic writer, says if a dropsy can be cured by the hand of man, this root will cure it. It has been found true in practice.

IRIS FLORENTINA.*Florentine Iris.*

The root is perennial, tuberous, ponderous, somewhat compressed, branched, fibrous, externally brown, internally of a yellowish-white colour: the leaves are sword-shaped, radical, inserted in each other, pointed, shorter than the stem, and of a dull green colour: the stem is round, smooth, jointed, and about a foot in height: the flowers are large, upright, of a white colour, and often have a bluish tinge: the calyx is a spathe of two valves: the corolla divides into six segments, or petals, of these, three stand erect, the other three, which are of an irregular oval shape, turn back, and at the base are painted with brown lines, and bearded with yellow hairs; the filaments are three, and crowned with long yellow anthers; the style is short and simple; the stigma separates into three expanded segments, resembling petals, which arch over the stamina; the germen is long, of an obtusely triangular shape, and placed below the corolla; the capsule has three cavities, which contain numerous flat brown seeds.

This Iris is a native of Italy, and flowers in June: it was cultivated in England by Gerard in 1596, and is now constantly propagated by the florists; but the roots of the Orris produced in this country have neither the odour, nor the other qualities, of those of warmer climates, so that for medicinal use they are commonly imported from Leghorn.

The root, in its recent state, is extremely acrid, and when chewed excites a pungent heat in the mouth, which continues several hours: on being dried, this acrimony is almost wholly dissipated, the taste slightly bitter, and the smell agreeable, and approaching to that of violets. No essential oil has been hitherto obtained from this root, but spirituous tinctures of it contain more of its virtues than watery infusions. The fresh root is a powerful cathartic, and for this purpose its juice has been employed in the dose of a drachm and upwards in dropsies. It is now chiefly used in its dried state and ranked as a pectoral or expectorant, and hence has a place

in the Trochisci amyli of the London Pharmacopœia. We have, however, no evidence of its expectorant powers, and therefore must consider it as valuable only for the pleasantness of the perfume, and the flavour which it communicates.

IRIS FÆTIDISSIMA.

Stinking Iris, or Gladwyn.

A wild plant of the Iris kind, of no great beauty, but not without its virtues. The root creeps about the surface, like that of the common flower-de-luce. The leaves are a foot long, narrow, and sharp-pointed, and of a strong and very peculiar smell. The stalks are round, firm, upright, and of a bluish green. The flowers are like those of the common flower-de-luce, but smaller, and of a very dull colour. There is a little purple in the upper part of the flower, and there are some veins and streaks in the lower; but the rest is of a dull dead hue, between grey and brown, and they have a faint and bad smell.

The juice of the root promotes urine and the menses. The dried root, in powder or infusion, is good against all hysteric disorders, faintings, and pains. Outwardly, the fresh root is said to be an excellent remedy for serophulous swellings; but this we must take upon trust.

ERIPHORUM.

Cotton Grass.

A very curious tribe of plants, growing on moist bogs, with white tufts at the tops, like the finest carded cotton wool. The most common is the

ERIPHORUM ANGUSTIFOLIUM.

Common Cotton Grass.

The root of this species is composed of a number of reddish-brown fibres. From this rise several flat, grassy leaves, and among these the stalk; this is a foot, or more, in height, and is round, smooth, and in all things resembles a small rush: on the top of this stands a panicle, which, when ripe, is of the size of a walnut, and white as snow. It is composed of several spikes standing on oblong pedicles, and seems formed of the finest white cotton, or of a substance still finer than that.

This species is not unfrequent with us in boggy grounds, and an attempt has been made to work it up into a textile fabric, like the common cotton wool from abroad, but hitherto without success.

PAPYRUS ANTIQUORUM.

Egyptian Papyrus.

Before the invention of the paper-making process, this was indeed a most valuable plant, and was most extensively cultivated in ancient times for the purpose of writing upon the leaf, as we now do upon paper. Its appearance is not unlike some of our Flags, but the leaves are much broader, and when submitted to a process which was well understood by the ancient Egyptians, they were well adapted for writing upon. Many of these books now



Valerian



Saffron Crocus



Florentine Iris



Bearded Dandelion



Sugar Cane



Soft Brome Grass

remain after being written thousands of years. They are rolled round a piece of wood turned for the purpose, so that an ancient library was not unlike a paper hanger's shop, and when the reader took down a book to read, he had to begin at one end and unroll his book; just like unrolling a piece of stained paper for a room.

The ancient Egyptians made their sheets of prodigious length, though narrow. One of those purchased by the Earl of Belmore, and unrolled by his lordship, was fourteen feet long by one foot broad. Belzoni had a papyrus twenty-three feet long by one and a half broad. The quantity of the papyrus used by the Egyptians in their funeral operations alone must have been very great. Those papari now found in the ancient tombs, and about the mummy caves of Egypt, are yet in a wonderful state of preservation. The rolls are always compressed. Sometimes their exterior is ornamented with gilding, in which case they are looked upon as of superior value. They are generally thrust into the breast, or between the knees of the mummy, and occasionally they are inclosed in small wooden boxes, or purses. In the museum of Naples there are not less than 1700 to 1800 MSS. papyri, which have been dug from the ruins of Herculaneum, and yet only a very small portion of this ancient city has yet been dug out of the mass of lava by which it was overwhelmed.

A recent traveller thus describes the papyrus as he found it growing near Syracuse in Sicily, the only locality in Europe where this beautiful plant is found indigenous. "The river Anapus, after flowing through an alluvial plain, which requires draining very much, being in many parts swampy, and emitting the most unhealthy miasmata, falls into the sea at the west side of the magnificent harbour of Syracuse. We ascended the river for some distance in a flat-bottomed boat. Near its mouth the water was pretty deep, but muddy; and a little farther on we found it contaminated and obstructed by heaps of hemp, which were steeping there. The current was scarcely perceptible; but our progress was impeded by aquatic plants and strong high rushes, which in many places so covered the river from side to side, that we could scarcely see the water. At the distance of about an Italian mile from the mouth of the river, we first came in sight of the object of our search, the graceful papyrus plant, which we saw growing in little clusters; and shooting above groups of water-lilies on either side of the river. A quarter of a mile higher up we turned to the westward, and quitting the main street, entered the Cyanean branch, which here forms its junction. This branch was still more covered with reeds and aquatic plants than any part that we had come through; but unlike the Anapus, its water, when visible, was as clear as a mountain stream in Scotland. In proportion as we proceeded up this branch, which is very winding and deep, we saw the papyrus in thick groups; and as we laboured to force our way through the vegetable obstruction, which became stronger and stronger, the beautiful feathery tuft of the plant bending with its slim elastic stem, frequently flapped in our faces."

ORDER II.

DIGYNIA.



2 PISTILS.

Plants with two pistils.

GRAMINEÆ.

The Grasses.

This order contains the most important family of plants in the whole vegetable world. No order of vegetables are more useful, none more beautiful, and by a wise dispensation of Providence, none are more extensively disseminated. Their range extends from the torrid to the frigid zone, from the equator to the polar regions. The bread, which is truly denominated, "the staff of life;" the sugar that sweetens, and the beer that enlivens the heart of man, are all derived from the grasses. And as they form the principal part of the food of those animals which man has subjected to his use, we are indebted to them for our beef and mutton, our milk and butter, our poultry and eggs, &c. The smaller grasses form a compact green covering of turf, which carpets our meadows. The larger ones, besides giving us food, enter into the composition of an infinite number of useful articles:—the straw is manufactured into mats, coverings for roofs, hats, bonnets and the like. Indeed, without the grasses the earth would be little better than a barren waste, and utterly unfit for the abode and sustenance of man.

Such an extensive tribe distributed through every variety of climate and soil present, as might naturally be expected, a vast variety of habit and modes of existence. The Bamboo, the Maize, the Sugar Cane, are very different to our oats, wheat, and meadow grasses. Many species do not grow above three or four inches high, while others, the *Panicum Arborescens*, for instance, obtains an altitude of some hundreds of feet, overtopping the highest trees, and forming an aerial meadow, above the forests of Hindostan.

The whole of this tribe of plants, with perhaps one exception, are all wholesome. Those with larger seeds, such as Maize, Wheat, Rice, Oats, &c., give us the principal part of our food. The sugar which comes from the Sugar Cane has now become a necessary of life in every family throughout the civilized world, and is most extensively cultivated, so as to become an important branch of commerce. Thousands, if not millions of hats and bonnets are annually made from the straw, giving employment to numerous individuals, and as a light, elegant covering for the head, particularly to females it was never surpassed by any other fabric that the ingenuity of man has devised. The seeds of the smaller grasses give food to numbers of the feathered tribe, that enliven our woods and hedges. In short, the importance of the grasses can never be sufficiently appreciated.

We will now proceed to notice a few of the most prominent members of this interesting family, and the first that shall come under our consideration is the only one of the grasses said to be injurious.

LOLIUM TEMULENTUM.

Bearded Darnel.

This species of Darnel grows wild in many parts of England in fields

among wheat, barley, &c., and flowers in July. It varies greatly in its appearance, so as sometimes to be confounded with Rye grass, *Lolium Perenne*, which is an useful and wholesome fodder for cattle, and much cultivated for that purpose.

There appears to be no doubt that Darnel possesses deleterious if not poisonous properties. Many undoubted cases of injurious consequences following from eating bread in which the seeds have been ground up with corn, are on record. It is stated in the Medical and Surgical Journal, that about eighty persons in the poor-house at Sheffield, after breakfasting on oatmeal porridge, in which it appears that the seeds of Darnel had been ground, were seized with the usual symptoms of poisoning. Violent agitation of the limbs, convulsive twitchings, confusion of the sight, and extreme pains in the forehead, were observed in nearly all those persons. It seems they were relieved with copious draughts of vinegar, and ultimately they all recovered.

When a person is supposed to be poisoned by eating Darnel, the best way is to administer an emetic, afterwards he may partake freely of acidulous drinks. If this treatment be used in time, the patient will generally recover.

However, if Darnel can be proved to produce injurious consequences when taken internally, its great value when used as an *outward* application, is undoubted. According to Boerhaave, Galen, and a whole host of the best medical authorities, it resists putrefaction, and is of great use in disorders of the skin. It possesses strong cleansing qualities, and a clean skin is of the utmost importance, as a means for securing a good state of health. For this purpose it is one of the principal ingredients in Doctor Torrens' skin-bracing and cleansing powders, the surprising effects of which in removing all impurities, such as scabs, blotches, and the like, and thereby improving the general health, is too well-known to be further insisted upon.

SACHARUM OFFICINALIS.

Sugar Cane.

The root of the Sugar Cane is thick, oblong, geniculated, and furnished with many fibres. It runs obliquely under the surface of the ground, and is succulent, and very sweet to the taste. The plant rises to eight or nine feet high: the stalk is round, jointed, and two or three inches in diameter at the bottom. The joints are three or four inches asunder; and sometimes, when the soil is rich, they are more. The colour is a greenish-yellow, and at the knots it is yellow in one part, and whitish on the other: the knots themselves swell out beyond the rest of the stalk, and the whole stalk is full of a whitish, succulent, and very sweet matter. The leaves stand singly at the joints; they are very large, three feet in length, and but narrow in proportion; they stand erect, and are of a yellowish-green colour, somewhat scabrous on the surface, and wrapped about the stalk at their base. The top of the stalk is furnished with several leaves, and from among them produces a panicle very ramose, and of three feet in length.

As a medicine, sugar cannot be considered to possess much power.

In catarrhal affections both sugar and honey are frequently employed: it has also been advantageously useful in calculous complaints; and from its known power in preserving animal and vegetable substances from putrefaction, it has been given with a view to its antiseptic effects. The candy, by dissolving slowly in the mouth, is well suited to relieve tickling coughs and hoarseness. The use of sugar in various medicinal compositions is too obvious to require being particularly pointed out.

PHALARIS CANARIENSIS.

Canary Grass.

The root of this species is formed of a little cluster of tender, white fibres. It grows to a foot and a half, or more, in height. Its stalk is slender, green, round, and jointed, in four or five places. At every one of the joints stands a single leaf, oblong, narrow, and terminating in a point, like the leaves of the rest of the grasses. At the head of every stalk stands a single, beautiful spike, an inch in length, of a turbinated figure, and formed of squammæ large and beautiful, variegated with a pale green and white.

The seed of this plant is the well-known canary seed of which thousands of bushels are annually grown for food of the canary bird.

MILLIUM EFFUSUM.

Millet Grass.

A plant of the grass kind, large, upright, and not without its beauty. It is four feet high. The stalk is round, hollow, jointed, thick, and firm. The leaves are long and broad, of a pale green, and hairy. The flowers and seeds grow at the top of the stalk, and in a vast cluster, so heavy that the head usually hangs down: they are altogether of the grass kind. The flowers are inconsiderable, and the seeds small, hard, and white.

The seeds are used sometimes in the manner of barley, to make a drink, which is good in fevers, and against heat of urine. It is also astringent. The grain is eaten also as barley.

PANICUM VERTICILLATUM.

Rough Panic Grass.

A very singular and pretty plant of the grass kind, cultivated in some parts of Europe. The stalk is very thick and firm, round, jointed, and a yard high. The leaves are grassy, but they are large and broad: the flowers and seeds are contained in a long ear, which is broad and flat; it is composed of several small ears, arranged on the two sides of the stalk; these spikes are hairy: the seed is round, and is much like millet, only smaller.

The seed is the only part used. It is good against sharp purgings, bloody fluxes, and spitting of blood.

ARUNDA PHRAGMITES.

Common Reed.

A tall watery plant sufficiently known. The stalks are round, hard, jointed, and six or eight feet high. The leaves are long and broad, but otherwise like those of grass, of a pale green colour, and highly ribbed. The flowers are brown and chaffy, and stand in prodigious numbers at the tops of the stalks, in a kind of panicle. The roots are knotty and jointed, and spread vastly.

The juice of the fresh roots of reeds promotes the menses powerfully, but not violently. It is an excellent medicine. It works by urine also; and is good against stranguries and the gravel.

HORDEUM PRATENSE.

Common Barley.

The barley used in medicine is the same as that of which bread is made, and which serves the brewer and distiller in their several capacities. It is known at sight from wheat, when growing, for it is not so tall, and the leaves are smaller and narrower. A long beard grows from each grain in the ear, and the ear is composed of two rows of them.

We use this grain in two forms, the one called French Barley, and the other Pearl Barley. The French Barley is skinned, and has the ends ground off. The Pearl Barley is reduced by a longer grinding to a little round white lump. The Pearl Barley makes the finer and more elegant barley water, but the French Barley makes the best. It is excellent in heat of urine, and in all gravelly cases, and is a good drink in most acute diseases, where diluting is required: it is also in some degree nourishing.

PHEUM PRATENSE.

Meadow Cat's-tail Grass.

This grass varies much in size, and in the length of the spike; it has also been observed, in common with several others, to have a leafy spike, occasioned by the seeds germinating in wet weather before they fall. One variety with a bulbous root is set down by many authors for a distinct species; but Mr. Hudson and others assure us that the root becomes fibrous when cultivated in a garden; and at best this is an equivocal character.

Meadow Cat's-tail grass was much puffed about twenty-seven years ago under the name of *Timothy-grass*. It had this quaint name from Mr. Timothy Hanson, who is said first to have brought the seeds of it from New York to Carolina. It had then a great character in North America, where it is called *Herd-grass*, but whether it has supported it since we cannot say. Its reputation here was short-lived, and deservedly; for it has no one good property in which it is not excelled by the Fox-tail grass; and besides this it is harsh, and late in its appearance. It is proper only for moist lands; in a dry soil it makes a pitiful appearance.

ELYMUS ARENARIUS.

Sea Lyme Grass.

Root perennial: leaves like those of the reed, bluish green, or whitish, channelled and stiff, rolled inwards and sharp pointed: stalks two or three feet high, and upwards, strengthened by three or four joints, and terminated by a spike, eight or nine inches long, as large as a full-sized ear of wheat, but less compact: there are two spicules, or little component spikes together; they are straight, contain two florets, and have no awns.

It is a native of the sea coast, in many parts of Europe, growing in loose land, and flowering from June to August.

The creeping roots of this grass prevent the sea sands from being blown away, and thus frequently prevent destructive inundations. Dr. Withering asks whether it might not be formed into ropes, as the *Stipa tenacissima* is in Spain.

AVENA FATUA.

Wild Oat.

Our Wild Oat has an annual root. It is a taller plant than the cultivated oat, the culms or straw being frequently three or four feet in height. The leaves are smooth, except about the edge, where they have a few hairs, so that they are rough to the touch when stroked downwards. Panicle pyramidal, with spreading branches, some of them dividing towards the top, from 1 to 6 at a knot. Peduncles hairy. Valves of the calyx from 9 to 11 inches long and ribbed, the outer valve generally a line shorter than the other, containing two florets, both awned; the third is often wanting. The corolla has tufts of hair at the base; outer valve even, the ribs not being prominent, beset with whitish hairs about the insertion of the awn, and some few scattered ones between it and the base, slightly cloven at the end, but readily separable to the depth of two lines, fawn-coloured when ripe. The awn is twice as long as the corolla, and rough; it is bent aside about a line above the point of the valve.

It is called by our English writers *Bearded Wild Oats* or *Haver*. It is one of our most destructive annual weeds among corn, and is frequently so prevalent among barley, as almost to choke it. The Wild Oat ripens its seed and falls before the crop itself is ripe, thus filling the ground, where it will lie several years without vegetating. It may be extirpated by repeated fallowing, or by laying down the land to grass.

The awns are used for hygrometers, and the seeds instead of artificial flies, in fishing for trout.

The *sterilis avena* of Virgil, or the Wild Oat of Southern countries, is a different species from this.

BROMUS MOLLIS.

Soft Brome Grass.

The whole plant is covered with soft hairs. The stalk is from one to three feet in height, and upright, with very thick joints, 5 or 6 in number. Panicle, when in fruit, closely contracted. Spikelets ovate-pointed, tergid, having about eight florets, or rather from six to nine, sometimes more,

the last frequently abortive. Outer valve of the corolla slightly cloven at the end, but easily separating to the insertion of the awn, which is about half a line below the point; inner flat, and fringed at the edge with bristly hairs.

It is an annual grass, comes into spike early, and has generally shed its seed before the meadows are mown. In many places it is the predominating grass. Provided it were sown by itself, it might be cultivated to advantage as an early grass. The seed being large, and the panicle containing nearly as much as that of a common oat, it is remarked by Curtis, that although cattle may not be very fond of the leaves and green panicle, yet it may perhaps contribute to render the hay more nutritive. The heaviness of the panicle, making it subject to be laid by rain, is a great objection to this grass.

According to Dr. Withering, it is known among farmers by the name of Oat-grass, and is sown with clover. We have observed it frequently to abound among Saintfoin.

ALOPECURUS GENICULATUS.

Fox-tail Grass.

Root perennial. Stalks a foot and eighteen inches in length, or more, procumbent at bottom, and often creeping. The upper side of the leaves, if drawn backwards between the fingers, rough; the under side smooth; the uppermost leaves only an inch or two in length; ligule or strap ovate, pointed; sheath smooth, streaked, ventricose. Spike an inch or more in length, almost cylindric, varying in form and colour, sometimes blunt, sometimes tapering to a point, greenish, purplish, and even appearing blackish when viewed at a distance, whence it is called in some places, *Black-grass*. Valves of the calyx cut off obliquely, pubescent, three-nerved, with a ciliate keel. Valve of the corolla oblong, ovate, truncate, five-nerved, pellucid, without hairs, the awn proceeding from near the base, and twice the length of the corolla. Anthers at first purple, afterwards ferruginous.

This grass is easily known, by the frequent joints of the stalk changing their direction at an angle, and thus appearing as if broken. It is common in the wet parts of meadows, and in pools, where it pushes out roots under water from the joints, and thus spreads itself much, the leaves floating on the surface. It sometimes occurs in dry pastures, and even on walls, and then grows more upright, the spike becomes more slender, and the base of the stalk frequently swells out into a kind of bulb. It flowers in June. Cattle eat it readily, but is not a profitable grass.

POA ANNUA.

Annual Meadow Grass.

Root annually, and remarkably full of fibres. Culms numerous, forming a thick tuft, about half a foot high, varying from less than three inches to near a foot. Leaves very numerous, short, keeled, smooth frequently wrinkled transversely, very finely serrate. Panicle triangular, flattish; peduncles at the bottom in pairs, one shorter than the other, from the

middle often in threes, and at top single. Spikelets ovate, pointed, flat-tish and sharp on both sides, containing three, four, and sometimes five flowers, having no wool at the base.

It occurs almost every where, and flowers all the year round, except in severe weather. The panicle frequently acquires a reddish tinge.

It appears to be one of the first general coverings which Nature has provided; and therefore is a troublesome weed in gardens, particularly in gravel walks and pavements, where Mr. Curtis recommends boiling water as the most expeditious method of destroying it.

Mr. Stillingfleet says that it makes the finest of turfs, that it is called in some parts *Suffolk-grass*, there being whole fields of it in High Suffolk, without any mixture of other grasses, and that it is likely to be the best grass for the dairy. Its foliage is tender and grateful to cattle, but it never acquires any great height.

TRITICUM REPENS.

Quick, or Couch Grass.

Culms or stalks two feet high, and where drawn up double that height, round, smooth, striated, upright, with from three to five or six joints, which are frequently tinged with red. Leaves pointed, from five to nine inches long, three or four lines broad, waved, the lower surface smooth, the upper roughish. Ligula or strap white, very short, truncate. Sheath smooth, except that the lower ones are slightly pubescent. Spike lanceolate, blunt, compressed, distich, four or five inches long, and near half an inch broad. Receptacle or rachis flexuose, rugged, toothed. Spikelets ovate, blunt, flattened, smooth, varying in the number of florets from two to four, five, six, and even eight, bright or yellowish green, sometimes purplish, solitary, sessile alternately at the teeth of the rachis. Glume of the calyx three or four lines long, either ending in a point, or in an awn, sometimes not a line, and sometimes from two to four lines in length, but never so long as the spikelet. Outer valve of the corolla five-nerved, four lines in length, either pointed or ending in an awn from one to three lines long; inner valve flat, except that the edge is often bent in; this is ciliate and the end is cloven. The seed falls out of the husk.

This very common grass is the pest of gardens and arable land; it abounds also in hedges. Several other grasses, however, with creeping roots are confounded with this by the husbandman, under the names of Quick, Squitch, Couch, &c., all corrupted from Quick, which signifies Living: and this grass was evidently so called, because every particle of the root will grow.

In gardens the common method of destroying it, is by forking out the roots as soon as the blade appears, or by trenching the ground very deep, and turning the quick into the bottom below the reach of vegetation. In arable land it is best got under by fallowing in dry summer, and frequent harrowing, collecting the roots into heaps, and burning them: also by crops that require frequent hoeing.

This pest of the husbandman is not however without its use. At Naples the roots are collected in large quantities, and sold in the markets to feed horses; they have a sweet taste, something approaching to that of liquorice: when dried and ground to meal they are said to have been made into



Annual Meadow Grass



Couch Grass



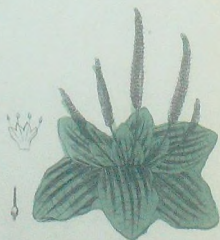
Wheat



Fuller's Teasel



Devil's Bit Scabious



Greater Plantain

bread in years of scarcity. The juice of them drank liberally is recommended by Boerhaave in obstructions; particularly in cases of a scirrhus liver and jaundice. Cattle are frequently found to have scirrhus livers in winter, and to be cured soon when turned out to grass in the spring. It is well known that dogs eat the leaves to excite vomiting. Mr. Miller affirms that the blade is so rough, that cattle will not feed upon it. No animals indeed seem to eat it much, except whilst it is young and tender.

TRITICUM.

Wheat.

We now come to the most important genus of this class, and indeed of the whole vegetable world, forming, as it does, the most wholesome, the most nutritious, and, whatever the potato and root mongers may say to the contrary, the most *economical* food for man. There are several varieties of wheat, although it is probable they have all come from one stock, and the difference is owing to the variation of soil and climate. The most useful sort is that which is commonly cultivated in our country, namely,

Winter Wheat. This wheat has a large plump ear, and a strong, vigorous, erect stem. It is sown in autumn, and comes to maturity the following summer; so that it occupies the ground for the whole year. It is very apt to pass into variations, arising from soil, climate, and modes of culture. The most marked of these varieties are the red and white wheat. The red is more appropriate to the Northern parts of our island, and the white to the South. Where the white will grow, it is more productive, and yields more flour, and of a better kind than the red.

Many extraordinary facts are recorded respecting the wonderful increase of wheat. Kenelm Digby asserted in 1660, that "there was in the possession of the Fathers of the Christian doctrine at Paris a plant of barley, which they at that time kept as a curiosity, and which consisted of two hundred and forty-nine stalks springing from one root or grain, and in which they counted above eighteen thousand grains or seeds of barley." In the Philosophical Transactions it is recorded, that Mr. C. Miller of Cambridge, the son of the eminent horticulturalist, sowed, on the 2nd of June, a few grains of common red wheat, one of the plants from which had tillered so much, that on the 8th of August he was enabled to divide it into eighteen plants, all of which were placed separately in the ground. In the course of September and October so many of these plants had again multiplied their stalks, that the number of plants which were separately set out to stand the winter was sixty-seven. With the first growth of the spring the tillering again went forward, so that at the end of March and beginning of April a farther division was made, and the number of plants now amounted to five hundred. Mr. Miller expressed his opinion, that before the season had too far advanced one other division might have been effected, when the number might at least have been quadrupled. The five hundred plants proved extremely vigorous, much more so than wheat under ordinary culture, so that the number of ears submitted to the sickle was 21,109, or more than forty to each of the divided plants: in some instances there were one hundred ears upon one plant. The ears were remarkably fine, some being six or seven inches long, and containing from

sixty to seventy grains. The wheat, when separated from the straw, weighed forty-seven pounds and seven ounces, and measured three pecks and three quarters, the estimated number of grains being 576,810.

It is rather curious, considering the length of time that the excellent practice of dibbling wheat has been before the public, that as yet it is so little followed. We find this mode of sowing strongly recommended by Lord Bacon above two hundred years since, and at present the great majority of our farmers continue to sow broad cast. The farmers object to the dibbling on account of the expense; but it has been proved over and over again, that in the saving in seed alone, to say nothing of the greater production which follows, the practice of dibbling will very nearly pay the extra expense. Besides, when a field of wheat is planted in rows at a moderate distance, see what an advantage it is to be able to go amongst it in spring, and hoe up all the weeds, and keep the ground as clear as a garden bed.

In the year 1788, Mr. Tull published his celebrated work entitled, "An Essay on Horse-hoeing Husbandry." This work became highly popular, and compelled the attention of the English farmers to the subject. The system of Mr. Tull consisted in discarding the old method of scattering seed upon the land broad-cast, and in substituting a mode of sowing the grain in straight rows or furrows, by means of an implement more perfect than Locatelli's machine, which delivered the seed at proper intervals, and in the exact quantity that was found most beneficial. Spaces of fifty inches in breadth were left between the furrows, so that the land could be ploughed or horse-hoed in these intervals at various periods during the growth of the crop, the object of these hoeings being to bring fresh portions of the soil into contact with the fibrous roots of the plants, and thus to render every part in turn available for their nutrition. One material advantage that results from the new method of husbandry is the saving which it occasions in seed-corn, and which is said to amount to five-eighths of the quantity usually expended in the old method.

A bushel of wheat of the average weight, when ground into flour, yields the following produce:—

	lbs.
Bread flour,	47
Fine Pollard,	4½
Coarse Do.,	4
Bran,	2¾
Loss,	2

I cannot conclude this interesting subject without a word on the absurdities of the men who pretend that the land in England is incapable of producing a sufficiency of corn food for all the inhabitants, and who give that as a reason for the distress and starvation which we so frequently see amongst the labouring population. One quarter of wheat will make four hundred pounds of good bread; but in order to avoid all cavil, we will take it at three hundred and sixty-five pounds,—that is to say, a quarter of wheat will give a pound of bread a-day for one man. Now if we allow a pound of bread per day for every man, woman, and child, in the

three kingdoms, taking the population at twenty-eight millions, we shall want twenty-eight millions of quarters of wheat, (and bear in mind this quantity is a great deal more than can possibly be consumed, as the average of men, women, and children do not consume a pound of bread per day nor any thing like it) but I wish to state every thing at the worst. An acre of land with only moderate cultivation, will produce three quarters of wheat. It would therefore require little more than nine millions of acres to grow as much corn as would supply each of the inhabitants of England, Scotland, and Ireland, with a pound of bread per day. And these same islands contain an area of seventy-seven millions, three hundred-and-ninety-six-thousand, four-hundred-and-thirty-three acres; so that there is enough of land to grow more than a sufficiency of bread for all the inhabitants of these islands, and leave a surplus for other purposes of more than sixty-six millions of acres! If all things were managed as they ought to be,—nay, if they were not most stupidly and wickedly mismanaged—the land in these islands would feed most abundantly more than ten times the population.

ORDER III.

TRYGYNIA.



3 PISTILS.

Plants with three pistils (1).

MONTIA FONTANA.

Water Chickweed, or Blinks.

The root of this plant consists of a great number of fine, capillary, white fibres; from this rise several stalks, round, of a reddish colour, procumbent, and often sending forth new roots at the joints, as they lie on the ground. They are often not an inch long, seldom much more than two, knotty, and often much branched. The leaves stand two at each joint; they are small, like those of the serpillum, but narrower, of a pale green, and somewhat fattish. The flowers grow from the axils of the leaves, principally about the top of the plant, sometimes all the way along it: they stand on peduncles half an inch in length, though sometimes singly, sometimes two or three together. They are extremely small, and seldom quite open; they are white. The taste of the whole plant is bitter.

It is frequent with us in damp places; sometimes, in rainy seasons, in corn-fields. It is supposed to be useful as a stomachic, but it has not been much noticed on account of its scarcity.

CLASS IV.

TETRANDRIA.



4 STAMENS.

Plants with four stamens (1).

ORDER I.

MONOGYNIA.



1 PISTIL.

Plants with one pistil (2).

INTRODUCTORY REMARKS.

Class Tetrandria has a strong claim to the epithet *natural*, having its natural order so arranged as to agree both with the system of Linnaeus, and with what is called the natural system of modern Botanists. We have, in this class, a great number of plants both of medicinal and commercial importance, containing, as it does, Madder, much used in dyeing; the Holly, a most valuable wood; the American Dodder, and several valuable medicinal plants.

DIPSACUS FULLONUM.

Fuller's Teasel.

A tall and stately plant, common by road sides, with large burr-like heads, and little red flowers growing out of them. It is six feet high: the stalk is single, thick, white, and very strong. The leaves grow together, encompassing the stalk at their base, and make a hollow there, which will hold water: they are prickly on the under part along the rib: the heads are as big as an apple, and somewhat oblong; they are of a pale colour. The root is long.

The Teasel is of some importance in the manufacture of woollen goods, and is cultivated to a considerable extent for that purpose. The heads are used for dressing cloth, and no art has been able to contrive any thing so well adapted for drawing a fine nap upon the surface of the cloth, without, at the same time, injuring the fabric.

The root is used in medicine; it is bitter, and given in infusion, strengthens the stomach, and creates an appetite. It is also good against obstructions of the liver, and the jaundice. People have an opinion of the water that stands in the hollow of the leaves being good to take away freckles.

SCABIOSA SUCCISA.

Devil's Bit, Scabios.

A wild plant in our meadows, with slender stalks and globous flowers. It grows two feet high. The stalks are round, firm, and upright, and divided into several branches; they have two little leaves at each joint. The flowers are as big as a small walnut, and composed of many little ones; their colour is very strong and beautiful. The leaves which grow from the foot are four inches long, an inch broad, obtuse, of a dark green, and a little hairy, not at all divided, or so much as indented at the edges. The roots are white, and composed of a thick head, which terminates abruptly, as if it had been bitten or broken off, and of a multitude of fibres. The devil, as old women say, bit it away, envying mankind its virtues.

The leaves are to be gathered before the stalks appear. They are good against coughs, and the disorders of the lungs, given in decoction. The root dried and given in powder, promotes sweat, and is a good medicine in fevers, but we neglect it.

SCABIOSA ARVENSIS.

Field Scabios.

A common wild plant in our corn-fields distinguished by its tall round stalk, and round blue flowers. It grows to three feet in height. The leaves rise principally from the root, and they lie spread upon the ground. They are oblong, and irregularly divided at the edges; they are of a pale green, hairy, and rough to the touch. The stalks are round, hairy, of the same pale green colour, and they have a few leaves on them, placed two at a joint: these are more deeply divided than those on the ground. The flowers stand at the tops of the branches, they are of a deep colour, and each is composed of a number of small floscules, collected into a head. The root is long and brown.

The leaves growing from the root are to be gathered for use before the stalks appear. They are best fresh. A strong infusion of them is good against asthmas, and difficulty of breathing, and the same infusion made into syrup, is good against coughs. The flowers are said to be cordial, and an infusion of them is said to promote sweat, and carry off fevers; but this is less authentic. The juice externally applied is good against foulnesses of the skin.

SHERARDIA ARVENSIS.

Field Madder.

A very common herb in our corn-fields; the whole plant about seven inches high, with rough hairy leaves, all the leaves in whorls round the stem; flowers in May and August, and of a fine purple colour.

It has been thought by some to possess the properties of the *Rubia Tinctorum*, or Dyer's Madder. However, if it have any such properties, they have long been forgotten and abandoned in consequence of the undoubted superiority of the latter.

RUBIA TINCTORUM.

Dyer's Madder.

A rough and unhandsome plant, cultivated for the sake of its root, which is used by the dyers, and also in medicine. It is a foot and a half high. The stalk is square and weak. The leaves stand six or eight at every joint, disposed star-fashion, and they are of a dusky green colour, and very rough, they feel almost prickly. The flowers are little and yellow; and they grow from the bosoms of the leaves. The root is long, slender, and of a red colour.

A decoction of the fresh roots of madder works gently by urine, but it very powerfully opens obstructions of the liver and spleen. It is very good against the gravel and jaundice.

ASPERULA ODORATA.

Sweet Woodruffe

A common little wild plant in our woods and thickets: it is ten inches high. The stalk is square, slender, weak, and not able to support itself perfectly upright. The leaves stand several at each joint, encompassing the stalk in the manner of a star; they are oblong, broad, and of a deep green. In their form and manner of growth they much resemble those of cleavers, but they are larger, though the plant is so much less, and they are not rough as in that plant, but nearly smooth. The flowers stand at the tops of the stalks in little clusters; they are small and white; the seeds stand two together in a globular form. The roots are little and fibrous.

The fresh herb is used, and is best given in a strong decoction: it opens obstructions of the liver and spleen, and is a cordial and stomachic. It is good in the jaundice.

GALIUM APARINE.

Goose Grass, or Cleavers.

A wild herb common in all our hedges, and known by sticking to people's clothes as they touch it. The stalks are square and very rough, two feet long, but weak and unable to support themselves: they climb among bushes. The leaves are long and narrow, and of a pale green; they grow several at every joint, encompassing the stalk in the manner of the rowel of a spur: they are rough in the same manner with the stalk, and stick to every thing they touch. The flowers are small and white; the seeds grow two together, and are roundish and rough like the rest of the plant: the root is fibrous.

The juice of the fresh herb is used; it cools the body, and operates by urine: it is good against the scurvy, and all other outward disorders. Some pretend that it will cure the evil, but that is not true.

GALIUM VERUM.

Yellow Bedstraw.

A pretty wild plant, frequent about hedges in June and the succeeding

months. The stalk is weak and two feet high; the leaves are of a blackish green, and small: and the flowers are yellow. The stalk is angular and whitish, very brittle, and seldom straight; the leaves stand a great many at each joint, and are small, narrow, and disposed about the stalk like the rowels of a spur; the flowers grow in great tufts on the stalks, so that they make a very conspicuous appearance, though singly they are very small.

This herb is little regarded, but it has very great virtues: it should be gathered when the flowers are not quite blown, and dried in the shade. An infusion of it will cure the most-violent bleedings at the nose, and almost all other evacuations of blood.

PLANTAGO MAJOR.

Greater Plantain.

A common plant by our way side, with broad short leaves, and long slender spikes of brown seeds. The leaves rise all from the root, for there are none upon the stalk. They are of a somewhat oval figure, and irregularly indented at the edges, sometimes scarce at all. They have several large ribs, but these do not grow side-ways from the middle ones, but all run length-ways, like that from the base of the leaf towards the point. The stalks grow a foot high, their lower half is naked, and their upper part thick set, first with small and inconsiderable flowers, of a greenish white colour, and afterwards with seeds which are brown and small.

The generic name is of uncertain origin. It is probably derived from the term *planta*, the sole of the foot, in allusion to the broad flat leaves lying close upon the ground. It is a singular fact, but it always follows the migrations of man, and wherever our colonies have been established, there in a few years has the plantain sprung up, though not there before, so that the natives have called it, "The Englishman's Foot." The reason is, I presume, that most of our countrymen, when they have emigrated, have taken more or less of agricultural seeds with them, and as the seed of the plantain is so very small, some of it has been mixed with the other sorts, and taken along with them.

PLANTAGO MEDIA.

Hoary Plantain.

This species has the leaves small and less blunt than the last. They are hoary, commonly five nerved, lying close to the ground, on very short stalks: the root is very large, with many stout long fibres, by which the plants support themselves, and look fresh and green in the hottest season.

Plantain, says Merriek, is of a cooling astringent, and healing nature. A decoction of the whole plant is good in disorders of the kidneys and urinary passages. The root dried and reduced to powder is very serviceable in fluxes of the bowels, attended with bloody stools. The expressed juice is good against spitting of blood, immoderate fluxes, and the piles. The leaves bruised and applied to fresh wounds soon heals them, and they are also good to cleanse and heal old ulcers. The following preparation of Plantain will be found excellent in cases of *spitting of blood*.



Great Burnet



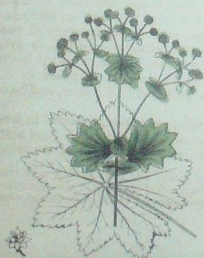
White Saunders



Contrayerva



Wolf Penstemon



Ladies Mantle



Holly

Take the leaves when free from moisture, bruise them in a mortar, wrap them in a cloth put in hot water for a time, and extract the juice: keep it bottled, and to a wine glassful add one-fourth of wine itself for a dose.

The seeds in the dose of a drachm, boiled in milk or broth, are made laxative and demulcent. The infusion and decoction of the root and leaves in the proportion of one to two ounces to a pint of water may be taken *ad libitum*. Boyle recommends an electuary, made of fresh comfrey roots, juice of plantain and sugar, as effectual in hæmoptysis, &c. The powdered root* in the dose of four or five drachms, or a strong infusion of the plant (and probably the extract) may be given in agues at the commencement of the fit. According to Needham, plantain-juice either alone, or mixed with lemon-juice, is an excellent diuretic.

PLANTAGO CORNOPUS.

Bucks' Horn Plantain.

A very pretty little plant, which grows in our sandy and barren places, with the leaves spread out in the manner of a star, all the way round from the root; and in the heads like other plantains, although so very unlike them in its leaves. The root is long and slender; the leaves which lie thus flat upon the ground, are narrow and long, very beautifully notched, and divided so as to resemble a buck's horn—whence the name—and of a pale whitish green, and a little hairy. The stalks are slender, six inches long, but seldom quite erect: they are round, hairy, and whitish, and have at the top a spike of flowers, of an inch or two in length, altogether like that of the other plantains, only more slender.

This plant has obtained the name of Star of the Earth, from the way of the leaves spreading themselves. These leaves bruised, and applied to a fresh wound, stop the bleeding and effect a cure. It is said also to be a remedy against the bite of a mad dog, but this is idle and groundless.

SANGUISORBA OFFICINALIS.

Great Burnet.

A common wild plant. It grows by way-sides and in dry places, and flowers in July. The leaves, which rise immediately from the root are very beautiful; they are of the winged kind, being composed of a great number of smaller, growing on each side a middle rib, with an odd one at the end. They are broad, short, roundish, and elegantly serrated round the edges. The stalks are a foot high, round, striated, purplish or green, and almost naked; the few leaves they have are like those at the bottom. On the tops of these stalks stand the flowers; they are disposed in little round clusters, and are small, and of a pale reddish colour, and have a number of threads in the middle.

Burnet is called a cordial, and a sudorific, and is recommended in fevers. They put it also in cool tankards, like borage. The root is a good astringent: dried and powdered, it stops fluxes, and overflowings of the menses.

* Wedelius had an amulet which he wore fifty years, and considered a preservation against the plague and all infection. It was composed of the roots of plantain and colchicum, and flowers of lavender. See his "Experimentum curiosum de Colcho veneno, &c."—Jense, 1718.

EPIMEDIUM ALPINUM.

Barrenwort.

A singular and very pretty plant, native of England, but not common. It grows in woods, and has beautiful purple and yellow flowers. It is a foot high. The leaves are oval and heart-fashioned, deeply indented at the edges, and of a dusky green. The stalks which produce the flowers are weak, brittle, and generally crooked; the flowers stand in a kind of very loose spike, ten or a dozen on the top; they are small, but very singular and conspicuous; they are purple on the back with a red edge, and yellow in the middle. The root is fibrous and creeping.

The people in the north give milk in which the roots have been boiled, to the females of the domestic animals when they are running after the males, and they say it has the certain effect of stopping the natural emotions. Plain sense leads these sort of people to many things. They have from this been taught to give it to young women of robust habits, subject to violent hysteric complaints, and I am assured with great success; they give the decoction of the root made strong and sweetened. It was a coarse allusion that led them to the practice, but it succeeds in cases that foils all the parade of common practice. It is said that if they take it in too large a quantity, it renders them stupid for some hours, but no ill consequence has attended this.

CORNUS SANGUINEA.

Cornel, or Dogwood.

A garden tree of the bigness of an apple tree, and branched like one; the bark is greyish, the twigs are tough: the leaves are oblong, broad and pointed, of a fine green colour, but not serrated at the edges. The flowers are small and yellowish, the fruit is of the bigness of a cherry, but oblong, not round: it is red and fleshy, of an astringent bark, and has a large stone. The fruit is ripe in autumn; the flowers appear early.

The fruit is the part used: it may be dried and used, or the juice boiled down with sugar; either way it is cooling and moderately astringent. It is a gentle pleasant medicine in fevers with purgings.

There grows a wild cornel tree in our hedges, called the female cornel, a shrub five feet high, with broad leaves and black berries. It is not used in medicine. In some parts of the West Indies they intoxicate fish with the bark of a shrub of this kind, by only putting a quantity of it into the water of a pond; we have not tried whether this of ours will do the same.

PARIETARIA OFFICINALIS.

Wall Pellitory.

A wild plant frequent on old walls, with weak branches, and pale green leaves. It grows a foot high, but seldom altogether erect. The stalks are round, tender, and a little hairy, jointed, and often purplish. The leaves stand irregularly on them, and smaller at the end. The flowers stand close upon the stalks, and are small and inconsiderable, of a whitish green colour when open, but reddish in the bud.

The whole plant is used, and it is best fresh. An infusion of it works

well by urine. It is very serviceable in the jaundice, and is often found a present remedy in fits of the gravel, the infusion being taken largely.

ALCHEMILLA VULGARIS.*Common Ladies' Mantle.*

A very pretty plant, common in gravelly fields and by road sides. The leaves are numerous and very beautiful; they are broad and of a roundish figure, but divided deeply into eight parts, and each of these is elegantly indented about the edges. They are of a yellowish green colour, nearly as broad as the palm of one's hand, and they stand upon foot-stalks of an inch or two in length. The stalks grow in the midst; they are round, a little hairy, eight inches long, not very upright, and of a pale green colour. The flowers stand in considerable numbers at their tops; they are small and of a greenish colour, but have a great many yellow threads in the middle. The root is long, thick, and dark coloured.

The root is the part most valuable; a decoction of it fresh taken up, is an excellent remedy in bloody fluxes, and all other bleedings. Dried and powdered it answers the same purpose, and is also good against common purgings. The good women in the north of England apply the leaves to their breasts, to make them recover their form, after they have been swelled with milk.

ALCHEMILLA ARVENSIS.*Field Ladies' Mantle, or Parsley Piert.*

This plant is much like the last but smaller, and much more elegant in appearance. It is found in the mountainous districts in Scotland and the north of England, where it is much prized by the inhabitants for its beauty and medical properties, which are generally considered superior to the last. The old English name is "Our Ladies' Mantle," (the blessed Virgin) a name given in Catholic times in allusion to the elegant plaitings of the leaves. The whole flora of England does not produce a leaf surpassing this in beauty.

Linnaeus relates that a tincture of the leaves of this plant was found of great service in curing the spasms which prevailed in Sweden, although when the plant is used in this way it is the root which is used instead of the leaves; and to those afflicted with cramps, spasms, flouur albus, and other disorders of the kind, a tincture of the root, or a strong decoction will be found serviceable.

As a mild astringent it will be found useful to give to children, in cases of purging, in this case the decoction must not be too strong; about an ounce of the root to a pint of water, boiled down to a gill. Dose:—a table spoonful two or three times a day.

PANTALUM ALBUM.*White or Yellow Saunders.*

A large tree covered with a reddish brown bark, with ovate leaves standing opposite on foot-stalks, and numerous purple flowers growing in com-

pound spikes; the fruit drapaceous, and containing a large seed or stone. Saunders, distilled with water, yields a fragrant essential oil, which thickens in the cold into the consistence of a balsam, approaching in smell to ambergris, or a mixture of ambergris and roses: the remainder of the decoction, inspissated to the consistence of an extract, is bitterish and slightly pungent. Rectified spirit extracts by digestion considerably more than water: the colour of the tincture is a rich yellow. The spirit, distilled off, is slightly impregnated with the fine flavour of the wood; the remaining brownish extract has a weak smell, and a moderate balsamic pungency.

The wood is chiefly valued on account of its fragrance; hence the Chinese are said to fumigate their clothes with it, and to burn it in their temples in honour of their gods. Though still retained in the *Materia Medica* of the Edinburgh Pharmacopæia, it cannot be thought to possess any considerable share of medical power. Hoffman considers its virtues as similar to those of ambergris; and some others have esteemed it in the character of a corroborant and restorative.

DORSTENIA CONTRAJERVA.

Contrajerva.

This is a native of South America and some of the West India islands; and as there is perhaps not half a dozen specimens in Europe, it is useless attempting to describe it further than by stating that it has a thick yellow root, with broad green leaves not unlike our colt's-foot, but more lobed or indented. The flower-stalk is rough and rising several inches in height, at the top of which are the flowers the same colour as the rest of the plant, but rather lighter green.

The root of *Contrajerva* has a peculiar kind of aromatic smell, and a light astringent warm bitterish taste, and on being long chewed it discovers somewhat of a sweetish sharpness. According to Lewis, *Contrajerva* root gives out its virtue, by the assistance of heat, both to water and rectified spirit, and tinges the former of a dark brownish red, the latter of a brighter reddish colour: the watery decoction is very mucilaginous, so as not to pass through a filter.

The anti-poisonous virtues formerly attributed to this root, have been long very justly exploded as entirely chimerical, so that it is now merely employed as a diaphoretic of a moderately stimulant kind, being possessed of less pungency than any other of those medicines usually denominated alexipharmic. Putrid and nervous fevers are the diseases in which *Contrajerva* is chiefly used, conformably to the practice of Huxham and Pringle, whose works are well-known to all our medical readers.

ORDER III.

TETRAGYNIA.



4 PISTILS.

Plants with four pistils (1).

ILEX AQUIFOLIUM.

Common Holly

Too well known to need description.

Holly is much prized for hedges, but on account of its slow growth it is seldom employed for that purpose. The branches have long been in use for adorning houses and churches at Christmas, hence it was called "Holy Tree" by our forefathers, in the days of England's glory and renown. There are few plants that grow more beautiful and useful than this. The wood being very hard and susceptible of polish is used by the carpenter, wheelwright, and engraver. The substance called bird-lime is obtained from the tree, merely by taking off the bark about midsummer, taking care to remove the *outside* of the bark, the inner part is steeped in cold water for a few days, after which it is beat up in a mortar, then washed in cold water, left to settle a day or two longer, the scum taken off, and the bird-lime is ready for use.

In medicine the Holly is valuable. The berries taken in doses of from fifteen to twenty, are exceedingly good in windy complaints or the colic, and Dr. Rousseau has pronounced it to be equal, if not superior, to the famous Jesuit's bark in intermittent fevers or the ague. He has written a treatise on the value of Holly, in which he states, that he succeeded in curing above threescore cases of fevers, many of them of an obstinate character, by the simple use of this plant alone! If one-half of what the above benevolent and learned Doctor says be true, the subject deserves our serious consideration. He states that he has discovered a bitter principle in the leaves which he terms *Ilicine*, and which he obtained in the following manner:—"make an alcoholic extract of the leaves of Holly, which should be mixed with water, and afterwards treated with subacetate of lead, sulphuric acid, and carbonate of lime; alcohol should then be added, and the product when dried, is *Ilicine*." And this the Doctor assures his readers, is more valuable than the Jesuit's bark for all the purposes for which the latter has been applied. It is to be hoped the subject will not be allowed to drop here, but others in the medical profession will take it up, and have it fairly investigated.

The most easy way of making use of Holly is by decoction. You boil

No. 6.

half an ounce of the fresh gathered leaves in about half a pint of water down to half, and this can be given in *one dose* two or three hours before the ague fit comes on, and continue in the same manner for every fit, until the fever abates.

The same *decoction* is considered the best for glysters, in cases of constiveness, causing most copious evacuations without griping. On the whole this Holly is a most valuable and beautiful plant, and it is a great pity it is not more extensively cultivated with us.

POTAMAGETON NATANS.

Pondweed.

This is a water plant rising from the bottom of standing waters. The root consists of long slender fibres running deep into the mud. The stem many feet in length, much branched and leafy, the upper leaves are dark green, three inches long, and one and a half broad, floating on the top of the water. All water fowl are fond of the roots. Some of the old Botanists ascribed medical properties to this plant, but it is now totally neglected.

CLASS V.

PENTANDRIA.



5 STAMENS.

Plants with five stamens (1).

ORDER I.

MONOGYNIA.



1 PISTIL.

Plants with one pistil (2).

INTRODUCTORY REMARKS.

It has been computed that more than one-tenth of the vegetable world are included in this class. With the exception of *Cryptogamia*, it includes by far the greatest number of any other. Of a class so extensive it is impossible to treat adequately within the limits of an introductory article like the present. It embraces several families, the distinctions of which are as clearly defined as it is possible to conceive. The first order consists of a tribe of plants with rough leaves, having a calyx of one leaf cut into five clefts or divisions, a blossom or *corolla* all in one piece, *monopetalus*, and of a tubular shape; the five stamens are fixed at equal distances on the inside of the tube. Specimens of this order may be seen in the Primrose, Cowslip, Scorpion Grass, &c.

The second remarkable division in this class includes the *umbelate* plants, so called from the Latin word *umbella*. From an upright stem, frequently hollow and full of pith, proceed smaller stems diverging from the centre like the ribs of an umbrella, each producing a bunch or ray of flowers at the top, forming a perfect umbel—hence its name. The properties of all the umbelate plants are exceedingly various. Many are useful as food; others give some of our most valuable medicines; others again are amongst our most *deadly poisons*. The roots of Carrots, Parsnips, and the stalks of Celery are now become necessities of life in almost every family. The leaves of Parsley and Fennel give a fine flavour to broths, soups, and the like. The seeds of Coriander and Caraway are excellent carminatives and assist digestion, and, being covered with a coating of sugar, are eaten as an article of luxury to the amount of many tons in the year. Whilst the Hemlock, Fool's Parsley, and Water Dropwort, with almost all the tribe which grow in low damp situations form our strongest and most virulent vegetable poisons.

A careful examination will be necessary at the first, in order to distinguish a true umbelate plant from some others, as there are plants which, to a superficial observer, resemble them in appearance. A true umbelate consists of a very minute calyx, a corolla that grows upon the seed-bud formed of five small petals, five stamens and two pistils upon a naked fruit, composed of two seeds growing together. Now the blossom of the Elder resembles this at first sight, but a closer examination will soon show the difference.

The specimen of the class given at the head of these "introductory remarks," shows the monopetalous corolla of the *Datura Stramonium*, or *Common Thorn Apple*, with its five stamens fastened inside, which any one can examine for himself, by taking the flower and cutting the calyx on one side, when it may be laid open, and the character of the class will be sufficiently obvious.

MYOSOTIS PALUSTRIS.

Marsh Scorpion Grass.

This plant is also called *Forget-me-not*. It is easily known by the singular curl or twist of the flower, at its extremity supposed to be like the curl of a scorpion's tail. There are a great many varieties, both of native plants and those cultivated by the florists; but the wild plants are the most beautiful. The English *Scorpion grass* sometimes grows in barren, dry grounds, and sometimes in the mud, about shallow waters, of the edges of rivers, &c. In these two states it makes so very different an appearance, that all botanical writers, till Linnaeus, have described it under two names, *Myosotis Palustris*, and *Myosotis Arvensis*, as two species; but the one, carried to the place of growth of the other, soon shows the difference, however, to be merely accidental. The root consists of a number of white fibres; the radical leaves are an inch long, a third or an inch broad, and terminate in an obtuse point; the stalks are round and hairy; thick, when in a wet soil; slender, when in a dry one; they grow to six, eight, or more inches in length; the leaves stand alternately on them, and are like the radical ones: the flowers stand in long spikes, curled up at the extremity. When in wet places, they are large, and of a beautiful blue colour; when in dry ones, much smaller; usually blue, but sometimes yellow.

There is a beautiful and affecting legend respecting the origin of the name "*Forget-me-not*," given to this plant. Two lovers were walking together on the banks of a stream in which the *Scorpion grass* grew. One particular flower attracted the attention of the young lady, and she unfortunately expressed a desire to possess it. The young man, desirous of procuring the flower, made the attempt to reach it; but the treacherous bank gave way, and he was immersed in the water. He rose again with sufficient strength to pluck the flower, which he flung from the stream towards his mistress, and called out, "*forget me not*," when he sunk to rise no more.

I am not aware of any particular medical properties possessed by this plant, but the exceeding beauty of the flower will always make it a favourite either in its natural state or in a state of cultivation.

LYTHOSPERMUM OFFICINALE.

Common Gromwell.

A wild plant of no great beauty, but distinguished by its seeds, which are hard, glossy, and resemble so many pearls, as they stand in the open husk. The plant grows a yard high. The stalk is round, thick, firm, very upright, and branched. The leaves are oblong, not very broad, rough and hairy, of a blackish green colour, and placed irregularly; the flowers

PLATE VI.



Scorpion Grass



Gromwell



Alkanet



Lambwort



Horace



are small and white; when they are fallen off, the cups remain, and contain these shining, and as it were, stony seeds. The plant is frequent about hedges.

The seeds are the only part used; they work powerfully by urine, and are of great service in the gravel and all other obstructions: they are best given in powder, with a great deal of barley water at the same time.

ANCHUSA OFFICINALIS.

Alkanet.

Alkanet is a rough plant, of no great beauty, cultivated in France and Germany for the sake of its root. It grows to a foot and a half high: the leaves are large, and of a rough irregular surface, and bluish green colour; the flowers are small and purplish: the root is long and of a deep purple. It is kept dry in the shops. It has the credit of an astringent and vulnerary, but it is little used. The best way of giving it, is to add half an ounce to a quart of hartshorn drink; it gives a good colour, and increases the virtue.

CYNOGLOSSUM OFFICINALE.

Hound's Tongue.

A tall and singular looking plant, frequent by our way sides, and distinguished by its large whitish leaves, and small purple flowers, as also by the particularity of its smell, which has been supposed to resemble that of a kennel of hounds. It is two feet and a half high. The stalk is angulated, firm, and upright: the leaves are long, considerably broad, and of a pale whitish or bluish green colour, sharp at the points, and not at all separated at the edges. The flowers are small, and of a deep purple; they grow along the tops of the branches, and are followed by rough seeds.

The root is the part used; it is long, thick, and brown, but whitish within: it is balsamic and astringent. Given in decoction, it is excellent against coughs arising from a thin sharp humour. Dried and powdered, it is good against violent purgings, retchings, and violent pains of the belly. Dose:—half a drachm of the powder, two or three times a day, according to circumstances. The decoction will also relieve the piles and stop their bleeding. An ointment made of the leaves, with honey and turpentine, is a good application to dress old fistulous ulcers, the patient drinking freely of the decoction at the same time.

PULMONARIA OFFICINALIS.

Common Lungwort.

This plant is found almost in all gardens; the stalk rises about a foot high: the flowers grow in branches at the tops of the stalk, they are generally red before they expand, but when fully blown they are of a bright blue.

There is a sea Lungwort (*Pulmonaria Maritima*) grown on our sea-coasts. This has been proved on more occasions than one, to be a very

dangerous plant, and I merely mention it here that people may be on their guard. The *Pulmonaria Angustifolia* is (as its name implies) a most splendid plant, cultivated by our gardeners for the sake of its flowers, and in consequence of the attention of the florists, the varieties have much increased of late.

The common Lungwort has long enjoyed an uncommon reputation in all disorders of the lungs. The old herbalists and physicians pretended to cure consumptions with a decoction or infusion, though of course this cannot be true. Sir John Hill, who was a medical man of celebrity, says that "in all parts of Europe, where the plant is common, it has been used in these disorders, in asthmas, and the first stages of consumption: it is best given in the form of a strong infusion; and I have known it tried here with more success than could be expected from so simple a remedy, in cases of such consequence. It is scarce wild, but it is easily propagated in gardens. Let but one plant of it ripen its seeds and leave them to the chance of the winds, and the garden, the walls, and the neighbouring places will never be without a sufficient supply of it for all purposes."

PULMONARIA MACULATA.

Cowslip of Jerusalem.

A low plant but not without beauty: kept in gardens for the credit of its virtues, which are indeed more and greater than the present neglect of it would have one to suppose. It grows to eight or ten inches high; the leaves are long and broad, hairy, of a deep green, and spotted with white spots on the upper side, but of a paler colour, and not spotted underneath. The stalks are slender, angulated, and hairy, and have smaller leaves on them, but of the same figure with those from the root. The flowers are small and reddish, and grow several in a cluster at the top of the stalk. The root is fibrous.

The leaves are used; they should be gathered before the stalks grow up, and dried. They are excellent in decoction for coughs, shortness of breath, and all disorders of the lungs: taken in powder, they stop the overflowing of the menses; and when fresh bruised and put into a newly made wound, they stop the bleeding and heal it.

SYMPHYTUM OFFICINALE.

Common Comfrey.

A common wild plant of great virtue; it is frequent by ditch sides; it grows a foot and a half high: the leaves are large, long, not very broad, rough to the touch, and of a deep disagreeable green: the stalks are green, thick, angulated, and upright: the flowers grow along the tops of the branches, and are white, sometimes reddish, not very large, and hang often downwards. The root is thick, black, and irregular; when broken it is found to be white within, and full of a slimy juice. This root is the part used, and it is best fresh; but it may be beat up into a conserve, with three times its weight of sugar. It is a remedy for that terrible disease, the whites. It is also good against spitting of blood, bloody fluxes, and for inward bruises.

The following is the formula for making the celebrated

SYRUP OF COMFREY.

Take of Comfrey-root.....six ounces. | Plantain-leaves.....three ounces.

Bruse together in a marble mortar to express the juice; strain the liquid, and add an equal quantity of white sugar. This is an excellent remedy for spitting of blood, to be taken in doses of about a wine glass full. It is also good for coughs by adding an ounce or two of Liqueurice root.

BORAGO OFFICINALIS.

Common Borage.

A rough plant common in our gardens, with great leaves and beautiful blue flowers. It grows two feet high; the stalks are thick, round, fleshy, and juicy, and covered with a kind of hairiness so sturdy that it almost amounts to the nature of prickles. The leaves are oblong, broad, very rough, and wrinkled, and they have the same sort of hairiness but less stiff than that of the stalk; the largest grow from the root, but these on the stalks are nearly of the same shape. The flowers are placed towards the tops of the branches; they are divided into five parts, of a most beautiful blue, and have a black eye as it were in the middle.

Borage has the credit of being a great cordial; but if it possess any such virtues, they are to be obtained only by a light cold infusion; so that the way of throwing it into cold wine is better than all the medicinal preparations, for in them it is nauseous.

LYCOPSIS ARVENSIS.

Small Bugloss.

A rough and unsightly plant, kept in our gardens for the sake of its virtues, but very rarely used. It grows to a foot and a half high; the leaves are rough like those of borage, but they are long and narrow, of a dark green colour, and rough surface: the stalks are also covered with a rough and almost prickly hairiness: the same sort of leaves stand on these as rise immediately from the root, only smaller: the flowers stand at the tops of the branches, and are very pretty, though not very large: they are red when they first open, but they afterwards become blue; the root is long and brown. It flowers in June and July.

Bugloss shares with Borage the credit of being a great cordial; but perhaps neither of them have any great title to the character. It is used like Borage, in cool tankards, for there is no way of making any regular preparation of it that is possessed of any virtues.

There is a wild kind of Bugloss upon ditch banks very like the garden kind, and of the same virtues.

ECHIUM VULGARE.

Common Viper's Bugloss.

A common wild plant about our path-ways and on ditch banks, known by its spotted stalks and fine blue flowers. It is a foot and a half high: the stalk is round, thick, firm, hairy, and upright; it is of a whitish colour.

stained with spots and lines of blue, red, and purple. The leaves are longish and narrow; they are rough, and of a deep dusky green, broad and blunt at the point, and have no foot stalks. The flowers are large, and of a beautiful blue, with a red stamina in the middle.

The leaves are used; those growing from the root are best; an infusion of them is cordial and operates by sweat; it is good in fevers and against head-aches and all nervous complaints.

PRIMULA VULGARIS.

Common Primrose.

PRIMULA OFFICINALIS.

Cowslip.

It were useless to attempt a description of the above universal favourites, for the man who does not know them will certainly not either buy or read an Herbal. Where is the man that has not felt the heart-thrilling sensation, the delightful emotions not to be described, at first beholding these lovely harbingers of spring?

There are other varieties of these flowers. The Bird's-eye Primrose—*Primula Farinosa*—with light purple flowers and a yellow eye; this is a most lovely flower. There is also the Oxlip, which is considered a *hybrid* between the Cowslip and Primrose, which is distinguished by its rapid growth and pale yellow flowers.

The flowers of the Cowslip make a pleasant wine, approaching in flavour to the famous muscadel wines of the south of France, which is of a gentle narcotic quality, easing pain, and disposing to sleep. The flowers have a roughish bitter taste, which they impart together with their agreeable odour, both to water and spirit. Vinous liquours impregnated with them by maceration or fermentation, and strong infusions drank as tea, are mildly corroborant and anodyne.

The following methods of making the preparations will answer every useful purpose:—

INFUSION OF COWSLIP.

Take of dried Cowslip flowers, half an ounce. | Boiling water. one pint and a half.

Let it stand half an hour in a close vessel. Of the fresh flowers twice the above quantity must be used.

To be drunk in the same manner as tea.

COWSLIP WATER.

Take of Cowslip flowers. one part. | Boiling water. one pint.

Distil one part and a half. From one to two ounces may be taken at a dose.

SYRUP OF COWSLIPS.

Take of fresh Cowslip flowers, twelve ounces. | Boiling water. one pint.

Infuse for twenty-four hours and strain, then add half a pound of white sugar. Boil gently to the consistence of a syrup.

CYCLAMEN HEDERÆFOLIUM.

Sow Bread.

The root is large, tuberous, and of a roundish figure, furnished with a few fibres; the radical leaves stand on pedicles of three inches long; they are about three quarters of an inch in diameter, roundish but cordated, of a dark green, usually spotted with white on the upper side and purple underneath: the flowers stand singly, on long pedicles; they are large, red, and of a sweet smell.

It is a native of some of the northern parts of Europe, and grows in damp, shady places; we have it frequent in our gardens.

The fresh root of this plant is exceedingly bitter and acrid, although its true medical virtues have never been sufficiently ascertained. Some have praised it to the skies, while others contend that it is of no use. A strange opinion was held in the time of old father Gerard, which, if true, would cause the plant to have an excellent name amongst modern Malthusians, namely, that it would cause *miscarriage*; hence he advises ladies in such interesting situations as "those like to be who love their lords," never to "come neere unto it, or stride over the same where it groweth, for the naturall attractive vertue therein contained is such, that without controversy they that attempt it in maner above said, shall be delivered before their time; which danger and inconvenience to avoide, I have, (about the place where it groweth in my garden), fastened stiekes in the ground, and some other stiekes I have fastened also crossewaies over them, least any woman should by lamentable experiment finde my words to be true, by their stepping over the same." Parson Malthus and his beastly disciples should look into this matter.

HOTTONIA PALUSTRIS.

Water Violet, or Featherfoil.

The root is a cluster of white fibres, moderately thick, and very long, descending deep into the mud: the radical leaves are pinnated, the pinnae divided into long and narrow segments, and, as they lie expanded in the water, making a very beautiful appearance: the stalks which sustain the flowers are round, slender, naked, and a foot or more in length; they are jointed, as it were, toward the top, and at every joint there stand four or five beautiful, moderately large, white flowers, disposed in a radiated form, and placed on pedicles of an inch or more in length; they are white, and the apices in their centre yellow. It is frequent with us in ditches, and other shallow waters; the whole plant is generally immersed in the water to the top, with the flowers, only being above the surface.

This beautiful plant is well deserving the eulogium of the poet:—

" Oft where the stream meandering glides
Our beauteous *Menyanthes* hides
Her clustering, fringed flowers;
Nor mid the garden's sheltering care,
Of sun'd exotic rich and rare,
Purple or roseate, brown or fair,
A plant more lovely towers."

An infusion of the leaves is extremely bitter and sudorific. It is prescribed in rheumatisms and dropsies. A dram of them in powder proves drastic and emetic. It is occasionally given to destroy worms. In a scarcity of hops this plant is used in the north of Europe to bitter the ale: two ounces are equal to a pound of hops. The dried leaves are sometimes smoked. The powdered roots have been used in Lapland as a substitute for bread, but they are unpalatable. It has been said that it cures sheep of the rot; but from the Upsal experiments it appears that, though goats eat it, sheep seldom do. Cows, horses, and swine refuse it. It has gained reputation in scorbutic disorders, a pint a day of infusion of the leaves removing inveterate cutaneous eruptions.

SPIGELIA MARILANDICA.

Indian Pink.

The root of the Indian Pink is unequal, and sends off many slender fibres, growing in a slanting direction: the stalk is simple, erect, smooth, of a purplish colour, and commonly rises above a foot high: the leaves are of an oval shape, growing close to the stem in opposite pairs: the flowers are large, funnel shaped, of a beautiful pink colour, and terminate at the stem in a spike not unlike the Honeysuckle. It is a native of America, and flowers in July and August.

This plant has long enjoyed the reputation of an excellent *vermifuge*, or destroyer of worms. A strong infusion of the root may be given in doses of two, three, or four drachms twice in the day; but if it does not operate as a purge, it is best to give about half a drachm of tincture or rhubarb, or two or three of Doctor Torrens' Herbal Pills, in order to bring off the worms which the Indian Pink will certainly kill.

Indian Pink has undeservedly lost much of its fame of late. The reason is, it is apt to lose its virtue with keeping, and as it has to come from America, and is frequently carelessly packed, it is seldom fresh enough to be of use.

NUX VOMICA.

Vomic, or Poison Nut.

This is a large tree, sending off numerous strong branches, and is covered with dark grey smooth bark: the leaves are at the joints in pairs, and are pointed with three or four ribs: the flowers terminate the branches in a sort of umbel: the fruit is a round, smooth, large, pulpy berry of a yellow colour, and covered with hairs. It is a native of the East Indies.

Nux Vomica is classed amongst the most powerful of narcotic poisons, particularly to quadrupeds. Its fatal effects upon dogs, cats, &c., are well known, and there are authentic cases upon record of death having followed its incautious use upon human beings.

The German physicians have always had a very high opinion of the good qualities of Nux Vomica. A succession of authors have recommended it in all cases of fever, plague, mania, hypochondria, hysteria, rheumatism, gout, and even canine madness.

In Sweden it has of late been successfully used* in dysentery; but Bergius, who tried its effects in this disease, says, that it suppressed the flux for twelve hours, which afterwards returned again. A woman, who took a scruple of this drug night and morning, two successive days, is said to have been seized with convulsions and vertigo, notwithstanding which the dysenteric symptoms returned, and the disorder was cured by other medicines; but a pain in the stomach, the effect of the *Nux Vomica*, continued afterwards for a long time. Bergius therefore thinks it should only be administered in the character of a tonic and anodyne in small doses, from five to ten grains, and not till after proper laxatives have been employed.

Loureiro recommends it as a valuable internal medicine in flour albus, for which purpose he roasts it till it becomes perfectly black and friable, which renders its medicinal use safe without impairing its efficacy.

CAPSICUM ANNUUM.

Guinea Pepper.

It is useless giving a description of this plant further than stating, that it is a native of the West Indies, where it grows to the height of five or six feet, producing those long kidney shaped pods, of a shining orange colour, containing seeds, which are regularly sold by the druggists under the name of cayenne pepper pods.

The use of this and the other species of *Capsicum*, which have long been employed for culinary purposes, have but lately been adopted as a medicine. Cayenne pepper, which is now much used at our tables, is the fruit of *Capsicum baccatum* of Linnaeus, (Bird-pepper) and differs not materially in its effects from that of the species here figured, for which it is frequently substituted. In hot climates, particularly in the West Indies, and in some parts of Spanish America, the *Capsicum* is eaten both with animal and vegetable food in large quantities, and it enters so abundantly into their sauces, that to a person unaccustomed to eat them, their taste is intolerably hot. But in the climates of which the *Capsicum* is a native, we are told that the free use of it is a salutary practice, being found to strengthen the stomach, assist digestion, and correct that putrescent colliquation of the humours so common in hot climates. As an aromatic of the most acrid and stimulant kind it certainly may be found efficacious in some paralytic and gouty cases, or to promote excitement, where the bodily organs are languid and torpid.

It has been successfully exhibited in cynanche maligna, and in what by Dr. Mackitrick calls cachexia africana, which he considers as the most frequent and fatal predisposition to disease among negroes. The dose he directs is from six to eight grains.

Bergius gave the seeds of *Capsicum* with great success in inveterate intermittents.

The practice of using this and other stimulating medicines so much recommended by a modern quack, cannot be other than pernicious. There is no doubt that a stimulant such as this pepper, brandy, and the like, will give an *apparent* relief, but it is something like the relief which a person feels after having held a burnt place to the fire; when he takes it away he feels a relief from a *greater pain* which has led some people foolishly to

imagine that holding a burnt sore to the fire *will cure it*. It does no such thing. The ease that follows is neither more nor less than because the practice causes a greater suffering, and the relief (as I have before observed), is not from the original pain, but from this greater suffering caused by the fire. Now the ease which follows the use of all stimulants is precisely the same, and the man who teaches the contrary is either deceived himself, or he wishes to deceive others.

NICOTIANA TABACUM.

Virginian Tobacco.

Tobacco was first imported into Europe about the middle of the sixteenth century by Hernandez de Toledo, who sent it to Spain and Portugal; at that time the ambassador of Francis II. resided at the court of Lisbon, and in the year 1560, he carried the tobacco into France, when it was presented to Catharine de Medicis as a plant from the new world, possessing extraordinary virtues. The ambassador's name was Nicot, and hence the appellation of Nicotiana. It appears from Lobel, that this plant was cultivated in Britain previous to the year 1570; and the introduction of the custom of smoking it in England is ascribed to Sir Walter Raleigh. The cultivation of tobacco is now common in various parts of the globe, and though prohibited by the laws of this country, still the manufacture of it forms no inconsiderable branch of commerce.

The different sorts of tobacco and snuffs prepared from it which are now in use, are to be attributed to the difference of the climate and soil in which it grows, and the peculiar mode of managing and manufacturing the plant, rather than to any essential difference in its qualities; we shall therefore proceed to the consideration of the effects of tobacco upon the body, which from its general employment deserves particular attention; and no apology will be thought necessary for transcribing what has been lately advanced on this subject by Dr. Cullen.

"Smoking, when first practised, shows very strongly the narcotic, vomiting, and even purging powers of tobacco, and it is very often useful as an anodyne; but by repetition these effects disappear, or only show themselves when the quantity smoked is beyond what habit had before admitted of; and even in persons much accustomed to it, it may be carried so far as to prove a mortal poison. From much smoking all the same effects may arise which arise from excess in snuffing.

"With respect to the evacuation of mucus which is produced by snuffing, there are analogous effects produced by smoking, which commonly stimulates the mucous follicles of the month and fauces, and particularly the excretories of the salivary glands. By the evacuation from both sources, with the concurrence of the narcotic power, the toothache is often greatly relieved by it; but we have not found the smoking relieve headaches and ophthalmias so much as snuffing often does. Sometimes smoking dries the month and fauces, and occasions a demand for drink; but, as commonly the stimulus it applies to the mucous follicles and salivary glands draws forth their liquids, it occasions on the other hand a frequent spitting.

"So far as this is of the proper saliva, it occasions a waste of that liquid so necessary in the business of digestion; and both by this waste and by the narcotic power at the same time applied, the tone of the stomach is



Indian Pink



Venus Nut



Guinea Pepper



Deadly Nightshade



Thorn Apple



Black Henbane

often weakened, and every kind of dyspeptic symptoms are produced. Though in smoking a great part of the smoke is again blown out of the mouth, still a part of it must necessarily pass into the lungs, and its narcotic power applied there often relieves spasmodic asthma; and by its stimulant power it there also sometimes promotes expectoration, and proves useful in the catarrhal or pituitous difficulty of breathing.

"Smoking has been frequently mentioned as a means of guarding men against contagion. In the case of the plague, the testimony of Diemerbroeck is very strong; but Rivinus and others give us many facts which contradict this, and Chenot gives a remarkable instance of its inutility. We cannot indeed suppose that tobacco contains an antidote of any contagion, or that in general it has any antiseptic power, and therefore we cannot allow that it has any special use in this case; but it is very probable that this and other narcotics, by diminishing sensibility, may render men less liable to contagion; and, by rendering men less active and anxious, it may also render men less liable to fear, which has so often the power of exciting the activity of the contagion. The antiloimic powers of tobacco are therefore on the same footing with those of wine, brandy, and opium.

"It is commonly employed as a purgative in glysters, and, as generally very effectual, it is employed in all cases of more obstinate costiveness; and its powers have been celebrated by many authors. I have known it to be in frequent use with some practitioners; and it is indeed a very effectual medicine, but attended with this inconvenience, that when the dose happens to be in any excess, it occasions severe sickness at the stomach; and I have known it frequently occasion vomiting.

"When we were restrained in employing the infusion of tobacco as a diuretic, we expected to succeed better with the decoction; and I have found, that by long boiling this might be given in much larger doses than the infusion; but we still found it retaining so much of the emetic quality, that we could not employ it as a diuretic without being interrupted in its use by the same emetic quality that had interrupted the use of the infusion.

"Besides the internal uses of tobacco mentioned, I must now remark, that it has likewise been commended for its virtues as externally employed. I have known the infusion employed with advantage as a lotion for some obstinate ulcers: but the many instances of its being absorbed, and proving thereby a violent poison, dissuade from such a practice, especially as there are other medicines of as much efficacy, that may be employed with much more safety. Bergius recommends it to be employed as a fomentation in the paraphimosis; but we have had no opportunity of employing it."

There may be some truth in the above remarks on the evil effects of tobacco by Dr. Cullen; but we *do* know that men and women continue the practice of smoking, snuffing, and chewing tobacco for thirty-five, and even sixty years, without suffering the slightest injury.

COFFEA ARABICA.

Coffee Tree.

The Coffee tree is a native of Arabia Felix and Ethiopia, and was first

noticed by Rauwolfius, in 1573; but Alpinus, in 1591, was the first who described it. It was cultivated in Britain by Bishop Compton in 1696, and is now to be found in the well stored hot-houses of this country.

The use of Coffee, or the seed of the fruit of this tree, appears to have originated in Ethiopia, but the practice of drinking it in Arabia was introduced from Persia by the Mufti of Aden in the fifteenth century. In 1554 its use first began at Constantinople, from whence it was gradually adopted in the western parts of Europe. At Marseilles it was begun in 1644. At Paris, if we except the family of M. Thevenot, it was unknown till the arrival of the Turkish ambassador, Soliman Aga, in 1669; and in 1672 the first coffee-house was established in Paris by an Armenian, named Pascal, but he met with little encouragement, and therefore came to London, where this beverage had been previously introduced in the year 1652, when Mr. Edwards, a Turkey merchant, brought from that country a Greek servant, of the name of Pasqua, who understood the method of preparing coffee, and first sold it in London in a house which he kept for that purpose, in George-yard, Lombard-street. Eight years after this it contributed to the public revenue, by a duty of fourpence laid upon every gallon made and sold here.

From various experiments instituted by Dr. Percival upon coffee, he infers that this beverage "is slightly astringent and antiseptic; that it moderates alimentary fermentation, and is powerfully sedative. Its action upon the nervous system probably depends on the oil it contains; which receives its flavour, and is rendered mildly empyreumatic by the process of roasting. The medical qualities of coffee seem to be derived from the grateful sensation which it produces in the stomach, and from the sedative powers it exerts on the *vis vitæ*. Hence it assists digestion, and relieves the head-ache, and is taken in large quantities with peculiar propriety by the Turks and Arabians, because it counteracts the narcotic effects of opium, to the use of which those nations are addicted. In delicate habits it often occasions watchfulness, tremors, and many of those complaints which are denominated nervous. It has been even suspected of producing palsies; and from my own observation, I should apprehend not entirely without foundation. Slare affirms that he became paralytic by the too liberal use of coffee, and that his disorder was removed by abstinence from that liquor.

The complaints said to have been produced by the frequent or excessive use of coffee are head-aches, vertigo, tremors, imbecility, pimples on the face, weakened vision, and according to professor Murray, apoplexy. It has been said that it produces or aggravates hysterical and hypochondriacal affections; and therefore Tissot cautions literary and sedentary people against its use. It is also accused of favouring an hemorrhagic disposition, especially in feverish, choleric, plethoric, and emaciated constitutions.

How far these disorders were really caused by the use of coffee, appears to admit of much doubt; and therefore until its ill effects are experienced, this catalogue of disorders ought not to alarm those who perceive no ill effects from its use. As an article of diet it is very generally drunk, and found, with very few exceptions, not only to be innocent but salubrious: to a stomach oppressed with food a cup or too of strong coffee affords considerable relief, consequently it promotes digestion; this effect, and that

of its obviating drowsiness, are better ascertained than any other ascribed to this article.

A great variety of substitutes for coffee has been recommended, which it would be unnecessary here to enumerate. The fact is, that in most farinaceous matter, on being roasted or burnt to that degree to which coffee too frequently is, the peculiar sapid principle is totally dissipated by the heat, and nothing but the more fixed part common to all remains.

CERINTHE MAJOR.

Great Honey Wort.

A juicy plant frequently wild in many parts of Europe, but with us kept in gardens. It has its name from the sweet taste of the flowers. Almost all flowers have a drop of honey-juice in their bottom; this is indeed the real substance of honey, for the bees only pick it out and get it together; the hollow flowers in general have more of it, or it is better preserved in them than others, but scarce any in so great a degree as this plant named from it. It is two feet high, when kept erect, but if left to itself it is very apt to lean upon the ground. The stalk is round, thick, juicy and tender: the leaves are large, oblong, broad, they surround and inclose the stalk at their base; they are of a bluish green colour, spotted or clouded irregularly with white, and they are full of a sort of prickles. The flowers grow at the tops of the stalks, several together, among the clusters of leaves; they are hollow, oblong, and very wide open at the mouth; their colour is yellow, variegated with purple in the middle, and they have a very pretty appearance.

The fresh gathered tops of the plant are to be used: an infusion of them is cooling and works by urine. It is good against scorbutic complaints, and in the jaundice.

PLUMBAGO.

Leadwort.

A little plant, native of some parts of Europe, and kept in our gardens. It is two feet high, the stalks are slender, tough, and weak, hardly able to support themselves upright. The leaves are of a pale bluish green colour, oblong, not very broad, and they surround the stalk at the base. The flowers are red, they are single, very small, but they stand in thick oblong clusters on the tops of the stalks, and each is succeeded by a single seed, which is very rough, and stands naked.

The dried root is to be used; a piece of it put into the mouth fills it with a great quantity of rheum, and is often almost an instantaneous cure for the head-ache. It also cures the tooth-ache in the same manner as pelliory of Spain does; it is more hot and acrid than even that fiery root.

VITEX VINIFERA.

Common Vine.

The Vine is a native of most of the temperate parts of the four quarters of the world, and is successfully cultivated in our hemisphere between the

thirtieth and fifty-first degree of latitude. Through the effects of culture, and a difference of soil and climate, numerous varieties of grapes are produced, differing widely in shape, colour, and taste, and affording wines which are known to be extremely various. Vine leaves, called *pampini*, and the tendrils or *caperioli*, have an astringent taste, and were formerly used in diarrhoeas, hemorrhages, and other disorders, requiring refrigerant and styptic medicines. The juice, or sap, of the Vine, named *lachryma*, has been recommended in calculous disorders, and is said to be an excellent application to weak eyes, and specks of the cornea. The unripe fruit has a harsh rough sour taste: its expressed juice, called verjuice, was much esteemed by the ancients, but is now superseded by the juice of lemons; for external use however, particularly in bruises and sprains, verjuice is still employed, and considered to be a very useful application.

The dried fruit constitutes an article of the *Materia Medica*, under the name of *uva passa*, of which two kinds were formerly mentioned in our *Pharmacopoeas*, viz., *Uvae passae majores* and *minores*, or raisins and currants; the latter is a variety of the former, or the fruit of the *Vitis corinthiaca* seu *apyrena*, of C. B. The manner of preparing them is by immersing them in a solution of alkaline salt, and soap lye made boiling hot, to which is added some olive oil and a small quantity of common salt, and afterwards drying them in the shade. These fruits are used as agreeable lubricating acescent sweets, in pectoral decoctions, and for obtunding the acrimony of other medicines, and rendering them grateful to the palate and stomach. They are directed in the *Decoctum hordei compositum*, *Tinctura sennae*, and *Tinctura cardamomi composita*.

Wine, or the fermented juice of the grape, of which there is a great variety, has by medical writers been principally confined to four sorts, as sufficient for official use. These are the *vinum album hispanicum*, mountain; *vinum canarium*, canary or sack; *vinum rhenanum*, rhenish; and *vinum rubrum*, red port.

On a chemical investigation, all wines consist chiefly of water, alcohol, a peculiar acid, the aerial acid, tartar, and an astringent gummy resinous matter, in which the colour of red wine resides, and which is expressed from the husks of the grapes. They differ from each other in the proportion of these ingredients, and particularly in that of the alcohol which they contain.

The qualities of wines depend not only upon the difference of the grapes, as containing more or less saccharine juice, and of the acid matter which accompanies it, but also upon circumstances attending the process of the fermentation. Thus, if the fermentation be incomplete, the wine may contain a portion of *must*, or unassimilated juice; or if it be too active, or too long protracted, it may be converted into vinegar.

New wines are liable to a strong degree of acescency when taken into the stomach, and thereby occasion much flatulency, and eructations of acid matter; heart-burn, and violent pains of the stomach from spasms are also often produced; and the acid matter, by passing into the intestines, and mixing with the bile, is apt to occasion colics, or excite diarrhoeas. Sweet wines are likewise more disposed to become acescent in the stomach than others; but as the quantity of alcohol which they contain is more considerable than appears sensibly to the taste, their acescency is thereby in a great measure counteracted. Red port, and most of the red wines,

have an astringent quality, by which they strengthen the stomach, and prove useful in restraining immoderate evacuations: on the contrary, those which are of an acid nature, as rhenish, pass freely by the kidneys, and gently loosen the belly. But this, and perhaps all the thin or weak wines, though of an agreeable flavour, yet, as containing little alcohol, are readily disposed to become acetons in the stomach, and thereby to aggravate all arthritic and calculous complaints, as well as to produce the effects of new wine.

The general effects of wine are, to stimulate the stomach, exhilarate the spirits, warm the habit, quicken the circulation, promote perspiration, and in large quantities to prove intoxicating, and powerfully sedative.

In many disorders wine is universally admitted to be of important service, and especially in fevers of the typhus kind, or of a putrid tendency in which it is found to raise the pulse, support the strength, promote a diaphoresis, and to resist putrefaction; and in many cases it proves of more immediate advantage than the Peruvian bark. Delirium, which is the consequence of excessive irritability, and a defective state of nervous energy, is often entirely removed by the free use of wine. It is also a well-founded observation, that those who indulge in the use of wine, are less subject to fevers, both of the malignant and intermittent kind. In the putrid sore throat, in the small pox, when attended with great debility and symptoms of putrescency, in gangrenes, and in the plague, wine is to be considered a principal remedy. And in almost all cases of languors, and of a great prostration of strength, wine is experienced to be a more grateful and efficacious cordial than can be furnished from the whole class of aromatics.

The Tartar, which is thrown off from wines to the sides and bottom of the cask, is also an officinal article, and consists of a vegetable alkali supersaturated with acid. When taken from the cask, it is found mixed with an earthy, oily, and colouring matter: that obtained from red wine is of a deep brown colour, and commonly called red, and when it is of a paler colour, white tartar. It is purified by dissolving it in boiling water, and separating the earthy part by filtering the boiling solution. On cooling the matter, which is separated by boiling the mass with white clay. The tartar, thus purified, is called cream of tartar. If this be exposed to a red heat, its acid flies off, and what remains is the vegetable alkali, or salt of tartar.

Crystals of tartar are in common use as a laxative and mild cathartic; they are also esteemed for their cooling and diuretic qualities, and therefore have been much employed in dropsies, and other cases requiring an antiphlogistic treatment. Dr. Cullen says, "that in large doses they act like a purgative in exciting the action of the absorbents in every part of the system, and that more powerfully than happens from the operation of any entirely neutral salt;" and on this is founded their utility in the cure of dropsy. It must be remarked, however, that they do not readily pass off by the kidneys, unless taken with a large quantity of water; and therefore when intended as a diuretic they ought to be given in a liquid form, as Dr. Holme has directed. The dose is to be regulated according to the circumstances, from a drachm to two ounces. These salts enter several officinal compositions.

Another article to be noticed here is Vinegar, which has been esteemed

of great use in almost all inflammatory and putrid disorders, whether internal or external. It is very efficacious in counteracting the effects of vegetable poisons, especially those of the narcotic kind. Inhaled in the form of a vapour, it is found useful in the putrid sore throat; and it has been given successfully in mania, and in rabies canina. Distilled and neutralized with volatile alkali, it forms the aqua ammoniæ acetatæ, or spiritus Mindereri, a medicine of common use in fevers. By distillation, however, the vinegar generally contracts an empyreumatic taste, and is seldom found in a rightly concentrated state; when required to be of great strength, it may be rendered so by freezing it, after the manner we have directed for concentrating the juice of lemons.

Vinegar is also much employed as a menstruum, or for extracting the virtues of other medicines.

MENYANTHES TRIFOLIATA.

Marsh Trefoil, or Buckbean.

An herb better known by the common people than among the apothecaries, but of great virtues. It grows wild with us in marshy places, and is of so very singular appearance, that it must be known at sight. It grows a foot high; the leaves stand three upon each stalk, and these stalks rise immediately from the roots: they are thick, round, smooth, and fleshy; and the leaves themselves are large, oblong, and have some resemblance to those of garden beans. The flowers stand upon naked stalks, which are also thick, round, fleshy and whitish: they are small, but they grow together in a kind of thick short spike, so that in the cluster they make a conspicuous appearance: they are white, with a very faint tinge of purple, and are hairy within; the root is whitish, long and thick.

The leaves of Buckbean are to be gathered before the stalks appear for flowering, and are to be dried; the powder of them will cure agues, but their great use is against the rheumatism; for this purpose they are to be given for a continuance of time in infusion, or in the manner of tea.

This plant has also obtained a name for the cure of rheumatism and gout. Boerhaave was himself cured of gout by taking it mixed with whey. Alston says that he has seen very remarkable good effects from this plant in gout, in keeping off the paroxysm though not ultimately to the patient's advantage; and, indeed, all these bitters have been from time to time vaunted as curing the gout, but, as the great Cullen says, "after a time these cured people have fallen into worse diseases, generally *hydrops pectoris* (water in the chest). But in chronic rheumatism much advantage is derived from a stimulating bitter like the present; more especially as it also opens the bowels, and removes acrid bile.

Linnaeus mentions that the working people, in times of scarcity, make bread of the dried roots, with a little meal.

The Laplanders also feed their cattle with the dried roots.

Respecting the dose, Haller says that a drachm of the powder of the leaves or stem, taken as a dose opens the body, and often produces vomiting; but Boerhaave speaks of two handfuls at a time. As this plant loses its qualities by drying, like many other herbs potent when fresh, it will not readily obtain much rank as a medicine where in winter, as in sum-

mer, remedies are wanted: but still I think it merits more attention than it has as yet received from English physicians.

LYSIMACHIA NUMMULARIA.

Moneywort, or Herb-twopence.

A small creeping plant, with smooth leaves; very common in England in wet situations, with bright lemon-coloured flowers, not unlike a Bittercup. Boerhaave recommends the leaves in the hot scurvy and loss of blood, and they are best given in powder in doses of ten grains; the juice of the leaves is a well-known remedy amongst country people for overflowing of the menses.

ANALGALLIS ARVENSIS.

Scarlet Pimpernel.

A pretty little plant common in corn-fields and garden borders. The stalks are square, smooth, green, but not very upright: they are five or six inches long; the leaves stand two at each joint, and they are of an oblong figure, considerably broad in the middle, and pointed at the end. The flowers stand single on slender foot-stalks; they are small but of a most bright scarlet colour.

Pimpernel has been called "the poor man's clock," as the flowers expand regularly at about seven in the morning, and close about two in the afternoon. It also answers for a barometer, for on the approach of rain the flowers either do not open, or if open close up again.

Many of the doctors considered this herb a remedy for mania and melancholy. Some have recommended the tincture or the expressed juice either alone, or combined with the tincture of St. John's Wort. Others have considered the simple decoction abundantly sufficient, to be given after clearing the system with emetics and purgatives. It has also been employed in low fevers, with success. Dioscorides also considers it as a remedy for the bites of Vipers and other venomous animals, and even that terrible disease the hydrophobia has, according to Ravenstien, been cured by this plant. Twenty grains of the powdered herb was put into a strong infusion of the same (about a cupful) with about fifteen drops of Harts-horn, to be given every six hours. This was continued for fifteen days, at the same time the patient continued to drink freely of the infusion and linen clothes steeped in the same, was constantly applied to the wounded part.

If one half of the benefits said to be derived from this plant be true, it ought to rank high indeed in medicine. Ray states that the distilled water is extremely serviceable in consumption, which he mixes with milk. It is also recommended as a useful application to the eyes in dimness of sight. It has moreover been highly recommended in epilepsy and the plague.

Two ounces of the expressed juice, or a strong decoction or infusion may be taken at a dose. The Tincture is also highly recommended by some writers.

CONVOLVULUS SEPIUM.

Great Bindweed.

Six-and-forty sorts of this beautiful genus are given in the Botanical catalogues, only three of which are natives of Britain: *Convolvulus Arvensis*, Corn Bindweed, a great plague to farmers, though a most lovely flower. As this plant is not noted for any good properties, I shall therefore pass it over, and go on with the former. The Great Bindweed is a common wild plant which climbs about our hedges, and bears very large white flowers. The stalks are weak and slender, but very rough, six or eight feet long, and twining about anything that can support them. The leaves are large, and of the shape of an arrow-head, bearded at the base, and sharp at the point: they stand singly, not in pairs, and are of a pale green colour. The flowers are of the breadth of a crown piece at the mouth, and narrower to the base, bell-fashioned, and perfectly white: the root is long and slender.

In Northamptonshire, the poor people use the root of this plant fresh gathered and boiled in ale, as a purge; they save the expense of the apothecary, and answer the purpose better than any one thing would do for them. It would nauseate a delicate stomach, but for people of their strong constitution, there is not a better purge.

CONVOLVULUS SOLDENELLA.

Sea Bindweed.

This plant scarcely deserves the name of a *Convolvulus*, as its stem *does not turn*; but in all other respects it has the character of the family. It has also the same medical properties with the rest of the tribe, being all strong and somewhat dangerous purges. The Sea Bindweed, as its name imports, is a native on the sea-coast, more common in Scotland than in England, where it is called "Scottish Scurvy Grass." The stem is short and prostrate; leaves somewhat heart-shaped; blossoms few, large, and purplish. At some distance from the sea the plant becomes smaller, but in all other respects it is the same. It is a lovely plant, as indeed the whole of the genus are, and is well deserving of a pilgrimage to the sea coast to look at it.

CONVOLVULUS SCAMMONIA.

Scammony Bindweed.

This plant grows plentifully about Maraash, Antioch, Edlib, and towards Tripoly in Syria: it was first cultivated in England by Mr. Gerard, in 1597. The root is from three to four feet long, and from nine to twelve inches in circumference, covered with bark of a light grey colour: it is perennial, tapering, branched towards the bottom, and contains a milky juice: the stalks are numerous, slender, twining, and spread themselves upon the ground, or neighbouring trees, to the extent of fifteen or twenty feet: the leaves are arrow-shaped, smooth, of a bright green colour, and stand upon long footstalks: the flowers are funnel-shaped, yellowish, plicated, and, according to Dr. Russel, placed in pairs upon the pedicles: the calyx is double, consisting of four emarginated leaflets in each row:



Woody Nightshade.



Cardinal Flower



Potato.



Winter Cherry



Sweet Violet



Pansy

the capsule is three and sometimes four locular, containing seeds of a pyramidal shape. No part of the dried plant possesses any medicinal quality but the root, which Dr. Russel administered in decoction, and found it to be a pleasant and mild cathartic.

It is from the milky juice of the root that we obtain the official Scammony, which is procured in the following manner by the peasants, who collect it in the beginning of June. "Having cleared away the earth from about the root, they cut off the top, in an oblique direction, about two inches below where the stalks spring from it. Under the most depending part of the slope they fix a shell, or some other convenient receptacle, into which the milky juice gradually flows. It is left there about twelve hours which time is sufficient for draining off the whole juice: this, however, is in small quantity, each root affording but a very few drachms. This juice from the several roots is put together, often into the leg of an old boot, for want of some more proper vessel, where in a little time it grows hard, and is the genuine Scammony." This concrete is a gummy-resin, generally of a light, shining, grey colour, and friable texture. It is brought from Aleppo and Smyrna; that which comes from the latter place is less valued than from the former, and is supposed to be more ponderous and of a deeper colour; but the colour affords no test of the goodness of this drug, which seems to depend entirely upon the purity of the concrete. The smell of Scammony is rather unpleasant, and the taste bitterish and slightly acrid. The different proportions of gum and resin of which it consists, have been variously stated, but as proof spirit is the best menstruum for it, these substances are supposed to be nearly in equal parts.

Scammony appears to have been well known to the Greek and Arabian physicians, and was not only employed as a purgative, but also as an external remedy for tumours, scabies, tinea, fixed pains, &c.—Although this drug was seldom given alone, yet we find it was very generally used, and an ingredient in many compounds which were formerly held in very great repute. Hoffman, however, entertained an opinion, that Scammony was a dangerous medicine. But since Boerhaave's time it has been considered as a safe though stimulating cathartic, and frequently prescribed uncombined with any other substance, yet neither producing tormina nor hypercatharsis. Like other resinous purgatives it is uncertain in its operation, which may be occasioned by the intestines being more or less defended from the action of these stimulants, by the quantity of natural mucus with which they are covered.

The dose of Scammony is generally from three to twelve grains. It is commonly triturated with sugar, almonds, &c., or with a decoction of liquorice, as recommended by the college of Wirtemberg.

CONVOLVULUS JALAPA.

Jalap Bindweed.

The root is perennial, large, ponderous, abounding with a milky juice, of an irregular oval form, and blackish colour: the stalks are numerous, shrubby, slender, twisted, striated, rising above ten feet high, and twining for support round the neighbouring plants; the leaves are various, generally more or less heart-shaped, but often angular, or oblong and pointed;

they are smooth, of a bright green colour, and stand alternately upon long footstalks; the flowers are produced from short branches, sending off two peduncles each of which supports a single flower; this is large, bell-shaped, entire, plicated, externally of a reddish colour, but of a dark purple within; the calyx consists of five oval leaves, these are concave, somewhat indented at their points, and of a pale green colour; the filaments are five, short, slender, and the antherae large and yellow; the style is shorter than the stamina; the stigma is round, and the germen oval. It is a native of South America, and flowers in August and September.

It is said that the root of Jalap was first brought to Europe about the year 1610, and took its name from Xalapa, a province or town in New Spain. In the shops we find this root both cut into slices and whole, of an oval shape, ponderous, blackish on the outside, but grey within, and marked with several dark veins, by the number of which, and by its hardness, heaviness, and dark colour, the goodness of the root is to be estimated. It has scarcely any smell, and very little taste, but to the tongue and to the throat manifests a slight degree of pungency. The medicinal activity of Jalap resides principally, if not wholly, in the resin, which though given in small doses, occasions violent tormina. The gummy part bears an inconsiderable proportion to the resinous, and is found to have little or no cathartic power, but as a diuretic it is extremely active.—That Jalap is an efficacious and safe purgative daily experience must evince, but according as the root contains more or less resin, its effects must of course vary. Hoffman thought it particularly improper and unsafe to administer this medicine to children; but Dr. Cullen observes, that if Jalap "be well triturated before exhibition with a hard powder, and the crystals of tartar are the fittest for the purpose, it will operate in less doses than when taken by itself, and at the same time very moderately and without griping. Except when given in large doses, I have not found it to be heating to the system; and if it be triturated with a hard sugar, it becomes, in moderate doses, a safe medicine for children, which in this form they will readily receive, as the jalap itself has very little taste." Jalap, in large doses, or when joined to calomel, is recommended as an anthelmintic and a hydragogue, and from its general efficacy in dropsies was called *Panacea Hydropicorum*. For the different constitutions and conditions of body in which it is more especially indicated, or its use forbidden, we may cite the opinion of Geoffroy.

In the *Pharmacopœias*, we have Jalap in the form of tincture and of extract; and the Edinburgh College direct it also in powder, with twice its weight of the crystals of tartar. The dose of the simple powder is commonly from one scruple to two; of the compound powder it may be double this quantity, which is nearly equal to ten or fifteen grains of the extract, or about two drachms of the tincture.

POLEMONIUM CERULEUM.

Jacob's Ladder, or Greek Valerian.

The root is oblong, slender, whitish, pyxidated, and creeping: the radical leaves are very beautifully pinnated; they are four or five inches long, and are composed of twelve, or more, pairs of pinnae, placed very close to one another, and terminated by an odd one: the pinnae are half an inch

long, and moderately broad, pointed at the end, and of a deep green colour; those leaves remain green the whole winter. The stalk is moderately thick, of a pale green colour, striated and hollow: it usually runs up singly to two feet high, and near the top sends out some lateral branches: the leaves stand alternately, and are three inches long, and an inch and a quarter broad in the whole. They are beautifully pinnated like the radical leaves; the pinnæ very thick set, broadest at the base, and narrower to the point. At the top of the stalk and branches stand clusters of very beautiful flowers, large, of a deep blue, and sometimes a white colour.

It is a native of Denmark, Sweden, and other northern countries; I have met with it wild in Lancashire, but would not be too confident that it was native there, as we have it frequently in our gardens, and it might be thrown out of some of them.

CAMPANULA MEDIUM.

Large Bell-flower, or Throat-wort.

There are nearly one hundred varieties of this family, about a score of which are natives of these islands. The name is derived from the flowers having the shape of a bell, from the Latin word *Campanula*, a bell. Although the whole tribe produce very showy flowers, so as to find a place in our gardens, none of them are noted for any particular use, except the Throat-wort, which is a beautiful wild plant, with leaves like the stinging nettle, and large and very elegant blue flowers. It grows by road sides, and in dry pastures, and is two or three feet high. The stalks are square, thick, upright, strong, and hairy. The leaves grow irregularly, they are of a dusky green, and stand upon long footstalks; they are broad at the base, and sharp at the point, and all the way indented very sharply at the edges. They are hairy and rough to the touch. The flowers grow ten or a dozen together at the top of every branch; they are very large, and of a beautiful blue colour, hollow and divided into several parts at the extremity. If the soil be poor, the flowers will vary in their colour to a pale blue, reddish, or white, but the plant is still the same.

The fresh tops, with the buds of the flowers upon them, contain most virtue, but the dried leaves may be used. An infusion of them sharpened with a few drops of spirit of vitriol, and sweetened with honey, is an excellent medicine for sour throats, used by way of a gargle. The plant is so famous for this virtue, that one of its common English names is throat-wort; if the medicine be swallowed, there is no harm in it; but, in the use of every thing in this way, it is best to spit the liquor out, together with the foulnesses which it may have washed from the affected parts.

CINCHONA OFFICINALIS.

Peruvian Bark.

This tree is very lofty, sending off large branches, covered with rough, brown bark: the leaves vary from an ovate to an elliptical shape, the larger approaching more to the former, and the smaller to the latter figure; they are all entire, nerved, smooth on the upper side, on the under

tomentose, and stand in pairs upon footstalks; the flowers are produced in panicles, and staid upon slender pedicles: the calyx is small, bell-shaped, and cut at the margin into five minute segments: the corolla is funnel-shaped, consisting of a long cylindrical tube, divided at the limb into five segments, which are ovate, or oblong, spreading, on the upper side red, on the under woolly, and fringed at the edges: the five filaments are bristly, placed in the middle of the tube, and furnished with long antheræ, twisted in a spiral manner: the germen is ovate: the style is filiform, somewhat longer than the stamina, and furnished with a round stigma: the capsule divides into two parts, the cells of which are separated by a parallel partition: the seeds are small and numerous.

It is a native of Peru, growing most abundantly on a long chain of mountains extending to the north and south of Loxa, where its trunk frequently exceeds in bulk the body of a man. According to Mr. Arrot, the soil in which these trees thrive best, is generally a red clayey or rocky ground, and especially on the banks of small rivers descending from the high mountains. This author also informs us, that the properest season for cutting off the bark is from September to November. On the trees being entirely stripped of their bark they soon perish: and as the number of these trees to which access could be had, was said to be not very considerable, it has been supposed that a sufficient quantity of bark to supply the demand, could not long be procured. Condamine, however, asserts that the young trees do not die by losing their bark, but send out fresh roots from the base, and as those which are suffered to become old have time to disseminate and propagate, we trust the fear of exhausting this valuable medicine is wholly groundless.

We seem to have no satisfactory account at what time, or by what means, the medicinal efficacy of the Peruvian Bark which is now so well established, was first discovered. Some contend that its use in intermittent fevers was known to the Americans long before the Spaniards possessed Peru, but that they concealed this knowledge from the Europeans; and, on the contrary, it is asserted by others, that the Peruvians never supposed it to be fit for any medicinal use, but thought that the large quantities exported thence was for the purpose of dyeing, and they actually made some trials of its effects in this way. Condamine says, that according to an ancient tradition, the Americans owe the discovery of this remedy to the lions, which some naturalists pretend are subject to a kind of intermittent fever, of which they were observed to be cured by instinctively eating the bark of the Cinchona. But Geoffroy states, that the use of the bark was first learned from the following circumstance:—Some Cinchona trees being thrown by the winds into a pool of water, lay there till the water became so bitter that every body refused to drink it. However, one of the neighbouring inhabitants being seized with a violent paroxysm of fever, and finding no other water to quench his thirst, was forced to drink this, by which he was perfectly cured. He afterwards related the circumstance to others, and prevailed upon some of his friends who were ill of fevers to make use of the same remedy, with whom it proved equally successful. The use of this excellent medicine, however, was very little known till about the year 1638, when a signal cure having been performed by it on the Spanish viceroy's lady, the Countess del Cinchon, at Lima, it came into general use, and hence was distinguished by the appellation pulvis

comitisse, or the Countess's powder; also called, cortex china china, or chinchina; kina, kina, or kinkina; and quina, quina, or quinquina. On the recovery of the Countess she distributed a large quantity of the bark to the Jesuits, in whose hands it acquired still greater reputation, and by them it was first introduced into Europe, and thence called cortex, or pulvis jesuiticus, pulvis patrum; and also Cardinal de Lugo's powder, because that charitable prelate bought a large quantity of it at a great expense for the use of the religious poor of Rome.

This bark is brought to us in pieces of different sizes, some rolled up into short thick quills, and others flat: the outside is brownish, and generally covered in part with a whitish moss: the inside is of a yellowish reddish or rusty iron colour. The best sort breaks close and smooth, and proves friable between the teeth: the inferior kinds appear when broken of a woody texture, and in chewing separate into fibres. The former pulverizes more easily than the latter, and looks, when powdered, of a light brownish colour, resembling that of cinnamon, or somewhat paler. It has a slight smell, approaching as it were to mustiness, yet so much of the aromatic kind as not to be disagreeable. Its taste is considerably bitter, astringent, very durable in the mouth, and accompanied with some degree of aromatic warmth, but not sufficient to prevent its being ungrateful.

The Peruvian Bark yields its virtues both to cold and boiling water; but the decoction is thicker, gives out its taste more readily, and forms an ink with a chalybeate more suddenly than the fresh cold infusion. This infusion, however, contains at least as much extractive matter, but more in a state of solution; and its colour on standing with the chalybeate becomes darker, while that of the decoction becomes more faint. When they are of a certain age, the addition of a chalybeate renders them green; and when this is the case they are found to be in a state of fermentation, and effete. Mild or caustic alkalies, or lime, precipitate the extractive matter, which in the case of the caustic alkali is re-dissolved by a farther addition of the alkali. Lime-water precipitates less from a fresh infusion than from a fresh decoction; and in the precipitate of this last, some mild earth is perceptible. The infusion is by age reduced to the same state with the fresh decoction, and then they deposit nearly an equal quantity of mild earth and extractive matter; so that lime-water as well as chalybeate, may be used as a test of the relative strength and perishable nature of the different preparations, and of different barks. Accordingly, cold infusions are found by experiments to be less perishable than decoctions; infusions and decoctions of the red bark, than those of the pale: those of the red bark, however, are found by length of time to separate more mild earth with the lime-water, and more extracted matter. Lime-water as precipitating the extracted matter appears an equally improper and disagreeable menstruum. Water has been found to suspend the resin by means of much less gum than has been supposed. Rectified spirit of wine extracts a bitterness, but no astringency, from a residuum of twenty affusions of cold water; and water extracts astringency, but no bitterness, from the residuum of as many affusions of rectified spirit. The residua of both are insipid.

From many ingenious experiments made on the Peruvian Bark by Dr. Irving, published in a Dissertation which gained the prize-medal given by the Harveian Society of Edinburgh in 1783, the power of different men-

strua upon Peruvian Bark, is ascertained with greater accuracy than had before been done: and it appears, that with respect to comparative power, the following fluids act in the order in which they are placed: Dulcified spirit of vitriol: Caustic ley: French brandy: Rhenish wine: Soft water: Vinegar and water: Dulcified spirit of nitre: Mild volatile alkali: Rectified spirit of wine: Mild vegetable alkali: Lime-water. The antiseptic powers of vinegar and bark united are double their sum taken separately. The astringent power of the bark is increased by acid of vitriol: the bitter taste is destroyed by it.

Though the bark on its first introduction, and even some time afterwards, was reprobated by some eminent physicians as a dangerous remedy; yet these prejudices are entirely done away, and its character is now universally established; so that the disputes which at present subsist are confined to its mode of operation, or the manner in which it is most efficaciously administered. To detail these, however, or even to give a circumstantial relation of the various states of disease in which the bark might be advantageously employed, would far exceed our limits: we are therefore confined to state briefly those diseases to which this medicine is more especially adapted.

The bark first acquired its reputation for the cure of intermittent fevers, and in these, when properly exhibited, it rarely fails of success. For this purpose, some practitioners prefer giving it just before the fit, some during the fit, and others immediately after. Dr. Cullen, who is of the first opinion, says, "I am satisfied that giving a large dose of the bark immediately before the time of accession, is the most proper practice: but as that dose must not be under two drachms of pale bark, so there are some stomachs which will not bear even that quantity, or a larger that might be necessary. It is commonly, therefore, convenient to give small doses, but to give them every hour for some hours near to the times of accession." Some again order it in the quantity of an ounce between the fits: the dose being more frequent and larger, according to the frequency of the fits; and this mode of procedure, although it may perhaps lead to the employment of more bark than is necessary, it is considered by Dr. Duncan as upon the whole preferable, from being best suited to most stomachs. When the bark pokes, or purges, or oppresses the stomach, it is to be counteracted by remedies particularly appropriated to them. Thus, vomiting is often restrained by exhibiting it in wine; looseness, by combining it with opium; and oppression at the stomach, by the addition of an aromatic. But unless for obviating particular occurrences, it is more successful when exhibited in its simple state than with any addition.

It may be given from the very commencement of the disease without any previous evacuations, though it commonly answers better after emptying the alimentary canal, particularly the stomach; and it is to be continued not only till the paroxysms cease, but till the natural appetite, strength, and completion return.

In remittent fevers, especially during the times of remission, the bark may also be employed with great success; for as both these and intermittents arise from the same cause, prevail at the same seasons, and assume mutually the form of each other, they show a strict affinity, and are cured by the same remedy. In continued fevers, or typhus of the nervous

and putrid kind, the bark is very generally used, as well suited to counteract the debility or putrescency which marks the progress of the disorder. There is, however, one state not unfrequently present in these epidemic fevers, in which the bark is found to be hurtful; i.e. symptoms of congestion, or topical inflammation of the head, manifested by the headache, redness of the eyes, and phrenitic delirium. And whenever delirium is accompanied with much subsultus tendinum, or frequent convulsive twitchings of the limbs, Dr Cullen thinks opium in large doses is the only remedy to which we can trust.

Of late the bark has been much employed in acute rheumatism, particularly after the violence of the disease has been in some measure moderated by the antiphlogistic treatment, or when evident remissions take place. Many, however, have recourse to this medicine in the first stage of the disease, and we have witnessed its success in some of the London hospitals, even while the inflammatory symptoms prevailed to a very considerable degree. This seems contrary to the experience of Dr Cullen, who says, "As I consider this disease as especially consisting in a phlogistic diathesis, I hold the bark to be absolutely improper, and have found it manifestly hurtful, especially in its beginning, and in its truly inflammatory.

In the confluent small-pox, the bark has been recommended to promote the rising of the pustules: this opinion our own experience teaches us to reject; but after the maturation of the pustules is completed, or where symptoms of putrescency, or a dissolved state of the blood supervenes, the bark cannot be too liberally employed. The other diseases in which the bark is recommended, are gangrenous sore throats, and indeed every species of gangrene; scarletina, dysentery, all hemorrhages of the passive kind; likewise other increased discharges; some cases of dropsy, especially when unattended with any particular local affection, serophula, ill conditioned ulcers, rickets, scurvy, states of convalescence, certain stages of phthisis pulmonalis, &c.

The official preparations of the bark are the powder, the extract, the tincture, and the decoction. This last, though frequently employed, is in many respects inferior to a simple watery infusion; but the best form is that of powder, in which the constituent parts are in the most effectual proportion.

ATROPA BELLADONA.

Deadly Nightshade.

It may seem strange to put *poisonous* plants along with those used in medicine, but the truth is, the *strongest poisons* are most used; but no person should attempt to make use of them without having a thorough knowledge of their effects.

This is a wild plant of a dull and dismal aspect. It grows five feet high. The stalks are angulated, and of a deep green: the leaves are very large, broad, and flat, and they also are of a dull dead green: the flowers stand singly on long footstalks, arising from the bosom of the leaves, and they also have the same dismal aspect; they are large, hollow, and hang down. On the outside they are of a dusky colour, between brown and green, and

within they are of a very deep purple. These are succeeded by berries of the bigness of cherries, black and shining when ripe, and full of a pulpy matter, of a sweetish and mawkish taste: the root is long: the berries are fatal; children have often eaten them, and perished by them. The leaves externally applied are cooling and softening; they are good against the ringworm and tetter, and against hard swellings: they have very great virtue in this respect; but the plant should be kept out of the way of children, or never suffered to grow to fruit, as the leaves only are wanted.

ATROPA MANDRAGORA.

Mandrake.

This plant is not unlike the last, but larger both in the root and stem. Flowers large, white, with a large berry. This is one of the plants of which such strange things are reported. Its root frequently dividing into two below, and shooting out fusiform radicles, on each side, gave a resemblance to a man, and being aided by art, was rendered so complete as to deceive the multitude by such an extraordinary vegetable production. The possessor of such wonders reported, that it was death to dig up the root; that screams were heard when these became wounded; and that they were to be drawn out by means of a dog, which perished, and in this way only they could be extracted.

As an amulet this root was deposited on the mantle-pieces to avert misfortune, and bring to the possessor every desirable felicity:—so degraded once was the *Materia Medica*, filled with such absurd and ridiculous fancies!

This root is anodyne and soporific; hence our immortal bard makes Othello say, after his destruction of Desdemona,

—Not poppy nor mandragora,
Nor all the drowsy syrups of the world,
Shall ever medicine me to that sweet sleep
Which I had yesterday.

By this it appears it was formerly given in the form of a syrup, and in powder it has been administered for this purpose in the dose of three or four grains of the dried root. A tincture has been employed, but the extract might answer better. Boerhaave mentions, that even the smell of the plant induces sleep.

It has been employed by the ancients in maniacal cases; and Pallas mentions its frequent use in dreadful chronic disorders, which require the alleviation of some powerful drug.

Hoffberg advises its use in "gout," in the dose of a scruple three times a day; a disease that baffles the ordinary remedies, and its unhappy sufferers are too often doomed to become the martyrs of dangerous experiments, which debilitate the habit, stop for a time the progress of a disease perhaps salutary to the patient, but soon after he finally sinks under some other dreadful malady.

DATURA STRAMONIUM.

Common Thorn-Apple.

The root is large, annual, white, divided, and fibrous: the stalk is thick, erect, round, smooth, shining, below simple, above dichotomous, and rises about two feet in height: the leaves are alternate, large, broad towards the base, pointed at the extremity, indented, and formed into several obtuse angles, smooth, of a dark green colour, and standing upon strong round short footstalks: the flowers are solitary, large, white, and placed on short erect peduncles at the junction of the branches: the calyx is composed of one leaf, tubular, pentangular, and divided at the brim into five teeth: the corolla is white, monopetalous, funnel-shaped, plicated, cut at the margin into five teeth, and furnished with a long cylindrical tube: the five filaments are tapering, about the length of the calyx, adhering to the tube, and supplied with oblong flat antheræ: the germen is oblong, and placed above the insertion of the corolla: the style is filiform, equal in length to the filaments, and terminated by a thick blunt stigma: the capsule is large, oval, fleshy, beset with spines, divided into the cells, and four valves, which contain numerous kidney-shaped seeds. It grows wild in this country about dunghills, rubbish, and in gardens, flowering in July.

This plant has been long known as a powerful narcotic poison. In its recent state, has a bitterish taste, and a smell somewhat resembling that of poppies, or as called by Bergius, narcotic, especially if the leaves be rubbed betwixt the fingers. By holding the plant to the nose for some time, or sleeping in a bed where the leaves are strewed, giddiness of the head and stupor are said to have been produced.

Instances of the deleterious effects of this plant are numerous, especially of the seeds, some of which we shall relate for the purpose of stating the symptoms which they produce. A man, aged sixty-nine, labouring under a calculous complaint, by mistake boiled the capsules of the Stramonium in milk, and in consequence of drinking this decoction was affected with vertigo, dryness of the fauces, anxiety, followed with loss of voice and sense; the pulse became small and quick, the extremities cold, the limbs paralytic, the features distorted, accompanied with violent delirium, continual watchfulness, and a total suppression of all the evacuations; but in a few hours he was restored to his former state of health.

Every part of the plant appears to possess a narcotic power, but the seeds are the only part, of whose fatal effects we find instances recorded. Their soporiferous and intoxicating qualities are well known in eastern countries, and if we can credit the accounts of some authors, have been converted into purposes the most licentious and dishonourable. The internal use of Stramonium, as well as that of several other deleterious plants which we have had occasion to notice, was first ventured upon and recommended by Baron Stoeck, who gave an extract prepared of the expressed juice of the plant, with advantage, in cases of mania, epilepsy, and some other convulsive affections. But as the success of this plant, even in the hands of the Baron, was not remarkable enough to claim very extraordinary praise, his account of the efficacy of the Stramonium probably would not have procured it a place in the *Materia Medica* of the Edinburgh Pharmacopœia, had its character rested solely upon its representation. Odhelius tells us, that of fourteen patients suffering under epileptic and

convulsive affections, to whom he gave the Stramonium in an hospital at Stockholm, eight were completely cured, five were relieved, and only one received no benefit. Bergius relates three cases of its success, viz., one of mania, and two of convulsions. Reef, a Swedish physician, mentions its utility in two cases of mania. Wedenberg cured four girls, affected with convulsive complaints, by the use of this medicine. Other instances of the kind might be added. Greding, however, who made many experiments, with a view to ascertain the efficacy of this plant, was not so successful; for out of the great number of cases in which he employed the Stramonium, it was only in one instance that it affected a cure; and he objects to the cases stated by Dr. Odhelius, on the ground that the patients were dismissed before sufficient time was allowed to know whether the disease would return again or not. In this country we are unacquainted with any practitioners whose experience tends to throw any light on the medical character of this plant. It appears to us, that its effects as a medicine are to be referred to no other power than that of a narcotic; and Dr. Cullen, speaking on this subject, says, "I have no doubt that narcotics may be a remedy in certain cases of mania and epilepsy; but I have not, and I doubt if any other person has, learned to distinguish the cases to which such remedies are properly adapted. It is therefore that we find the other narcotics, as well as the Stramonium, to fail in the same hands in which they had in other cases seemed to succeed. It is this consideration that has occasioned my neglecting the use of Stramonium, and therefore prevented me from speaking more precisely from my own experience on this subject."

The extract of this plant has been the preparation usually employed, and from one to ten grains and upwards, a day; but the powdered leaves, after the manner of those directed of hemlock, would seem for the reason given, a preparation more certain and convenient. Greding found the strength of the extract to vary exceedingly; that which he obtained from Ludwig, was a much more powerful medicine than that which he had of Stoerck.

Externally the leaves of Stramonium have been used as an application to inflammatory tumours and burns; in the latter a remarkable instance is noticed by Gerard.

HYOSCYAMUS NIGER.

Black Henbane.

Another poisonous and dangerous plant, of a dismal aspect and disagreeable smell. The farm yards and ditch banks in most places are full of it. It grows two feet high. The stalk is thick, round, hairy, and clammy to the touch; but not very upright. The leaves are large, long, and broad, deeply serrated at the edges, of a bluish green colour, hairy, and clammy to the touch, and leaving a disagreeable smell upon the hands. The flowers are large, and stand in rows on the tops of the branches, which often bend down; they are of a strange yellowish brown colour with purple veins. The seeds are numerous and brown.

Henbane, in a moderate dose, often produces sweat, and sometimes an eruption of pustules, and generally sound sleep, succeeded by serenity of mind and recruited vigour of the body; but, like the other narcotics, in-



Tobacco



Scammony Bindweed.



Coffee



Jalap Bindweed



Common Vine



Peruvian Bark Tree

stead of these it sometimes gives rest to vertigo, headache, and general uneasiness. With particular individuals it occasions vomiting, colic pains, a copious flow of urine, and sometimes purging. In excessive doses its effects are fatal; general debility, delirium, remarkable dilatation of the pupils of the eyes, convulsions, death. Upon the whole, like opium, it is a powerful anodyne; and, like cicuta, it is free from any constipating effect, having rather a tendency to move the belly.

Dr. Cullen says, "We have indeed found the hyoscyamus to be often an agreeable anodyne and soporiferous medicine; and we have frequently found it such in persons who, from particular circumstances, did not agree with opium, and particularly because it was less binding to the body than opium. We judge, however, that it is more ready in full doses to give delirium than opium is, and therefore we found it in many cases to give turbulent and unrefreshing sleep; and notwithstanding its laxative qualities, for which we had employed it, we have been obliged to lay it aside." Storer and some others recommend this extract in the dose of one grain or two; but Dr. Cullen observes, that he seldom discovered its anodyne effects till he had proceeded to doses of eight or ten grains, and sometimes to fifteen, and even to twenty.

From the writings of Dioscorides and others, it appears that different species of henbane have been long used in the practice of medicine. By Celsus it was applied externally as a collyrium in ophthalmia; for allaying the pain of the tooth-ache; and he gave it internally as an anodyne.

Heledius first gave the seeds of henbane in hæmoptoe (spitting of blood), and the same was afterwards successfully employed by Forrester and our Boyle.

Clauder employed the same means in dysentery with advantage, and Turguet for epilepsy: but the danger of the remedy (for Turguet gave from eight to twenty-five grains) soon brought it into disuse.

It was at length revived by Dr. Stork of Vienna, who made an extract by evaporating the expressed juice of the plant; and in convulsions he gave two grains, increasing the dose to five, six, even to ten and sixteen grains a day.

He conquered an epilepsy by giving six grains a day of the same remedy. Haller says, that he also cured several persons afflicted with this disease by mixing together a grain of the extract of hyoscyamus, with the same quantity of the mistletoe and peony root, and giving at first one grain a day, each day augmenting the dose by a single grain until it was increased to twenty, when it was continued a week; after that twenty grains twice a day every other day, and on the alternate days only twenty grains for two days, after which it was reduced to five grains every day.

Stork afterwards gave it in both furious and melancholy madness with success, and administering daily at first two, then four to eight grains of the extract.

In hæmoptysis he gave three grains.

Convulsions were also cured by him in the same manner, as well as a bad palpitation of the heart.

He applied it also in wandering rheumatic pains, in indurations of the breast from retained milk, painful swellings, whether schirrous or not, all scrofulous and cancerous ulcers, in inflamed and the blind piles. The remedy employed, besides the extract internally, was under the form of a

cataplasm of the bruised leaves, mixed with bread and milk ; of an ointment made with the powder of the leaves, with wax and oil ; of a simple powder, sprinkled on the sore, or as a decoction with milk.

SOLANUM DULCAMARA.

Woody Nightshade, or Bitter Sweet.

The stalk is slender, climbing, alternately branched, somewhat angular, brittle, hollow, and frequently rises above six feet in height ; it is covered with bark of an ash colour, and that of the young branches is of a purple hue : the leaves are long, oval, pointed, veined, and many of those near the top are halbert-shaped, but the lower leaves are entire, and of a deep green colour : the flowers hang in loose clusters or cymæ ; the corolla is monopetalous, wheel-shaped, divided into five pointed segments, which are bent backwards, of a purple colour, and the base of each marked with two round green spots : the tube is short, and the faux or mouth is of a shining black colour : the calyx is small, and divides into five blunt persistent segments, of a purple colour : the five filaments are short, black, and inserted in the tube of the corolla ; the antheræ are yellow, erect, and unite at their points ; the style is somewhat longer than the stamina, and terminated by a simple obtuse stigma ; the germen is oval, and becomes a roundish bilocular berry, which finally acquires a red colour, and contains many flat yellowish seeds. It grows plentifully in hedges well supplied with water, and the flowers appear about the latter end of June.

The roots and stalks of this Nightshade, upon being chewed, first cause a sensation of bitterness, which is soon followed by a considerable degree of sweetness ; and hence the plant obtained the name of Bittersweet. The berries have not yet been applied to medical use ; they seem to act powerfully upon the primæ viæ, exciting violent purging and vomiting : thirty of them were given to a dog, which soon became mad, and died in the space of three hours, and upon opening his stomach, the berries were discovered to have undergone no change by the powers of digestion ; there can therefore be little doubt of the deleterious effects of these berries ; and as they are very common in the hedges, and may easily be mistaken by children for red currants, which they somewhat resemble, this circumstance is the more worthy of notice. The stipites, or younger branches, are directed for use, in the Edinburgh Pharmacopœia, and they may be employed either fresh or dried, making a proportionate allowance in the dose of the latter, for some diminution of its powers by drying. In autumn, when the leaves are fallen, the sensible qualities of the plant are said to be the strongest, and on this account it should be gathered in autumn rather than spring.

Dulcamara does not manifest those narcotic qualities, which are common to many of the Nightshades ; it is however very generally admitted to be a medicine of considerable efficacy. Murray says, that it promotes all the secretions : Haller observes that it partakes of the milder powers of the Nightshade, joined to a resolvent and saponaceous quality ; and the opinion of Bergius seems to coincide with that of Murray. Dr. Cullen says, " We have employed only the stipites or slender twigs of this shrub ; but, as we have collected them they come out very unequal, some parcels of them being very mild and inert, and others of them considerably acid

In the latter state we have employed a decoction of them in the cure of rheumatism, sometimes with advantage, but at other times without any effect. Though the *Dulcamara* is here inserted in the catalogue of diuretics, it has never appeared to us as powerful in this way; for in all the trials made here, it has hardly ever been observed to be in any measure diuretic." This plant is generally given in decoction or infusion, and to prevent its exciting nausea, it is ordered to be diluted with milk, and to begin with small doses, as large doses have been found to produce very dangerous symptoms.

SOLANUM LYCOPERSICUM.

Love Apple, or Tomato Berry.

This plant is a native of South America, but has long been propagated in gardens here on account of the beauty of the fruit and flowers.

Parkinson, whose works were published in 1656, mentions it as being cultivated in England for ornament and curiosity only. Even at the present time they are grown in many gardens in the country, merely for the singularity of their appearance, varying very much in size and shape as well as colour; some being of a bright yellow, and others of a fine red. It appears, by the *Hortus Kewensis*, to have been cultivated in England as early as the year 1596; but we conclude it was introduced several years previous to that date, as Gerard mentions it in the early part of his voluminous work, as growing in his garden. The author calls it *Pomum Amoris*; and says, "apples of love do growe in Spaine, Italie, and such hot countries, from whence myself have received seedes for my garden, where they do increase and prosper."

"There hath happened unto my handes another sort," says this author, "agreeing very notable with the former, onely the fruite heereof was yellow of colour." (Now this work, which was published in 1597, must have taken some years in compiling and printing, &c. as it contains several thousand wood plates.)

Miller says, in the sixth edition of his *Gardener's Dictionary*, "the Italians and Spaniards eat love-apples as we do cucumbers, with pepper, oil, and salt, as well as for sauces."

The Portuguese call this fruit *tomato*, and eat it either raw or stewed.

Lunan says of this fruit, "I have eaten five or six raw at a time: they are full of a pulpy juice, and of small seeds, which you swallow with the pulp, and have something of a gravy taste. The juice is cooling, and very proper for defluxions of hot humours in the eyes, which may occasion a glaucoma, if not prevented: they are also good in the St. Anthony's fire, and all inflammations; and a cataplasm of them is very proper for burns." Miller also says that the love-apple was used as a medicine in his time.

SOLANUM TUBEROSUM.

Common Potato.

The Potato, now so well known, appeared at the end of the sixteenth century, two hundred years since, as a curiosity in botanic gardens. Gerard, in 1597, informs us, that he received roots of it from Virginia.

otherwise called Norembega, which grew and prospered in his garden, as in their own native country. He calls it Potato of Virginia, to distinguish it from the Spanish Potato (*Convolvulus Battatas*) which was then much better known, and called exclusively Potato, Potatus or Potades, from the Spanish Battata.

The best accounts say that our modern Potato was first introduced into culture here, or probably in Ireland, by the celebrated Sir Walter Raleigh. Mr. Miller says about the year 1623; but Sir Walter returned from Virginia in 1584, and he either brought it with him, or it was sent to him soon after.

Much confusion has arisen from the authors of voyages and travels not having distinguished the Spanish Potato, or original Battatas, from the Virginian, or our now common sort, which derived its name Potato only from the similitude of the root to the other. Parkinson (in 1629) has three kinds of Potato; the Spanish (*Convolvulus Battatas*) the Virginian, which some, as he says, foolishly call Apples of Youth, (*Solanum tuberosum*) and the Canadian, which, says he, we in England, from some ignorant and idle head, have called Artichokes of Jerusalem (*Helianthus tuberosus*). The latter, in his time, seems to have been almost as commonly cultivated as the Virginian Potato is now.

It was my intention to have given some of the most recent instructions for cultivating the Potato, but the failure of the crops of late, which has produced such dreadful consequences amongst the labouring people, causing thousands to die of hunger, makes it desirable that the "accursed root," as Cobbett called it, should go out of use altogether.

PHYSALIS ALKEKENG1.

Common Winter Cherry.

The root is perennial, long, creeping, fibrous. Stalks annual, round, crooked, smooth, simple, about a foot high. Leaves in pairs, upon foot-stalks, of an irregular shape, undulated, pointed, veined, entire. Calyx persistent, becoming a large obicular inflated pentangular membrane inclosing the fruit; segments five, pointed. Corolla monopetalous, wheel shaped; tube very short; limb five-parted; segments five, broad, short, pointed. Filaments five, small, tapering, approaching together; anthers erect; germen roundish: style, filiform, longer than the filaments, terminated by a blunt stigma. Fruit a red round two-celled berry, inclosed in the calyx, and containing numerous flat kidney-shaped seeds.

This plant, which is a native of the South of Europe, is not unfrequently found in the gardens of this country, in which it has been cultivated ever since the days of Gerard, in 1597. It flowers from July till September, and ripens its fruit in October.

The berries of the Alkekengi, commonly called Winter Cherries, were well known to the ancients, and are characteristically described by Dioscorides.

They have an acidulous and not unpleasant taste, followed by a slight bitterness, which they are said to derive in a considerable degree from the investing calyx, if not gathered with great care.

Winter Cherries, though esteemed to be detergent and aperient, have



Ipocacuan



Black Currant



Farging Backthorn



Honeysuckle



Red Currant



Ivy

been chiefly recommended in the character of a diuretic in suppressions of urine, and for removing obstructions occasioned by gravel or mucous. With this intention, from six to twelve cherries, or an ounce of their expressed juice, have been the dose usually employed: there seems, however, to be no danger from a much larger quantity; for in some parts of Germany we are told that the country people eat them by handfuls with much benefit: and in Spain and Switzerland they frequently supply the place of other eatable fruits. Ray informs us, that a gouty person prevented the returns of the disorder by taking eight of these cherries at each change of the moon: we find also instances related of their good effects in dropsical and calculous complaints, but at present they are wholly disregarded.

LOBELIA SIPHILITICA.

Blue Cardinal Flower.

The root is perennial, and furnished with many white fibres: the stem is upright, strong, simple, smooth, and rises upwards of two feet in height: the leaves, placed towards the top of the stem, are oval and pointed; those at the bottom are elliptical, and obtusely lance-shaped; they are both minutely serrated, veined, smooth, and without footstalks: the flowers are numerous, large, blue, and grow in a long spike, upon short peduncles: the corolla consists of a long tube, which is nearly cylindrical, and divided at the limb into five pointed oval segments, of a rich blue colour: the calyx is composed of five halbert-shaped leaves, which are fringed at the margin, and reflected at each side: the filaments are five, tapering, equal in length to the tube of the corolla, and closely connected at the top by the antheræ: the germen is short and conical: the style is of the length of the stamina, and terminated by a blunt hairy stigma: the capsule is oval, and divided into two cells, which contain many small seeds. It is a native of Virginia, and flowers from August till October.

Ray is the first English botanist to whom Mr. Aiton ascribes the cultivation of this species of the *Lobelia*, and, as a handsome plant, it is now in the possession of many of our gardeners. Every part of the plant abounds with a milky juice, and has a rank smell. The root, which is the part directed for medicinal use, in taste resembles tobacco, and is apt to excite vomiting. It derived the name *siphilitica* from its efficacy in the cure of syphilis, as experienced by the North American Indians, who considered it a specific in that disease, and with whom it was long an important secret. This secret was purchased by Sir William Johnson, and since published by different authors.

The method of employing this medicine is stated as follows:—a decoction is made of a handful of the roots in three measures of water. Of this, half a measure is taken in the morning fasting, and repeated in the evening; and the dose is gradually increased till its purgative effects become too violent, when the decoction is to be intermitted for a day or two, and then renewed till a perfect cure is effected. During the use of this medicine, a proper regimen is to be enjoined, and the ulcers are also to be frequently washed with the decoction, or if deep and foul, to be sprinkled with the powder of the inner bark of the New Jersey Yea-tree (*Ceanothus Americanus*). Although the plant thus used is said to cure the disease in

a very short time, yet we do not find that the antispythilitic powers of the *Lobelia* have been confirmed by any instances of European practice.

There is another species of this plant the *Lobelia inflata*, which has been much puffed into practice of late; but I would advise all my readers to be cautious in its use, as the most undoubted cases of poison have followed.

VIOLA ODORATA.

Sweet Violet.

A common wild plant in our woods and hedges, but of a fragrance superior to all that we receive from the rich East. It is a little, low, creeping plant, obscure even when in flower; the stalks are round, green and creeping, they do not rise up, but spread themselves along the ground, taking root at the joints; the leaves rise from these rooted parts, they are large and stand each on a long foot-stalk. They are of a heart-like shape, and dented at the edges, and of a deep green. The flowers are small, and of a deep and beautiful purple, they stand singly on short foot-stalks arising among the leaves, and covered by them.

The violet is considered as an image of modesty, and by some of our English Poets was considered as an emblem of faithfulness.

"Violet is for faithfulness,
Which in me shall abide,
Hoping, likewise, that from your heart,
You will not let it slide."

"Violets dim,
But sweeter than the lids of Juno's eyes,
Or Cytherea's breath."

Winters Tale.—SHAKESPEARE.

"Like the sweet south
That breathes upon a bank of Violets,
Stealing and giving odour."

Twelfth Night.—SHAKESPEARE.

Violets are considered by some, as most valuable in medicine, particularly the old medical writers. But it is now seldom used, except as a syrup for opening the bowels of children, which is made in the following manner.

SYRUP OF VIOLETS.

Take of fresh petals of Violet.....one pound.

Boiling Water.....two pints.

Macerate for twenty-four hours in a covered glass vessel, pour off the fluid, then strain through fine linen, and with twice the weight of refined sugar make a syrup, without boiling.

The dose is from one to two drachms. Half a drachm with the addition of a little almond oil, is a useful laxative for children. Acidulated with a small quantity of lemon juice, it may also be given in coughs and sore throats.

A conserve made with one part of the flowers and two of refined sugar, has a grateful flavour, and may be used in flavouring nauseous or insipid drinks for the sick.

VIOLA TRICOLOR.

Pansy, or Three Coloured Violet.

This plant is so well known, that it needs no description, further than that it is a very common, and rather troublesome weed in all cultivated grounds throughout England, and exhibits its three-coloured flowers during all the summer months.

Though many of the old writers, says Dr. Woodville, on the *materia medica* represent this plant as a powerful medicine in epilepsy, asthma, ulcers, scabies, and cutaneous complaints; yet the *Viola tricolor* owes its present character as a medicine, to the modern authorities of Stork, Metzger, Hoase, and others; especially as a remedy for *crusta lactea*. For this purpose, a handful of the fresh herb, or half a drachm of it dried, and boiled two hours in milk, is to be strained, and taken night and morning. Bread with this decoction, is also to be formed in into a poultice and applied to the part. It certainly merits the attention of the English physicians.

VIOLA IPECACUANHA.

Ipecacuan.

Ipecacuan was first brought into Europe about the middle of the last century, and an account of it published about the same time by Piso; but it did not come into general use till about the year 1686, when Helvetius, under the patronage of Lewis XIV, introduced it into practice.

The primary effect of *Ipecacuan* is that of stimulating the stomach. If the dose be sufficiently large, it excites vomiting, by inverting the peristaltic motion of the stomach and duodenum; in a smaller dose, it only produces nausea, and operates by stool; and in still smaller doses, it gently stimulates the stomach, increases the appetite, and facilitates digestion. Its secondary effects depend on the sympathy of other parts with the stomach; and in this way only can we explain its action as antispasmodic, diaphoretic, expectorant, and in checking hæmorrhagies. Its beneficial effects, in some cases, also seem to be owing to the general concussion given to the whole system, during the action of vomiting.

Ipecacuan, properly administered, often proves serviceable:

1. In intermittent fevers. It has frequently succeeded in stopping these, when given about an hour before an accession was expected, and also when given so as to produce vomiting at the time of an accession, or at the end of the cold stage.

2. In continued fevers. We have never seen more decidedly beneficial effects from the use of any medicine whatever, than from the exhibition of *Ipecacuan* in the commencement of typhus fever. An emetic, succeeded by a diaphoretic regimen, when administered sufficiently early in the disease, very frequently cuts it short at once; and when it fails in this desirable object, it always has a beneficial influence on the progress of the fever.

3. In inflammatory diseases, rheumatism.

4. In exanthematous diseases, when the eruption is disposed to recede.

5. In hæmorrhagies, when given in nauseating doses.

6. In profluvia, especially in dysentery; so much so that it was former-

ly esteemed a specific against that disease. But Cullen attributes its good effects in this instance, to its producing a steady determination of the peristaltic motion of the intestines downwards, when given in repeated small doses.

7. In many spasmodic diseases; in epilepsy, asthma, dyspnoea, pertussis, chronic diarrhoea, hysteria, melancholy, and mania.

8. In cachectic diseases, as in some kinds of dropsy.

9. In impetiginous diseases; in jaundice.

10. In local diseases; in amaurosis, and several of the dysorexiae.

11. Lastly, in every instance when we wish to evacuate the stomach, as when it is overloaded with food, or when poison, especially opium, has been swallowed.

The use of Ipecacuan as an emetic, is contraindicated:

1. Where there is a disposition to hæmorrhagy.

2. Where there is an increased flow of blood towards the head.

3. In very irritable subjects.

4. In pregnant women, and persons afflicted with hernia.

Ipecacuan is exhibited.

1. In substance, in powder. Full vomiting will generally be produced in an adult by a scruple or half a drachm, and though less might answer the purpose, fortunately an over-dose is scarcely attended with any inconvenience, as the whole of it is vomited with the contents of the stomach, as soon as it operates. The vomiting is promoted and facilitated by drinking copiously of warm watery fluids. On the contrary, when vomiting is not intended, liquids must be drunk rather sparingly, and the dose must be diminished to a grain or less. In such small doses, it is conveniently combined with any proper adjunct, in the form of powder, pill, or bolus.

2. In Infusion. One drachm may be infused in four ounces of water, and taken in repeated doses till it operates.

3. Infused in wine.

Ipecacuan not only checks the narcotic effects of opium, and is therefore one of the best antidotes for its poison, but reciprocally the emetic powers of Ipecacuan are checked by the addition of opium, and the combination operates by increasing the cuticular discharge. And we have only to add, that it greatly promotes the action of cathartics.

OFFICINAL PREPARATIONS.

WINE OF IPECACUAN.

Take of the root of Ipecacuan, bruised, two ounces;

—— Spanish white wine..... two pints:

Digest for ten days, and strain.

Edin.

Take of Ipecacuan, bruised, one ounce;†

—— Spanish white wine, fifteen ounces;

Macerate for seven days, and filter through paper.

Both these wines are very mild and safe emetics, and nearly equally serviceable in dysenteries, with the Ipecacuan in substance, this root yield-

mg nearly all its virtues to the Spanish white wine. The common dose is an ounce, more or less, according to the age and strength of the patient.

POWDER OF IPECACUAN AND OPIUM, OR COMPOUND POWDER OF IPECACUAN,
FORMERLY DOVER'S POWDER.

- Take of Ipecacuan, in powder;
 ——— Opium, (hard purified, D. L.) of each *one* part;
 ——— Sulphate of potass, eight parts:

Triturate them together into a fine powder.

The sulphate of potass, from the grittiness of its crystals, is perhaps better fitted for tearing and dividing the tenacious opium, than any other salt; this seems to be its only use in the preparation. The operator ought to be careful that the opium and Ipecacuan be equally diffused through the whole mass of powder, otherwise different portions of the powder must differ in degree of strength.

This powder is one of the most certain sudorifics, and as such was recommended by Dr. Dover as an effectual remedy in rheumatism. Modern practice confirms its reputation, not only in rheumatism, but also in dropsy, and several other diseases, where it is often difficult, by other means, to produce a copious sweat. The dose is from two to five grains, repeated according as the patient's stomach and strength can bear it. It is proper to avoid much drinking immediately after taking it, otherwise it is very apt to be rejected by vomiting before any effects are produced. Perspiration should be kept up by diluents.

PRESCRIPTIONS.

- 1.—Take of ipecacuan, in powder. ten grains.
 ——— tartarized antimony. one grain.

Mix for an emetic powder, to be taken at seven in the evening.

This is the ordinary dose for an adult.

- 2.—Take of ipecacuan, in powder. twelve grains.
 ——— compound powder of tragacanth. twelve grains.
 ——— opiate confection, as much as is sufficient:

To form twelve pills; one is to be taken night and morning for an asthma, or for habitual diarrhoea.

- 3.—Take of ipecacuan wine. seven drachms.
 ——— antimonial wine. one drachm.
 ——— syrup of violets. one drachm.
 ——— rose water. three drachms.

Make into a draught, to be taken at eight in the evening; or for an infant give a teaspoonful every five minutes until it operates; and half of it for a child of ten or twelve years. It has no taste.

- 4.—Take of ipecacuan. seven grains.
 ——— compound extract of colocynth. fourteen grains.

Make into seven pills, of which take one going to bed, or one night and morning, as occasion may require. Excellent for costive habits, but not to be taken by delicate persons, or during pregnancy.

ERYTHRÆA CENTAURIUM.

Common Centaury.

A pretty wild plant which flowers in autumn, growing in dry places. It is eight or ten inches high; the leaves are oblong, broad, and blunt at the point; the stalks are stiff, firm, and erect; the flowers are of a fine pale red. There grows a cluster of leaves an inch long or more from the root; the stalks divided towards the top into several branches, and the flowers are long and slender, and stand in a cluster.

This is an excellent stomachic, its taste is a pleasant bitter, and given in infusion; it strengthens the stomach, creates an appetite, and is good also against obstructions of the liver and spleen. It is on this last account greatly recommended in jaundices; and the country people cure agues with it dried and powdered.

The following are the preparations of this valuable herb.

SIMPLE INFUSION OF COMMON CENTAURY.

Take of tops of common Centaury, dried . . . six drachms.

Boiling water . . . half a pint.

After sufficient boiling, strain. An ounce and a half to two ounces may be given three or four times a day.

COMPOUND INFUSION OF COMMON CENTAURY.

Tops of common Centaury, dried . . . one ounce.

Avena root, } of each . . . two drachms.

Angelica root, }

Boiling water . . . one quart.

Pound the ingredients in a mortar, then pour on the hot water, and when cold, strain off the liquor; then add

Compound tincture of cardamoms, two ounces.

A wine-glassful of this infusion may be taken two or three times a day, according to circumstances.

It has been found very serviceable in cases of obstructed menstruation, an aloetic purge being administered occasionally.

TINCTURE OF COMMON CENTAURY.

Take of tops of common Centaury, dried . . . two ounces.

Rectified spirit . . . one pint.

After sufficient extraction, strain off the liquor, and pour it on

Tops of common Centaury . . . two ounces.

Then digest, express, and filter.

This tincture is reputed stomachic and anthelmintic, and is also used in intermittent fevers. A drachm or more may be used at a time.

RHAMNUS CATHARTICUS.

Buckthorn.

This is a prickly bush, or low tree, common in hedges; with oval.

pointed, sawed leaves. The flowers are small, beautifully white or pink, and hang in clusters upon simple peduncles. The calyx is funnel-shaped, dividing into four spreading segments. The stamina are sometimes four only. It produces a round black berry containing four seeds.

This tree, or bush, is common in hedges: it flowers in May and June, and ripens its fruit in September or the beginning of October. In our markets, the fruit of some other trees, as the blackberry-bearing alder, and the dogberry tree, have of late been frequently mixed with, and substituted for, those of buckthorn. This abuse may be discovered by opening the berries; those of buckthorn have almost always four seeds, the berries of the alder two, and those of the dogberry only one. Buckthorn berries, bruised on white paper, stain it of a green colour, which the others do not. Those who sell the juice to the apothecaries are said to mix it with a large proportion of water.

Buckthorn berries have a faint disagreeable smell, and a nauseous bitter taste. They have long been in considerable esteem as cathartics; and celebrated in dropsies, rheumatisms, and even in the gout; though in these cases they have no advantage over other purgatives, but are more offensive, and operate more severely, than many which the shops are furnished with. They generally occasion gripes, sickness, dry the mouth and throat, and leave a thirst of long duration. The dose is about twenty of the fresh berries in substance, and twice or thrice this number in decoction; an ounce of the expressed juice, or a drachm of the dried berries.

PREPARATIONS.

The only official preparation ordered by the colleges is a syrup, simple as directed by the Edinburgh college, and properly corrected by ginger and pimento by the London.

SYRUP OF BUCKTHORN.

Take of the juice of ripe buckthorn berries, depurated, two parts.

——— double refined sugar, one part.

Boil them so as to form a syrup.

SYRUP OF BUCKTHORN.

Take of the fresh juice of ripe buckthorn berries, one gallon;

——— ginger, bruised one ounce;

——— pimento, powdered, one ounce and a half;

——— double refined sugar, seven pounds:

Set aside the juice for three days, that the faeces may subside; and then strain it. Macerate the ginger and pimento in a pint of the strained juice for four hours, and filter. Boil away the rest of the juice to three pints; then add that part of the juice in which the ginger and pimento have been macerated, and form a syrup of it with the sugar.

Both these preparations, in doses of three or four spoonfuls, operate as brisk cathartics. The principal inconveniencies attending them are their being very unpleasant, and their occasioning a thirst and dryness of the mouth and fauces, and sometimes violent gripings; these effects may be prevented by drinking liberally of water-gruel, or other warm liquids during the operation.

It is seldom employed alone, but to give power to other purgatives, as cept in dropsies.

The juice dried produces for the painters their *sap green*, a very fine dark green, but not very durable.

RIBES RUBRUM.

Red Currant.

This shrub grows wild in England, and is very generally cultivated for the sake of its pleasant subacid fruit. The juice of the fruit contains saccharine matter, malic and citric acids, and a substance scarcely soluble in cold water, very soluble in hot water, and coagulating into the form of a jelly as it cools. By boiling currant-juice with a sufficient quantity of sugar to absorb the acid watery parts, the whole forms, on cooling, an uniform jelly, which is often used as an acid demulcent in sore throats; and, dissolved in water, forms a pleasant cooling drink in feverish complaints. The juice, fermented with a proper quantity of sugar, affords a very palatable wine, much improved by keeping, even for twenty years, when it possesses the taste and properties of champagne. It is made thus:—

PREPARATIONS.

CURRANT WINE.

Take four gallons of cold water to four of bruised currants, picked carefully from their stalks; let these stand together for four days, then strain them off, and mix three pounds and a half of brown sugar, or white sugar, which is greatly to be preferred, to each gallon of diluted currant-juice; stir it well, then put it into a cask, and add also a piece of toasted bread spread over with yeast, which will ferment it; after this is over, bung it up very tight, and it will be ready for bottling off in six months, and for domestic use after six months keeping in the bottle.

The white currant alone produces the best wine, when it is clear like champagne, and sparkles as much; but it is oftener made of red currants, when it has the appearance of mountain grape wine, or the two are mixed together. Respecting the properties of these wines, I have often ordered the old white currant wine in putrid fevers and in calculous affections, and it exceeded all expectation. There can be no doubt but these home-made wines would be an excellent substitute for the more expensive foreign, provided they were kept a sufficient length of time, and properly fermented; but home-made wine, when new and ill made, is very apt to ferment upon the stomach, and thus disorder the whole frame.—But more upon the subject of these wines in our next article.

If equal weights of picked currants and pure sugar are put over the fire, the liquor that separates spontaneously is a most agreeable jelly. The regular mode of preparing currant jelly is as follows:—

CURRANT JELLY.

Take some ripe red currants, with one third of white; pick, and put them into a preserving-pan over a good fire, to dissolve; run their liquor through a flannel bag, and to a pint of juice add fourteen ounces of sifted sugar; boil quick, skim, and reduce to a good thickness, which may be known by putting a little into a saucer, and setting it in cold water.

RIBES NIGRUM.

Black Currant.

It is a wholesome fruit, and a gentle aperient. The leaf applied to a gouty limb is said greatly to assuage pain and inflammation of the part. The inner bark of this, and also of the red currant and gooseberry, made

into a decoction, is a popular remedy in jaundice, and, with some medical men, for dropsy. But the chief use is from the following

• PREPARATIONS.

BLACK CURRANT WINE.

The currants should be gathered on a dry day, when quite ripe; strip them, put them into a large pan, bruise them with a wooden pestle, and let them stand twenty-four hours to ferment: then rub it through a hair sieve, but do not let the hand touch the liquor. To every gallon of this liquor stir in two pounds and a half of white sugar, and put it into a vessel. To every six gallons add one quart of brandy, and let it stand six weeks. If fine, bottle it; if not, draw it off clear into another vessel, or large bottles; and, in a fortnight, bottle it up for use.

ANOTHER WAY.—Take four gallons of currants, not too ripe, strip them into an earthen vessel with a cover to it; then take two gallons and a half of water, and five pounds and a half of sugar; boil the sugar and water together, and well skim it; then pour it boiling on the currants, and let it stand forty-eight hours; afterwards strain it through a flannel bag into the vessel again, and let it stand a fortnight to settle: then bottle it off.

BLACK CURRANT JELLY.

This is made the same as the red. See preceding page.

There is nothing which relieves sore throats more than this jelly, it deterges, to use the medical expression, and abates thirst and fever. Barley water is frequently acidulated with it, which makes a most refreshing drink in all fevers. It is particularly serviceable in the low stages of typhus fevers.

SYRUP OF BLACK CURRANTS.

Take of the juice of black currants, strained, two pints
—— double refined sugar, fifty ounces:

Dissolve the sugar, and boil to make a syrup.

A tea-spoonful of this is given to children in the thrush.

RIBES GROSSULARIA.

Gooseberry Bush.

This plant and fruit is too well-known to need description. By cultivation they vary in colour from white to yellow, green, red, purple, and black, and in size from the dimension of a pea to that of a walnut, afford a very favourite and wholesome fruit, either fresh or preserved. The seeds of gooseberries when washed, dried, roasted, and ground, are a good substitute for coffee. The bright red spots which often affect the leaves, and sometimes distort the young berries, are occasioned by *Aecidium Grossularia*; "Peridium bursting at the apex, the mouth generally dentate: sporidia dust-like." *Cimex baccharum* is often met with on gooseberry bushes. Indeed few plants are more subject to the depredations of insects, especially from the caterpillars of *Tenthredinidae*, *Papiidae*, and *Phalena*, devouring both leaves and buds. The best method of checking this inconvenience is by deep digging around the bushes in the winter season, encircling the main stem with a band of tar, and hand-picking occasionally during spring and summer. The depredations of birds, especially of that insidious plunderer the bull-finch, upon the embryo blossoms while yet wrapped up in the buds, are not so readily prevented; as observed in Journ. Nat. "when the cherry buds begin to come forward, they quit the

gooseberry, and make tremendous havoc with these, and the plums next form a treat. The idea that this bird only selects such buds as contain the embryo of an insect, to feed on, and thus free us of a latent colony of caterpillars, is certainly not correct. The mischief effected by bull-finches is greater than commonly imagined, and the ground beneath the tree on which they have been feeding is commonly strewed with the shattered buds, the rejectments of their banquets; and we are thus deprived of a large portion of our best fruit by this "pick-a-bud," as the gardeners call it. These plants may be trained on espaliers to an extent of many feet, with improved fruit. An agreeable wine is prepared from the berries, which much resembles champagne; and when gathered green no fruit makes a better tart than the gooseberry.

LONICERA PERICLYMENUM.

Honeysuckle, or Woodbine.

Who does not know the Honeysuckle, which, for exquisite beauty and fragrance is an universal favourite. What a lovely sight to see a trellis before a cottage door covered with Roses, Clematis, and Honeysuckle! although the Honeysuckle is no where so beautiful as in its own native places,—the borders of woods and in hedges.

The fresh leaves of Honeysuckle, given in decoction, are good against obstructions of the liver and spleen; they work by urine; and they are also a good gargle for a sore throat.

SYRUP OF HONEYSUCKLE.

Take of fresh Petals of Honeysuckle . . . four pounds;
 ——— Boiling water eight pints:

Infuse for twelve hours in a covered vessel; express lightly; set aside the liquor for a few hours, decant and add twice the weight of white sugar, and make a syrup.—Dose two drachms to an ounce.

HEDERA HELIX.

Ivy.

Too well known to need describing.

The leaves and berries are both used, but neither much. A decoction of the leaves destroys vermin in children's heads, and heals the soreness that attends them. The berries are purging; an infusion of them will often work also by vomit; but there is no harm in this: they are an excellent remedy in rheumatism, and pains of all kinds, and it is said, have cured dropsies; but this is perhaps going too far.

VINCA MINOR.

Periwinkle.

A very pretty creeping plant, wild in some places, but kept in gardens also. The stalks are numerous, and a foot or more in length, but they do not stand upright: they are round, green, and tough, and generally trail upon the ground. The leaves are oblong, broad, and of a shining green



Periwinkle



Prickly Saltwort



Mullein.



Dodder



Elm Tree



Sinking Goose Foot

colour, smooth on the surface, and placed two at each joint. The flowers are large and blue; they are bell fashioned, and stand on long foot-stalks; the fruit succeeding. Each is composed of two longish pods, each containing several seeds.

The whole plant is used fresh. It is to be boiled in water, and the decoction drank with a little red wine in it. It stops the overflowing of the menses, and the bleeding of the piles.

VERBASCUM THAPSUS.

Great Mullen.

The root is biennial, long, divided, and descends deeply into the ground: the stalk is simple erect, round, rigid, hairy, rises two or three feet in height, and is irregularly beset with leaves, which are large, without foot-stalks, at the base decurrent, or running along the stem, oblong or oval, somewhat pointed, indented at the margin, of a pale green colour, and covered on both sides with thick down, or white soft hairs: the bractæe are lance-shaped, with narrow points, hairy on the under side, on the upper smooth, and longer than the calyx: the flowers are yellow, and produced in long close terminal inclining spikes: the calyx is divided into five pointed segments, which are hairy on the outside, the corolla is monopetalous, yellow, divided at the limb into five unequal segments, which are blunt, oval, veined, and slightly indented at the edges: the five filaments are hairy, of unequal length, and furnished with double reddish antheræ: the germen is roundish, downy, and supports a simple style, crowned with a compressed stigma: the capsule is oblong, separated into two cells and valves, and contains many small angular seeds. It is a native of England, and usually grows on the banks of ditches, and flowers in July.

The Verbascum, according to C. Bauhin, ranks with the natural order Solanaceæ, but does not seem to possess those narcotic powers for which this order is distinguished. The leaves have an herbaceous, bitterish, sub-astringent taste, but no peculiar smell: upon being chewed they discover a mucilaginous quality; and hence they are recommended as emollients both internally and externally. In the way of fomentation and cataplasm they are said to be an useful application to hæmorrhoidal tumours; also for promoting the resolution or suppuration of glandular indurations.

Catarrhal coughs and diarrhæas are the complaints for which the Verbascum has been internally prescribed. Dr. Home tried it in both, but it was only in the latter disease that this plant succeeded. He relates four cases in which a decoction of Verbascum was given; and from which he concludes, that it "is useful in diminishing or stopping diarrhæas of old standing, and often in easing the pains of the intestines. These acquire a great degree of irritability; and the ordinary irritating causes, aliment, bile, distention from air, keep up a quicker peristaltic motion. This is obviated by the emollient and perhaps gentle astringent qualities of this plant.

The decoction was prepared of two ounces of the leaves, with a quart of water, of which four ounces were given every three hours. The flowers of this plant have likewise been employed medicinally, having been supposed to possess anodyne and pectoral virtues: it is probable, however, that neither the leaves nor flowers are medicines of much efficacy.

ORDER II.

DIGYNIA.



2 PISTILS.

Plants with two pistils (1).

HERENARIA GLABRA.

Rupturewort.

A little low plant, wild in some parts of the kingdom, but not common, and kept in the gardens of the curious. It grows three or four inches long, but the stalks lie on the ground, many grow from the same root, and they spread into a kind of circular figure. They are slender, round, jointed, and of a pale green. The leaves are very small, and nearly of an oval figure; they stand two at each joint, and are also of a pale green. The leaves are very small, the root is very long, but not thick.

The juice of the fresh gathered herb, externally applied, has been much celebrated against ruptures, perhaps without any great foundation. An infusion of it, taken inwardly, works by urine, and is very good against the gravel, and in the jaundice.

ULMUS CLAMPESTRIS.

Elm Tree.

It becomes a large tree, covered with a rough bark. The leaves are ovate, rough, doubly serrate, and alternate upon short peduncles. The flower precedes the leaves: the seed is round, but somewhat compressed.

This tree is common in Middlesex, but is said not to be found north of Stamford.

The inner tough bark abounds with a slimy juice, of a bitterish taste, and was employed by Fallopius to unite wounds by the first intention. But it is now chiefly employed as a *ptisan* for scorbutic affections, and for the cure of herpes and lepra. Dr. Lysons mentions five cases of inveterate eruptions, both dry and humid, or those forming incrustations, which were successfully treated by a decoction of this bark, prepared from four ounces of it taken fresh, and boiled in two quarts of water to one: of this the patients were directed to drink a pint twice a day. The body was kept open, and a few grains of nitre were added to the *ptisan*. It is admitted by the authors of the Edinburgh Pharmacopœia, who do not deny its efficacy in leprosy; but, as they observe, such a remedy requires a very patient trial.

To receive benefit from the elm bark, it must be continued for some

months; and Dr. Lettsom has favoured us with a very striking case of leprosy (in Med. Trans. vol. ii. p. 203), where a cure was effected after every other remedy had failed. A yet more remarkable instance of its efficacy in leprosy is related by Banace (in Joura. de Paris, 1783, p. 255), who proposes the use of this remedy in old ulcers, cancerous and scrophulous affections, scald head, scurvy, &c. These recommendations merit attention. It has been found of use in some nephritic cases.

Coffins are composed of this wood, as being very difficult to corrupt.

SALSOLA KALI.

Prickly Saltwort.

The root is annual: the stem is angular, branched, smooth, decumbent, and rises about a foot in height: the leaves are long, narrow, awl-shaped, prickly, stand in ternaries upon the branches, and like the stem are frequently of a reddish hue: the flowers are sessile, axillary, whitish, yellowish, or of a rose colour: the calyx is membranous, and consists of five obtuse indented segments, each of which is furnished with a small tooth-like process at its base: it has no corolla, unless the calyx be considered as such: the five filaments are short, slender, inserted into the divisions of the calyx, and crowned with simple antheræ: the germen is globular, and supports two styles with recurved stigmata: the capsule is oval, one-celled, involved in the calyx, and contains a large spiral seed formed like a snail-shell. It is a native of Britain, and common on the sea shore, flowering in July and August.

Not only this, but various other plants, on being burned, are found to afford the fossile alkali, and some in a greater proportion than the Kali, consequently have an equal if not a superior claim to a place in this work.

It is to be regretted, that the different kinds of soda which are brought to European markets, have not been sufficiently analysed to enable us to ascertain with tolerable certainty the respective value of each; and indeed while the practice of adulterating this salt continues, any attempts of this kind are likely to prove fruitless: the best information on this subject is to be had from Jussieu, Marcorelle, Cadet, Borlase, and Sestini. In those places where the preparation of soda forms a considerable branch of commerce, as on the coast of Mediterranean, seeds of the Salsola are regularly sown in a proper situation near the sea, which usually shoot above ground in the course of a fortnight. About the time the seeds become ripe, the plants are pulled up by the roots, and exposed in a suitable place to dry, where their seeds are collected: this being done, the plants are tied up in bundles, and burned in an oven constructed for the purpose, where the ashes are then while hot continually stirred with long poles. The saline matter, on becoming cold, forms a hard solid mass, which is afterwards broken in pieces of a convenient size for exportation.

According to chemical analysis soda generally contains a portion of vegetable alkali and neutral salts, as common salt, and sometimes vitriolated tartar, or Glanber salt, likewise liver of sulphur, and not unfrequently some portion of iron is contained in the mass; it is therefore to be considered as more or less a compound, and its goodness is to be estimated accordingly. The Spanish soda, of the best sort, is in dark coloured masses, of a bluish tinge, very ponderous, sonorous, dry to the touch, and

externally abounding with small cavities, without any offensive smell, and very salt to the taste; if long exposed to the air, it undergoes a degree of spontaneous calcination. The best French soda is also dry, sonorous, brittle, and of a deep blue colour, approaching to black. The soda, which is mixed with small stones, which gives out a fetid smell on solution, and is white, soft, and deliquescent, is of the worst kind.

The method of purifying this salt is directed in the London Pharmacopœia, under the article of *Natron preparatum*, and in the Edinburgh Pharmacopœia under that of *Sal alkalinus fixus fossilis purificatus*: the pure crystals, thus formed of Alicant barilla, are colourless, transparent, lamellated, of a rhomboidal figure, and one hundred parts are found to contain twenty of alkali, sixteen of aerial acid, and sixty-four of water; but upon keeping the crystals for a length of time, if the air be not excluded, the water evaporates, and they assume the form of a white powder. According to Imlia, one ounce of water, at the temperature 62 of Fahr. dissolves five drachms and fifteen grains of the crystals. The same author also found that this salt preserved flesh from putridity longer than common salt, though not so long as the vegetable alkali. *Natron* has been thought useful in scrophulous disorders, but it is seldom given in its simple state.

In combination with vitriolic acid this alkali forms Glauber salt, or *Natron vitriolatum*; with nitrous acid, cubic nitre; with marine acid, common salt; with the sedative salt of Homberg, borax; with cream of tartar, Rochelle salt, or *sal saignette*.

To enter fully on the peculiar properties, or chemical qualities, of this alkali, would lead us too far, and is properly the province of chemistry. It is in common use in the manufacture of glass and soap, and as the latter is an article of the *Materia Medica*, we shall proceed to consider its medicinal effects.

All the soaps, of which there are several kinds, are composed of expressed vegetable oils, or animal fats, united with alkaline laxivia. The *Sapo ex oleo olive et natro confectus* of the London Pharmacopœia, or the *Sapo albus hispanus* of the Edinburgh Pharmacopœia, (white Spanish soap) being made of the finer kinds of olive oil, is the best, and therefore preferred for internal use.

Soap was imperfectly known to the ancients. It is mentioned by Pliny as made of fat and ashes, and as an invention of the Gauls. Aretæus, and others, inform us, that the Greeks obtained their knowledge of its medical use from the Romans. Its virtues, according to Bergius, are detergent, resolvent, and aperient, and its use recommended in jaundice, gout, calculous complaints, and in obstructions of the viscera. The efficacy of soap, in the first of these diseases, was experienced by Sylvius, and since recommended very generally by various authors who have written on this complaint; and it has also been thought of use in supplying the place of bile in the primæ viæ. The utility of this medicine, in icterical cases, was inferred chiefly from its supposed power of dissolving biliary concretions, but this medicine has lost much of its reputation in jaundice, since it is now known that gall stones have been found in many, after death, who had been daily taking soap for several months and even years. Of its good effects in urinary calculous affections, we have the testimonies of several, especially when dissolved in lime water, by which its efficacy is consider-

ably increased; for it thus becomes a powerful solvent of mucus, which an ingenious modern author supposes to be the chief agent in the formation of calculi: it is however only in the incipient state of the disease that these remedies promise effectual benefit; though they generally abate the more violent symptoms where they cannot remove the cause. With Boerhaave, soap was a general medicine; for as he attributed most complaints to viscidities of the fluids, he, and most of the Boerhaavian school, prescribed it in conjunction with different resinous and other substances, in gout, rheumatism, and various visceral complaints. Soap is also externally employed as a resolvent, and gives name to several official preparations.

CHENOPODIUM BONUS HENRICUS.

Good King Henry.

A common wild plant, called also by some, English Mercury, by way of distinction from the other, which is called French Mercury. This grows a foot high; the stalk is round and thick, but rarely stands quite upright; it is greenish and purplish, and is covered with a kind of grey powder unctuous to the touch. The leaves are large, broad, and of the shape of an arrow-head: they stand on long stalks, and are of a pale green above, and greyish underneath, being there covered with this grey powder. The flowers are inconsiderable, and are of a greenish yellow, and they stand in long spikes at the tops of the branches. This plant is common in farm yards.

The young shoots are eaten as spinach, the juice of the whole plant works gently and well by urine; and the dried herb is used in decoctions for glisters.

CHENOPODIUM VULVARIA.

Stinking Goosefoot

The root is annual: the stems are procumbent, channelled, branched, and grow from six to twelve inches in length: the leaves are numerous, entire, of an irregular rhomboidal form, or often egg-shaped, veined, of a mealy appearance, and stand alternately upon short footstalks: the flowers are very small, of a light green colour, and placed in clusters at the ale of the leaves: the calyx consists of one pentagonal leaf, cut into five pointed concave divisions: there is no corolla: the five filaments are small, tapering, about the length of the segments of the calyx, and furnished with double round anthers: the germen is orbicular, and supports two styles, terminated with obtuse stigmata: the seed is lenticular, and is inclosed by the calyx, which supplies the place of a capsule. It is usually found about old walls and rubbish, flowering in August.

This plant, in its recent state, has a nauseous taste, and a strong offensive smell, resembling that of putrid salt fish, and remaining long on the hands after touching the herb. "It gives a strong impregnation to water both by infusion and distillation: the smell is extracted likewise by rectified spirit, and by this menstruum in some degree covered." This plant has been expunged from the *Materia Medica* of the London Pharmacopoeia, but it is still retained in that of Edinburgh. Its virtues are ascribed to its remarkable fetor, from which it is inferred by Dr. Cullen to be a powerful

antispasmodic, and especially recommended in hysterical affections. Dr. Cullen says "it has been frequently employed in this country with advantage; not however so frequently as might be expected, as it is a plant, in its fresh state, not always ready at hand, and in its dry state it loses all its sensible qualities. It can only be employed therefore in its recent state, and the most convenient formula is that of a conserve; and as it is not always easy to reconcile our patients to it even in that state, it is not employed so often as I could wish."

CUSCUTA EUROPEA.

Common Dodder.

A very strange and singular plant, but not uncommon with us. It consists of only stalks and flowers, for there are no leaves, nor the least resemblance of any. The stalks are a foot or two in length, and they fasten themselves to other plants; they are of a purplish colour, as thick as a small pack-thread, and considerably tough and firm. These wind themselves about the branches of the plants, and entangle themselves also with one another in such a manner that there is no end of the perplexity of tracing and unfolding them. The flowers grow in little heads, and are small and reddish, and four little seeds succeed to each of them.

Dodder is best fresh gathered; it is to be boiled in water with a little ginger and allspice, and the decoction works by stool briskly; it also opens obstructions of the liver, and is good in the jaundice, and many other disorders arising from the like cause.

GENTIANA LUTEA.

Yellow Gentian.

The plant rises two or three feet in height. The stem is strong, smooth, erect. The leaves which arise from the lower part of the stem are spear-shaped, large, ribbed, those from the upper part more ovate, smooth, sessile. The flowers are large, yellow, produced in whorls, and stand on a footstalk. The calyx is a spatula, which drops. The corolla is divided into five or six segments. The pistil has no style, but two reflexed stigmata. The capsule is conical.

Gentian is a perennial plant, which grows upon the Alps, Pyrennees, Appennines, and other mountainous situations in the temperate parts of Europe.

The roots are long, thick, externally of a brown colour, and wrinkled: internally spongy, and of a yellow colour, without any remarkable smell, but surpassing in bitterness all other European vegetables. Alcohol dissolves only the bitter extractive, water both the extractive and mucilage.

Gentian possesses the general virtues of bitters in an eminent degree, and it is totally devoid of astringency. On dead animal matter it acts as an antiseptic. Taken into the stomach it proves a powerful tonic, and in large doses it evacuates the intestines. It is useful in debility of the stomach, in general debility, and in gout. Combined with astringents it cures intermittents. Externally it is applied to putrid ulcers.

The root, which is the only medicinal part in use, has little or no smell.

but to the taste manifests great bitterness, a quality which is extracted by aqueous and spirituous menstrua, though not in so great a degree by water as by spirit. As an intense bitter it is admitted to be not only a tonic, but a fine stomachic, and when joined with equal parts of tormentil root, or galls, says Cullen, it never fails curing an intermittent equally with the Peruvian Bark.

As far as regards my own experience I have found it a most useful remedy, and until the time arrives that we shall have found out a specific for each disease, or specifics, we must follow what has been denominated the Brunonian practice, namely, acting on the constitution, which of herself removes a long catalogue of disease, thus acting on disease through her powers, which often require to be assisted. The nicety in physic is to know the nature of each disease, attend the constitution, and not to do too much or too little.

PREPARATIONS.

EXTRACT OF GENTIAN.

Take of gentian root, any quantity:
Having cut and bruised it, pour upon it eight times its quantity of distilled water. Boil to the consumption of one-half of the liquor, and strain it by strong expression. Evaporate the decoction immediately, to the consistence of thick honey, in a bath of water saturated with muriate of soda. Of the extract from ten grains to two scruples are given.

COMPOUND INFUSION OF GENTIAN, OR BITTER INFUSION.

Take of Gentian root, cut into pieces, half an ounce;
— dried peel of Seville oranges, bruised, one drachm;
— coriander seeds, bruised, half a drachm;
— diluted alcohol, four ounces;
— water, one pound:

First pour on the alcohol, and three hours thereafter add the water; then macerate without heat for twelve hours, and strain.

Gentian is the strongest and purest of the European bitters, and readily imparts its virtues to water. These infusions are in very common use as stomachic and tonic. The dose is from two to three drachms in simple peppermint, or any other vehicle.

COMPOUND WINE OF GENTIAN, OR BITTER WINE.

Take of gentian root, half an ounce;
— cinchona bark, one ounce;
— Seville orange-peel, dried, two drachms;
— canella alba, one drachm;
— diluted alcohol, four ounces;
— Spanish white wine, two pounds and a half:

First pour the diluted alcohol on the root and barks, sliced and bruised, and, after twenty-four hours, add the wine; then macerate for seven days, and strain.

This wine, which is a pleasant bitter, is intended as a substitute for the old tinctura ad stomachica. Wines of this kind are sometimes introduced at the tables of epicures in Italy, to assist the stomach in digestion. The quantity given is from two to three drachms, in water, three or four times a day, or an hour before dinner, to create an appetite and assist digestion.

It properly enters into the composition of the bitter tincture of rhubarb of the Edinburgh college, which see under the article Rhubarb.

PREPARATIONS.

- 1.—Take of the compound infusion of gentian, three drachms;
 ——— prepared kali, two grains;
 ——— spirit of pimento, two drachms;
 ——— cinnamon water, seven drachms:

Make into a draught, to be taken an hour before dinner to create an appetite, or with some people four times a day.

- 2.—Take of the compound tincture of gentian, two drachms;
 ——— tincture of colombo, two drachms;
 ——— cinnamon water,
 ——— peppermint water, equal quantities, four drachms:

Form into a draught, of which take one four times a day, as a fine tonic.

GENTIANA PURPUREA.

Purple Gentian.

This plant rises to a foot in height: stem erect: upper leaves in pairs, sheathing the stem, inclosing the flowers: flowers large, purple, bell-shaped, standing in whorls: anthers conical: stigmas two reflexed: capsule ovate, containing numerous small seeds.

It is a native of the Alps, and was introduced into this country in the year 1768.

This plant possesses medical virtues similar to the preceding, and it may be remarked that our English gentians have most probably the same virtues as the foreign, as far as my experience has reached; yet we often seek at a distance what lies at the very threshold of our doors!

ASCLEPIAS VINCETOXICUM.

Swallow-wort.

Stalks about a foot in height, erect, above green, below purple: flowers white, arising in clusters at the axillæ of the leaves: corolla divided into five segments: foliicles two, oblong, one-celled, one-valved; seeds numerous, crowned with pappus.

It is a native of Britain in the north, and cultivated in the gardens.

This plant is called Asclepian, from a Greek word signifying poison. Hence its high reputation when poisons were so commonly administered; so that Hume mentions in his Essays, that in one province of Rome three thousand in one year were tried for this horrid crime; and the great were very lavish in rewarding physicians who were supposed to be in possession of any antidote to poison:—so dreadful is man to man!

In remote practice it was employed in the cure of dropsy, and comes recommended by Paracelsus and Van Helmont; and in modern times by Hoffman, Stahl, and Bergius; but it is suspected by Haller as a dangerous remedy.

ERYNGIUM MARITIMUM.

Sea Holly.

It rises from one to two feet in height: the leaves are roundish, plaited,



Yellow Gentian.



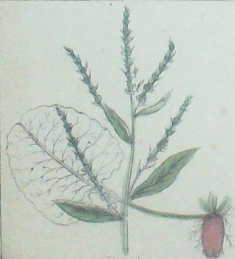
Purple Gentian.



Swallowwort.



Sea Holly.



Root.



Pennywort.

firm, spiny like those of holly, marked with white reticulated veins, of a pale bluish green colour; the flowers are of a blue colour, and terminate the branches in round heads: the calyx consists of five erect sharp-pointed leaves: the corolla is composed of five petals, which turn inwards: the germen is beset with short hairs.

It grows abundantly on the sea coasts, and flowers from July till October.

The root is mild and mucilaginous, and aromatic in a small degree. It is a mild balsamic pectoral, and enters as an ingredient into what is commonly called mild artificial asses' milk, which is made thus.—

MOCK ASSES' MILK.

Take an ounce of hartshorn shavings, put it into a quart of boiling barley water, boil it down to a pint, add two ounces of candied eryngo root, and a pint of new milk; boil it for a quarter of an hour, and strain it for use.

Another method.—Boil in three pints of water, till half wasted, one ounce each, of eryngo root, pearl barley, sago, and rice; strain it off, put a table-spoonful of the mixture into a coffee-cup of boiling milk, so as to render it of the consistence of cream, and sweeten with loaf or Lisbon sugar to the taste.

BETA VULGARIS.

Garden Beet.

A common garden plant eaten at our tables, but these often afford medicines as well as food. The white beet, which is the medicinal kind, grows three or four feet high. The stalk is robust and strong; the leaves are broad and undulated; the flowers are inconsiderable, they are of a greenish white colour; the root is large and long.

The juice of fresh beet-root is an excellent remedy for the head-ache, as well as tooth-ache, when the whole jaw is affected; it is to be snuffed up the nose to promote sneezing.

The red beet-root is good for the same purpose, but it is not so strong as the white.

When the British government succeeded in closing the produce of the West Indies against the French during the war with Napoleon, the French chemists set to work and succeeded in producing a saccharine matter from the beet, and what was then a matter of necessity, has been carried to such perfection as to become a lucrative branch of commerce. Thousands of tons of sugar are now made in France from this root, and the people have no doubt of rendering themselves independent of the Indies in a short time. There is no doubt that something like *sugar* may be, and is, produced from this root; but after all, it is never likely to compete with the sugar canes of the West Indies. National pride, particularly *French national pride*, may do a great deal, but common sense is sure to bring things to a proper level in the end.

According to a statement made of the manner of procuring sugar from beet-root, it takes one *hundred pounds* of the root to produce five pounds of sugar! Why, in England any farmer would give five pounds of sugar for a less quantity of this root; and if we could succeed in *abolishing the tax* on sugar, it would be madness for even the French to attempt to procure sugar in any other way from the countries where nature produces it in such profusion.

A good beer it seems, has also been made from beet roots; but I should suppose it may be made *cheaper* and better from malt and hops, more especially if these last were freed from taxes.

The cultivation of the beet is now more attended to by provident farmers than it has heretofore, as a most valuable and profitable addition to fodder for cattle, so that while the French farmers are turning beet-root into sugar, English farmers are turning it into milk.

We now come to the natural family of *umbellate* plants; a name given to them in consequence of the flower forming a natural umbel on the tops of the stem. All the family are included in Pentandria Digynia, that is to say, they have all five stamens and two pistils. But still I must acknowledge (although partial to Linnæus) that the name *umbellate* would be much more expressive of the character of the family than Pentandria Digynia, more especially as we have other plants in the same Class and Order, which are very different both in character and appearance. If those who connected new systems had gone no further than improve or reform the system of Linnæus in such places as this, they would have done a service to the science of Botany; but instead of reforming they *pulled down*, and they have not, as yet, agreed what sort of edifice to substitute in its place.

HYDROCOTYLE VULGARIS.

Marsh Pennywort or White Rot.

This plant is found in*low damp situations, creeping, extending a few feet, and striking fresh roots at the joints. The leaf-stalks are smooth, round; fruit-stalks start from the base of the leaf-stalks, each containing from four to six flowers of a small reddish white: the whole plant is of a light green. But the principal peculiarity of this plant is the leaf, which is *peltate*, that is, it stands most curiously on the top of the leaf-stalk, like a small table at the top of a pillar, and as the leaf is perfectly round, the plant was called *Faries Table*.

White Rot has been supposed to cause a disease of the same name in sheep; but there is no doubt that this is a mistake. The fact is, it will grow nowhere but in low damp situations, and the mistake has arisen from natural consequence of sheep taking a disorder from the situation; but it is the damp, unhealthy ground that causes the disorder, and not the plant.

SANICULA EUROPÆA.

Wood Sanicle.

A pretty wild plant common in our woods, and distinguished by its regular leaves, and small umbels of flowers. It grows a foot and a half high. The leaves are numerous, and they all rise immediately from the root; they stand on long foot-stalks, and are very conspicuous: they are of a roundish shape, but cut in so as to appear five-cornered, serrated about the edges, and of a very deep glossy green colour, and shining surface; the stalk is striated, upright, naked: on its top grows a little round cluster of flowers; they are small and white, and each is succeeded by two little rough seeds. The root is fibrous.

The leaves are used. A strong decoction of them is good against the overflowing of the menses, and the bleeding of the piles. It has been greatly celebrated for the cure of ruptures, but that is idle.

ECHINOPHORA SPINOSA.

Prickly Samphire.

A plant not uncommon about sea coasts, with much of the appearance of fennel, only not so tall: some have called it sea fennel. It is two feet high. The leaves are large, and divided in the manner of those of fennel, into slender and small parts, but they are thick and fleshy: the stalk is round, hollow, striated, and a little branched: the flowers are small and yellow, and they stand on the tops of the stalks in great clusters or umbels, in the manner of those of fennel. The whole plant has a warm and agreeable taste, and a good smell.

The leaves are used fresh; but those which grow immediately from the root, where there is no stalk, are best; they are pickled and brought to our tables, but they are often adulterated, and other things pickled in their place. The juice of the fresh leaves operates very powerfully by urine, and is good against the gravel and stone, against suppression of the menses, and the jaundice.

BUPLEURUM ROTUNDIFOLIUM.

Thoroughwax, or Hare's Ear.

A common wild plant in some parts of Europe, but kept here in gardens. It is two feet or more in height. The leaves are long and broad, and of a stiff substance, and somewhat hollowed, which gives them the appearance of a long hollow ear, from whence they are named Hare's Ear: they are of whitish green colour, and the ribs upon them are high. There is a sort with narrow leaves, but the broad-leaved kind is to be used in medicine. The stalks are round, upright, striated, and branched towards the top: the flowers are little and yellow, and they stand on the tops of the branches in small umbels: the root is long and thick, and has many fibres.

The young shoots of the leaves which grow from the root, are esteemed exceedingly in places where they are native, for the cure of fresh wounds. They cut two or three of these close to the ground, and without bruising them, first closing the lips of the wound, they lap them on one over the other, making a kind of compress: they then bind them on with linen rags, and never take off the dressing for three days, at the end of which time in most cases they only find a sore, the cure being perfected. This is the substance of a pompon's account sent lately to a person of distinction with some leaves of the herb. There is no doubt of the truth, and the surgeons will very well understand the nature of cure. The discovery however, is not new, for the herb has always been reckoned among the vulnerary plants, and some have pretended it will cure singly the king's evil; but that is not to be expected. At the same time, it may be proper to observe, that we do not want plants for the same use in England: we have the tutsan which is to be applied in the same manner, and has the same effect; clown's all-heal, and many others named in their places.

TORDYLIUM OFFICINALE.

Small Hartwort.

A very scarce herb, very difficult to meet with, and as it is doubted whe-

ther it is a native of this country, I shall therefore proceed to describe the

TORDYLIUM MAXIMUM.

Great Hartwort.

A tall, robust, and handsome plant, native of the Alps, but kept in our gardens. It grows five or six feet in height: the stalk is round, thick, striated, and hollow, very firm and upright, and but little branched. The leaves are very large, and they are divided into a great number of parts, by fives and by threes; they are of a yellowish green. The flowers are small and white, but they stand in great tufts or umbels at the tops of the stalks; the seeds follow two after each flower, and they are oblong, broad, and edged with a leafy border; they are of a dark colour, a strong smell, and acrid taste.

The seeds are the only part used; they promote the menses, and the necessary discharges after delivery, and are an excellent warm and cordial medicine; they work also by urine, and cure colicky pains. They are to be given in powder or infusion.

DAUCUS CAROTA.

Wild Carrot.

This plant rises about two feet. Leaves many times pinnate towards the root, hairy. Umbel composed of several radii, forming a flat surface on the top, but when the fruit ripens becomes concave, and drawn together. The general involucre consists of several leaves, which are cut into long narrow segments. The partial is more simple, consisting of strap-shaped leaflets. The seeds are two, assembled, convex, and covered with strong hairs.

It grows wild in meadows and pastures, and flowers from June till August.

The seeds of this sort of carrot have a warm and not disagreeable taste, and are esteemed as stomachic and diuretic.

DAUCUS SATIVA.

Garden Carrot.

This is only a variety of the last, and is the product of cultivation. It is too well known to need description.

It was not used for any medicinal purpose in this country, till about twenty years ago, when it was discovered that poultices made of this root grated, and applied to cancerous and old angry sores, removed their very offensive smell, and mended the discharge. The remarkable effects which these poultices at first produced, made practitioners for some time believe that they had discovered a remedy which would cure the cancer: further experiments, however, taught them, that although such poultices were of great service in promoting the cure of some foul sores, yet that they had not sufficient efficacy to cure the cancer; and that they only corrected the bad offensive smell, mended a little the nature of the discharge, and procured ease, but had not power to stop its progress.

By the account given by Mr. Gibson, in the fourth volume of Medical



Scrophularia



Small Hartswort



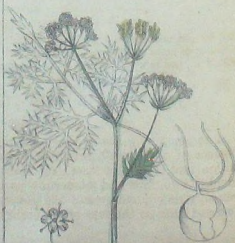
Carrot



Great Hartswort



Hemlock



Deadly Nightshade

Observations and Inquiries, it would seem that the efficacy of these poultices, when applied to old sores, is greatly increased by the patient using freely for drink an infusion of malt, or wort.

The seeds of this sort of parrot are carminative and diuretic.

CONIUM MACULATUM.

Hemlock.

A large, tall, and handsome umbelliferous plant, frequent in our hedges. It grows to six feet in height: the stalk is round, firm, hollow, and upright, it is of a dark green, and often stained with purple and yellow: the leaves are very large, and divided into very fine and numerous partitions: the flowers are small and white, and stand in large clusters on the tops of the stalks: the seeds are roundish: the whole plant has a strong disagreeable smell, and has been called poisonous.

The roots are excellent in poultices for hard swellings, gout, rheumatism and stiff joints. It is also taken internally for several complaints, but must not be used by unskilful hands.

PRESSCRIPTIONS.

- 1.—Take of the inspissated juice of hemlock, three grains;
—— compound powder of tragacanth, one drachm:

Rub them together, and divide into six equal parts, of which take one twice a day at first, then four times a day, gradually increasing the dose. This is to be given in inward and outward cancers, chronic rheumatism, exhausting by pain, dry irritating cough, vomice; and half the dose to children in the last stage of the hooping cough, accompanied with a hectic look, and much fever; but not in any mild case of this disease, as it seldom proves under such circumstances fatal, unless injudiciously treated with this poison.

- 2.—Take of the inspissated juice of hemlock, one drachm;
—— the dried herb hemlock, in powder, as much
as is sufficient to produce a mass to form pills:

Make into thirty pills, of which take one or more twice a day, gradually increasing them each day as may be required. Employed in the same diseases as the last; also in cases of high scorbutic acrimony.

- 3.—Take of the dried herb hemlock,
—— chamomile dowers, of each one ounce;
—— boiling water, a pint:

Boil for ten minutes, and add to the strained juice linseed meal, as much as may be sufficient to make a cataplasm, to be applied warm to the affected part, passing over it a little oil, and renewed twice a day. For an open cancer.

BUNIUM FLEXUOSUM.

Earth Nut, or Pig Nut.

A common wild plant, which has the name from its root: this is of the bigness of a chestnut, roundish, brown on the outside within, and white within, and of a sweet taste: the plant grows to a foot high: the leaves are divided into fine and numerous partitions; the stalk is firm, upright, round, striated, and green: the flowers are white and little, but they grow in great tufts on the tops of the branches.

The root is the part used: it is to be roasted in the manner of a chestnut and eaten. It is said to have great virtues as a provocative to venery, but this is not well confirmed.

The practice of cultivating this plant has been tried by several intelligent farmers, and has been found to answer admirably. Sow the seed in rows, afterwards thin them out with the hoe the same as turnips, and attend to the proper cultivation in the same manner as turnips, and the crop will amply repay all the trouble.

ANETHUM FENICULUM.

Common Fennel.

The root is perennial, white, tapering, and fibrous: three or four stems usually rise from the same root, and are erect, round, striated, of a glaucous tinge, jointed, branched, and three or four feet in height; the leaves stand alternately at the joints of the stem upon long striated sheaths, and are bipinnated, divided into long linear pointed pinnæ, of a deep green colour: the flowers are produced in terminal umbels, which resemble those of Dill: there are no involucre: the corolla consists of five petals, which are yellow, ovate, emarginated, and have their points turned inwards: the five filaments are yellow, spreading shorter than the petals, and supplied with double antheræ: the germen is smooth, cylindrical, truncated, striated, and covered with the nectarium, which is a large roundish, fleshy yellow substance, divided into two parts, from each of which rises a short thick style, terminated by a blunt stigma: the seeds are two, oval, and deeply furrowed. The flowers appear in June.

Fennel is found to grow wild in many parts of England, affecting dry chalky soils; but that which is cultivated in our gardens is more fragrant, of a sweeter flavour, and, excepting the seeds, which are brought from the south of Europe, commonly used both for medicinal and culinary purposes.

The root, which Alston says may be called *alimentum medicamentosum*, which was by Boerhaave thought to possess all the virtues of Gingseng, and which ranks as one of the five aperient roots, is now wholly disregarded: to the taste it is sweet, with very little aromatic warmth, and said to be pectoral and diuretic.

By the London Pharmacopœia a simple distilled water is directed to be prepared from the seeds of Fennel, which also enter some other official compositions.

ANETHUM GRAVEOLENS.

Common Dill.

The root is annual or biennial, long, tapering, whitish, sending off strong fibres, and striking deeply in the ground: several stems proceed from the same root, and are erect, smooth, channelled jointed, branched, covered with a glaucous exudation, and rise about two feet in height: the leaves stand upon sheathy footstalks, placed at the joints of the stalk, and are alternate, smooth, doubly pinnated; pinnæ linear, pointed; the flowers are produced in terminal umbels which are large, flat, and like

the partial umbels, composed of several radii: it has no involucre: the corolla consists of five petals, which are yellow, egg-shaped, obtuse, concave, and have their points turned inwards: the five filaments are yellow, longer than the corolla, and furnished with round anthers: the germen is placed below the insertion of the petals, and is covered by the nectarium: the two styles are very short, and terminated by obtuse stigmata: the seeds are two, oval, flat, striated, and surrounded with a membranous margin: the flowers appear in June and July.

The seeds and the plant itself were formerly much used in medicine, and from the time of Dioscorides have been esteemed for their carminative and hypnotic powers, and therefore have been recommended in flatulent colics, and certain dyspeptic symptoms proceeding from a laxity of the stomach: they are also said to be more effectual than the other seeds of this class in promoting the secretion of milk. At this time, however, the seeds of Dill are seldom employed, though a simple distilled water prepared from them is directed both by the London and Edinburgh Pharmacopœias.

PEUCEDANUM OFFICINALE.

Hog's-Fennel, or Sulphur-wort.

This herb, is smooth, slender, and three or four feet high: the root is spindle-shaped, resinous, smelling like sulphur: the stem is scored, branched, and leafy: umbels three or four inches broad: flowers yellowish. It is a native of the south and middle of Europe: it has been long in this country, but is still a scarce plant, being found only in salt marshes and ditches: it flowers from July to September.

The root of this plant was a favourite remedy with Hippocrates and his immediate successors, and was recommended in coughs, phlegmatic obstructions of the lungs, nephritic pains, flatulencies, and difficult labours, and externally in hemierania, ulcers, and painful tumours. By modern writers it is almost totally disregarded, and is seldom or never used in the present day; nevertheless, it is by no means inert, and might probably be substituted occasionally for the gum-resins ammoniacum galbanum. Bergius, indeed, designates the root as anti-hysterie, diuretic, and emmenagogue; and Delius mentions a case of suppressed menses which yielded to it, as well as an obstinate scorbutic complaint, in which the persevering use of the decoction and vinous extract proved beneficial.

The vinous extract in the dose of twenty to thirty grains has been much lauded in hysterie affections and hypochondriasis: the inspissated juice or the extract has also been made into a syrup, either alone or with the addition of liquorice-root and leaves of coltsfoot, as a remedy for asthmas and inveterate coughs. "Externally it is recommended for the cure of certain cutaneous eruptions of the leprous kind, for which purpose a decoction of it should be used for a bath, and in this manner there is little doubt that it would prove efficacious."

CRITHMUM MARITIMUM.

Sea Samphire.

The whole of this plant is very succulent, obscure green, and fleshy: the

stem about a foot long, rather leaning, leafy, but little branched: umbels crowded: flowers yellowish and small.

Every reader of Shakespear will know that the Samphire grows on the cliffs of Dover.

"Come on, Sir, here's the place—stand still. How fearful
And dizzy 'tis, to cast one's eyes so low!
The crows, and choughs, that wing the midway air,
Show scarce so gross as beetles: half way down
Hangs one that gathers *Samphire*; dreadful trade!"

Samphire, detersive in quality, warm and aromatic in flavour, is much sought after for pickling, sometimes at the risk of human life, (men being suspended from the rocks by ropes.) though other plants procurable at less hazard, as *Salicornia* and *Aster*, are frequently substituted. It is, likewise, eaten raw as a salad. This trivial name is supposed to be derived from the French *St. Pierre*, though not easily connected with the subject before us. We could almost imagine that some reference must have been whimsically intended to the original meaning of the word *Peter*, a *rock*, such being the invariable locality of our plant; as likewise to its pre-eminence both in station and utility.

LIGUSTICUM.

Lovage.

A tall plant of the umbelliferous kind, kept in our gardens for its use in medicine. The stalk is round, thick, hollow, and deeply striated or channelled: the leaves are very large, and they are each composed of a number of smaller; these are set on a divided stalk, and are short, broad, and indented at the edges: the flowers are small and yellow: the seed is striated: the root is brown, thick, and divided, and the fibres from it are numerous: it is of a hot aromatic taste.

The roots fresh dug work by urine, and are good against the jaundice: the seeds have the same effect also, and they dispel wind: the dried root is a sudorific, and is good in fevers.

ANGELICA ARCHANGELICA.

Garden Angelica.

A large and beautiful plant kept in our gardens, and found wild in some parts of the kingdom. It grows eight feet in height, and the stalks robust and divided into branches: the leaves are large, and composed each of many smaller, set upon a divided pedicle; they are notched at the edges, and of a bright green: the flowers are small, but they stand in vast clusters, of a globose form: two seeds follow each flower.

Every part of the plant is fragrant when used, and every part of it is used in medicine: the root is long and large; we use that of our own growth fresh, but the fine fragrant dried roots are brought from Spain: the whole plant possesses the same virtues, and is cordial and sudorific: it has been always famous against pestilential and contagious diseases: the root and stalks candied; the seeds bruised, or the water distilled from the

leaves may be used ; but the seeds are the most powerful. It is also an ingredient in many compositions.

ANGELICA SYLVESTRIS.*Wild Angelica.*

This plant is in all respects like the former, and is very common in most situations throughout England. It possesses the same virtues as the Garden Angelica, but in a less degree; and as the latter is much more easy to come at, it is not necessary to say more about this.

SISON SEGETUM.*Corn Honewort.*

A common plant in corn fields and dry places, with extremely beautiful leaves from the root, and little umbels of white flowers. It has its English name from its virtues. Painful swellings are in some parts of England called hones, and the herb, from its singular effect in curing them, has received the name of honewort, that is, hone-herb.

The root is long and white; there arises from it early in the spring, half a dozen or more leaves, which lie spread upon the ground in an elegant manner, and are all that is observed of the plant: the stalks do not rise till the end of the summer, and these leaves decay by that time, so that they are not known to belong to it: these leaves are eight inches long, and an inch and a half in breadth; they are composed each of a double row of smaller leaves, set on a common rib, with an odd leaf at the end; these are oblong, tolerably broad, and indented in a beautiful manner: they are of a fresh green colour, they are the part of the plant most seen, and the part to be used; and they are not easily confounded with those of any other plant, for there is scarce any that have what are nearly so handsome: the stalk is two feet high, round, hollow, upright, but not very firm, and branched towards the top: the leaves on it are somewhat like those from the root, but they have not the singularity of those beautiful and numerous small ones: the flowers are little and white, and the seeds are small, flattened, striated, and two of them follow every flower.

The leaves are to be used; they are to be fresh gathered and beat in a marble mortar into a kind of paste: they are to be laid on a swelling that is red, painful, and threatens to have bad consequences, and they disperse it: the application must be frequently renewed; and there are those who speak of it curing the evil.

CENANTHE CROCOTA.*Water Dropwort.*

It rises two or three feet in height: leaves are simple, and doubly pinnate: smaller pinnæ wedge-shaped, jagged at the edges, larger pinnæ three-lobed, indented: flowers in umbels spreading, somewhat globular: no general involucre: partial composed of many leaves: fruit oblong, striated, divisible into two parts, which are convex on one side and flat on the other.



It is a native of England, and grows on the banks of rivers and in ditches; flowers in June and July.

We are sorry we have to record it rather as a powerful poison than as medicine. Its root, which is not unpleasant to the taste, is, by Dr. Poultney, esteemed to be the most deleterious of all the vegetables which this country produces.

It appears from various authorities that most brute animals are not less affected by this poison than man; and Mr. Lightfoot informs us, that a spoonful of the juice of this plant given to a dog, rendered him sick and stupid; but a goat was observed to eat the plant with impunity.

The great virulence of this plant has not, however, prevented it from being taken medicinally. In a letter from Dr. Poultney to Sir William Watson, we are told that a severe and inveterate cutaneous disorder was cured by the juice of this root, though not without exciting the most alarming symptoms. Taken in the dose of a spoonful, in two hours afterwards the head was affected in a very extraordinary manner, followed with violent sickness and vomiting, cold sweats and rigors; but this did not deter the patient from continuing the medicine, in somewhat less doses, till it effected a cure.

CICUTA VIROSA.

Water Hemlock.

This plant rises four feet in height: leaves pinnated; leaflets usually placed in threes, spear-shaped, serrate, serratures white at the point: flowers in large compact umbels: flowers all uniform, fertile: fruit egg-shaped, divisible into seeds.

This poisonous plant grows on the borders of pools and rivers, and flowers in July and August.

It appears from Bergius, that water-hemlock, in its dried state, may be taken in a considerable quantity without producing any bad effect; but of the fatal effects of its root when fresh, numerous instances are recorded. Of two boys and six girls, who ate of this root for that of parsnip, the greater part died in a short time afterwards, those only escaping who were enabled to discharge it by vomiting. The symptoms it produced were intoxication, vertigo, great heat and pain in the stomach, convulsions, and even epilepsy, distortions of the eyes, vomiting or retching, a discharge of blood from the ears, swelling of the abdomen, hiccup, spasms, &c. In the case of a man who had eaten of this poisonous root, we are told the symptoms were vertigo, succeeded by delirium, with constant heat at the stomach, and inextinguishable thirst: these symptoms were of long continuance, and followed by an erysipelatous tumours of the neck.

As an internal medicine the *Cicuta Virosa* is universally superseded by the common hemlock; but externally employed in the way of a poultice, it is said to afford relief in various fixed pains, especially those of the rheumatic and anarthritic kind.

ÆTHUSA CYNAPIUM.

Fool's Parsley.

This plant is frequently mistaken for common parsley, yet it differs in



Common Fennel



Hedge Fennel



Fennel



Angelica



Water Hemlock



Pooley's Parsley



Coriander



Common Chervil



Sweet Cicely



Masterwort



Fennel



Caraway

several conspicuous characters: being a common weed in rich gardens, it makes it the more dangerous, as it is a *rank poison*, it has frequently been gathered for the true parsley and chervil. The leaves of Fool's Parsley are more elegant, drooping acute, and of a shining green, and when bruised have a disagreeable smell, something like *garlic*: the flowers are white, and on one side of each bunch there are three long pendulous leaves which is a safe criterion when the plant is in flower. Herb gatherers frequently mistake it for the *hemlock*, but it differs from the height, and in the appearance of the stem, which is *without spots or marks of any kind*, whilst the hemlock is *spotted profusely*.

When this plant has been eaten, it occasions nausea, vomiting, oppressive head-ache, giddiness, stupor, a strong desire to sleep, but repose is prevented by startings, a strong thirst, difficulty of swallowing, the body becomes swollen, of a deadly appearance, and, except the best medical assistance be procured in time, the patient dies.

If any one should unfortunately partake of this plant, the first thing to be done is to take an emetic, viz., two or three grains of tartarized antimony, or, from twenty to twenty-four grains of Ipecacuanha. If the emetic works pretty freely, plenty of water or lemonade may be given; but it would be best to call in a medical man as soon as possible.

This plant has not yet been used in medicine; but there is no doubt that a plant possessing such vigorous qualities must have its uses in the hands of the skilful physician.

CORIANDRUM SATIVUM.

Coriander.

A small plant, cultivated in France and Germany for the sake of its seed. It is two feet high, and has a cluster of white or reddish flowers upon the tops of the branches: the stalks are round, upright, and hollow, but have a pith in them: the leaves which grow from the roots have rounded tops, those on the stalks are divided into narrow parts: the seeds follow, two after each flower, and they are half round.

The seed is the only part used: the whole plant when fresh has a bad smell, but as the seeds dry, they become sweet and fragrant: they are excellent to dispel wind; they warm and strengthen the stomach and assist digestion. It is good against pains in the head, and has some virtue in stopping purgings joined with other things.

The following is the mode of making the famous

HONEY-WATER.

Take of Coriander seeds.....	eight ounces,
Lemon-peel, fresh,	} of each.....half an ounce,
Nutmeg,	
Storax,	
Benzoin,	
Vanilla,.....	three drachms,
Alcohol.....	three pints.

After infusing them for twenty-four hours, distil, and add, if it be thought requisite, a small quantity of essence of amber and of musk.

It is reckoned cephalic, nervine, cordial, paregoric, and cosmetic: the dose is about half an ounce.

CHEROPHYLLUM SATIVUM.

Common Chervil.

A salad herb, cultivated in gardens, but not without its medicinal virtue. It is like parsley in its manner of growth, but the leaves are more divided, and of a pale colour: the stalks are round, hollow, striated, and of a pale green; they divide into several branches, and are about two feet high: the leaves of them are like those from the root, but small: the flowers are bitter and white, and stand in large tufts at the tops of the branches: the seeds are large and smooth.

All plants of this order are nearly alike, and are difficult to distinguish from each other, except to those well acquainted with them,—a matter of the utmost importance, as many of them are *deadly poisons*; such as the Fool's Parsley, which has frequently been eaten for Chervil with fatal effects. A slight attention to the following will prevent mistakes. The fruit, or seeds of the *true Chervil* is covered with *hook bristles*, which the others have not. There is also a *swell* beneath the joints of the Chervil, like the garden parsley.

This herb deserves to be extensively cultivated as a garden vegetable. Made into poultice and applied to the sore breasts of women giving suck, it removes the hard knotty parts, and causes the milk to flow freely. It should be applied to the breasts *as warm* as the patient can bear it; and if you add a small portion of hemlock to the poultice, it is the best application for stiff and rheumatic joints. Equal parts of Chervil and olive oil made into a linament, relieve the piles in a wonderful manner.

Chervil boiled in whey and strained, and a pint drunk every morning, is good for the asthma, and all obstructions of the lungs. It will also give great relief in the gravel, particularly if a poultice be laid on the belly at the same time.

It is cultivated in gardens as a potherb, and, (as father Gerard has it, "the seedes eaten as a salade whilst they are yet green, with oile, vinegar, and pepper, exceede all ether sallads by many degrees, both in pleasantness of taste, sweetness of smell, and holtsomenesse for the cold and feeble stomache. The roots are likewise most excellent in a sallade, if they be boiled, and after dressed, as the cunning cooke knoweth how better than my selfe."

MYRRHIS ODORATA.

Sweet Cicely.

This plant is so like the latter, that the one is frequently mistaken for the other; but a close observation will show the difference. The Cicely is a *lighter green*; the whole plant much softer; the seeds are very large and prominent, and above all, the *sweet perfume* is sufficient to point out the Cicely above almost all other umbellate plants.

The seeds have the flavour of Anise, and are used in many parts of England for polishing and perfuming oak floors and furniture, and in France and Italy the green seeds are used as an agreeable and wholesome addition to salads.

IMPERATORIA OSTRUTHIUM.

Masterwort.

A plant of no beauty, kept in our gardens for its virtues. It grows two feet high. The stalks are round, striated, hollowed, upright, and not very strong: the leaves are each composed of three smaller; they are of a dark green colour, blunt at the points, and indented about the edges: the flowers are small and white, and stand in little umbels at the tops of the branches: the roots are long, brown, divided, of a strong smell, and a sharp aromatic taste.

The root is the part used; it is good in fevers, disorders of the head, and of the stomach and bowels. It is best taken up fresh, and given in a light infusion, it promotes sweat, and is a better medicine for that purpose than most of the foreign roots kept by druggists.

PASTANACA SATIVA.

Parsnep.

A wild plant, common about our road sides. It is three feet high: the stalk is straight, upright, round, striated, and yellowish: the leaves are composed of many broad divisions, and resemble those of the garden parsnep, but they are smaller: the flowers are little and yellow, they grow at the tops of the stalks, in large rounded tufts, and the seeds are flat, and of an oval figure: the root is long, white, and well tasted.

The root is to be used. A strong decoction of it works by urine, and opens all obstructions. It is good against the gravel and the jaundice, and will bring down the menses.

The roots when cultivated are sweeter than carrots, and are much used by those who abstain from animal food during Lent; they are highly nutritious, (and yield a considerable portion of saccharine matter.) In the north of Ireland they are brewed, instead of malt, and hops, and fermented with yeast. The liquor thus obtained is agreeable. The seeds contain an essential oil, and will often cure intermittent fevers. Hogs are fond of the roots, and quickly grow fat when fed on them. As fodder for cattle during the winter season, they supply a good produce, but are somewhat troublesome to cultivate, and difficult to take out of the ground. In Brittany these esculent roots have been long used, and are highly esteemed as winter food for all kinds of cattle.

PASTINACA OPOPAMAX.

Rough Parsnep.

The root is perennial, thick, fleshy, tapering like the garden parsnep. the stalk is strong, branched, rough towards the bottom, and rises seven or eight feet in height: the leaves are pinnated, consisting of several pairs of pinnae, which are oblong, serrated, veined, and towards the base appear uniformed on the upper side: the flowers are small, of a yellowish colour, and terminate the stem and branches in flat umbels: the general and partial umbels are composed of many radii: the general and partial involucre are commonly both wanting; all the florets are fertile, and have an

uniform appearance: the petals are five, lance-shaped, and curled inwards: the five filaments are spreading, curved, longer than the petals, and furnished with round antheræ: the germen is placed below the corolla, supporting two reflexed styles, which are supplied with blunt stigmata: the fruit is elliptical, compressed, divided into two parts, containing two flat seeds, encompassed with a narrow border. It is a native of the south of Europe, and flowers in June and July.

Opopanax has been long employed by physicians, and esteemed for its attenuating, deobstruent, and aperient virtues; but as it is commonly prescribed in combination with other medicines, these qualities are by no means ascertained, nor do its sensible qualities indicate it to be a medicine of much power. Dr. Cullen classes it with the antispasmodics; it is however less fetid than galbanum, though more so than ammoniacum, and therefore may be supposed to have some affinity to a union of these two. It has commonly been given in hypochondriacal affections, visceral obstructions, menstrual suppressions, and asthmas, especially when connected with a phlegmatic habit of body.

MEAM ATHAMANTICUM.

Spiguel.

* A wild plant, not altogether unlike fennel. It grows two or three feet high: the stalks are round, striated, and branched: the leaves are large and divided like those of fennel, but into narrower and finer parts, and they are of a very dark green colour: the flowers are little and white, but they stand in clusters at the tops of the stalks, and are conspicuous by their number: the root is long and brown, and there are always a quantity of filaments at the head of it like hairs; these are the fibres of the stalks of former leaves.

The root is used, and it is best fresh taken up. An infusion of it is excellent in the gravel; it also opens obstructions, and promotes the menses. The root dried and given in powder strengthens the stomach, creates an appetite, and is good against the colic.

CARUM CARUI.

Caraways.

It rises to two or three feet. The leaves are long, and subdivide into numerous pinnulæ or segments, which are narrow, pointed, of a dark green colour: the flowers grow in terminal umbels. It has a terminal and partial umbel: the seeds are two, naked, brown, striated, and of an oblong shape.

This plant is a native of Britain, and grows in meadows and low ground; but the seeds of the cultivated plant are said to be larger, more oily, and of a more agreeable flavour than those of the wild plant, which are hot and acrid. It flowers in May and June.

The caraway is a pleasant, hot, aromatic seed, abounding with an essential oil, and containing gummy and resinous parts. Spirits draw a tincture that has the taste, but not a very strong flavour; and water extracts a tincture that has a strong flavour, and but a weak taste. They are princi-

pally used as stomachic and carminative; and are frequently mixed with infusions of senna, to correct its griping quality.

There is an essential oil ordered to be drawn from them, which is given from three or four to ten drops.

And we have an *aq. seminum carui* drawn with spirits, which may be used from a drachm to half an ounce, as a cordial spirituous water.

PREPARATIONS.

SPIRIT OF CARAWAY.

Take of Caraway seeds, bruised.....half a pound;
 ——— diluted alcohol.....nine pounds.

Macerate for two days in a close vessel; then pour on as much water as will prevent empyreuma, and draw off, by distillation, nine pounds.

PIMPINELLA SAXIFRAGA.

Burnet Saxifrage.

A very pretty plant in our meadows, distinguished by the regular shape of its leaves, and its white snowy flowers. It grows ten inches high: the stalk is round, thick, firm, and upright, and a little hairy: the leaves are of a pale green colour and fleshy substance; they are of a roundish figure, and indented about the edges, and they stand upon long footstalks: the flowers are large and white, they grow in considerable numbers on the tops of the stalks; the root is composed of a parcel of small white or reddish granules.

The root is used; and these small parts of which it consists have been used to be called by ignorant apothecaries, saxifrage seed. It is diuretic, and good against the gravel; the roots are best fresh, and the best way of giving them is in decoction.

The German physicians have used it for removing tumours and obstructions of the glands, and in scorbutic and cutaneous disorders in general: the root has also been used as a masticatory in tooth-ache, and to stimulate the tongue when that organ becomes paralytic. The powdered root was formerly united with arum, being considered an acrid stimulant.

It is given in substance in doses of a scruple, and in infusion two drachms. The Germans have a tincture which is thus made:—

TINCTURE OF BURNET SAXIFRAGE.

Take of the root of Burnet-Saxifrage, sliced.....five ounces.
 ——— Rectified Spirit.....two pints.

After sufficient extraction, express and filter.—Dose from thirty to forty drops, or more.

PIMPINELLA ANISUM.

Anise.

This plant rises to a foot in height: the leaves are on the upper part of the stem divided into narrow pinnated segments, but at the bottom roundish, separated into three lobes, sometimes five, standing on long footstalks

The flowers are small, white, and placed in terminal umbels. No involucre.

Anise is an annual umbelliferous plant growing wild in Crete, Syria, and other places of the east. It is cultivated in some parts of France, Germany, and Spain, and may be raised also in England; the seeds brought from Spain, which are smaller than the others, are preferred.

Aniseeds have an aromatic smell, and a pleasant warm taste, accompanied with a degree of sweetness. Water extracts very little of their flavour; rectified spirit the whole.

PREPARATIONS.

ESSENTIAL OIL OF ANISE.

This, like other essential oils, is obtained by distillation with an alembic, and a large refrigeratory. Water must be added to the materials in sufficient quantity to prevent their burning, and to macerate them before the distillation.

The water which comes over with the oil during the distillation ought to be kept for use.

Anise is a seed which has an aromatic smell and a pleasant, warm, taste; it has been used as a carminative, a cordial, and stomachic, and for strengthening the viscera: the essential oil is amongst the mildest of this kind we have, and may be given from three to twenty drops, though common practice seldom goes beyond eight or ten.

COMPOUND SPIRIT OF ANISEED.

Take of aniseed,

— angelica seed, of each, bruised half a pound;

— proof spirit one gallon;

— Water, sufficient to prevent empyreuma:

Draw off one gallon by distillation.

This compound spirit, like the simple ones, is an agreeable cordial; indeed they are too agreeable, for by some they are so often resorted to, on the slightest sensation of flatulence in the stomach, that their use is attended with all the pernicious consequences of dram-drinking. It may be added to purgatives, to hinder their producing colic pains in the bowels, in the dose of from one to two drachms, or taken alone in some water to expel flatulency.

APIUM GRAVEOLENS.

Wild Celery, or Snallage.

A common wild plant, about ditch sides, with the appearance of celery. Leaves are very numerous and large: the stalk rises two and a half feet in height, and is round, smooth, striated, and branched: the leaves on it are like those from the root, composed of many small parts, which are broad and indented, but they are smaller: the flowers stand in little umbels at the division of the branches; they are small and of a yellowish white: the roots are long, not very thick, white, and of a strong but not disagreeable taste.

The roots are most used; a strong infusion of them fresh gathered, works briskly by urine. It is good against the gravel, and in jaundices, and other diseases arising from obstructions in the liver and spleen. The seeds dried are good against the colic, and strengthen the stomach.

APIUM PETROSOLINUM.

Common Parsley.

This herb is well known to every body, being one of the most useful plants cultivated in our gardens. Besides its use in the culinary art, it is not without virtue as a medicine; the expressed juice has lately been employed by some of the most eminent physicians in the cure of the ague, which is extracted in the following manner:—

Take a handful of parsley fresh, let it be chopped and then pounded, pour on it an ounce of water, then pound it again, after which put the whole on a wet linen rag, and squeeze out the juice. Three spoonfuls to be taken before the ague fit comes on, and repeat the same until the fever abates. Tournefort, the great French herbalist and doctor, has also given his testimony to the value of this herb in the ague. An ointment made of the bruised seeds of parsley and fresh butter, without salt, is of great use in curing ring-worms in children.

ÆGOPÓDIUM PODOGRARIA

Gout Weed, or Goutwort.

A common wild plant over-running our gardens, and when once it has taken root, very difficult to be got out again. It grows two feet high; the leaves which rise from the roots are large, and they are composed each of several smaller, set on a divided rib, in the manner of those of Angelica, of which they have some resemblance: they are of a pale green colour, and are oblong, and indented at the edges; the stalks are round, upright, and a little branched, they are slender, striated, and green; the leaves on these are smaller, and consist of fewer parts than those that rise from the root; the flowers are little and white, and they stand in small round clusters, each is succeeded by two flat seeds; the root creeps.

The root and fresh buds of the leaves are both used, but only externally; they are excellent in fomentations and poultices for pains; and the plant has obtained its name from the singular efficacy against the pain of the gout, but it is not advisable to do anything in that disorder; the warm applications of this kind are of all others the least dangerous. I have known a quantity of the root and leaves boiled soft together, and applied to the hip in the sciatica, keeping a fresh quantity hot to renew the other as it grew cold, and I have seen very good effects result from it. Its use should not be confined to this pain alone; it will succeed in others.

PHELLANDRIUM AQUATICUM.

Fine-leaved Water Hemlock.

It rises two feet in height; the leaves are triply pinnated, ramifying at right angles; leaflets irregularly pinnatifid; leaves under the water filiform; flowers on terminal umbels; general umbel none; partial of seven leaves; flowers in the centre of each umbel smaller than the outer ones; fruit ovate, smooth, divisible into two parts or seeds.

This plant grows in rivers, ditches, and pools, and flowers in June or July. It is generally supposed to possess deleterious qualities. Horses, on eating it, are said to become paralytic; but this effect should not be

ascribed to the Phellandrium, but to an insect which resides within its stalks, viz., the *Curculio paraplecticus*.

Pliny states the seeds of Phellandrium to be an efficacious medicine in calculous complaints, and disorders of the bladder; and in this opinion he is followed by Dodonæus, who mentions them also as possessing diuretic and emmenagogue powers. But on these authorities little reliance is to be placed; so that the efficacy of this plant rests chiefly on the testimonies of Ernestingius and Lange, by whom various cases of its successful use are published, especially in wounds and inveterate ulcers of different kinds, and even in cancers; also in phthisis pulmonalis, asthma, dyspepsia, intermittent fevers, &c.

About two scruples of the seed, two or three times a day, was the ordinary dose given.

Though the disorders here noticed are so multifarious and dissimilar as to afford no satisfactory evidence of the medicinal qualities of these seeds, yet they appear to us well deserving of further investigation

FERULA ASSAFETIDA.

Gigantic Fennel.

This plant rises two feet; it abounds with a milky juice; stem is erect, simple, straight; leaves near two feet long, bipinnate, pinolæ alternate; umbels plano-convex, terminal, composed of many radii; seeds oval, flat, marked with three longitudinal lines.

The plant which furnishes assafetida is perennial, and a native of Persia. It has, however, borne fertile seeds in the open air in the botanical garden of Edinburgh: the gum-resin is procured from the roots of plants which are at least four years old. When the leaves begin to decay, the stalk is twisted off, and the earth removed from about their large tapering roots. The top of the root is some time afterwards cut off transversely, and forty-eight hours afterwards the juice which was exuded is scraped off, and a second transverse section is made: this operation is repeated until the root be entirely exhausted of juice. After being scraped off, the juice is exposed to the sun to harden.

It is brought to us in large irregular masses, composed of various little shining lumps or grains, which are partly of a whitish colour, partly reddish, and partly of a violet hue. Those masses are accounted the best which are clear, of a pale reddish colour, and variegated with a great number of elegant white tears.

This drug has a strong foetid smell, somewhat like that of garlic; and a bitter, acrid, biting taste. It loses some of its smell and strength by keeping, a circumstance to be particularly regarded in its exhibition.

It is the most powerful of all the foetid gums, and is a most valuable remedy. It acts as a stimulant, antispasmodic, expectorant, emmenagogue and anthelmintic. Its action is quick and penetrating.

It is often serviceable,

1. In croup.
2. In dyspepsia, amenorrhœa, and chlorosis.
3. In asthma, dyspnoea, and hysteria.
4. In tympanites and worms.

It is exhibited,

1. In substance, in the form of pills, in doses of from five to twenty grains, either alone, or combined with bitter extracts or purgatives.
2. Dissolved in some simple distilled water.
3. Dissolved in alcohol.
4. In the form of clyster, to the extent of about two drachms.

PREPARATIONS.

TINCTURE OF ASSAFETIDA.

Take of assafetida.....four ounces;
 ——— alcohol.....two pounds and a half;

Digest for seven days, and strain through paper.

FETID SPIRIT OF AMMONIA.

Take of proof spirit.....six pints;
 ——— sal ammoniac.....one pound;
 ——— assafetida.....four ounces;
 ——— potash.....one pound and a half;

Mix them, and draw off, by distillation, five pints, with a slow fire.

Volatile spirits, impregnated with different fetids, have been usually kept in the shops as anti-hysterics: the ingredient here chosen is the best calculated of any for general use. The spirit is pale when newly distilled, but acquires a considerable tinge by keeping. The dose is a tea-spoonful in some water during hysterics, and the same to be taken occasionally.

COMPOUND PILLS OF ASSAFETIDA.

Take of assafetida,
 ——— galbanum,
 ——— myrrh.....each eight parts;
 ——— rectified oil of amber.....one part:

Beat them into a mass with simple syrup. The dose is ten grains twice a day in hysteria and asthma.

PRESCRIPTION.

Take of milk of assafetida.....five ounces and a half;
 ——— compound spirit of lavender.....half an ounce;
 ——— compound spirit of ammonia.....two drachms:

The dose is two large table-spoonfuls in a little water four times a day in asthma.

SIUM NODIFLORUM.

Water Parsnep.

The root is perennial, long, creeping, and hung with numerous fibres; the stem is jointed, thick, succulent, scored, procumbent, branched, and seldom reaches a foot in length; the leaves are pinnate, consisting of three or four pairs of pinnae, terminated by an odd one; the pinnae or segments are ovate, pointed, serrated, sessile; the flowers are small, and stand in axillary umbels, which are composed of from six to nine general radii, and about an equal number of partial radii; there is no general involucreum, but the partial one consists of five, six, or seven ovate pointed leaflets; the corolla is composed of five petals, which are entire, ovalish white, largest

at the circumference, and bent inwards at their apices; the five filaments are slender, spreading, rather longer than the corolla, and furnished with roundish antheræ; the germen is small, placed beneath the corolla, and supports two slender reflexed styles, terminated by blunt stigmata; the fruit is egg-shaped, small, scored, divisible into two seeds, which are flat on one side, on the other convex and scored. It is common in rivers and ditches, and flowers in July and August.

This plant is not admitted into the *Materia Medica* of any of the Pharmacopœias which we have seen, except that of the London College, where it has lately been received in the character of an antiscorbutic, or rather as a correcter of acrid humours, especially when manifested by cutaneous eruptions and tumours in the lymphatic system, for which we have the testimony of Beirie and Ray. But the best proofs of its efficacy are the following given by Dr. Withering: "A young lady, six years old, was cured of an obstinate cutaneous disease, by taking three large spoonfuls of the juice twice a day; and I have repeatedly given to adults three or four ounces every morning, in similar complaints, with the greatest advantage. It is not nauseous, and children take it readily if mixed with milk. In the dose I have given it, it neither affects the head, the stomach, nor the bowels."

BUBON GALBANUM.

Galbanum Plant.

A large umbellate plant, native of Africa and the Cape of Good Hope. The whole plant is smooth, has an aromatic smell, and a bitter biting taste. It was first introduced into England by the father of English botany, John Gerard, and has been perpetuated in gardens since his time.

This is the plant which gives the gum galbanum, which is obtained by making an incision into the stalk a little above the root. Out of this the gum issues in great quantities, and soon becomes sufficiently hard to be gathered.

Galbanum, medicinally considered, may be said to hold a middle rank between Assafœtida and Ammoniacum; but its fetidness is very inconsiderable, especially when compared with the former, it is therefore accounted less antispasmodic, nor is it supposed to affect the bronchial glands so much as to have expectorant powers equal to those of the latter; it has the credit however of being more useful in hysterical disorders, and of promoting and correcting various secretions and uterine evacuations. Externally Galbanum has been applied to expedite the suppuration of inflammatory and indolent tumours, and medically as a warm stimulating plaster.

CUMINUM CYMINUM.

Cumin.

The root is annual, simple, fibrous; the stalk is round, slender, often procumbent, branched, and rises about six or eight inches in height; the leaves are numerous, narrow, linear, pointed, grass-like; the flowers are purple, and produced in numerous small umbels, which are usually composed of four radii, each supporting a partial umbel of a like number; the



Burnet Saxifrage



Parsley



Anise



Cowwort



Asafoetida



Callarum

general and partial involucre consist of four narrow pointed segments; all the florets are fertile; the corolla is composed of five petals, which are unequal, bent inwards, and notched at the apex; the filaments are five, and furnished with simple antheræ; the germen is large, ovate, and placed below the corolla; the two styles are minute, and terminated by simple stigmata; the fruit is egg-shaped, or oblong, striated; the seeds are two, oblong, flat on one side, convex and striated on the other.

This plant, which is the only species of *Cuminum* yet discovered, is a native of Egypt and Ethiopia, and is cultivated in the islands of Sicily and Malta, from whence we are supplied with the seeds.

"Cummin seeds have a bitterish warm taste, accompanied with an aromatic flavour, but not agreeable. They give out great part of their smell by infusion in water, but very little of their taste: in distillation with water, a pungent oil arises, of a strong ungrateful flavour like that of the seeds; the decoction, inspissated, leaves a weakly roughish bitterish extract. Rectified spirit takes up the whole virtues of the cummin by infusion, and leaves them nearly uninjured in evaporation."

The seeds, which rank as one of the four greater hot seeds, contain a large proportion of essential oil, and are therefore supposed to possess a carminative and stomachic power, equal, if not superior to most of those of the umbelliferous class. They are generally preferred to the other seeds for external use in discussing indolent tumours, and give name both to a plaster and cataplasm in the *Pharmacopœias*.

ORDER III.

TRIGYNIA.



3 PISTILS.

Plants with three pistils (1).

VIBURNUM OPULUS.

Guelder Rose, or Wayfaring Tree.

This is a well known bushy tree, smooth in all its parts, and very much branched; the branches go opposite to each other with abundance of white flowers resembling the Elder, only they are smaller and more round like a ball; hence this tree has been called the snow-ball tree. It rises from eighteen to twenty-four feet high, and forms an agreeable variety in plantations, with the Liburnum Lilac, &c. And this is its only use, for it is not used in medicine, and the wood is worthless.

SAMBUCUS NIGRA.

Common Elder.

Known by every body; even the boys know this tree, as they make great use of it in the manufacture of pop guns. I shall therefore proceed to its uses.

The inner bark of the elder is a strong purge, and it has been known to cure dropsies when taken in time and often repeated. The flowers are made into an ointment, by boiling them in lard till they are almost crisp, and then pouring it off: this is cooling. The juice of the berries is boiled down with a little sugar, or by some without sugar, and this, when it comes to the consistence of honey, is the famous "rob of elder," which is good in colds and sore throats. A wine is made of the elder-berries, which has the flavour of Frontignac.

There is a singular plant of the Fungus tribe which grows on the elder, called "Judas' ears," as it may be said to have some resemblance to the human ear. It was formerly considered to have great virtues as an astringent, and was made into a lotion for bathing sore eyes, and for gargling sore throats, and is undoubtedly of use for all those purposes; but of late it has been neglected.

Several useful preparations of Elder are made, but the best are the following:—

ELDER ROB.

Take of ripe Elder berries.....five parts.
 ——— sugar.....one part.

Boil with a gentle heat to the consistence of thick honey.

One of the best medicines for causing a sweat in cases of cold and violent rheumatic affections. Dose, an ounce and a half to two ounces. It also makes a good gargle for sore throats.

ELDER VINEGAR.

Take of dried Elder flowers.....one part;
 ——— vinegar.....twelve parts;

Macerate for twelve days, clarify with milk and filter.

Given in sugared water to promote sweating, or, mixed with honey and water, as a gargle.

The ointment mentioned in the former part of this article is very useful for softening old ulcers, &c.

There is another British species called

SAMBUCUS EBULUS.

Dwarf Elder.

It is easily distinguished from the other, being *lower*, and more of an *herbaceous* nature. It is generally found in waste places, by way sides, and flowers in July: the flowers are purplish.

Every part of the Dwarf Elder is of a stronger nature than the common: the inner bark is so strongly purgative, that it sometimes produces dangerous effects. All the other properties of the Common Elder are also more evident. In skilful hands it is a most valuable remedy for the dropsy.

RHUS CORIARIA.

Sumach.

A small tree about ten feet high, with many branches, and covered with a brown hairy bark; leaves divided, serrated, smooth above, hairy beneath; flowers pink and yellow, growing on a dense spike: the fruit is a roundish, one-celled berry, containing a round hard seed. It is a native of the south of Europe.

Its medicinal qualities are wholly to be ascribed to its stypticity or astringency; a property which it possesses in a sufficient degree to render it useful in dyeing, and also in tanning of leather, for which it was used in the time of Dioscorides.

Both the leaves and berries have been employed in medicine, but the former are more astringent and tonic, and have been long in common use in various complaints indicating this class of remedies.

The berries, which are red and of a roundish compressed figure, contain a pulpy matter, in which is lodged a brown hard oval seed, manifesting a considerable degree of astringency. The pulp, even when dry, is gratefully acid, and has been discovered to contain an essential salt similar to that of wood-sorrel, or perhaps more nearly allied to crystals of tartar.

An infusion of the dry fruit is not rendered black by a solution of iron; hence it appears to be destitute of astringency: but its acidity is extremely

grateful, which has caused the tree to be called by the French *le Vinaigrier*. Therefore, like many other acid summer fruits, these berries may be advantageously taken to allay febrile heat, and to correct bilious putrescency.

Lately the *Rhus Toxicodendron* and *radicans* have been recommended in paralytic affections; the latter by Mons. Fresoni, and the former by Dr. Alderson, of Hull; but the cases in which these virulent plants were employed are but few and indecisive.

AMYRIS GILEADENSIS.

Balsam, or Balm of Gilead.

This is the celebrated Balsam of Gilead tree, so frequently mentioned in Holy Scripture, and was first discovered by Mr. Bruce, the celebrated traveller, in the east. The balsam is obtained by making an opening in the bark of the tree out of which the sap flows. It is then received into an earthen bottle. That which comes from one tree is rather small, consequently the expence of collecting it is great: hence it is very scarce, and difficult to procure genuine. The best Balsam, according to Alpinus, is at first turbid and white, of a very strong pungent smell, and of a bitter, acrid, astringent taste: on being kept for some time, it becomes thin, limpid, light, of a greenish hue, and then of a good yellow, after which it grows thick, like turpentine, and loses much of its fragrance. Some compare the smell of this Balsam to that of citrons; others to that of a mixture of rosemary and sage flowers. The chief mark of its goodness is said to be founded on this, that when dropped on water it spreads itself all over the surface, forming a thin pellicle, tough enough to be taken up upon the point of a pin, and at the same time impregnating the water with its smell and flavour.

It appears on Scripture authority, that the great value and use of this drug remounts to very early ages, as it seems coeval with the Indian trade for pepper. To enumerate all the virtues and medicinal uses still attributed to it by eastern nations, would be outraging the bounds of all rational credibility: but they who are desirous of this information may be gratified by consulting Alpinus. European physicians consider it to be not essentially different from other resinous fluids, or turpentine, especially as we find it imported here: it is therefore generally believed, that the Canada and Copaiva balsams will answer every purpose for which it can be employed. In Turkey it is not only in high esteem as a medicine, but also as an odoriferous unguent and cosmetic: its effects with respect to its last mentioned use seem to depend merely on its stimulating the skin; for it is observed by Lady Mary Wortley Montague, that the day after she had used the balsam, her face became red and swollen; an inconvenience which she suffered three days.

TAMARIX GALLICA.

Tamarisk.

A little tree, frequently wild in France, and kept in our gardens: it grows, however, much larger in its native climate than here. The bark is brown on the trunk, and paler on the branches, and the young shoots are

red and very slender: the leaves are very beautiful; they are of a fine bright green, delicately divided into small parts, and regular: the flowers are very small and red, but they stand in spikes and very close together; and as four or five of these spikes also often stand together, they are very conspicuous: the seeds are small and lodged in a downy substance.

The bark is used dried, and the tops of the branches fresh; both have the same virtue; the one is best in decoction, the other in a light infusion, made in the manner of tea. Either is good in opening obstructions; they promote the menses, are good in the jaundice, and it is said good against the rickets.

ORDER V.

PENTAGYNIA.



5 PISTILS.

Plants with five pistils (1)

LINUM USITATISSIMUM.

Common Flax.

A very pretty as well as a very useful plant, cultivated for the sake of its seeds, as well as its stalks. It is three feet high; the stalk is round, slender, firm, and upright; the leaves are small, oblong, and narrow, and they stand irregularly, but in great numbers on it; towards the top the stalk divides into three or four short branches, and on these stand the flowers; they are large and of a beautiful blue. Each of these is succeeded by a roundish seed vessel, in which are a number of seeds. This seed is what is called linseed. A tea made of it is excellent in coughs and disorders of the breasts and lungs; and the seed bruised is also good in cataplasms and fomentations for swellings. The oil drawn from it is given in pleurisies and peripneumonies with great success; and it is also excellent in the gravel and stone.

Taken in the dose of a table-spoonful at short intervals purges gently. If likely to offend the stomach a drachm of *tincture of rhubarb* may be added, or the following preparation may be used.

Take of cold drawn oil of linseed.....half an ounce;

——the yoke of an egg:

Mix them gradually, constantly stirring till the oil is well incorporated, then add by degrees,

Syrup of buckthorn.....three drachms;

Tincture of ginger.....one drachm;

Peppermint water.....one ounce;

This is a useful draught, to be taken at bed time or early in the morning, by those who are subject to habitual costiveness.

CURE FOR A RECENT COUGH OR COLD.

Put a large tea-cupful of linseed, with a quarter of a pound of sun raisins and two ounces of stick liquorice, into two quarts of soft water; and let it simmer over a slow fire till reduced to one quart; add to it a quarter of a pound of pounded sugar-candy, a table-spoonful of old rum, and a table-spoonful of the best white wine vinegar or lemon juice. The rum and vinegar should be added as the decoction is taken; for, if they are put in at first, the whole soon becomes flat, and less efficacious. The dose is

half a pint, made warm, on going to bed; and a little may be taken whenever the cough is troublesome. The worst cold is generally cured by this remedy in two or three days, and if taken in time, is considered infallible.

LINUM CATHARTICUM.

Purging Flax.

A pretty little herb that grows abundantly on our hilly pastures, in parks and warrens. It is eight inches high; the stalk is round, firm, and at the top divided into small branches: the leaves are little, oblong and obtuse, and they stand two at each joint; the flowers are small and white, and the whole plant has much the aspect of some kind of chickweed; but the seed vessel being examined, it appears to be altogether of the flax kind;—the root is small and thready.

This little plant is a strong but safe purge: the country people boil it in ale, and cure themselves of rheumatic pains, and a good many other disorders by it;—they talk of it as a remedy for dropsies. Doubtless it is useful in all cases where a strong and brisk purgative is required.

ORDER VI.

POLYGYNIA.



MANY PISTILS.

Plants with many pistils (1).

DROSERÆ ANGLICA.

Great Sun-Dew.

A very singular and pretty plant, common in boggy places on our heaths. It grows six or seven inches high; the leaves all rise immediately from the root, they are roundish and hollow, of the breadth of a silver twopence, and placed on footstalks of an inch long; they are covered in a very extraordinary manner with long red hairs, and in the midst of the hottest days they have a drop of clear liquor standing on them;—the stalks are slender and naked; at their tops stand little white flowers, which are succeeded by seed vessels, of an oblong form, containing a multitude of small seeds;—the root is fibrous.

The whole plant is used fresh gathered. It is esteemed a great cordial, and good against convulsions, hysteric disorders, and tremblings of the limbs; but it is not much regarded. We are indebted to an interesting little botanical work entitled the "Wild Garland," for the following appropriate lines.

By the lone fountain's secret bed,
Where human footsteps rarely tread,
Mid the wild moor, or silent glen,
The Sun-dew blooms unseen by men;
Spreads there her leaf of rosy hue,
A chalice for the morning dew,
And, ere the summer's sun can rise,
Drinks the pure waters of the skies.
Wouldst thou that to thy lot were giv'n
Thus to receive the dews of heav'n;
With heart prepar'd like this meek flow'r,
Come then and hail the dawning hour.
So shall a blessing from on high,
Purges the ruin of summer's sky,
Unsoiled as the morning dew
Descend, and all thy soul imbue.
Yes! like the blossom of the waste,
Would we the sky-born waters taste,
To the High Fountain's sacred spring
The chalice let us humbly bring;
So shall we find the streams of heav'n
To him who seeks are freely giv'n;
The morning and the evening dew
Shall still our failing strength renew.



Primula



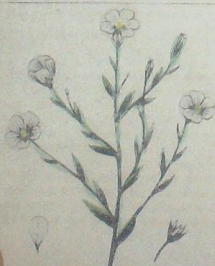
Common Elder



Suncho



Palmetto



Common Flax



Great Sandew

CLASS VI.

HEXANDRIA.



6 STAMENS.

Plants with six stamens (1).

ORDER I.

MONOGYNIA.



1 PISTIL.

Plants with one pistil (2).

INTRODUCTORY REMARKS.

CLASS Hexandria, containing plants with six stamens, includes the greater part of the most splendid and brilliant sorts of flowers. The Lily; the Tulip—which could raise an emotion even in the breast of a Dutchman—the Hyacinths of various colours and the most delightful fragrance; the splendid Amaryllis, and the Aloe—some of which, the great American Aloe, for instance, grows to the height of twenty feet. It is curious that many flowers of this class are without calyx, particularly the more splendid kinds.

This class, besides including many flowers of the more splendid kind, also embraces many useful plants in the *Materia Medica*. Amongst these is the Garlic and Onions, and other bulbous-rooted plants, which are exceedingly useful both as food and physic. The Aloe gives out a juice—improperly called aloes by the druggists—which is perhaps the most useful cathartic known when in a pure state. The *Scilla Maritima* (Official Squill) has long been used in disorders of the lungs and throat, and many of the bulbous roots are used as food; so that this class may be justly said to comprehend a most important number of plants.

Although the plants in Hexandria present to ordinary observers a great dissimilarity, the student who has made only a small progress in the study of Botany will find little difficulty. It is quite true that Leeks, Onions, and Beets, will at the first appear to have little affinity with Lilies, Tulips, and Snow-drops; but a closer examination will show that they are much alike, and they all agree in that which gives the character of the class in the Linnæan arrangement.

GALANTHUS NIVALIS.

Snow-Drop

I take it for granted that the Snow-drop needs no description, as few of our plants are more generally known and admired. If any flower deserves to be emblematic of purity it is this, and as it generally flowers about the purification of the Blessed Virgin Mary, (Candlemas day), it was called by

No. 16.

our Catholic forefathers, "our Lady of February," and it is still in some parts of England called "fair maid of February," from the same cause.

No part of the plant is used in medicine; nevertheless no one who has a garden should be without a few roots, particularly of the double sort. When twenty or more grow in a close bunch, they have a fine appearance, and as they thrive well under hedges and trees, they are very proper to plant in those places.

"Already now the snow drop dares appear,
The first pale blossom of the ripening year,
As Flora's breath by some transforming power,
Had changed an icicle into a flower;
Its name and hue the scentless plant retains,
And winter lingers in its icy veins."

MRS. BARBAULD.

Indeed, almost every poet who sings the changes of the circling year, hails with delight the Snow-drop as the earliest of

"Spring's voluptuous paintings, when she breathes
Her first sweet kisses."

And few persons who look forward with delight towards the change from Winter's gloom to cheering Spring's return, will see unmoved, peeping through the yet unmelted snow, the appearance of this unassuming flower, which,

"Like pendant flakes of vegetating snow,
The early herald of the infant year;
Ere yet the adventurous Crocus dares to blow,
Beneath the orchard boughs thy buds appear."

NARCISSUS PSEUDO-NARCISSUS.

Common Daffodil.

Another welcome flower to the lovers of nature, the very *name* of which is sweet and musical. The plant is now common in our gardens in its own form, and a great variety of shapes that culture has given it. In its wild state it is about a foot high: the leaves are long, narrow, grassy, and of a deep green, and they are nearly as tall as the stalk: the stalk is roundish, but somewhat flattened and edged: the flower is large and single; it stands at the top of the stalk and by its weight presses it down a little: the root is round and white.

The fresh root is to be used, and it is very easy to have it always in readiness in a garden, and very useful, for it has great virtues. Given internally in a small quantity, it acts as a vomit, and afterwards purges a little; and it is excellent against all obstructions. The best way of giving it is in form of the juice pressed out with white wine, but its principal uses are externally. The eastern nations have a peculiar way of drying the thick roots of the plants, especially if they are full of a slimy juice as this is; they put them to soak in water, and then hang them over the steam of a pot in which rice is boiling; after which they string them up, and they become in some degree transparent and horny. It would be

worth while to try the method upon this root and some others of our own growth, which, because of this slimy juice, we cannot well dry any other way; probably this would lose its vomiting quality when dried, and would act only as an opener of obstructions, in which case it might be given in repeated doses, for at present nobody can be prevailed upon to take it often.

The fresh root bruised and applied to fresh wounds heals them very suddenly: applied to strains and bruises it is also excellent, taking away the swelling and pain.

BROMELIA ANANAS.

Pine Apple.

The fruit bears a resemblance to the cone of the fir or pine;—hence its name. It is unquestionably the most delicious fruit known. It is a native of America and the West India islands, and it is probable that it is indigenous to all tropical climates. The great superiority of this fruit to all others, and the consequent demand of it for the tables of the rich, have caused the gardeners to bestow great pains in its cultivation, so that it is said they can produce better fruit than that which comes from abroad. It is quite true that they have grown much larger specimens. In the month of June Mr. John Edwards presented a pine apple to the horticultural society weighing nine pounds. The following year Mr. Buchan, gardener to Lord Cawdor, raised one weighing ten pounds eight ounces, which was served up as a dessert at the coronation of George the Fourth.

A great deal of care and attention is necessary for the culture of this fruit. The young plants are put into pots, sunk in a hot-bed for the space of six or nine months, after which they are removed to a larger bed or pit, where they remain for nine or twelve months; they are then taken to their final destination, the fruiting-house, where, if properly managed, they will bear fruit. When the fruit is ripe the plant dies, leaving one or more suckers from which fresh plants are raised. It thus takes nearly three years, besides great care and skill, to raise this fruit. The plants are always kept in pots, so that there is not much trouble in shifting them from place to place; but they must always have a high temperature. Besides the heated air of the house, the pots must be plunged in a hot bed either of dung or bark. A rich sandy loam is considered the fittest soil.

AMARYLLIS.

Amaryllis.

There is no English synonyme to this most splendid flower, which bears the same name as it did in the time of Virgil, the Roman poet, and probably thousands of years before. The name is in Greek, and signifies resplendent. Most of the sorts now cultivated by our gardeners are natives of the Cape of Good Hope, China, and South America.

There are thirty-five varieties mentioned in Donn's catalogue, but the gardeners and florists are constantly increasing the number by cultivation, which is easily done by raising plants from seed, instead of by offsets from the roots. One coating taken from the bulb, *with a leaf upon it*, will

produce a new plant precisely like the parent plant, whereas, if you take the seed from the same plant it may, and frequently does, produce a different and sometimes a new sort.

According to Mr. Knight, the great art of cultivating this and all other bulbous-rooted flowers, is to produce early and vigorous leaves. The root gives strength and nourishment to the flower, but it has first to receive that strength from the leaves. If, therefore, the leaves come late in the season, or if they are in a poor condition, it is evident that there is nothing for the root to feed upon, and there will be no flowers. In order to have early leaves, Mr. Knight applied a little artificial heat early in spring, which, by bringing the leaves sooner to maturity, gave time for the flowers to put forth during the summer.

ALLIUM URSINUM.

Common Garlic.

Sixty-one sorts or varieties of Garlic are given in Domus Catalogue of Plants; but the medical properties of all are nearly alike. The above is a plant kept in our gardens for its uses in medicine and in the kitchen. It grows two feet and a half high: the leaves are broad, long; and of a strong green: the stalk is round, smooth, firm, upright, and of a pale whitish or bluish colour: the flowers are white and small, but they grow in a large tuft at the top of the stalk: the root is white or a little reddish; it is composed of a great number of bulbs, or, as we call them, cloves joined together, and covered with a common skin and fibrous at the bottom. The whole plant has an extremely strong smell, and an acrid and pungent taste.

Garlic has been found one of the most valuable remedies for the asthma. Dr Bowles obtained great popularity and accumulated a large fortune, by the secret use of this herb. His method was to boil the bulbs till quite tender in a covered vessel, then dry them carefully in a cloth. He then added an equal quantity of the strongest vinegar to the water in which they had been boiled, and made the whole into a syrup by adding sugar: the syrup thus made was poured over the dried bulbs, and the whole put into a jar well stopped up for use. The patient took one or two of the bulbs in the morning *fasting*, with one or two table-spoonful of the syrup.

An ounce or two ounces of the juice may be taken together with an equal quantity of sugar for one dose.

It is also useful to be taken in the form of pills, with an equal quantity of soap, about four grains of the compound to form one pill; four or five to be taken morning and evening. A few caraway seeds mixed with the composition will take away the offensive taste and smell of the garlic.

Reader, if you be troubled with asthma, try the above remedy directly, and be grateful to me for pointing it out.

ALLIUM CEPA.

Common Onion.

These are well known by every body, and they possess all the properties

of the Garlic, but in a smaller degree, therefore in a medicinal point of view the garlic is best; but inasmuch as the onion is not as strong as the garlic, it is extensively used as an article of food, and a very wholesome article it is for the purpose, though modern refinement has caused it to be neglected amongst what are called the "better classes," to whom the smell of onion is considered low and degrading, forgetting that the smell of musk and other perfumery is equally unpleasant to those not used to these things. It is stated somewhere, that Queen Elizabeth's Maids of Honour ate beef and drank ale to breakfast at six o'clock in the morning! What would our modern ladies, who faint at the smell of onions, think of such breakfasts as those, and at such a time? This only shows how *fashion* can, and does, even change our very tastes and appetites. English "good society" cannot bear the smell of onions, and the patricians of ancient Rome seasoned their food with assafetida! So much for fashion in cookery.

TULIPA.

Tulip.

Many volumes have been written, and tens of thousands of pounds spent on account of this beautiful flower. Its cultivation has occupied the attention of all classes, from the king to the labourer. The varieties are infinite; some gardeners have reckoned up hundreds of varieties of their own culture. The properties of a fine variegated late tulip, according to the best modern florists, are these:—the stem should be strong, upright, and tall, about thirty inches high: the flowers should be large, composed of six petals, proceeding a little horizontally at first, and then turning upwards, so as to form an almost perfect cup, with a round bottom, rather wide at the top: the three outer petals should be rather larger than the three inner ones, and broader at the base; all the petals should have the edges perfectly entire, the top of each should be broad and well rounded: the ground colour in the bottom of the cup should be clear white or yellow, and the various rich stripes, which are the principal ornament of a fine flower, should be regular, bold, and distinct on the margin, and terminate in fine broken points, elegantly feathered or pencilled. The centre of each petal should contain one or more bold blotches or stripes, intermixed with a small portion of the original colour, abruptly broken into many irregular obtuse points. Some florists are of opinion that the central stripes or blotches do not contribute to the beauty of the Tulip, unless they be confined to a narrow stripe exactly down the centre, and that they should be perfectly free from any remains of the original colour. It is certain that such flowers appear very beautiful and delicate, especially when they have a regular narrow feathering at the edge: but it is unanimously agreed that the Tulip should abound in rich colouring, distributed in a distinct and regular manner throughout the flower, except in the bottom of the cup, which ought indisputably to be of a clear bright white or yellow, free from stain or tinge, in order to constitute a perfect flower.

Towards the middle of the seventeenth century the Tulip became an object of considerable trade, and the price of the roots rose higher than that of the most precious metals. It was principally carried on in the Netherlands, and was at its height in the years 1634, 5, 6, and 7. For one root,

of a variety called the Viceroy, articles to the value of 2,500 florins were agreed to be delivered. The *Semper Augustus* has often been sold for 2,000 florins; one person agreed to give 4,000 florins, with a new carriage two horses, and a complete set of harness; and another agreed to give twelve acres for one single root. The trade was generally followed for a time; but it was a mere gambling business, rightly named "tulipomania," or tulip madness;—something like our railway gambling, though by no means so bad or pernicious, for the Tulip speculator had a fine flower at any rate for his money, while most of the railway speculators have the satisfaction to see nothing for theirs, except a sharking attorney, made richer, in exact proportion as the scrip holders have become poorer.

No part of this plant is used in medicine.

ORNITHOGALUM.

Star of Bethlehem.

Many varieties of this flower are cultivated in our gardens for ornament: the flowers are of various colours, and the different sorts are so numerous as to render it nearly impossible to give a description. The flowers are generally spiked, but some are umbelliferous like parsley or hemlock. It flowers in June, and the seeds ripen in August. Linnæus says that the Swedes eat the roots of this plant (which are large and bulbous like the onion) in times of scarcity. Some of our Lords and Dukes should look into this. Perhaps it is better and cheaper after all than "Curry powder."

SCILLA.

Squill.

There are several sorts of this herb grown in England, but the one mostly used in medicine is the

SCILLA MARITIMA.

Officinal Squill.

A very common plant by the sea-side in Italy and other parts of Europe, and grown also in this country. It grows a yard high, and when in flower is very beautiful: the stalk is thick, round, fleshy, and green, or else reddish: the flowers are small, but they have their beauty; they stand in a long spike down a third part of the stalk: the leaves are very large and long; they are of a deep green colour, and grow immediately from the root: the root is round, and of a pound weight; it is composed like an onion of many coats one over another, and is full of an acrid slimy juice: the colour is white or red, and they call it the white or red squill.

The root is used dry, or infused in vinegar or wine, and that afterwards made into a syrup with honey. These three preparations are called the wine of squills, vinegar of squills, and oxymel of squills; they are all good against asthmas and difficulty of breathing. The oxymel is given for this purpose; the vinegar causes vomiting, and cleanses the stomach; the wine of squills works by urine, and is good against the jaundice and dropsy.

The Italian squill is the best, which may be had at the apothecaries' shop.

HYACINTHUS.

Hyacinth.

Another great favourite with the florists, who have, in consequence, increased the varieties to an interminable amount. In 1629, Parkinson reckoned eight varieties, while the Haerlem gardeners in the last catalogue distinguish no less than three thousand! But the Dutch appear to have directed the whole of their floricultural skill in the cultivation of bulbous-rooted flowers. In the early part of the eighteenth century, the culture of this and other bulbs was at its highest in Holland, and even in England, when one root, of a favourite plant called the King of Great Britain, was regularly sold for 1,000 florins (£100 sterling); and for some particular sorts of double Hyacinths, more than double that sum was obtained. Since that time the taste for this sort of flowers has declined, principally in consequence of new sorts of flowers being constantly imported from other countries.

Hyacinths make a beautiful ornament when grown in glasses. In order to have them early and healthy, the bulb should be put in earth in October, in which they push out their fibres more regularly, and they can be taken up when wanted, wash the earth from them, and insert them in the glass, which must be kept in a moderate warm place. Soft water should be used, and the glass should be filled so as to cover about a quarter of the bulb. When the water becomes muddy it must be changed, and, by proper care and attention they will produce a flower soon after Christmas. When the Hyacinth has done flowering in this manner, and the leaves are completely withered and dead, the root must be taken up and dried, and placed again in the earth for the following spring. By so doing the bulb will produce flowers for a number of years.

But notwithstanding all that the most expert florists, either Dutch or English, can produce, the wild Hyacinth, or *Hare-bell*, of our English woods presents the most superior attractions to all whose tastes are in accordance with nature. Let any person whose taste has not become vitiated, look at the most gorgeous green-house, arranged in all the flaming colours of exotic Botany. Let him afterwards pay a visit to some lonely dell, where the Hare-bells grow during the spring, and then mark the comparison, and I have no fear of the result. This plant is called the

HYACINTHUS NONSCRIPTUS.

Wild Hyacinth, or Hare-bell.

The common spring plant our children gather with their Cowslips and May flowers, and call blue-bells. The root is white and roundish; the leaves are narrow and long, like grass, but of a deep green colour and smooth surface: the stalks are round, upright, and smooth; they have no leaves on them: the flowers are large and of a beautiful blue, they are hollow, oblong, and turn up at the rim.

The root is the part used. It abounds in a slimy juice; but it is to be dried, and this must be done carefully. The decoction of it operates well by urine, and the powder is balsamic and somewhat styptic. It is not enough known: indeed there is hardly a more powerful remedy for the whites.

ASPHODELUS ALBUS.

White Asphodel.

An elegant garden flower, a native of Italy, and preserved with us more for its beauty than its use, though sometimes taken as a medicine. It grows to three feet in height, and the stalk divides into three or four branches towards the top: the flowers are white, and they stand in spikes on the tops of three divisions; they are streaked with purple on the tops, and have yellow threads in the middle: the leaves are long and narrow, hollowed, and sharp-pointed: the root is composed of several oblong lumps.

The root is the part used in medicine, and it is said to be good against all obstructions, particularly against those of the menses.

There is another kind of Asphodel, with yellow flowers, the root of which is said to possess the same virtues, but it is more rarely used than the other.

ASPARAGUS OFFICINALIS.

Asparagus.

The Asparagus plant is one whose root is useful in medicine, although a different part of it is eaten at the table. Its virtues are not unlike those of the artichoke root, but greater.

"Asparagus is generally grown in beds four feet broad, and in rows a foot or eighteen inches apart, by nine inches in the row. The plants are either raised from the seed where they are to remain, or raised on a seed bed the preceding year and transplanted. The value of the crop depends on the soil being dry, sandy, trenched two and a half or three feet deep, and powerfully manured. During winter the beds are covered with dung or litter to protect them from frost. In spring this is raked off into the alleys and dug in, while the beds are stirred with a fork to admit the air, heat, rain, &c., to stimulate the rising shoots. Asparagus from seed will be fit to cut the third year, in perfection to the fifth, and will continue good for ten or twelve years. The season for cutting is from the middle of April, to the middle of June."—*Loudon's Encyclopædia of Plants.*

The Asparagus is a wild plant in many parts of England about the sea coasts; and its root in this wild state is better than that of the cultivated plants, but its shoots have not that fine fleshy fulness. The plant, when full grown, is three feet high, and very much branched, and the leaves are fine and of a pale green: the flowers are small and greenish, but the berries which succeed them are as big as peas and are red.

The root is a powerful diuretic, and is good against all obstructions of the viscera. It has been known singly to perform cures in jaundices and dropsies: it is best given in decoction.

A substance has been made from Asparagus called *Asparagine* by the French Physicians, which is a powerful diuretic, in which all the powerful parts of Asparagus are combined. *Asparagine* is prepared by M. Reginbeau in the following manner.

"He has the stalks of Asparagus wrapped in a piece of moistened linen for a few days at an ordinary temperature, until decomposition has commenced, which may be known by the unpleasant smell. They are then



Snowdrop



Taffogil



Scilla



Taffogil



beaten in a marble mortar, with a sufficient water to dilute the viscid juice, which is afterwards pressed strongly through a piece of cloth, and heated in order to coagulate the albumen and chlorophylla. It is subsequently filtered and concentrated in a marine bath; it is again filtered and boiled down to the consistence of syrup, and set apart for a fortnight in a cool place. The vessel containing the liquid will be found lined with crystals of Asparagine, covered with extractive matter: they are to be purified by washings in cold water or diluted spirit."—*Journal de Pharmacie*.

CONVALLARIA MAJALIS.

Lily of the Valley.

A very pretty plant. It is six or eight inches high: the leaves are large, long, and broad, of a deep green colour, and full of very thick ribs or veins: the stalks are weak, slender, angular, and green; they bend towards the top, and on each there stands, or rather hangs, a row of white flowers; they are roundish, hollow, and of a delicate and pleasing smell; these are succeeded by berries, which are red when they are ripe.

This flower is not only one of the most beautiful, but really a useful flower. It is admitted into the first rank of *cephalics*, and in addition are said to be very valuable in removing obstructions in the urinary canal. The flowers, reduced to powder, are exceedingly serviceable in head-ache, ear-ache, and apoplexy; but they must never be used if there is any tendency to inflammation of the brain. The spirit appeases the terror under which hypochondriacs often labour. It is also an useful application to the spine of children subject to falling sickness.

The following are the various preparations of this lovely and valuable plant:—

DISTILLED WATER OF CONVALLARIA.

Take of flowers of Convallaria..... one part;
 ——— boiling water..... four parts;

Distil two parts.—Dose, from one to three ounces.

SPIRIT OF CONVALLARIA.

Take of flowers of Convallaria..... two parts;
 ——— Alcohol..... one part;
 ——— Pure water..... one part;

Distil one part.—Dose, from half an ounce to an ounce, usually employed externally.

ETMULLER'S CEPHALIC SNUFF.

Take of flowers of Convallaria..... one drachm;
 ——— Leaves of Majoram..... one drachm;
 ——— Essential oil of Majoram..... ten drops:

Mix them together and form a snuff. If a stronger sternutatory be required, a scruple of white hellebore powder may be added; or, if the gratefulness of the smell be the object in view, a little Florentineorris-root in powder, or a few grains of musk and ambergris may be employed.

CONVALLARIA MULTIFLORA.

Solomon's Seal.

A pretty plant, wild in some places, and frequent in gardens. It grows a foot and a half high: the stalk is round, striated, and of a pale green, naked half way up, and from thence to the top ornamented with large oval leaves of a pale green, blunt, smooth, and ribbed, but not at all indented at the edges: the flowers hang from the under part of the stalk; they are small and white: the fruit is a berry as big as a pea, and black when ripe: the root is white, oblong, irregular, and creeps under the surface of the ground.

The root is the part used. It is commended extremely for an outward application against bruises. The root dried and powdered is good against purgings with bloody stools; and the fresh root beat up into a conserve with sugar, against the whites.

ACORUS CALAMUS.

Sweet Flag.

A common wild plant that grows undistinguishable amongst the flag and rushes by our ditch sides. The old physicians meant another thing by Calamus Aromaticus; they gave this name to the dried stalks of a plant, but at present it is used as the name of the root of this. The sweet flag grows three feet high, but consists only of leaves without a stalk; they are long, narrow, and of a pale green colour. Among these there are commonly three or four in all respects like the rest, but they have a cluster of flowers at one side within five or six inches of the top: this is long, brown, and thick, resembling a catkin of a filbert tree, only it is longer and thicker: the root is long, flattish, and creeping; it is of a strong and rather unpleasant smell when fresh, but it becomes very fragrant and aromatic with drying. Our own plant has its value, because we can have it fresh; but the dried root is better from the druggists, as they have it from warmer countries, where it is more fragrant.

Its virtues were known to the physicians of Greece. It is one of the few aromatic plants which does not come from the east, and is really deserving of attention from the medical practitioner than it has met with of late. It is perhaps one of the most powerful tonics natural to this country. It is therefore extremely serviceable in weakness, loss of appetite, &c. It is also useful in colic, flatulence, vertigo, head-ache, and other disorders arising from indigestion. In the low stage of malignant fevers, given along with the preparations of the bark (quinine), its best effects have been observed. Agues have been cured by a free use of the tincture, and made into tea given as hot as it can be drunk, it relieves the distressing swelling of the belly.

It is given in substance in doses of a scruple to a drachm. An infusion of two or three drachms of the root in a pint of water or white wine, is an excellent stomachic; a cup-ful to be taken for a dose. The fresh root candied, is useful to keep in the mouth as a preservative against infection.

JUNCUS.

Rush.

Twenty-three sorts of rushes grow in this country. It were folly to describe them as they are well known to every body. They are not used in medicine, but are very useful plants nevertheless. Chair-makers, basket-makers, and a variety of other trades make use of rushes. In Catholic times when people went to worship Almighty God, without the luxury of pews and cushions, when the rich and the poor, the lord and the beggar, knelt on the same floor and before the same altar, without those abominable distinctions which modern enlightenment has introduced;—in those days all our parish churches were without pews, seats, benches, or forms of any kind, the only thing in the shape of luxury was straw, which was strewed upon the church floor to kneel upon; and in the northern parts of the country where straw was not to be had, they made use of rushes, immense quantities of which were gathered in the season, and piled in stacks for the year's consumption. The time of bringing in the rushes to the parish church was on annual festival, which is still kept in the northern counties, under the name of "rushbearings;" thus the *name* has continued after the *use* has been abandoned for more than two hundred years.

The rush is also very useful for the making of candles; made use of in this way a labourer may save a great part of his earnings. The rushes are cut when they have attained full growth, but are still green; you must then cut off both ends, leaving the prime part, which on an average is twelve or eighteen inches long. You take off all the green skin, leaving a small strip from top to bottom, which observe, is necessary to hold the pith together.

The rushes being thus prepared, the grease must be melted and put in a shallow trough, as long as the rushes are; the rushes are put into the grease soaked in sufficiently, then taken out and laid on a bit of bark to dry; this bark is stuck up against the wall, and there it hangs for the purpose of holding the rushes. Any kind of kitchen fat will do for the purpose, and the rushes, if properly made, give as good a light as the common dip candles of sixteen to the pound, and they cost next to nothing, though the labourer may have as much light with them as he pleases, and without them he must sit the far greater part of the winter evenings in darkness, even if he were to expend fifteen shillings a year in candles.

BARBERIS VULGARIS.

Barberry.

This is a wild bush in some parts of England, but it is common everywhere in gardens. It grows to eight or ten feet high, in an irregular manner, and much branched: the bark is whitish, and there are abundance of prickles about the branches: the leaves are of an oval figure and strong green colour, and are indented about the edges: the flowers are small and of a pale yellowish colour: the fruit is sufficiently known: the berries are oblong, red, and of a sour taste: the branches are brittle, and under the pale outer rind there is another yellow and thicker.

Dr. Withering says, the Barberry should not be permitted to grow in corn-fields, for the ears of wheat that grow near it never fill, and its

influence has been known to extend for two or three hundred yards across a field. It was thought by Sir Joshua Banks to be owing to an insect (*Aecidium Berberides*) which infests this shrub, and generates a dust, which being carried away with the wind and alighting on growing corn causes a sort of blight, which prevents the further progress of the leaves.

The bark and fruit of the Barberry are used in medicine; the former is considered extremely serviceable in diarrhoea and dysentery, and the fruit forms a pleasant and cooling beverage in fevers and the scurvy. The fruit is variously prepared either in syrup, jelly, or jam: these are formed into drinks which, in all inflammatory fevers, scalding of urine, but especially typus fevers, are taken with the greatest advantage.

The juice may be thus prepared:—

Take of ripe Barberries any quantity;

Bruise them in a mortar, and set the mass aside for several days in a cool place, then express the juice and leave it as before; strain it, pour it into a long necked bottle, cover it with a stratum of oil, and keep it in a cellar.

SYRUP OF BARBERRIES.

Take of expressed and filtered juice of Barberries . . . one pint;
 ——— White sugar one pound and a half;

Boil them together and strain.

An excellent gargle for sore throats may be made with this syrup.

The inner bark infused in white wine is said to be purgative, and Ray experienced its good effects in jaundice.

PEPLIS PORTULA.

Purslane.

A common plant in our gardens, and of a very singular aspect; we have few so succulent. It grows a foot long, but trails upon the ground: the stalks are round, thick, and fleshy, of a reddish colour and very brittle; the leaves are short and broad; they are of a good green, thick, fleshy, broad, and blunt at the end: the flowers are little and yellow; they stand among the leaves towards the tops of the stalks: the root is small, fibrous, and whitish.

Purslane is a pleasant herb in salads, and so wholesome that it is a pity that more of it is not eaten, for it is excellent against the scurvy. The juice fresh pressed out with a little white wine works by urine, and is excellent against the stranguries and violent heats, and also against the scurvy.

ALOE PERFOLIATA SOCOTRINA.

Socotrine Aloes.

This article is brought wrapt in skins, from the island of Socotora in the Indian ocean. This sort is the purest of the three in use: it is of a glossy surface, clear, and in some degree pellucid; in mass, of a yellowish red colour, with a purple cast; when reduced to powder, of a bright golden colour. It is hard and friable in the winter, somewhat pliable in summer, and grows soft between the fingers. Its taste is bitter and disagreeable.

though accompanied with some aromatic flavour; the smell is not very unpleasant, and somewhat resembles that of myrrh.

It is prepared in July, by pulling off the leaves, from which the juice is expressed, and afterwards boiled and skimmed. It is then preserved in skins, and dried in August in the sun. According to others, the leaves are cut off close to the stem, and hung up: the juice which drops from them without any expression, is afterwards dried in the sun.

Aloe is a bitter stimulating purgative, exerting its action chiefly on the rectum. In doses from four to six grains it empties the large intestines, without making the stools thin; and likewise warms the habit, quickens the circulation, and promotes the uterine and hæmorrhoidal fluxes. If given in so large a dose as to purge effectually, it often occasions an irritation about the anus, and sometimes a discharge of blood.

It is frequently employed in cases of suppression of the menses, or of the hæmorrhoidal discharge; but it is particularly serviceable in habitual costiveness, to persons of a phlegmatic temperament and sedentary life; and where the stomach is oppressed and weakened. It has, however, a tendency to induce and augment hæmorrhoidal affections; and with those who are liable to such complaints, it should be avoided. In dry bilious habits aloes proves injurious, immediately heating the body, and inflaming the bowels.

Some are of opinion, that the purgative virtue of aloes resides entirely in its resin; but experience has shown, that the pure resin has little or no purgative quality, and that the extractive part separated from the resinous, acts more powerfully than the crude aloes. If the aloes indeed be made to undergo long coction in the preparation of the gummy extract, its cathartic power will be considerably lessened, not from the separation of the resin, but from an alteration made in the extractive itself by the action of the heat and air. The strongest vegetable cathartics become mild by a similar treatment.

PREPARATIONS.

POWDER OF ALOES WITH CANELLA.

* Take of Socotrine Aloes.....one pound;
 ——— white canella.....three ounces:

Powder them separately, and then mix them.

This was formerly well known by the title of *Hiera Picta*. The spiky Canella acts as a corrigent to the aloes, but the compound is more adapted to be formed into pills, than to be used in the state of powder. It is a convenient medicine for costive habits not subject to the piles. Dose, ten grains to a scruple at bed-time.

PRESCRIPTIONS.

Take of socotrine aloes, in powder.....half a drachm;
 ——— soap.....one drachm and a half;
 ——— essential aromatic oil of clovis.....three drops;
 ——— simple syrup, as much as is sufficient to form a mass:

Make into thirty pills, of which take four every night. Given to open the body in constive habits.

ORDER II.

DIGYNIA.



2 PISTILS.

Plants with two pistils.

ORYZA SATIVA.

Common Rice.

There is no reason to doubt that rice is of Asiatic origin. It is also one of the chief productions of Egypt, as the soil there is very favourable to its culture on the swampy banks of the Nile. The inhabitants are supposed to have been instructed in its cultivation by the ancient Caliphs. It is said to have been introduced into America by the accident of a brig from the island of Madagascar happening to put up in Carolina, and having a few seeds left, the captain gave them to a gentleman, who sowed them in the swamps, where they thrive amazingly, converting those immense swamps into profitable rice fields, and the Carolina rice is now the best in the world.

Rice forms the principal food of the inhabitants of all warm climates; but it does not do for people of the northern regions. Nevertheless it has been found very serviceable to people of weak powers of digestion, and such as are recovering from sickness.

If it were not so unhealthy in its culture, rice would be a very valuable addition to the crops of the farmer; but it requires a swampy soil under a burning sun. Its whole cultivation in America is left to the negroes, without whose aid not a grain could be raised, as no European constitution could stand it for a season; and the poor unfortunate blacks suffer most dreadfully by it. How it is that such a valuable article of food as rice most certainly is, cannot be procured but under such unfavourable circumstances, is not for us poor mortals to determine.

ORDER III.

TRIGYNIA.



3 PISTILA.

Plants with three pistils.

RUMEX ACETOSA.

Common Sorrel.

A common plant in our meadows, with broad and oblong leaves, striated stalks, and reddish tufts of flowers. It is a foot and a half high: the stalk is round, not very firm, upright, and a little branched: the leaves are of a deep green, angulated at the base, blunt at the point, and not at all indented about the edges: the flowers stand on the tops of the stalks, in the manner of those of docks, of which Sorrel is indeed a small kind; they are reddish and husky: the root is small and fibrous. The whole plant has a sour taste.

The leaves eaten as salads, or the juice taken, are excellent against the scurvy. The seeds are astringent, and may be given in powder for fluxes: the root dried and powdered is also good against purgings, the overflowing of the menses, and bleedings.

There are two other kinds of Sorrel, nearly of kin to this, and of the same virtue: one small, called sheep's sorrel, common on dry banks: the other large, with broad leaves, and called garden sorrel; this is rather preferable to the common kind.

The leaves of Sorrel have been applied, after being well bruised, to old sores and ulcers, and they have been found serviceable for scurvy in the gums.

RUMEX ACUTUS.

Sharp Dock.

A common plant, like the ordinary dock, but somewhat handsomer, and distinguished by the figure of its leaves, which are sharp pointed, not obtuse as in that, and are also somewhat narrower and longer. The plant grows three feet high: the stalks are erect, green, round, striated, and branched: the leaves are of a fine green, smooth, neither crumpled on the surface, nor curled at the edges, and have large ribs: the flowers are small, and at first greenish, then paler, and lastly they dry and become brown: the root is long, thick, and of a tawny colour.

The root is the part used. It is excellent against the scurvy, and is one of the best things we know for what is called sweetening the blood. It is

best given in diet drinks and decoction. Used outwardly, it cures the itch, and other foulness of the skin: it should be beat up with lard for this purpose.

RUMEX HYDROLAPATHUM.

Great Water Dock.

This is the largest of all the dock kinds. They have a general resemblance to one another, but this is most of all like to the last described, in its manner of growth, though vastly larger. It is frequent about waters, and is five or six feet high: the stalks are round, striated, thick, very upright, branched a little, and hollow: the leaves are vastly large, of a pale green colour, smooth, and sharp at the point: the flowers are small, and of a greenish colour, with some white threads, which afterwards become brown: the root is large, long, and of a reddish brown.

Several Botanists have contended that this plant is the *Herba Britanica*, which was held in such renown by the ancients: as a remedy for scorbutic complaints it was considered unequalled. It is undoubtedly possessed of considerable power in disorders of the skin, and in a weak or relaxed state of the bowels. The powdered water dock is one of the most useful applications upon old ulcers, cleansing, and causing them to heal. The root powdered is an excellent dentifrice, strengthening the gums and cleansing the teeth.

The powdered root may be given in doses of ten grains to half a drachm, but if required to purge, the proper dose will be rather more: for increasing the tone of the stomach, about ten grains is a sufficient dose, or it may be given in the form of decoction.

DECOCTION OF WATER DOCK.

Take of Water Dock root, sliced.....two ounces;
 ——— water.....three pints:

Boil them to two pints, and strain. A little liquorice root or spirit of cinnamon may be added at the end of the boiling, to improve the flavour.

Dose.—A wine glassful twice or thrice a day. It has been recommended in the rickets of children.

An extract may also be prepared, but this appears almost superfluous. The vinous infusion is much praised by Muntigius and others. It may be given as a stomachic, and in the diseases already enumerated when they are exempt from fever and inflammation.

RUMEX SANGUINEUS.

Bloody Veined Dock.

A beautiful kind of dock kept in gardens, and wild in some places. It grows to four feet high: the stalks are firm, stiff, upright, branched, and striated: the leaves are very long and narrow, broadest at the base, and smaller all the way to the end; they are not at all indented at the edges, and they stand upon long footstalks; their colour is a deep green, but they are in different degrees stained with a beautiful blood red, sometimes the ribs only are red, sometimes there are long veins of red irregularly spread over the whole leaf, sometimes they are very broad, and in some



Scilla



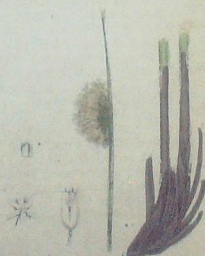
Asparagus



Lily of the Valley



Solomon's Seal



plants the whole leaves and stalks also are of a blood colour: the flowers are very numerous and little; they, in all respects, resemble those of the common wild docks: the root is long and thick, and of a deep blood red colour.

The roots are used; they are best dry, and they may be given in decoction, or in powder; they are a powerful astringent; they stop bloody fluxes, spitting of blood, and the overflowing of the menses. It is also good against violent purgings and against the whites.

COLCHICUM AUTUMNALE.

Common Meadow Saffron.

Leaves flat, lancelet erect. It has a bulbous root, about the size and shape of the Tulip, but not so sharp pointed at the top: the skin or cover is also of a darker colour; these bulbs are renewed every year, for those which produce the flowers decay, and new roots are formed above: the flowers come out in autumn, and rise, with long slender tubes about four inches high from the root; these tubes are shaped like those of the Saffron, but larger; and the number of flowers is generally in proportion to the size of the roots, from two to seven or eight. The green leaves appear in March, and are generally four in number to a full-grown root; they are folded over each other below, but spread open above ground, standing crossways; their colour is a deep green, and when fully grown are five or six inches long, and one and a half broad. The seed vessel comes out between the leaves in April, and the seeds ripen in May, soon after which the leaves decay. The seeds lie buried all the winter within the bulb; in spring they grow up on a fruitstalk, and are ripe about the time of hay-harvest. May not the very great length of the styles account in some measure for the delay in the ripening of the seeds? As this plant blossoms late in the year, and would not probably have time to ripen its seeds before winter. Providence has so constructed it that they may ripen at a considerable depth in the earth, out of the reach of the usual effects of frost; and as seeds buried at a certain depth are known not to vegetate, a no less admirable provision is made to raise them above the surface when they are perfected, and to sow them at a proper season.

This plant is a native of most parts of Europe. Mr. Miller observed it in great plenty in the meadows near Castle Bromwich in Warwickshire, in the beginning of September, and says that the country people call the flowers *naked ladies*, because they come up without any leaves; a name they also apply to the *Hepatica*, and indiscriminately to any plant which has flowers on naked scapes, appearing at different times from the leaves.

Notwithstanding the concurrent testimony of ages has condemned this plant as poisonous, Dr. Stoerck, of Vienna, has taught us that it is a useful medicine. The roots are very acrimonious, and an infusion of them in vinegar, formed into a syrup with the addition of sugar or honey, is found to be a very useful pectoral and diuretic. It seems to resemble Squill very much in its virtues, but is less acrid and nauseous, though more sedative. Allioni, however, relates, that he has found the Squill to be more safe and efficacious than the Meadow Saffron; and Meyrick also informs us, "that, indiscreetly used, this root is poisonous, two drachms having

killed a large dog after twelve hours of excessive torment; it operated violently by vomit, stool, and urine." A single grain only being swallowed by a person in health, by way of experiment, produced heat in the stomach, and soon after flushings in various parts of the body, with frequent shiverings, which were followed by colic-like pains, after which he felt an itching in the loins and urinary passages, and soon after that a continual inclination to make water, with a tremor and pain in the head, great thirst, a very quick pulse, and other disagreeable symptoms. Yet, notwithstanding these effects, it is, when properly prepared, a safe but powerful medicine. The best way of preparing it is to make it into a kind of syrup, by digesting an ounce of the fresh roots, sliced in a pint of white-wine vinegar, over a gentle fire for the space of forty-eight hours, and then mixing twice its weight of honey with the strained liquor, and letting it afterwards boil gently until it becomes of a proper consistence: this syrup is agreeably acid, gently vellicates or bites the tongue, is moderately astringent, and excellent for cleansing the tongue from mucus: in an increased dose it vomits and sometimes purges, but its most common operation is by urine, for which it is a remarkably powerful medicine: the dose at first should be but small, half a tea-spoonful twice or thrice a day is enough to begin with, and the quantity may afterwards be gradually increased, as the stomach will bear it, or the case may require. It has been given with the most astonishing success in dropsies and tertian agues, and it frequently succeeds as an expectorant when all other means fail.

The following preparations of this valuable plant, are directed by the college of physicians.

SYRUP OF COLCHICUM.

Take of fresh Colchicum bulb, sliced one ounce;
 ——— distilled vinegar sixteen ounces;
 ——— refined sugar twenty-six ounces:

Macerate the bulb in the vinegar for two days, shaking the vessel occasionally; then express gently, strain the liquor, and add the sugar: lastly, boil a little, so as to form a syrup.

A similar preparation to the oxymel, and used for the same disorders. The dose is from half a drachm gradually increased to four, six, or eight drachms.

TINCTURE OF COLCHICUM SEED.

Take of Seeds of Colchicum two ounces;
 proof spirit one pint:

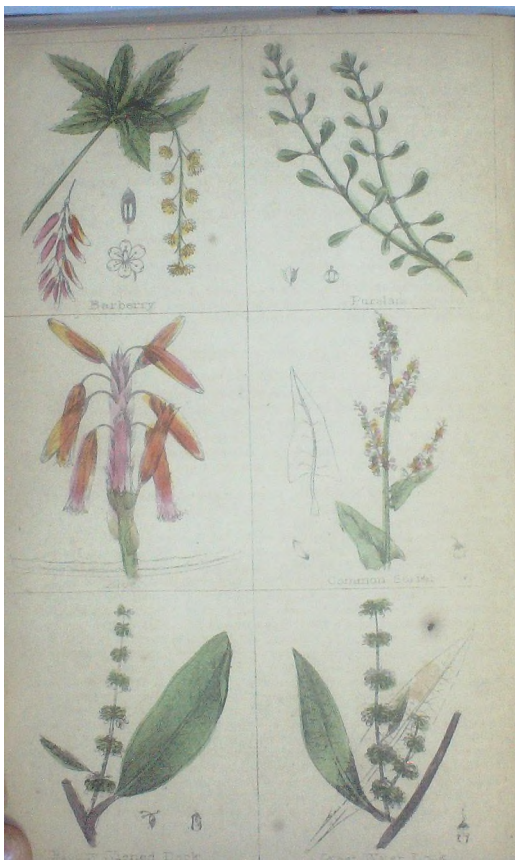
Macerate for fourteen days, and strain.

This tincture is the most active preparation of Colchicum, proof spirit being the strongest solvent of the principles of the root, and we find, as a medicine, that it stimulates the most, and often irritates the stomach and in a remarkable degree. The dose is from ten drops gradually increased to two drachms.

WINE OF COLCHICUM.

Take of fresh Colchicum bulbs, bruised one ounce;
 ——— proof spirit four ounces;
 ——— distilled water eight ounces:

Macerate for fourteen days, and filter.



The last preparation is next in strength to the tincture. It requires to be administered with care, for it is liable to affect the stomach with sickness, and the mucus membrane of the bowels with great irritation. The dose is from thirty drops to a drachm and a half, given in conjunction with magnesia in the effervescing draught, or with some bitter infusion.

The petals of the flower and the seeds possess the same properties as the bulb; hence many practitioners prefer a wine prepared from the unbruised seed.

WINE OF COLCHICUM SEED.

Take of seeds of Colchicum.....two ounces;
 ——— sherry wine.....two pints:

Macerate for eight days, and filter.

As an external application, a few fresh bulbs, sliced, bruised, and mixed with a bread poultice, may be applied to gouty parts. This should be repeated twice or three times in twenty-four hours.

CALAMUS ROTANG.

Dragon's Blood Tree.

This may be considered as a scandent kind of palm: the lower part of the stem is hollow, jointed, beset with spines; its upper part takes a horizontal direction, and overruns the neighbouring trees, in extent reaching above a hundred feet. The leaves are several feet long, narrow, sword-shaped, serrated, with spinous teeth: calyx six persisting leaflets: no corolla: fruit larger than a filbert, contains a red resinous pulp, which soon becomes dry.

It is a native of the East Indies, where it commonly grows in woods near rivers, and has long supplied Europe with walking-canes, and have usually been imported by the Dutch.

Several trees are known to abound with a red resinous juice, which is obtained by wounding the bark, and is called dragon's blood, as the *Pterocarpus Draco* or *Pterocarpus officinalis* of Jacquin, the *Dragena Draco*, the *Dalbergia monetaria*, and the *Pterocarpus santoninus*. Besides these, many of the Indian red woods, while growing, pour forth through the fissures of the bark a blood-coloured juice, forming a resinous concretion, to which the name dragon's blood has been affixed. This drug, however, is chiefly obtained from the *Calamus Rotang*, and is procured at the Molucca islands, Java, and other parts of the East Indies, according to Kämpf, by exposing this fruit to the steam of boiling water, which softens the external shell, and forces out the resinous fluid, which is then inclosed in certain leaves of the reed kind, and hung in the air to dry. Another way of obtaining the *Sanguis Draconis* is by simply boiling the fruit in water, inspissating the strained decoction, and drying it in the same manner as the former. In Palimbania the external surface of the ripe fruit is often observed covered with the resin, which is rubbed off by shaking the fruit together in a bag: when this is done, the drug is melted by the sun's heat, and formed into globules, which are folded in leaves: this is deemed the purest kind of dragon's blood; and that which is next in goodness is procured by taking the fruit, which is found to be still distended with resin,

out of the bag, and, after bruising it, exposing it to the sun, or boiling it gently in water: the drug then appears floating upon the surface, and is skimmed off and shaped into small cakes.

It is employed in hæmorrhages and fluxes.

ORDER V.

POLYGYNIA. 5 PISTILS.

ALISMA PLANTAGO.

Water Plantain.

Great Water Plantain is easily known by its smooth entire leaves on very large petioles; and its purplish flowers, in a kind of umbel at the end of a long scape; the root roundish and white. The flowers of this plant which grows in watery places, on the banks of pools, lakes, &c., are fully expanded about four in the afternoon. It flowers in July and August. It is frequently used by the country people for fallings down of the fundament, and the piles. The juice stops spitting of blood, and bloody urine; and applied to women's breasts, dries up the milk very soon. The seed is the part used: the plant is to be suffered to stand till the seed is thoroughly ripe; it is then to be cut up gently, and laid to dry two or three days on a table; a smart stroke or two will dislodge a great quantity of the seeds, which are very good against the overflowing of the menses, and all other bleedings; and are given in powder in electuaries, in small doses at a time, which may be often repeated.



Common Meadow Saffron



Dragon's Blood Tree



Common Horse Chestnut

CLASS VII..

HEPTANDRIA.



7 STAMENS.

Plants with seven stamens (1).

ORDER I.

MONOGYNIA.



1 PISTIL.

Plants with one pistil (2).

ÆSCULUS HIPPOCASTANUM.

Horse Chestnut.

This beautiful tree grows to a great height. The leaves are large, digitated, cut into seven divisions, which are long, serrated, ribbed, of a pale green colour, and proceed from a common centre attached to a long foot-stalk: the flowers terminate the branches in large conical spikes: the capsule is round, tough, fleshy beset with spines, divided into three valves, and contain two or three roundish seeds of a shining brown colour.

Though the castanea was well known to the ancients, yet Matthioli seems to be the first author who describes the horse chestnut, which was brought into Europe about the middle of the sixteenth century, and was so scarce in the time of Clusius that there was but one tree known at Vienna, which being too young to bear fruit, nuts were obtained from Constantinople in 1588, after which this tree was very generally propagated. It was cultivated in England by Mr. John Tradescant in 1633, and is now very common in this country. The wood is white, soft, soon decays, and is therefore of little value. The fruit in appearance resembles that of the Spanish chestnut, and is eaten by sheep, goats, deer, oxen, and horses. It contains much farinaceous matter, which by undergoing a proper process, so as to divest it of its bitterness and acrimony, probably might afford a kind of bread: starch has been made of it, and found to be very good: it appears also to possess a saponaceous quality, as it is used, particularly in France and Switzerland, for the purpose of cleaning woollens, and in washing and bleaching linens.

Its introduction in the Edinburgh Pharmacopœia was probably owing to its seed having been used and recommended as a sterminatory in some cases of ophthalmia and head-ache. With this view it was drawn up the nostrils in the form of an infusion or decoction, or in the form of powder.

The bark has been proposed as an indigenous substitute for the very expensive and often adulterated Peruvian bark. Many successful experiments of its effects, when given internally in intermittent and typhous fever, and also when applied externally in gangrene, sufficiently warrant future trials. Although chemical analysis is not yet sufficiently advanced to enable us to determine from it the medical use of any substance, I may observe that the active constituent of this bark is tannin, which is scarcely compatible with the presence of cinchonin, the predominant, and probably the active, constituent of the Peruvian bark. In powder it may be given to the extent of a scruple and a half, or a drachm, for a dose. Buchholz prefers a solution of a drachm of the extract in an ounce of cinnamon water, of which sixty drops are to be given every three hours.

The bark intended for medicinal use is to be taken from those branches which are neither very old nor very young, and to be exhibited under similar forms and doses, as directed with respect to the *Cortex Peruvianus*. It rarely disagrees with the stomach, but its astringent effects generally require the occasional administration of a laxative.

TRIENTALIS EUROPÆÆ.

Chickweed Wintergreen

This plant grows on mountainous heaths, and in woods, on a single naked stem, three or four inches high, crowned with a tuft of smooth green leaves with small, snow-white flowers, very elegant. It is the only English plant known of the class and order, which is the only reason why it is mentioned here, as it is not used either in medicine or for any other purpose that I am aware of.



CLASS VIII.

OCTANDRIA.



8 STAMENS.

Plants with eight stamens (1).

ORDER I.

MONOGYNIA.



1 PISTIL

Plants with one pistil.

VACCINIUM MYRTILLUS.

Whortle, or Billberry.

A little tough shrubby plant, common in our boggy woods, and upon heaths. The stalks are tough, angular, and green: the leaves are small; they stand singly, not in pairs, and are broad, short, and indented about the edges: the flowers are small but pretty, their colour is a faint red, and they are hollow like a cup: the berries are as large as the biggest pea, they are of a blackish colour, and of a pleasant taste.

A syrup made out of the juice of billberries, when not over ripe, is cooling and binding; it is a pleasant and gentle medicine for women whose menses are apt to be too redundant, taken for a week before the time.

Besides the above, we have "*Vaccinium Uliginosum*," *Bog Whortleberry*; the "*Vaccinium Vitis-idaea*," *Red Whortleberry*; and "*Vaccinium Oxycoccos*," *Marsh Whortleberry*, or *Cranberry*. This last is a most excellent fruit for tarts, puddings, &c.; but they are rather scarce in England

DAPHNE MEZEREUM.

Mezereon.

A very pretty shrub, native of many parts of Europe, and frequent in our gardens. It is four feet high, and very much branched: the branches stand irregularly, and they are very tough and firm: the leaves are oblong and narrow; they grow in clusters from certain little swellings on the bark: the flowers are small and red: they are hollow, and are succeeded by oblong berries, which are black when ripe: the root is woody and creeping; and the plant is not easily destroyed when once well established.

The bark of the root, or the inner bark of the branches is best; but it is

a violent medicine, and must be given with great caution, in small doses, and only to those who have strong constitutions. It will cause vomiting and bloody stools to people that are tender, or to any if given in a large dose; but to robust people, it only acts as a brisk purge. It is excellent in dropsies, and other stubborn disorders, and the best way of giving it is in a light infusion.

The considerable and long-continued heat and irritation that is produced in the throat when Mezereon is chewed, induced Dr. Withering to think of giving it in a case of difficulty of swallowing, seemingly occasioned by a paralytic affection. The patient was directed to chew a thin slice of the root as often as she could bear it, and in about a month recovered her power of swallowing. This woman had suffered the complaint three years, and was greatly reduced, being totally unable to swallow solids, and liquids but very imperfectly.

DAPHNE LAUREOLA.

Spurge Laurel.

A wild little shrub of a singular aspect and considerable virtues. It is three feet high; the stem is half an inch thick, and divides into a great many branches: the bark is of a brownish colour, and they are not very strong: the leaves stand at the tops of the branches, they are long, narrow, and of a bright and fine green; they are of a firm substance, and are not indented at the edges: the flowers are very small and inconsiderable, they are green with some yellow threads, and have a sweet smell: the berries are small, roundish, and black.

The leaves are a powerful remedy against the dropsy, but they are so violent they must be given with caution: a small quantity of a slight infusion of them in water works by vomit and stool in a powerful manner. It is not every constitution that can bear such a medicine.

No one who has any regard for his health, will make use of either of the above plants medicinally, without the advice of a medical practitioner.

ERICA.

Heath.

This curious and interesting tribe of plants are supposed by some Botanists to form a sort of connecting link between the Cryptogamia and the Phanogamous plants: they are like the first description of plants which appear after the mosses; indeed, they are frequently seen together. It is supposed that there are many hundreds of sorts—the last edition of Donn's Catalogue gives four hundred and two—but the gardeners and florists are constantly introducing new sorts, principally from the Cape of Good Hope, where they grow to an amazing size and beauty. In sweet simplicity and beauty the Erica of our own climate is not to be surpassed by that of any others. Probably the most beautiful sight that a true lover of nature can behold, is the full blown Heath, on some of our extensive moorlands during some fine autumnal weather. Besides their beauty, our British Heaths are really useful. Thousands of brooms are annually made from them. They also make excellent thatches, and beds both for men and cattle. And as the flowers come late in the season, the keepers of bees take their hives on the moors in order that they may increase their stock of honey. The Heaths of Britain consists of 112 sorts, the most common is the



Blueberry



Bog Whortleberry



Red Whortleberry



Strawberry



Spurge Laurel



Evening Primrose

ERICA CINEREA.

Common, or fine-leaved Heath.

This Heath is found on all our moors; the stem grows to a foot or more in height, leaves narrow, three together, with numerous flowers in thick clusters at the end of the stem, drooping, and of a purplish red. This Heath and the common Ling makes an excellent and durable thatch, and is capable of being converted into ropes for various purposes.

CALLUNA VULGARIS.

Common Ling.

Generally grows to a foot or two in height. The stems brown, and woody; very much branched, the branches in opposite pairs. We may here observe a curious instance of the gradual transition from the green herbaceous leaves of the stem to the more delicate texture of the flower, which is a pale purple rose colour, whitish towards the base, divided two thirds of the way down into four, sometimes into five opposite, open segments. There is a variety with white flowers and hoary leaves, but rather uncommon. Heath is exceedingly useful to the natives of the countries where it grows. It forms the greater part of the materials in the construction of the cottage of the Highlander; his bed is made of heath. A very valuable dye is obtained from the flowers: woollen cloth boiled in alum water, with the green tops and flowers of this plant, and afterwards in a strong decoction of the tops, comes out a fine orange colour. It is also used for tanning leather: an intoxicating drink was formerly made by the Scotch, from the young shoots.

Meyrick says, that a water distilled from the flowers, is a good application to inflamed eyes.

Notwithstanding the commonness of our British Heaths, they deserve a place in small quarters of humble flowering shrubs, where, by the beauty and long continuance of their flowers, together with the diversity of their leaves, they may make an agreeable variety. This, and the 23rd, 26th, and 31st species, may be taken up with a ball of earth growing to their roots, from the natural places of their growth in autumn; the soil should not be dunged; and the less the ground is dug, the better they will thrive, for they commonly shoot their roots from the surface; they may also be propagated by seeds; but this is a tedious method.

CENOTHERA BIENNIS.

Evening Primrose.

The root is oblong, white, and of the thickness of a finger: the stalk is robust, brownish, spotted toward the top, and downy; it is round toward the bottom, but grows angulated, as it sends out branches higher up, it grows to four feet high, erect, firm, and rigid: the leaves are three inches long, an inch broad, sinuated, and dented at the edges; they stand alternately on the stalk, and close: the flowers are very large, and of a beautiful yellow colour, in shape much like those of the primrose.

It is a native of Virginia; it was brought into England in 1680, and now common in our gardens.

EPILOBIUM ANGUSTIFOLIUM.

Rosebay Willow Herb.

We have eight varieties of Willow herb, natives of these islands. The above is the tallest and most beautiful of all this genus. Its root is white, oblong, thick, and creeping; the stalk is thick, smooth, furrowed, and variegated with green and purple: the leaves stand very close; they are three or four inches long, scarce more than half an inch broad, small at the base, and terminate in a point: the flowers are large, and of a bright red colour, and stand on pedicles in a regular order, so as to form a tall, beautiful spike on the top of the stalk.

ACER CAMPESTRE.

Common Maple.

The leaves of the common Maple (improperly called Sycamore by some. are large and five lobed; the lower lobes notched: the flowers stand in erect clusters: the bark is cracked, rough, and corky. It is a large and elegant tree, with fine grained, hard wood, much used by turners and cabinet-makers for fine work. It flowers in May and June, and is common in all woods and plantations throughout England.

NASTURTIUM MAJUS.

Nasturtium, or Great Indian Cress.

This plant is a native of Peru, and is now pretty well known, being grown in almost every cottage garden, and even in towns, the Nasturtium is frequently seen covering trellis work with its beautiful flowers, and an exceedingly ornamental and lively appearance they give to the houses in such situations. The flowers are large, consisting of five petals, with a spur behind, of a tawny yellow stalk, trailing, climbing, round, branched, smooth, succulent, and several feet in height. The leaves are round, marked by several radiating ribs, standing singly upon leaf-stalks attached to the centre of each leaf.

Nasturtium was first brought into France in 1681. Two years afterwards it was introduced into this country by Dr. Lumley Lloyd, and since that time has been constantly cultivated in British gardens.

In its recent state this plant, and more especially its flowers have a smell and taste resembling those of water cress; and the leaves, on being bruised in a mortar, emit a pungent odour, somewhat like those of horse radish. By distillation with water they impregnate the fluid in a considerable degree with the smell and flavour of the plant. Hence the anti-scorbutic character of the Nasturtium seems to be well founded, at least as far as we are able to judge from its sensible qualities: therefore in all those cases where the warm anti-scorbutic vegetables are recommended,

this plant may be occasionally adopted as a pleasant and effectual variety.

Patients, to whom the nauseous taste of scurvy-grass is intolerable, may find a grateful substitute in *Nasturtium*.

The flowers are frequently used in salads, and the capsules are by many highly esteemed as a pickle.

The flowers, in the warm summer months, about the time of sunset, have been observed to emit sparks like those of the electrical kind.

ORDER III.

TRIGYNIA.



3 PISTILS.

Plants with three pistils.

POLYGONUM HYDROPIPER.

Biting Persicaria, or Arsmart.

A common wild herb, neglected, but of great virtues. It grows every where about ditches and in watery places. It is a foot and a half high: the stalks are weak, green, or reddish, and jointed: the leaves are long and narrow, of a bright green, not spotted, and even at the edges: the flowers stand at the tops of the stalks in slender spikes, of a greenish white. As there are several other kinds of Arsmart, and most of them different from this in their nature and qualities, great care must be taken to gather the right. There is another common kind of Arsmart with such a spot, and with thicker stalks, and thick spikes of reddish flowers, which has none of its virtue.

The right Arsmart is an excellent medicine in obstructions of urine, in gravel and stone; and in the jaundice and beginning of dropsies it has done great cures. The juice of the fresh gathered is the best way of giving it. Outwardly it is good to cleanse old ulcers.

POLYGONUM BISTORTA.

Great Bistort, or Snakeweed.

A very beautiful wild plant. It grows in our meadows, and, when in flower, in May and June, is very conspicuous, as well as very elegant, in its appearance. It is about a foot and a half high: the leaves are broad and beautiful, and the flowers grow in a thick spike or ear at the top of the stalks, and are of a bright red colour. There rise immediately from the root a number of large and beautiful leaves, long, broad, and of a fine green colour: the stalks on which they stand have also a rim of the leaf running down them: the stalks are round, firm, and erect, of a pale green, and have two or three leaves like the others, but smaller, on them, placed at distances: the spike of the flowers is as long, and as thick as a man's thumb: the root is thick and contorted, blackish on the outside, and red within.

If we minded our own herbs, we should need fewer medicines from abroad. The root of Bistort is one of the best astringents in the world, not violent



Thin Leaved Heath



Cross Leaved Heath



Common Ling



Ragged Heath



Hoopnet Willow



Water Willow

but sure. The time of gathering it is in March, when the leaves begin to shoot. String several of them on a line, and let them dry in the shade. The powder or decoction of them will stop all fluxes of the belly, and is one of the safest remedies known for overflowings of the menses. They are also good in a diabetes. The use of this root may be obtained without danger, till it effects a perfect cure.

The inhabitants of the Alps, according to Chomel, consider it a *specific* in fluor albus.

Ratier directs a decoction to be made thus taken :—

Take of root of Bistort.....one ounce ;
 ——— water.....two pints ;

After sufficient boiling, strain. Dose, from one to three ounces.

The decoction forms an excellent gargle for scorbutic gums, and ulcerated sore throat.

POLYGONUM AVICULARE.

Knot-Grass.

A most common wild plant in our fields, pathways, and hedges. There are two or three kinds of it, but they pretty much resemble one another in form and in virtues ; the largest is the best. The stalks of this are ten inches long, round, jointed, and of a dusky green : the leaves are of an oval form, of a bluish green colour, and not indented at the edges : the stalks lie upon the ground, and one of these only grows at each joint : the flowers are small and white, but with a tinge of red : the seed is single, black, and three cornered.

It has been observed before, that Providence has, in general, made the most common plants the most useful. A decoction of Knot-grass roots, stalks, and leaves, is an excellent astringent. It stops bloody stools, and is good against all bleedings, but in particular, it is a remedy against the bleeding piles, and against the overflowing of the menses.

POLYGONUM FAGOPYRUM.

Buck Wheat.

Buck wheat is now pretty extensively cultivated in some parts of England as the seeds furnish a most nutritious meal, which is made into cakes called crumpets. In the United States of America this grain is in great demand, as the people there are very fond of warm cakes of the sort made from it to breakfast.

Buck-wheat is an annual plant ; stems branched ; leaves at first roundish, afterwards arrow-shaped, not unlike an ivy leaf ; stalk round and hollow, of a green or reddish tinge, and about thirty inches long ; flowers small, purple, and succeeded by a triangular seed, blackish on the outside, and white within. It is usually sown in May or June, grows very rapidly, so as to ripen the seeds in about three months after. On a dry light soil, thoroughly ploughed and pulverised, one bushel of seed will give an increase of about fifty-five, or sixty bushels.

As a fodder for cattle this plant is well worth the attention of the far-

mer, for which purpose the seeds may be sown in April, when they will bear cutting twice during the ensuing summer. All domestic animals are fond of it, and it is good for causing cows to give an abundance of milk. The stalks and leaves will continue green during the hot summer months, when all other grasses are burnt up; this properly causes it to have great value under the burning sun of America. It is a most useful sort of plant but *very tender*; the slightest frost destroys the crop altogether, and this circumstance has caused it to be neglected by the farmers of this country more than it otherwise would have been.

Besides the above, there are other ten sorts of the family of *Polygonum*, but none of which are of much importance except the *Polygonum Convolvulus*—Black Bindweed—an exceedingly troublesome plant to farmers, as it turns round the stems of corn and destroys the crop.

ORDER IV.

TETRAGYNIA. 4 PISTILS.

PARIS QUADRIFOLIA.

Herb True-love.

The root is oblong, slender, jointed, and creeping: the stalk is round, firm, and six or eight inches high. Near its top there stand four leaves, sometimes five, very rarely more; these are three inches long, an inch broad, and of a lanceolated figure, rough to the touch, and not indented about the edges: the flower is large and white; the berry black, when ripe.

This plant is found wild in many of our woods, but is not known to possess any specific medicinal properties. There are many varieties of it cultivated by the florists for the beauty of the flowers and the singular appearance of the fruit.



Common Maple



Fitting Persicaria



Great Indian Cress

CLASS IX.

ENNEANDRIA.



9 STAMENS.

Plants with nine stamens (1).

ORDER I.

MONOGYNIA.



1 PISTIL.

Plants with one pistil (2).

INTRODUCTORY REMARKS TO CLASS ENNEANDRIA.

THIS Class contains some most important medical plants, such as Bay, Cinnamon, Camphor, Sassafras, and, above all, Rhubarb, now so useful both as a stomachic purgative, and in domestic cookery. It is curious that we have but one plant in this Class, viz., the Flowering Rush—*Butomus Umbellatus*—but it is a host in itself, being one of the most splendid water plants known.

CINNAMOMUM VERUM.

True Cinnamon.

This valuable plant is a native of Ceylon, where it was guarded with unremitting jealousy by the Dutch when that island was in their possession. It is now, however, cultivated in all parts of the East, and in many of the West India islands.

The Cinnamon tree rises twenty feet in height, and extends six feet. It has numerous branches, which are covered with a smooth bark. The leaves are opposite, in pairs, upon short footstalks, ovate-oblong, entire, firm, from three to five inches long, of a bright green colour, and marked with three whitish longitudinal nerves: the flowers grow from the younger branches, and form a kind of paniculated umbel: the petals are six, oval, pointed, concave, spreading, of a greenish white colour: the fruit is pulpy; pericarp resembling a small olive, of a deep blue colour, containing an oblong nut.

The best cinnamon is rather pliable, and ought not much to exceed stout writing paper in thickness. It is of a light yellowish colour; it possesses a sweet taste, not so hot as to occasion pain, and not succeeded by any after-taste. The inferior kind is distinguished by being thicker, of a darkish and brownish colour, hot, and pungent when chewed, and succeeded by a disagreeable biting after-taste.

Cinnamon is a very elegant and useful aromatic, more grateful both to the palate and stomach than most other substances of this class. Like other aromatics, the effects of cinnamon are stimulating, heating, stomachic, carminative, and tonic; but it is rather used as an adjunct to other remedies than as a remedy itself.

The oil is one of the most powerful stimulants we possess, and is sometimes used as a cordial in cramps of the stomach, and in syncope; or as a stimulant in paralysis of the tongue, or to deaden the nerve in tooth-ache. But it is principally employed as an aromatic, to cover the disagreeable taste of other drugs.

TINCTURE OF CINNAMON.

Take of Cinnamon, bruised one ounce and a half;
 ——— proof spirit of wine one pint:

Digest for seven days, and strain.

The tincture of cinnamon possesses the astringent virtues of the cinnamon, as well as its aromatic cordial ones; and in this respect it differs from the spirit prepared by distillation.

This is added by way of covering the taste of drugs, and as a cordial adjunct, in the dose of two drachms.

COMPOUND TINCTURE OF CINNAMON.

Take of cinnamon, bruised,
 ——— lesser cardamon seeds, bruised, . . . each one ounce;
 ——— long pepper, in powder two drachms;
 ——— proof spirit two pints;

Digest for seven days, and filter through paper.

In their formula the Dublin and London colleges diminish the quantity of cardamon seeds, and substitute for it a proportion of ginger. This makes no alteration on the virtues of the preparation, which is a very warm aromatic, too hot to be given without dilution. A tea-spoonful or two may be taken in wine, or any other convenient vehicle, in languors, weakness of the stomach, flatulencies, and other similar complaints; and in these cases it is often employed with advantage. It is a useful adjunct to medicines, especially aperient medicines, or those called stomachic, and is generally ordered in the quantity of two drachms.

LAURUS SASSAFRAS.

Sassafras Tree.

A beautiful tree, native of America, and to be met with in some of our gardens. It grows twenty-five or thirty feet high. The trunk is naked till it comes near the top: the branches grow near together, and spread irregularly: the leaves are of two kinds; those on the older parts of the twigs are oblong and pointed, somewhat like bay leaves, and those on the tops of the branches are larger, broader, and divided into three parts, like the leaves of maple, or they carry some resemblance to the smaller leaves of the fig-tree: the flowers are small and yellow: the fruit are berries like bay berries: the wood is of a reddish colour and perfumed smell.

The wood is used. Our druggists receive it in logs, and cut it out into shavings. The wood of the root is best, and its bark contains the most virtue of all. It is best taken in infusion, by way of tea, for it is very pleasant: it promotes sweat, and is good against the scurvy, and all other



Great Bistort



Buck Wheat



Knot Grass



Herb Paris



Chickweed



Yellow Pimpernel



Flowering Rush.

foulnesses of the blood. It is a constant ingredient in diet drinks against the venereal disease.

The essential oil may be obtained separate by distillation. It is of a whitish yellow colour, and sinks in water. It is highly stimulating and heating, and must be given only in small doses.

VOLATILE OIL OF SASSAPARILLA.

The dose is from two to ten drops. This is a powerful stimulant. It enters into what is called a decoction of the woods (*Decoctum Sarsaparillæ compositum*), which see under the title *Sarsaparilla*. See also the article *Guaiacum*, with which it is usefully combined.

LAURUS CAMPHORA.

Camphor Tree.

This tree grows to a considerable height. Leaves ovate, lance-shaped, entire, smooth, nerved, on the upper side of a pale yellowish green, on the under glaucous, standing upon long footstalks: the flowers are small, white, on long footstalks, proceeding from the axils of the leaves: no calyx: the corolla is composed of six ovate, concave, unequal petals.

The camphor laurel grows in great abundance, and to a very considerable size, in the forests of Japan. It is not uncommon in green-houses in England. Every part of the tree smells strongly of camphor, which is obtained from the trunk, branches, and root, by distillation. They are cut down into small pieces, and put into a still with a proportion of water. After the water has been kept boiling forty-eight hours, the camphor is found adhering to the straw with which the head of the still is lined. In this state it is imported by the Dutch, and is called crude camphor. It is very impure, consisting of small brownish or dirty-gray grains, mixed with straw, wood, hair, and other impurities. From these it is purified in Holland by a second sublimation in glass vessels, being previously mixed with quicklime, to combine with and prevent any empyreumatic oil with which it may be contaminated from subliming, while the camphor concretes in the upper part of the vessel into cakes, convex on the one side and concave on the other, about two or three inches thick, thinner at the edges, and generally perforated in the middle.

Dr. Cullen gives us the following account of this important remedy:—Camphor has been employed in fevers of all kinds, particularly in nervous fevers attended with delirium and much watchfulness; and in such I have frequently employed it with advantage. Some time ago I have often seen it employed by my fellow-practitioners in such cases; and that the good effects of it did always appear, I imputed to its being used only in small quantities. Since we came into the free use of wine and opium, camphor has been little employed in the practice of this country. The use of it, however, has been very fully established by some of the most eminent physicians on the continent; among these I reckon the late learned and experienced Werlhoff, who often employed it in inflammatory diseases with great benefit, and plainly gives us his opinion in favour of its refrigerant power.

The use of this medicine has been especially remarkable in putrid fevers, of which, indeed, we have not many instances in this country; but from

the very remarkable antiseptic powers which it discovers in experiments out of the body, it is very probable, that when thrown into the body in large quantities, so that at least its more subtle parts may be diffused over the whole system, it may be expected to produce considerable antiseptic effects. Its power in resisting and curing gangrene, in the experiments of Collin, are very remarkable; but whether that power be owing to its antiseptic virtue alone, or to its operation at the same time on the nervous system, I would not rashly determine.

Both from its use in low, or what are called malignant fevers, and from its antiseptic powers, it is highly probable that it has been of great service in the confluent small-pox. It is also likely that it may be of service in favouring the eruption of exanthemata, and of bringing them back to the skin, when from any cause they had suddenly receded, though I have no particular experience of this.

CAMPHORATED MIXTURE.

Take of camphor.....	one drachm;
— rectified spirit of wine.....	a little;
— double refined sugar.....	half an ounce;
— boiling distilled water.....	one pint;

Rub the camphor first with the spirit of wine, then with the sugar; lastly, add the water by degrees, and strain the mixture.

CAMPHORATED EMULSION.

Take of camphor.....	one scruple;
— sweet almonds, blanched....	two drachms;
— double refined sugar.....	one drachm;
— water.....	six ounces;

....six ounces;

This last is made in the same manner as the common almond emulsion. Neither of these mixtures are very permanent, as the camphor separates and swims upon the surface in the course of a few days. As extemporaneous prescriptions, they are, however, very convenient modes of exhibiting that active drug, and may be given to the extent of a table-spoonful every three or four hours in cases of lowness. The latter is the more pleasant remedy, and of equal efficacy.

CAMPHORATED TINCTURE OF OPIUM.

Take of hard purified opium, in powder,	
— benzoic acid.....	of each one drachm;
— camphor.....	two scruples;
— essential oil of aniseed.....	one drachm;
— proof spirit of wine.....	two pints:

Digest for ten days, and strain.

In this formula the virtues of the opium and the camphor are combined. It gets an agreeable flavour from the acid of benzoic and essential oil. The latter will render it also more stimulating, but whether it derives any salutary virtues from the former, we do not know. It was originally prescribed under the title of Elixir Asthmaticum, which it does not ill deserve. It contributes to allay the tickling which provokes frequent coughing; and at the same time it is supposed to open the breast, and give greater liberty of breathing. It is given to children against the chin-cough, &c., from five drops to twenty; to adults, from twenty to a hundred. Half an ounce, by measure, contains about a grain of opium. Much abuse is made of this; recourse is had to it upon every

trivial cold, and it is often taken without a knowledge of its containing so large a proportion of opium, when a fatal habit is induced, with all the pernicious consequences of opium. It is a very heating remedy.

TINCTURE OF CAMPHOR.

Take of Camphor.....four ounces;
 ——— alcohol.....two pints:

Mix them together that the camphor may be dissolved.

This solution of camphor is only employed for external uses, against rheumatic pains, paralytic numbnesses, inflammations, for dissolving tumours, preventing gangrenes, or restraining their progress. They are too pungent to be exhibited internally, and cannot be diluted with water without being totally decomposed.

PRESCRIPTIONS.

1. Take of camphor (reduced to powder by adding a few drops of proof spirit of wine),...eight grains;
 ——— antimonial powder.....three grains;
 ——— conserve of orange-peel, as much as is sufficient.

Make into a bolus, to be taken every six hours. Given in low nervous fevers.

2. Take of camphor,
 ——— Russian castor,
 ——— musk, of each reduced to powder, five grains;
 ——— syrup of white poppy, as much as is sufficient.

Make into a bolus, to be taken three times a day. This is given in the last stage of putrid fever, when hicough comes on.

3. Take of prepared kali.....one scruple;
 ——— lemon juice.....half an ounce;
 ——— camphorated mixture.....twelve drachms:

Make into a draught to be taken every four hours. Given in what are called nervous disorders.

4. Take of camphorated mixture.....six ounces;
 ——— water of acetated ammonia.....two ounces:

Take four table-spoonfuls every six hours. Given under the same circumstances expressed above.

5. Take of compound soap liniment...two ounces and a half;
 ——— tincture of opium.....half an ounce:

A little of this is to be rubbed over the pained part three or four times a day.

LAURUS NOBILIS.

Common Sweet Bay.

The bay tree, the crown of victory among poets, and the emblem of peace amongst conquerors, never rises with a stem, but sends forth many radical shoots. The leaves are smooth, often waved at the margin, of a shining

green, and stand erect upon short footstalks: the flowers appear in clusters, and the flower-stalks proceed from the axæ of the leaves: the corolla is cut into four upright oval segments, of a yellowish white. It has an oval berry.

This tree is a native of the south of Europe, but bears the winters of this climate perfectly well. Both leaves and berries contain a considerable quantity of essential oil, which renders them aromatic stimulating substances.

The berries are generally brought from the Mediterranean, and are more pungent than the leaves. In Spain and Italy a considerable quantity of oil is obtained by expression from the fresh berries. It has a green colour, and strong aromatic taste and smell. As it therefore is not a fixed oil, but a mixture of fixed and volatile oil, and as its peculiar properties depend entirely on the presence of the latter, it is incorrectly stated to be a fixed oil by the Edinburgh college. It should rather have been denominated, from the mode of its preparation, an expressed oil.

It is only used externally as a stimulant.



Camphor.



Sweet Bay



Rue



Garden Rue



Calceolus



Capsia

ORDER III.

HEXAGYNIA.



6 PISTILA.

Plants with six pistils.

RHEUM PALMATUM.

Rhubarb.

The Turkey Rhubarb is the same plant now so common in every garden in England; the only difference is owing to the difference of climate and soil. The quantity grown in England of late years is most astonishing. Several market gardeners in the neighbourhood of London and other large towns, have sold more than twenty tons in a season; and for puddings, pies, &c., it is the most wholesome food known. It may also be preserved in sugar the same as other fruit, and thus be eaten throughout the year.

Rhubarb is a mild cathartic, which operates without violence or irritation, and may be given with safety even to pregnant women and children. In some people, however, it occasions severe griping. Besides its purgative quality it is celebrated as an astringent, by which it increases the tone of the stomach and intestines, and proves useful in diarrhoea and disorders proceeding from laxity.

Rhubarb is exhibited,

1. In substance, in the form of powder. It operates more powerfully as a purgative in this form than in any other. The dose for an adult is about a scruple or upwards. On account of its great bulk it is sometimes unpleasant to take a sufficient dose; its laxative effects are therefore often increased by the addition of neutral salts, or other more active purgatives. In smaller doses it often proves an excellent stomachic.

2. In infusion. Rhubarb yields more of its purgative property to water than to alcohol. The infusion is, however, considerably weaker than the powder, and requires double the dose to produce the same effect. It is well adapted for children, but must be always fresh prepared.

3. In tincture. On account of the stimulating nature of the menstruum, this preparation frequently cannot be exhibited in doses large enough to operate as a purgative. Its principal use is as a tonic and stomachic.

The virtues of rhubarb are destroyed by roasting, boiling, and in forming the extract.

INFUSION OF RHUBARB.

Take of rhubarb, bruis'd.....half an ounce;
 boiling water.....eight ounces;
 spirit of cinnamon.....*One ounce*

Macerate the rhubarb in a close vessel with the water for twelve hours; then add the spirit, and strain the liquor.

This appears to be one of the best preparations of rhubarb, when designed as a purgative; water extracting its virtue more effectually than either vinous or spirituous menstrua. The dose is from half a drachm to two drachms.

TINCTURE OF RHUBARB.

Take of rhubarb, cut into pieces.....two ounces;
 — lesser cardamom seeds, bruised.....half an ounce;
 — liquorice root, bruised.....half an ounce;
 — saffron.....two drachms;
 — proof spirit of wine.....two pints:

Digest for seven days, and strain. Dose, half an ounce as a purge, and two drachms as a stomachic.

TINCTURE OF RHUBARB, WITH ALOES, (commonly called Sacred Elixir).

Take of rhubarb, sliced.....ten drachms;
 — socotrine aloes, in powder...six drachms;
 — lesser cardamom seeds, bruised...half an ounce;
 — diluted alcohol...two pounds and a half:

Digest for seven days, and strain through paper. Dose, half an ounce, as an aperient.

TINCTURE OF RHUBARB WITH GENTIAN.

Take of rhubarb, sliced.....two ounces;
 — gentian root, sliced.....half an ounce;
 — diluted alcohol...two pounds and a half:

Digest for seven days, and strain through paper. Half an ounce as a purge, or two drachms as a stomachic.

All the foregoing tinctures of rhubarb are designed as stomachics and corroborants, as well as purgatives: spirituous liquors excellently extract those parts of the rhubarb in which the two first qualities reside, and the additional ingredients considerably promote their efficacy. In weakness of the stomach, indigestion, laxity of the intestines, diarrhoeas, colic, and other similar complaints, these medicines are frequently of great service.

COMPOUND PILLS OF RHUBARB.

Take of rhubarb, in powder.....one ounce;
 — socotrine aloes.....six drachms;
 — myrrh.....half an ounce;
 — volatile oil of peppermint...half a drachm;

Make them into a mass, with a sufficient quantity of syrup of orange-peel.

This pill is intended for moderately warming and strengthening the stomach, and gently opening the belly. A scruple of the mass may be taken night and morning.

BUTOMUS UMBELLATUS.

Flowering Rush.

The only plant of this class and order which grows in England. It is exceedingly beautiful, though not noticed for any medical properties. It is found by the sides of lakes and ponds in all parts of Europe, from Italy to Lapland. It flowers with us from July to September. The colour of the flower varies in different shades of red and purple, and in some cases entirely white: the leaves are of a dull green; grow on a simple stalk, divided at the top, and ending with a large umbel of flowers.

CLASS X.

DECANDRIA.



10 STAMENS.

Plants with ten stamens.

ORDER I.

MONOGYNIA.



1 PISTIL.

Plants with one pistil.

INTRODUCTORY REMARKS TO CLASS DECANDRIA.

THIS Class also includes a great number of valuable medical plants, besides others of great beauty and elegance. The *Rhododendron* is probably one of the most splendid flowering plants in existence, while, for sweet simplicity the Wood Sorrel and Corn Cockle are not to be surpassed.

The only deviation to be observed in class Decandria is in the Red Camellion—*Lychnis Dioica*—which, according to the strict classification, ought to be in Class 22, *Dioccia*, inasmuch as the stamens grow on one flower, and the pistils on another; but as there are three other plants in the family, all of which are not *Dioccias*, it is best to keep this in its place.

CASSIA SENNA.

Cassia, or Egyptian Senna.

The stalk rises from two to four feet, sending out hollow woody stems. The leaves grow in alternate order, composed of several pairs, oval, pointed, and nerved, of a yellowish green colour. The flowers are yellow, forming a spike: the seeds grow in a pod which is curved and short.

It grows principally in Upper Egypt, from whence the leaves are brought, dried, and picked from the stalks, to Alexandria in Egypt, and thence imported into Europe. They are of an oblong figure, sharp-pointed at the ends, and not a full inch in length, of a lively yellowish green colour, a faint, not very disagreeable smell, and a sub-acrid, bitterish, nauseous taste. Some inferior sorts are brought from other places: these may be easily distinguished by their being either narrower, longer, and sharper pointed, from Mecha; or larger, broader, and round pointed, with small prominent veins, from Italy; or large and obtuse, of a fresh green colour, without any yellow cast, from Tripoli.

Senna is a very useful cathartic, operating mildly, and yet effectually; and, if judiciously dosed and managed, rarely occasioning the ill consequences which too frequently follow the exhibition of the stronger purges. The only inconveniences complained of in this drug are, its being apt to gripe, and its nauseous flavour.

These are best obviated by adding to the senna some aromatic substance, as ginger, cinnamon, &c., and by facilitating its operation by drinking plentifully of any mild diluent.

Senna may be given in substance to the extent of about a drachm; but it is rather too bulky, and it is therefore better to divide it into two doses, and to take one half at night, and the other in the morning. It is more conveniently given in the form of infusion, which is generally made by pouring about six ounces of boiling water upon from two to six drachms of senna leaves in a tea-pot, and letting it stand for a few minutes, when it may be sweetened, and a little milk added to it, and taken as tea, or even mixed with tea to deceive children, who will take it so, or this tea may be boiled with sliced apples with sugar with it, when it will be readily taken. Senna ought never to be ordered in decoction, Gren says, because it becomes perfectly inert, from the total dissipation of the nauseous and volatile principle on which its purgative effects depend. The tincture, on account of the menstruum, cannot be given in doses large enough to purge.

INFUSION OF SENNA.

- Take of senna, three drachms;
- lesser cardamom seeds, husked and bruised, half a drachm;
- boiling water, as much as will yield a filtered infusion of six ounces;

Digest for an hour, and filter when cold.

This is a well contrived purgative infusion, the aromatic correcting the drastic effects of the senna. But the quantity ordered to be prepared at one time by the London college is much too large, for an ounce or two is a sufficient dose. It is of advantage that it should be used fresh prepared, as it is apt to spoil very quickly.

COMPOUND TINCTURE OF SENNA.

- Take of senna leaves, two ounces;
- jalap root, bruised, one ounce;
- coriander seeds, bruised, half an ounce;
- diluted alcohol, three pounds and a half;

Digest for seven days, and to the liquor, filtered through paper, add Double refined sugar, four ounces.

COMPOUND POWDER OF SENNA.

- Take of senna,
- crystals of tartar, of each two ounces;
- scammony, half an ounce;
- ginger, two drachms;

Triturate the scammony by itself, reduce the rest together into a powder, and then mix them all.

This powder is given as a cathartic, in the dose of two scruples or a drachm. The scammony is used as a stimulus to the action, the quantity of the latter necessary for a dose, when not assisted by some more powerful material, being too bulky to be conveniently taken in this form. The ginger is added to make it sit easier on the stomach, and to gripe less.

PRESCRIPTION.

Take of the simple infusion of senna, three ounces ;
 ——— vitriolated natron, four drachms ;
 ——— spirit of pimento, two drachms :

Make into a draught, to be taken in the morning early. A very excellent purge for costive habits and inflammatory cases.

CASSIA FISTULA.

Purging Cassia.

This tree often rises forty feet in height. The leaves are pinnated, composed of four to six pairs of pinnae, which are ovate, pointed, undulated, standing upon short footstalks: calyx composed of five leaves: the corolla is composed of five undulating petals, and of a yellow colour: the three lower stamina are very long, and curl inwards: the others have no filaments, and are rostrate, that is, open like the beak of a bird: the fruit is cylindrical and pendulous, from one to two feet in length, at first soft and green, afterwards brown, and lastly black, divided into numerous cells, containing each a hard, round, compressed seed, surrounded with a black pulpy matter.

The pulp of cassia, from its saccharine and extractive constituents, is a gentle laxative medicine, and is frequently given in a dose of some drachms, in costive habits. Some direct a dose of two ounces, or more, as a cathartic, in inflammatory cases, where the more acrid purgatives are improper; but in these large quantities it generally excites nausea, produces flatulence, and sometimes gripings of the bowels, especially if the cassia be not of a very good kind: these effects may be prevented by the addition of aromatics, and by exhibiting it in a liquid form.

ELECTUARY OF CASSIA.

Take of pulp of cassia fistularis, four parts ;
 ——— pulp of tamarinds,
 ——— manna, each one part ;
 ——— syrup of pale roses, four parts :

Having beat the manna in a mortar, dissolve it in a gentle heat in the syrup; then add the pulps, and evaporate with a regularly continued heat to a proper consistence.

• ELECTUARY OF CASSIA.

Take of the fresh extracted pulp of cassia, half a pound ;
 ——— manna, two ounces ;
 ——— pulp of tamarinds, one ounce ;
 ——— syrup of roses, half a pound ;
 ——— syrup of orange-peel, half a pound :

Boil the manna, and dissolve it over a slow fire in the syrup; then add the pulps; and, with a continued heat, evaporate the whole to the proper thickness of an electuary.

These compositions are very convenient officinals, to serve as a basis for purgative electuaries, and other similar purposes. The tamarinds give them a pleasant acidity, and do not, as might be expected, dispose them to ferment. After standing 4 months, the composition has been found no sourer than when first made. This electuary is usefully taken by itself, to the quantity of two or three drachms occasionally, for gently loosening the belly in costive habits.

GUAIAECUM OFFICINALE.

Official Guaiacum.

The guaiacum tree grows to forty feet in height, and in circumference is four or five, sending forth several branches. The bark of the trunk is a dark gray, of the branches an uniform ash colour: the leaves are pinnated, consisting of four to six pairs of oval pinnae, with very short footstalks: the flowers grow in clusters, or umbels, upon long peduncles, which spring from the divisions of the smaller branches.

Guaiacum has a brownish yellow colour externally; when held against the light is transparent, breaks with an uniform smooth shining fracture, of a blueish green colour, is pulverizable, and the powder has a white colour, gradually becoming blueish green, is fusible in a moderate heat, but not softened by the heat of the fingers, without proper smell or taste, but when thrown on hot coals diffusing an agreeable odour, and when swallowed in a state of minute division, causing an insufferable burning and pricking in the throat.

The medical property of this tree resides in the gum which is procured by submitting the wood to the action of boiling water when the gum or resin swims at the top and is skimmed off. Taken internally guaiacum commonly excites a sense of warmth in the stomach, a dryness of the mouth, with thirst. It increases the heat of the body, and quickens the circulation. If the patient be kept warm, it produces diaphoresis; if exposed freely to the air, an increased flow of urine. In large doses it is purgative.

Guaiacum is a useful remedy.

1. In rheumatism and gout.
2. In certain venereal symptoms; as in foul indolent ulcers, and a thickened state of the ligaments or periosteum, remaining after the body is reduced by a mercurial course. Guaiacum will also suspend the progress of some of the secondary symptoms; but it is totally incapable of eradicating the disease.

3. In cutaneous diseases.

4. In ozena, and scrofulous affections of the membranes and ligaments.

The wood is always exhibited in decoction. From the resinous nature of the active constituent of this substance this cannot be a very active preparation, as the menstruum is totally incapable of dissolving, though it may suspend a little of the resin. The decoction of an ounce may be drunk in cups in the course of a day.

The resin may be exhibited,

1. In substance, either made into pills, or suspended in water in the form of an emulsion. In this way from ten to thirty grains of the resin may be taken in the day.

2. In solution; in alcohol. About half an ounce of the tincture, with three ounces of water, is a sudorific dose for an adult, if he attend to keeping himself warm.

3. Combined with an alkali.

TINCTURE OF GUAIAECUM.

Take of guaiacum, four ounces;

— rectified spirit of wine, two pint :

Macerate for seven days, and filter.

What is called gum guaiacum is in fact a resin, and perfectly soluble in alcohol. This solution is a powerful stimulating sudorific, and may be given in doses of about half an ounce in rheumatic and arthritic cases. It was once supposed to be a specific against the gout.

AMMONIATED TINCTURE OF GUAIACUM.

Take of resin of guaiacum, in powder, four ounces;

———— ammoniated alcohol, one pound and a half:

Digest for seven days, and filter through paper.

These are very elegant and efficacious tinctures; the ammoniated spirit readily dissolving the resin, and at the same time promoting its medicinal virtue. In rheumatic cases, a tea, or even table-spoonful, taken every morning and evening, in any convenient vehicle, particularly in milk, has proved of singular service.

DICTAMUS ALBUS.

Bastard Dittany.

This plant rises a foot and a half: the leaves are pinnated and large: pinnae oval, veined, pointed, slightly serrated, disposed in pairs, terminated by an odd one, which is the biggest: flowers are white, large, terminate the stem, and stand upon long peduncles: fruit five united capsules, each of which contains two oval seeds.

This plant is commonly called *Fraxinella*, and is a native of France, Germany, and Italy. It emits a fragrant bituminous odour, which seems to be the essential oil of the herb, secreted by numerous small glands, with which the peduncles and filaments are abundantly furnished. These odorous effluvia are so very inflammable, that on the application of flame they take fire, especially on the evening of a hot dry day.

The root, which is the part directed for medicinal use, when fresh, has a moderately strong, not disagreeable smell, but as met with in the shops it has scarcely any. To the taste it discovers a pretty strong and very durable bitterness, which is taken up both by watery and spirituous menstrua, and, on inspissating the filtered tinctures, remains entire in the extracts: the aqueous extract is in much larger quantity than the spirituous, and proportionably weaker in taste.

Formerly this root was used as a stomachic, tonic, and alexipharmic, and was supposed to be a medicine of much efficacy in removing uterine obstructions and destroying worms; but its medicinal powers became so little regarded by modern physicians, that it had fallen almost entirely into disuse, till Baron Stoeck brought it into notice by publishing several cases of its success, viz, in tertian intermittents, worms, and menstrual suppressions. In all these cases he employed the powdered root to the extent of a scruple twice a day. He also made use of a tincture, prepared of two ounces of the fresh root digested in fourteen ounces of spirit of wine; of this twenty to fifty drops, two or three times a day, were successfully prescribed in epilepsies, &c., and when joined with steel, this root, we are told, was of great service to choleric patients.

RUTA GRAVEOLENS.

Common Rue.

A common plant in all gardens, and well-known; growing from

two to three feet high, with firm, bushy stems, evergreen leaves, and yellow flowers.

The virtues of this plant have been famed in England for hundreds of years. It has been strongly recommended in all nervous complaints, arising from flatulency, cholic, and the like. It is also much lauded in epilepsy and hysteria; but its principal value is now confined to cases of obstructed menstruation and worms, and its success in expelling worms is undoubted. Externally, the fresh leaves have been applied to the temples to relieve the head-ache, and deep-seated pain. A decoction of the herb in wine used as a gargle, is a good remedy for scurvy in the gums and teeth.

Rue may be taken in substance in the proportion of ten to forty grains, or in the form of an infusion.

INFUSION OF RUE.

Take of Rue, dried	one ounce;
— — boiling water	two pints:

Infuse for half an hour and strain. Dose, one to three ounces every four or six hours.

TOLUIFERA BALSAMUM.

Balsam of Tolu Tree.

This tree grows to a great height. The leaves are oval or ovate, and stand upon short footstalks: the fruit is a round berry.

This tree grows in Spanish America; the balsam flows from incisions made in its bark during the hot season, and is brought to us in little gourd shells. It is of a yellowish brown colour, inclining to red; in consistence thick and tenacious: by age it grows hard and brittle. The smell of this balsam is extremely fragrant, somewhat resembling that of lemons; its taste warm and sweetish. Lewis says that he has sometimes procured benzoic acid from it. It yields very little volatile oil, although it impregnates the distilled water strongly with its flavour. By dissolving a proper quantity of sugar in this water, a more elegant syrup is obtained than that prepared in the common way with a decoction of the balsam. In its medicinal virtues it agrees with the other balsams.

TINCTURE OF THE BALSAM OF TOLU.

Take of balsam of Tolu, an ounce and a half; .
— — alcohol, one pound:

Digest until the balsam be dissolved; and then strain the tincture through paper.

This solution of balsam of Tolu possesses all the virtues of the balsam itself. It may be taken internally, with the several intentions for which that balsam is proper, to the quantity of a tea-spoonful or two, in any convenient vehicle. Mixed with simple syrup, it forms an elegant balsamic syrup.

SYRUP OF TOLU.

Take of the balsam of Tolu, eight ounces;
— — distilled water, three pints:

Boil for two hours. Mix double refined sugar with the liquor, strained after it is cold that it may be made a syrup.

The intention of the contrivers of the two foregoing processes seems to have been

somewhat different. In the latter, which is certainly the most elegant, the benzoic acid of the balsam alone is contained; the other syrup contains the whole substance of the balsam in larger quantity. They are both moderately impregnated with the agreeable flavour of the balsam.

The syrup of Tolu usually enters into the composition of other medicines, except when given in the form of lozenges for a cold, which may be procured of almost any chemist, and is certainly very serviceable in appeasing the irritation productive of severe coughing. The following forms an agreeable and very useful prescription in almost every cough, and merits justly the title of a "placebo."

PREScription.

1. Take of spermaceti, dissolved in the white of egg, one scruple.
— syrup of Tolu, two drachms;
— cinnamon-water, three drachms;
— milk of almonds, eleven drachms;

Make into a draught, to be taken four times a day.

COPAIFERA OFFICINALIS.

Copaiva Tree.

This tree grows to a great height. The leaves are pinnated, large, consisting of several pair of pinnae and an odd one, on short footstalks: the flowers are white, and inconspicuous: petals four, acute, spreading.

The tree which produces this resin is a native of the Spanish West India islands, and of some parts of South America. It grows to a large size, and the resinous juice flows in considerable quantities from incisions made in the trunk.

The juice is clear and transparent, of a whitish or pale yellowish colour, an agreeable smell, and a bitterish pungent taste. It is usually about the consistence of oil, or a little thicker; when long kept, it becomes nearly as thick as honey, retaining its clearness; but it has not been observed to grow dry or solid, as most of the other resinous juices do. The best resin of copaiva comes from Brazil; but we sometimes meet with a thick sort, which is not at all transparent, or much less so than the foregoing, and generally has a portion of turbid watery liquor at the bottom. This is probably either adulterated by the mixture of other substances, or has been extracted by decoction from the bark and branches of the tree: its smell and taste are much less pleasant than those of the genuine resin.

Pure resin of copaiva dissolves entirely in alcohol: the solution has a very fragrant smell. Distilled with water it yields a large quantity of a limpid essential oil, but no benzoic acid: it is therefore not a balsam, but a combination of resin and volatile oil. Neumann says that it effervesces with liquid ammonia.

The resin of copaiva is a useful corroborating detergent medicine, but in some degree irritating. It strengthens the nervous system, tends to loosen the belly; in large doses proves purgative, promotes urine, and cleans and heals ulcerations in the urinary passages, which it is supposed to perform more effectually than any of the other resinous fluids. Fuller observes that it gives the urine an intensely bitter taste, but not a violet smell, as the turpentine do.

This resin has been principally celebrated in gleans, and the fluor albus, and externally as a vulnerary.

The dose of this medicine rarely exceeds twenty or thirty drops, though some authors direct sixty, or upwards. It may be conveniently taken in the form of an emulsion, into which it may be reduced by triturating it with almonds, with a thick mucilage of gum arabic, or with the yoke of eggs, till they are well incorporated, and then gradually adding a proper quantity of water.

STYRAX BENZOIN.

Benjamin, or Benzoin Tree.

This tree grows to a great height. The leaves are oblong, entire, veined, tapering to a sharp point; the upper surface smooth, beneath downy, standing alternately upon short footstalks: the flowers are placed on common peduncles arising from the axillæ of each leaf: the corolla is bell-shaped, and the border cut into five segments, but closed, which gives the appearance of buds.

This species of storax grows in Sumatra, and, like the former, also furnishes a balsam on being wounded, which is brought from the East Indies, in large masses, composed of white and light brown pieces, with yellowish specks, breaking very easily betwixt the hands; that which is whitest, and freest from impurities, is most esteemed.

COMPOUND TINCTURE OF BENZOIN.

Take of benzoin, three ounces;
— purified storax, two ounces;
— balsam of Tolu, one ounce;
— scotrine aloes, half an ounce;
— rectified spirit of wine, two pints;

Digest for seven days, and filter.

This preparation may be considered as an elegant simplification of some very complicated compositions, which were celebrated under different names; such as Beausme de Commandeur, Wade's balsam, Friar's balsam, Jesuit's drops, &c. These, in general, consisted of a confused farrago of discordant substances. The dose is a tea-spoonful in some cold water four times a day, in consumptions and spitting of blood. It is useful also when applied on lint to recent wounds, and serves the purpose of a scab, but must not be soon removed. Poured on sugar it removes spitting of blood immediately.

PRESCRIPTION.

Take of compound tincture of benzoin, forty drops;
— purified honey, one drachm;
— rose water, an ounce and a half;
— tincture of opium, three drops:

Make into a draught, to be taken four times a day. Excellent in consumptions.

STYRAX OFFICINALE.

Officinal Storax.

This tree rises to twenty feet. The leaves are broad, entire, somewhat pointed, and on the upper surface smooth, on the under surface covered with a white down; these are placed alternate, and stand upon short footstalks: the flowers are large, white, and terminate the branches: the border of the corolla is cut into five segments.

This tree grows in the Levant, Italy, and France. The storax flows from wounds made in the bark, in countries where the heat is sufficient, for neither in France nor in Italy does it furnish any. It occurs either in small distinct tears, of a whitish or reddish colour, or in large masses composed of tears, or in masses of an uniform texture, and yellowish red or brownish colour; though sometimes likewise interspersed with a few whitish grains.

The common storax of the shops is in large masses, considerably lighter and less compact than the foregoing: it appears on examination to be composed of a resinous juice, mixed with sawdust.

STORAX PILLS.

Take of purified storax, three drachms
—— soft purified opium,
—— saffron, of each one drachm:

Beat them into an uniform mass.

OPiate OR THEBAIC PILLS.

Take of opium, one part;
—— extract of liquorice, seven parts;
—— Jamaica pepper, two parts:

Soften the opium, and extract separately with diluted alcohol; and, having beat them into a pulp, mix them: then add the pepper reduced to a powder; and, lastly, having beat them well together, form the whole into a mass.

It is unfortunate that these compositions should differ so much in strength, the former containing two, and the latter only one grain of opium, in ten of the mass. Under the idea that opium is to operate as a sedative, the addition of the pepper is somewhat injudicious. The London title also is improper, as it is naturally employed for pills of opium without any addition. Even the title adopted by the Edinburgh college is ambiguous. That of the Dublin appears to me well contrived, although it does not mention the only active ingredient: as it is often necessary to conceal from patients that opium is given to them, which both the name and smell of the storax enable us to do. The dose is four or five grains, to be given at bed-time. This produces often a very comfortable night, and without that disturbance which opium often creates.

PRESCRIPTION.

Take of purified storax, eight grains;
—— aromatic powder, five grains;
—— purified opium, three grains;
—— syrup of Tolu, as much as may be sufficient:

Make into six pills. Take a pill every night. This often produces a less distress to the head and stomach the following morning than opium by itself.

QUASSIA AMARA.

Bitter Quassia.

This tree rises to several feet in height. The wood is light and white: the leaves are placed alternately on the branches, and consist of two pairs of opposite pinnae, with an odd one at the end: the common footstalk is

articulated and winged, with a leafy membrane: the flowers are of a bright red colour: the bractes or floral leaves are small, and accompany each peduncle, or flower-stalk: the calyx is small, coloured, and has five teeth the corolla is composed of five petals: the nectary consists of five small rounded scales: the stamina are conspicuous, as well as the nectary.

This is the root of a tree growing near to Surinam, in South America; it got its name from a slave who was first known to use it in the cure of fevers. The tree is described by Dr. Bloom in the sixth volume of Linnæus's *Amœnitates Academicæ*, where we have likewise an account of the use of the root.

This root is about the thickness of a man's arm; its wood is whitish, becoming yellowish by exposure to the air. It has a thin, gray, fissured, brittle bark, which is deemed, in Surinam, more powerful than the wood. Quassia has no sensible odour, but is one of the most intense, durable, pure bitter known. Its infusion, decoction, and tincture, are almost equally bitter and yellowish, and are not blackened by chalybeates. The properties of the extract of quassia have been detailed by Dr. Thomson, under the title of the bitter principle.

This root is extremely bitter; it has been given in powder from ten grains to half a drachm for a dose, every three, four, or six hours; or one or two ounces of an infusion, made of two drachms of it and a pint of boiling water, have been given as often, in bilious, remitting, and intermittent fevers. In the year 1767, Mr. Farley, of Antigua, sent home an account of three or four cases of bilious and putrid fevers in which the bark would not stay on the stomach, but in which this root produced every good effect that could have been wished; and his account was published in the fifty-eighth volume of the *Philosophical Transactions*.

I have frequently ordered, with success, both the powder and the infusion of the root, in fevers; and have likewise found it to be a good stomachic bitter in many cases.

ARBUTUS UVA URSI.

Bearberry, or, Trailing Arbutus.

The growth of this plant is principally confined to the northern parts of England, not having been observed nearer south than Hexham, in Northumberland. The leaves are strongly recommended in stony or gravelly complaints. The dose is half a drachm of the powdered leaves twice or thrice a day. Dr. Haen and other practitioners have represented very beneficial effects in the above disorders from the use. It will also be serviceable in other respects, for tanning leather, it is equal to the oak; as also for dyeing woollens an ash colour. Whole mountains in Scotland are covered with this shrub, affording ample food and shelter for grouse and other birds: the fruit is a bright red berry, like the Holly.

For medical purposes this plant should be procured in autumn; the green leaves alone selected, carefully picked from the twigs and dried at a moderate heat.

HÆMATOXYLUM CAMPECHIANUM.

Logwood Tree.

This rises to a moderate sized tree. Its branches are defended with



Dittany



Balsem of Tolu



Storax



Quassia



Logwood



Yellow Rhododendron

sharp spines: the leaves are pinnated, composed of four or five pair of pinnae, heart-shaped, and obliquely veined: the flowers are yellow, small, and numerous.

This tree was introduced from the Honduras into Jamaica, where it is now very common. The wood is firm, heavy, and of a dark red colour. Its taste is sweet, with a slight degree of astringency. It forms a precipitate with solution of gelatine, very readily soluble in excess of gelatine, and with sulphate of iron it strikes a brighter blue than any other astringent I have tried. It is used principally as a dye-wood, but also with considerable advantage in medicine.

Its extract is sweet, and slightly astringent; and is therefore useful in obstinate diarrhoeas, and in chronic dysentery. Of the extract one to two scruples is given four times a day.

SWIETENIA MAHAGONI.

Mahogany Tree.

This is a very large tree, well known as producing the hardest tables, and when polished of exceeding great beauty. Leaves are pinnated, alternate, composed of three, four, or five pinnae, lance-shaped, acute, on short footstalks. Flowers numerous, small, and white.

This majestic tree grows principally in Jamaica and in Spanish America. Its useful wood is universally known. Its bark is brown, rough, and scaly, on the branches gray and smoother. Its taste is very astringent, and more bitter than that of Peruvian bark. Its smell is weak and aromatic.

In its action on the living body, it is said to coincide nearly with Peruvian bark, and may be substituted for it in many situations.

RHODODENDRON CHRYSANTHUS.

Yellow-flowered Rhododendron.

This is a great favourite with gardeners and florists, as it is perhaps the most splendid flowering shrub in the world. It is believed that the original stock, from which all the others are derived, is a native of Siberia, where it is a small shrub growing on the highest mountains, especially in Dauria.

The leaves of this plant are oblong, rigid, reflected at the edges, rough on the upper surface, smooth, and paler on the lower. When dried, they have no smell, but a rough, astringent, and bitterish taste. They also contain a stimulant narcotic principle; for they increase the heat of the body, excite thirst, and produce diaphoresis, or an increased discharge of the other secretions or excretions; and, in a large dose, inebriation and delirium.

In decoction it is used in Siberia in rheumatism and gout. About two drachms of the dried shrub are infused in an earthen pot, with about ten ounces of boiling water, keeping it near a boiling heat for a night, and the infusion taken in the morning. Besides its other effects, it is said to produce a sensation of prickling or creeping in the pained parts; but in a few hours the pain and disagreeable symptoms are relieved, and two or three

doses generally complete the cure. Liquids are not allowed during its operation, as they are apt to induce vomiting.

PYROLA ROTUNDIFOLIA.

Round-leaved Wintergreen.

An extremely pretty plant, wild in some parts of England, but not common. The stalk is round, thick, upright, and ten inches high; the leaves all grow from the root, for the stalk is naked, they are broad, roundish, and of a deep green colour; they are of a fleshy substance, and stand each on a separate footstalk of three or four inches long: the flowers are small, and of a very bright white; they stand in a kind of loose spike on the tops of the stalks: the root is composed of a quantity of thick whitish fibres.

The leaves are used. A decoction of them with a piece of cinnamon, and a little red wine, is given against the overflowings of the menses, bloody stools, and all hæmorrhages, and against ulcers in the urinary passages, and bloody urine.

PYROLA MINOR.

Lesser Wintergreen.

This plant, like the last, is very scarce in England, and is only mentioned here to induce the young botanist to look for it. It grows with a stem from four to six inches, or more. It is four angled. Two flowering stems frequently rise from the same root: the whole plant smaller than the last. The flowers are rather numerous, white, or pale pink. The cultivation of all the species of *Pyrola* have been strongly recommended to the farmers, as the cattle, particularly sheep, devour it greedily; and the crop might be made very great with ordinary tillage.

PYROLA UNIFLORA.

Single-flowered Wintergreen.

This species is in almost all respects like the last, except that the stalk only bears *one* flower, which is very sweet smelling, white, with red streaks. All the species of *Pyrola* are truly elegant, and are well worthy the attention of the gardener and florist. Besides the above, we have *Pyrola Media* and *Pyrola Secunda*, natives of our islands, but none of the species are found southward, and the most part are plentiful in Scotland.

ORDER II.

DIGYNIA.



2 PISTILS.

PISTILB.

Plants with two pistils (1).

SAXIFRAGA.

Saxifrage.

Fifty-six varieties of this plant are mentioned by the Botanists, many of which are foreign to our climate. The only sort used in medicine is the following; and even this is now seldom used, as we have better remedies.

SAXIFRAGA TRIADACTYLITES.

Rue-leaved Saxifrage.

This plant is common in most parts of Europe on walls, thatched roofs, and in dry barren places, flowering in April and May. If any virtue is to be found in any of the *Saxifragas* it is this. A strong infusion of the fresh gathered is said to be an excellent sweetener of the blood and juices, and good against scorbutic complaints in general. Persons who wish to have it for use all the year, should make a syrup of its juice in the spring, or beat the leaves into a conserve of sugar, for the dried plant loses the whole of its virtues.

DIANTHUS CARYOPHYLLUS.

Clove Pink, or July Flower.

This favourite is well known in the north of England. It is called *gillivier*, and very much esteemed both for the beauty and fragrance of its flowers, and the evergreen nature of its foliage.

The old English poets called the flower "sops in wine," as it was customary in those days to infuse the flowers in drink for the sake of the spicy flavour they impart.

The genus to which this plant belongs are innumerable, and the gardeners are constantly introducing fresh varieties. The natural plant grows on old walls, rocks, and barren sandy soils; but in its cultivated state, the flowers assume a rich deep crimson colour. It is generally allowed to have sprung from the clove pink, which old Chaucer calls "Cloue Gilofre," and recommends as good to put in ale.

—"To put in ale
Whether it be moist or stale."

The old Herbalists strongly recommended this flower as a cordial and anti-poison, and in all disorders of the heart, and in nervous complaints of whatever kind. For this cordial and cephalic virtues they have been more particularly noted. Old Gerard says, when they are made into a conserve, they are "exceeding cordial, and wonderfully above measure comfort the heart." Notwithstanding all this testimony of our ancestors respecting the virtues of clove pink, modern-practitioners have abandoned their use, except that they are used for the fine colour and agreeable flavour they impart to other mixtures, infusions, syrups, &c.

INFUSION OF CLOVE PINK.

Take of dried flowers without the husk, one ounce;
—— boiling water, one pint.

This infusion will be found a grateful drink in fevers, as it allays thirst, and produces gentle perspiration.

SYRUP OF CLOVE PINK.

Take of fresh flowers, one ounce;
—— boiling water, one ounce;
—— refined sugar, half a pound:

Let the water stand on the flowers for twelve hours, strain and add the sugar.

This syrup is much used by medical men as a vehicle for other medicines.

VINEGAR OF CLOVE PINK.

Take of flowers, one ounce;
—— the best wine vinegar, sixteen ounces;

Let them stand for fifteen days, strain and filter.

This is a most refreshing liquor to smell at by those afflicted with sick head-ach. It is also good to sprinkle the rooms of sick persons.

In all the above preparations care must be taken to use nothing but the *petals*.

SOPONARIA OFFICINALIS.

Soapwort.

A wild plant, but not very common. It is two feet high. The stalk is round, thick, jointed, and of a pale green; the knots are large: the leaves stand two at each joint; they are of an oval figure, and dark green colour, smooth, not dentated at the edges, and full of large ribs: the flowers stand in a kind of cluster at the tops; they are white or reddish, and not very large: the root is knobbed, and has a great many fibres running from it. It is of a disagreeable mawkish taste.

The root is used; and it should be fresh taken up. A decoction of it opens obstructions, and promotes urine and perspiration. It is an excellent sweetener of the blood.

ORDER III.

TRIGYNIA.



3 PISTILS.

Plants with three pistils.

SILENE.

Catchfly, or Campion.

There are ten sorts of *Silene* grown in England, without including the foreign varieties. There is a viscid matter exudes, strong enough to entangle the flies, like bird lime; hence its name. The only sort used in medicine is the

SILENE ANGLICA.

Common English Campion.

A common wild plant in our hedges and dry pastures, with hairy leaves, and white flowers. It grows to a foot and a half high: the stalks are round and hairy: the leaves are of an oval form, and also hairy; they grow two at every joint; they are of a dusky green, and are not indented about the edges: the flowers are moderately large and white; they grow in a kind of small clusters on the tops of the branches, and each has a separate footstalk.

This is a plant not much regarded for its virtues, but it deserves notice: the country people gather the flowers in some places, and give them in the whites, and other weaknesses, with success.

STELLARIA.

Stitchwort.

Eight sorts of this plant grows in Britain. The

STELLARIA MEDIA.

Common Chickweed,

is the most common of all weeds, but not without its virtues. The right sort to use in medicine is that which grows so common in our garden-beds. It is low and branched: the stalks are round, green, weak, and divided; they commonly lean on the ground: the leaves are short and broad, of a pleasant green, not dented at the edges, and pointed at the end: these grow two at every joint: the flowers are white and small.

The whole plant cut to pieces and boiled in lard till it is crisp, converted

the lard into a fine green cooling ointment. The juice taken inwardly is good against the scurvy.

ARENARIA.*Sandwort.*

A curious tribe of English plants, growing on sandy wastes, and not uncommon, of which we have ten sorts. They are easily known by their linear leaves growing in a whorl round the stem, and their numerous small flowers. The most common are the following:—

ARENARIA RUBRA.

Red Sandwort,

Common in all sandy moorlands and by road sides, with numerous linear leaves, bristle-pointed, and red flowers. The stems are smooth, prostrate, calyx covering the entire flower: the leaves are rather flattened, slightly hoary and glaucous: the flowers open only in sunny weather.

ARENARIA MARINA.*Sea Sandwort.*

This is much like the last, except the leaves are frequently longer than the joints. The flowers are purplish: the stem shorter, and not entirely prostrate. It is common on the sea coast, and in salt marshes.

Sea Sandwort is very succulent, not unlike samphire. In fact, a good deal of it is gathered, pickled, and sold for samphire, whether in a mistake or not I cannot say.

ORDER IV.

PENTAGYNIA.



5 PISTILS.

Plants with five pistils.

SEDUM TELEPHIUM.

Orpine, or Live-long.

A very beautiful wild plant, of a foot high or more, with fresh green leaves, and tufts of bright red flowers; common in our hedges in autumn in many parts of England. The stalk is round and fleshy: the leaves are oblong, broad, and indented round the edges, and their colour is a bluish green: the flowers small, but they are very beautiful: the root is white and thick. The whole plant has a fleshy appearance, and it will grow out of the ground a long time, taking its nourishment from the air.

The juice of Orpine is good against the bloody flux. The best way of giving it, is made into a thin syrup, with the finest sugar, and with the addition of some cinnamon.

SEDUM ACRE.

Biting Stone Crop, or Wall-pepper.

This is a sort of house leek, growing upon stone walls, mud walls, upon the tiles of houses, and amongst rubbish and dry places. It is set with many thick leaves, of a light green. The flowers stand many together in a loose matter of a yellow colour.

There are several other species of Sedum, natural to this country, varying in appearance, but all have one general property, that of growing without earth, or nearly so. They are seen thriving luxuriously in the driest situations, exposed to the fiercest rays of the sun at noon-day, where other plants would not live an hour. All that they require is a little earth to keep them stationary.

Galen, Dioscorides, and other physicians, were loud in their praises of this herb, particularly as an outward application in old scrofulous ulcers. The juice or pulp was laid on after the manner of a poultice. It was also administered by Linnæus in intermittent fevers, with good effect. Modern practitioners, however, have in a great measure laid it aside.

OXALIS ACETOSELLA.

Wood Sorrel.

A very pretty little plant, common about our wood sides, and distinguished by its bright green leaves and pretty flowers. The leaves rise in considerable numbers from the same root; they stand three together upon separate, long, and very slender footstalks, of a reddish colour; each is of a heart-like shape, the broad and indented part hanging downwards, and the three smaller ends meeting on the summit of the stalk: the flowers are whitish, tinged with purple, very bright, and delicate; they stand also on single stalks, and rise immediately on the root: the seed-vessels are large, and, when ripe, they burst asunder with the least touch, and the seeds fly about: the root is small and irregular.

The leaves are used; they are to be fresh gathered. The root is very agreeably acid, and the juice of them makes a pretty syrup. The leaves also beat up with three times their weight of sugar, make an excellent conserve. They are good to quench thirst in fevers, and they have the same virtue with the other kinds of Sorrel against the scurvy, and in sweetening the blood.

AGROSTEMNA GITHAGO.

Corn Cockle.

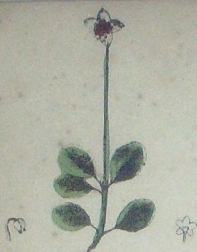
A tall, upright, and beautiful plant, wild in our corn-fields, with red flowers and narrow leaves. It is two feet high. The stalk is single, slender, round, hairy, very firm, and perfectly upright: the leaves stand two at a joint, and are not very numerous; they are long, narrow, hairy, and of a bright green colour: the flowers stand singly, one at the top of each branch; they are very large, and of a beautiful red; they have an elegant cup, composed of five narrow, hairy leaves, which are much longer than the flower: the seed-vessel is roundish, and the seeds are black; they are apt to be mixed among grain, and give the flour a bad taste.

The seeds are used. They work by urine, and open all obstructions; they promote the menses, and are good in the dropsy and jaundice. The best way of giving them is powdered, and put into an electuary, to be taken for a continuance of time; for these medicines do not take effect at once against chronic diseases. Many have discontinued them for this reason. Many too, from the same cause, have become fond of chemical medicines; but these are not safe, nor are they to be depended upon; and if the two practices were fairly tried, chemical medicines would lose their credit.

LYCHNIS FLOS CUCULI.

Ragged Robin.

There are many sorts of Lychnis, native and foreign; and they are all beautiful, and many find a place in some of our best flower gardens. The Ragged Robin is well known, as it is very common in wet meadows. The stem is about a foot high, with leaves not unlike the ribbed plantain; but its principal peculiarity is in the flowers, which are a fine pink or rose colour, and present a loose ragged appearance. The plant is not used in



Single Flowered Wintergreen



Clove Pink



Stone Crop.



Corn Cockle.



Caudex Alba



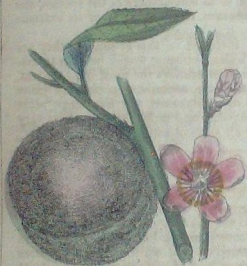
Agrimony



Almond Tree



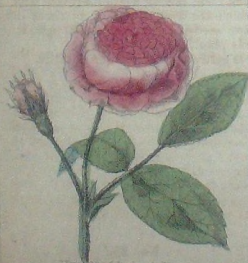
Wild Plum



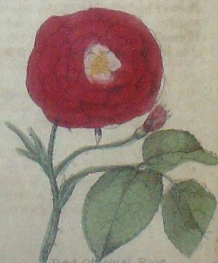
Peach Tree



Dog Rose



Hundred-leaved Rose



Red Original Rose

medicine, but it is well worth the attention of the Botanists for its singular beauty.

There are other three sorts of wild *Lychnis*. One of them, the *Lychnis Dioica*, with the stamens on one plant, and the pistils on another. This is therefore one of those *anomalous* plants, which in fact, ought to be in class *Dioecia*; but as it agrees in all the other characteristics of the *Lychnis*, it is thought best to let it remain where it is.

CERASTIUM VULGATUM.

Mouse-ear Chickweed.

This is not unlike the common Chickweed, except that it is larger and rather hairy. It grows from six to ten inches high, much branched. The petals of the flowers are white, cloven about half way down. The whole plant is rather viscid, but not so much so as some others of the species, one of which is called the *Cerastium Viscosum*, in consequence of its extreme viscosity.

Four other sorts of *Cerastium* are included in this genus, but they are nearly alike; indeed, none but a practical botanist would be able to distinguish them. The *Cerastium Aquaticum* differs the most from the rest, the whole plant being set thick with hairs, containing a clammy juice. This is the English Marsh Mouse-ear Chickweed. It has large white flowers; common on the borders of marshes and moist ditches. It is very tender and succulent, and is eaten by all sorts of cattle.

SPERGULA ARVENSIS.

Corn Spurry.

A most troublesome plant to farmers, by many of whom it is called Dodder; but they mistake. Spurry is very like Sandwort, described above, with small pointed leaves, very numerous, growing in a thick whorl round a slender stem; the flowers very numerous and white. The plant does not appear to have any particular uses, and it certainly is a very great plague to the English farmer, at least; for the farmers of Finland and Norway make bread of the seeds (which are very plentiful), in times of scarcity. Poultry are very fond of the seeds, and will grow fat upon it. Horses, sheep, and swine eat the whole plant, but cows refuse it.

In some parts of Germany Spurry is cultivated for the sake of cattle.

CLASS XI.

DODECANDRIA.



11 STAMENS.

Plants with eleven stamens (1).

ORDER 1.

MONOGYNIA.



1 PISTIL

Plants with one pistil (2).

INTRODUCTORY REMARKS TO CLASS DODECANDRIA.

THIS Class is supposed to embrace all plants with twelve stamens ; but it also embraces all those plants with less than twenty. All that is required to ascertain if a plant belongs to this class, is to see that the stamens are less than twenty, and not less than twelve in number. There are some foreign plants which deviate a little occasionally from the rule ; for instance, *Bocconia* is sometimes found with eight stamens ; but the great majority of the flowers are found with twelve, and our *Agrimony* has from twelve to nineteen.

ASARUM EUROPEUM.

Asarabacca.

A very little and low plant, found wild in many parts of Europe, and common in our gardens. The root creeps about the surface of the ground : the leaves grow singly from them, and there is no stem or stalk. Each leaf has its separate footstalk three or four inches long, and the leaf itself is roundish, of a dark green and fleshy : the flowers are small and of a dusky colour, and they stand near the ground.

Both the leaves and the root used fresh are emetic and purgative. Dr. Gilbert says, ten grains of the fresh root powdered, are a good emetic. It is now only used as an *errhine*. The powdered root taken in the form of snuff, is a most powerful remedy for opening obstructions in the head, by which means, head-aches, drowsiness, giddiness, and colds in the head, are often speedily and effectually removed. It has also given great relief in deafness, arising from catarrhus. Four or five grains snuffed up the nose on going to bed, will cause a considerable discharge of offensive matter to come from the head the following morning, which will frequently continue all day, to the great relief of those suffering from any of the above disorders. Persons of *full habit* must use caution in making use of this snuff, as its operation is so powerful as to be dangerous to them.

The following formula is from the London and Dublin dispensatories.—

Take of leaves of Asarum, three parts ;

— Marjoram,

— flowers of Lavender, of each one part.

Reduce them to a powder, which is to be preserved in close phials.

The leaves of Asarum ; the root of White Hellebore ; together with Lily of the Valley and Betony, are the principal ingredients in the "cephalic" and "eye snuff" daily advertised.

LYTHRUM SALICARIA.

Purple Loosestrife.

A wild plant that decorates the sides of ditches and rivers, and would be an ornament to our gardens. It grows to three feet high, and is very regular. The stalk is square, hairy, and generally of a reddish colour : the leaves stand two at each joint, and they are long and narrow, of a dusky green, and a little rough : the flowers stand in very long spikes at the tops of the stalks, and are large and of a strong purple colour : the spikes are often a foot or more in length : the seed is very little and brown.

This plant is a native of most parts of Europe in wet places, and is worth the attention of gardeners, for the purpose of beautifying banks of lakes, fish ponds, &c.

In a medical point of view, it is an astringent, and as such is useful in diarrheas, dysenteries, &c. A decoction of the expressed juice is given in doses of from one to three ounces. The leaves are stated by Dr. Hill to be a fine balsam for fresh wounds, and an ointment is to be made of them boiled in lard, which is cooling and detersive.

CANELLA ALBA.

Laurel-leaved Canella.

This tree rises fifty feet in height, branching only at the top. Leaves on short footstalks, alternate, oblong, very obtuse, entire, and thick. Flowers small, dividing in clusters, of a violet colour.

This is a tall tree, which is very common in Jamaica, and other West India islands.

The Canella is the interior bark, freed from the epidermis, which is thin and rough, and dried in the shade. There are two sorts of Canella in the shops, differing from each other in the length and thickness of the quills : they are both the bark of the same tree, the thicker being taken from the trunk, and the thinner from the branches.

It was introduced into Europe, according to Clusius, in 1605, and is brought to us rolled up in long quills, or flat pieces, thicker than cinnamon, and both outwardly and inwardly of a whitish colour, lightly inclining to yellow. It is a warm pungent aromatic, and in distillation with water it yields a large proportion of a very active volatile oil, of a yellow, or rather reddish colour, and of a sweet odour approaching to that of cinnamon. It must not be confounded with the bark of the Winters aromatic.

Canella alba is sometimes employed, from ten to fifteen grains, where a warm stimulant to the stomach is necessary. In America it is considered to be a powerful anti-scorbutic. It is also added as a corrigent to other medicines.

ORDER II.

DIGYNIA.



2 PISTILS.

Plants with two pistils.

AGRIMONIA EUPATORIA.

Agrimony.

A common English plant. It flowers in the midst of summer. It grows to a foot or more in height. The leaves are winged, and the flowers are yellow. The root is perennial: the leaves are hairy, of a pale green, and notched at the edges: the stalk is single, firm, and round: the flowers stand in a long spike; they are small and numerous, and the seed-vessels which succeed them are rough like burs. The plant is common about hedges.

The leaves are used fresh or dried; they have been recommended in the jaundice; but they are found by experience to be good in the diabetes and incontinence of urine. The plant is also one of the famous vulnerary herbs, and an ingredient in the right arquebussade water.

It seems strange that this plant should be fallen into disuse by modern doctors, for there are few that have been held in greater reputation for spitting of blood, bloody urine, and disorders of the liver. The best method of using it is in infusion; a handful of the dried leaves are to be put into a vessel, and a quart of boiling water poured upon them, and sweetened with a little sugar. By means of this drink some very obstinate liver complaints have been removed. It should be taken in the morning fasting, and repeated two or three times during the day. It has been considered one of the very best herbs for cleansing the skin, and purifying the blood. It forms a very good gargle for sore throats.

Equal quantities of this herb, St. John's Wort, Camomile flowers, and Wormwood, made into a strong decoction, is a capital fomentation for violent pains, cramps, &c.

The plant should be gathered when in bloom, and carefully dried in the shade, and hung up in bundles in a dry place.

ORDER III.

TRIGYNIA.



3 PISTILA.

Plants with three pistils.

RESEDA LUTEOLA.

Dyer's Rocket.

This plant rises two feet high, and very erect. Leaves oblong, considerably broad, of a deep green colour, and divided at the edges. Flowers small and numerous, one plant having sometimes three hundred flowers or more; each flower stands on a short pedicle singly, and has one awl-shaped yellow bracte at the base; they are of a pale yellow colour, very small, with little or no smell.

Linnaeus observes, that the nodding spike of flowers follows the course of the sun even when the sky is covered, pointing towards the east in a morning, to the south at noon, westward in the afternoon, and north at night. Cattle, sheep excepted, do not eat this plant. Dyers make considerable use of it, for it yields a most beautiful yellow dye for cotton, woolen, mohair, silk, and linen. Blue cloths are dipped in a decoction of it, in order to become green. The yellow colour of the paint called Dutch Pink, is obtained from this plant, the whole of which, when it is about flowering, is pulled up for the use of the dyers, who employ it both fresh and dried. It is a native of the most temperate parts of Europe, in wild pastures, fallow fields, waste places, and on dry banks and walls; flowering in June and July.

RESEDA ODORATA.

Sweet Mignonette.

This lovely plant;—but I will not attempt description. All classes of society, from the duke to the labourer, from the rich millionaire to the artisan, are in the habit of cultivating this favourite. It is more adapted for the inhabitants of towns, than almost any other plant, as it grows better in boxes or pots, than in beds in the garden.

The luxury of the pleasure-garden, observes Mr. Curtis, is very greatly heightened by the delightful odour which this plant diffuses; and as it grows more readily in pots, its fragrance may be conveyed into the house. The odour, though not so refreshing as that of the Sweet Briar, is not apt to offend the most delicate olfactories. Hence the French call it Mignonette, or Little Darling; to which Cowper alludes, when he terms it “the

Frenchman's favourite. It flowers from June till the commencement of winter. It is raised from seeds, which should be sown on a moderate hot-bed in March, and when the plants are strong enough to transplant, they should be pricked out upon another moderate hot-bed to bring them forward; but must have a large share of free air in warm weather, to prevent their being drawn up weak. About the end of May, they may be removed into pots, and placed in or near dwellings; and some in warm borders, to flower and seed, for those which grow in the full ground often produce more seeds than those in pots. When the seed-vessels begin to swell, the plants are frequently infested with green caterpillars, which, if not destroyed, will eat off all the seed-vessels; or, they may be sown in pots of light earth, and plunged into the hot-bed, which is probably the better practice. If the seeds are sown on a light bed of earth in April, the plants will come up very well, and when they are not transplanted, will grow larger than those raised in the hot-bed, but will not flower so early, and hardly ripen their seeds in cold seasons. In a warm, dry border, however, the seed will come up spontaneously, and grow very luxuriantly; but, to have the flowers early in spring, the seeds should be sown in pots in autumn, kept in frames through the winter, or on a gentle hot-bed in spring.

"The *Tree-Mignonette* should be propagated from seeds sown in spring; it may also be increased by cuttings, which strike root readily. The young plants should be potted singly into small pots, and brought forward by heat on a gentle hot-bed, but they will grow well without artificial heat. As they advance they should be tied to a stick, taking care to prevent the growth of smaller side shoots by pinching them off, but allowing the leaves of the main stem to remain on for a time. When they have attained the height of ten inches, or more, according to the fancy of the cultivator, the shoots must be suffered to extend themselves from the top, but must be occasionally stopped at the ends, to force them to form a bushy head, which by the autumn will be eight or nine inches in diameter, and covered with bloom. Whilst the plants are attaining the proper size, they should be shifted progressively into larger pots, and may be ultimately left in those of about six inches in diameter at the top."—*Don's Gardener's Dictionary*.

ORDER VI.

DODECAGYNIA.

6 PISTILS.

SEMPERVIVUM TECTORUM.

Houseleek.

A plant sufficiently known as well by its particular manner of growing, as by its place of growth. It forms itself into clusters of a roundish

figure; these are composed of leaves, which are largest towards the bottom, and smallest at the end; they are very thick and juicy, broad at the base, sharp at the point, and flat on the upper side, a little rounded on the under, and somewhat hairy at their edges: the stalk grows to ten inches high; it is very thick, round, and juicy, upright, of a reddish colour, and divided at the top into a few branches: the leaves on it are thin and narrow: the flowers are numerous; they are red, and have a green head in their middle, which afterwards becomes a cluster of seed-vessels.

The leaves are the part used: they are applied externally in inflammations, and are very useful, when cooling things may be employed. The juice is also cooling and astringent taken inwardly, but it is rarely used. Some praise it greatly for the inflammations of the eyes.

There is another kind of Houseleek, very unlike this in form, but of the same virtues. This is called the lesser Houseleek. The stalks are round, small, and reddish, and grow six inches high: the leaves are long and rounded, not flat as the other leaves, and the flowers are white, and stand in a kind of tufts, like umbels at the tops of the stalks. This grows on old walls, and the tops of houses like the other.

The following preparation of Houseleek will answer every purpose.

Take of the expressed juice of Houseleek, one ounce;
—— white sugar, sixteen ounces.

Boil for a few minutes and strain. Dose, from one to two ounces.

CLASS XII.

ICOSANDRIA.

1



12 STAMENS.

Plants with twelve stamens (1).

ORDER I.

MONOGYNIA.



1 PISTIL.

Plants with one pistil.

INTRODUCTORY REMARKS.

In this class the number of the stamens is not of so much consideration as the *place of their insertion*. If you strip off the petals from the rose, you will perceive the stamens growing all round, and out of the *rim of the calyx*, or they proceed directly from the sides of the cup, or, as in some other flowers of the class, they are united with the blossom. Whereas, in class Polyandria, and some others, all the stamens grow from a point in the very centre of the flower or on the very centre of the flowers, or on the *receptacle*, as it is called. The petals of this class are also fixed to the sides of the calyx by their claws. The fruits are for the most part pulpy, and are excellent and wholesome food, though the leaves and other parts are not unfrequently poisonous. The class is perfectly natural, and there are few deviations, of which the Thorn is the principal, being frequently found with only one pistil.

PRUNUS SPINOSA.

Sloe, or Blackthorn.

A prickly shrub, common in our hedges, with pale green leaves, and black berries. It grows to eight or ten feet high. The bark is dark coloured and glassy, and the twigs are tough: the leaves are oval, of a very regular and pretty figure, and elegantly dented round the edges: the flowers are little and inconsiderable; they are of a greenish white, and grow in little clusters: the berries which are ripe in September, are round, glossy, black, as big as the largest pepper-corns, and contain each a stone.

The juice of the berries, boiled up with sugar, makes a good purge; but it is apt to gripe, unless some spice be added in the making. It is a rough purge, but a very good one.

As the flowers of the Sloe also appear sooner than those of any other tree, it is generally introduced into plantations, where it forms an agreeable variety. It also makes excellent hedges. The wood being hard and tough, is used for many useful purposes; millions of walking sticks are made from the shoots. The young leaves are extensively used in adulterating tea, and if it were not for their astringent property, there would be no mischief in that. The juice of Sloes is much used by fraudulent wine merchants in adulterating port wine, for which purpose it is well adapted on account of its astringency, slight acidity, and deep red colour. Many a fop, when taking his "*port wind*," and tapping his boots with his beautiful blackthorn stick, is little aware that both "*wind*" and stick have the *same origin*. It has been stated, that there is more port wine (so-called) drank in England alone, than is manufactured in Portugal!

The dried Sloes dye linen of a reddish colour, which, on repeated washings, change to a durable light blue.

An infusion made with one ounce of the flowers fresh gathered, to six ounces of water, is a very agreeable purge for an aprowna person.

SYRUP OF SLOE FLOWERS.

Take of fresh Sloe flowers, two pounds;
— boiling water, four pints:

Infuse for twelve hours. The liquor to be poured upon two pounds of fresh flowers: this is to be repeated a third time, and the syrup to be finally made with the strained liquor, and four pounds of sugar.

Dose, from one to three drachms for children, and from six drachms to an ounce for adults.

PRUNUS DOMESTICA.

Common Prune, or Plum Tree.

This species of *Prunus* grows much higher than the former; it is without spines, and covered with smooth bark, of a dark brown colour: the leaves are oval, slightly indented at the edges, pointed, veined, of a pale green colour, and stand upon very short footstalks: the fruit is oblong, or egg-shaped, consisting of a sweet fleshy pulp, covered with a dark violet coloured pellicle, and including in the centre an almond-shaped nut, or stone. It is a native of Britain, and flowers in April and May.

Among the many varieties of plums, we find considerable difficulty in referring with sufficient accuracy to that called by the London college, *Prunum Gallicum*; it is therefore probable that some of the synonyma introduced here, are not in this respect so correctly applicable as they ought to be. The Syrian Plums were much esteemed by the ancients, particularly a species which grew in the neighbourhood of Damascus, and hence a variety of this fruit is still known by the name of *Pruna damasceana*. According to Pliny, the tree was brought from Syria into Greece, and from thence into Italy, where its fruit is repeatedly noticed by the Latin poet.

All our garden plums are eaten at table, and when sufficiently ripe, and taken in a moderate quantity, prove a pleasant and wholesome food. But in an immature state, they are more liable to produce colicky pains, diarrhoea, or cholera, than any other fruit of this class; some attention to this circumstance is therefore always necessary. Considered medicinally,

No. 24.

they are emollient, cooling, and laxative, especially the French prunes, which are imported here in their dried state from Marseilles; and though the laxative power of these is diminished by drying, yet it is observed by Dr. Cullen, that as they contain a great deal of the acid which they originally had, they have more effect in this way than the other dried fruits. They are found to be peculiarly useful in costive habits, and are frequently ordered in decoction with senna or other purgatives. It is the pulp of this fruit which is directed in the Lenitive electuary.

Dried plums, called prunes, are imported in great quantities from the warm climates of Europe, and are sold in the shops. They are much used in medicine, and are exceedingly valuable in costive habits, being in this case both food and physic.

PRESCRIPTION.

Take of senna leaves, one ounce;
 ——— boiling water, one quart:

Pour the water upon the senna, keep it closely covered for a day, and strain. Afterwards boil the liquor for fifteen minutes along with a pound of the best prunes.

This is an excellent opening medicine for children and all persons of costive habit. The prunes take off the bad flavour of the senna, and rendering it more efficacious.

As a flowering tree the plum is well worthy the attention of the gardener. It is the hardest of all the fruit trees: it will thrive on the poorest soil, and the most ungenial part of the orchard. The flowers come easily, and it is by no means uncommon to see the tree covered with snow and blossom at the same time.

PRUNUS LAUROCERASUS.

Cherry Laurel.

A shrub or small tree, sending off long spreading branches, and covered with smooth brown bark. Leaves evergreen, elliptical, or obovate, blunt, rather serrated, furnished with yellowish glands at the base, of a shining deep green, placed alternately upon strong short footstalks. Flowers on short peduncles, in spikes, which arise at the axæ of the leaves. Fruit drupelets, resembling a small cherry both in its external and internal structure.

It is a native of the Levant, and appears to have been long cultivated in Britain, and by its polished evergreen leaves adds much to the beauty of our shrubberies.

The leaves of the *Lauro Cerasus* have a bitter styptic taste, accompanied with a flavour resembling that of bitter almonds, or other kernels of the drupaceous fruits. The flowers of this plant also manifest a similar flavour. The powdered leaves, applied to the nostrils, excite sneezing, though not so strongly as tobacco.

The kernel-like flavour which these leaves impart being generally esteemed grateful, has sometimes caused them to be employed for culinary purposes, and especially in custards, puddings, blanc-mange, &c., and as the proportion of this sapid matter of the leaf to the quantity of the milk is commonly inconsiderable, bad effects have seldom ensued. But as the poisonous quality of this laurel is now indubitably proved, the public ought to be cautioned against its internal use.

The following communication to the Royal Society, by Dr. Madden, of Dublin, contains the first and principal proofs of the deleterious effects of this vegetable upon mankind. "A very extraordinary accident that fell out here some months ago, has discovered to us a most dangerous poison, which was never before known to be so, though it has been in frequent use among us. The thing I mean is a simple water, distilled from the leaves of the *Laurocerasus*.—The water is at first of a milky colour, but the oil which comes over the helm with it, being in a good measure separated from the phlegm, by passing it through a flannel bag, it becomes as clear as common water. It has the smell of bitter almond, or peach kernel, and has been for many years in frequent use among our housewives and cooks, to give that agreeable flavour to their creams and puddings. It has also been much in use among our drinkers of drams; and the proportion they generally use it in, has been one part of laurel water to four of brandy. Nor has this practice, however frequent, ever been attended with any apparent ill consequences, till some time in the month of September, 1728, when it happened that one Martha Boyse, a servant, who lived with a person that sold great quantities of this water, got a bottle of it from her mistress, and gave it to her mother, Ann Boyse, as a very rich cordial. Ann Boyse made a present of it to Frances Eaton, her sister, who was a shopkeeper in town, and who, she thought, might oblige her customers with it. Accordingly, in a few days, she gave two ounces of the water to a woman called Mary Whaley, who drank about two-thirds of what was filled out, and went away. Frances Eaton drank the rest. In a quarter of an hour after Mary Whaley drank the water, as I am informed, she complained of a violent disorder in her stomach, soon after lost her speech, and died in about an hour, without vomiting or purging, or any convulsion.

The shopkeeper, F. Eaton, sent word to her sister, Ann Boyse, of what had happened, who came to her upon the message, and affirmed that it was not possible the cordial, as she called it, could have occasioned the death of the woman; and to convince her of it, she filled out about three spoonfuls, and drank it. She continued talking with F. Eaton about two minutes longer, and was so earnest to persuade her of the liquor's being inoffensive, that she drank two spoonfuls more, but was hardly well seated in her chair, when she died without the least groan or convulsion. Frances Eaton, who, as before observed, had drank somewhat above a spoonful, found no disorder in her stomach or elsewhere; but to prevent any ill consequence, she took a vomit immediately, and has been well ever since."

Dr. Madden mentions another case of a gentleman at Kilkenny, who "mistook a bottle of this laurel water for a bottle of pisan; what quantity he drank is uncertain, but he died in a few minutes, complaining of a violent disorder in the stomach."

In addition to this, we may refer to the unfortunate case of Sir Theodosius Broughton, whose death, in 1780, an English jury declared to be occasioned by this poison. In this case, the active principle of the *Laurocerasus* was concentrated by repeated distillations, and given to the quantity of an ounce; the suddenly fatal effects of which must be still in the recollection of the public.

To brute animals this poison is almost instantaneously mortal, as amply appears by the experiments of Madden, Mortimer, Nicholls, Langrish, Vata, Fontana, and others.

The experiments, conducted by these gentlemen, show, that the laurel-water is destructive to animal life, not only when taken into the stomach, but also on being injected into the intestines, or applied externally to different organs of the body. It is remarked by Abbe Fontana, that this poison, even "when applied in a very small quantity to the eyes, or to the inner part of the mouth, without touching the oesophagus, or being carried into the stomach, is capable of killing an animal in a few instants; whilst applied in a much greater quantity to wounds, it has so little activity, that the weakest animals, such as pigeons, resist its action.

Though this vegetable seems to have escaped the notice of Stoerck, yet it is not without advocates for its medicinal use. Linnaeus informs us that in Switzerland it is commonly and successfully used in pulmonary complaints. Langrish mentions its efficacy in agues; and as Bergius found bitter almonds to have this effect, we may from analogy conclude, that this power of the *Laurocerasus* is well established. Baylies found that it possessed a remarkable power of diluting the blood, and from experience recommended it in all cases of disease supposed to proceed from too dense a state of that fluid; adducing particular instances of its efficacy in rheumatism, asthma, and in schirrous affections. Nor does this author seem to have been much afraid of the deleterious quality of the *Laurocerasus*, as he directs a pound of its leaves to be macerated in a pint of water, of which he gives from thirty to sixty drops three or four times a day.

No person should make use of such medicines as this without consulting the best medical authority.

PRUNUS PADUS.

Cherry Tree.

This is a well-known tall tree, and well shaped. The leaves are broad, roundish, sharp, at the point, and indented round the edges. Flowers are white; the fruit is well enough known. The medical part of this is the kernel within the stone. This has been supposed good against apoplexies, palsies, and all nervous diseases. The water distilled from it was for this reason in constant use as a remedy for children's fits. But a better practice has now obtained: it is thought that this water occasioned the disorders it was given to remove. Laurel-water, when made of great strength, we have already shown to be a sudden and deadly poison. In the same manner, black cherry water, which used to be given to children when weak drawn, has been found to be poisonous when of great strength. There is therefore the greatest reason to suppose that in any degree of strength it will do mischief. Very probably thousands of children have died by this unsuspected medicine.

The gum which hangs upon the branches of cherry trees, is of the same nature with the gum arabic, and may be used for the same purposes, as in heat of urine, dissolved in barley-water.

AMYGDALUS PERSICA.

Peach Tree.

A tree very frequent against our garden walls. The trunk is cov-

ered with a brown bark. The branches grow irregularly: the leaves are beautiful; they are long, narrow, and elegantly serrated at the edges. The blossoms are large, and of a pale red: the fruit is too well-known to need much description. It consists of a soft pulpy matter, covered by a hairy skin, and inclosing a hard stone, in which is a kernel of a pleasant bitter taste.

The flowers are to be used. A pint of water is to be poured boiling hot on a pound weight of peach blossoms. When it has stood four and twenty hours, it is to be poured off, through a sieve, without squeezing, and two pounds of loaf sugar is to be dissolved in it over the fire. This makes an excellent syrup for children. It purges gently, and sometimes will make them puke a little. They have so frequent occasion for this, that people who have children have continual use for it.

PRECOCIA MALA.

Apricot.

This valuable fruit, native of Persia, Egypt, and other warm climates, was first brought into England in the reign of Henry the Eighth, together with many other valuable trees and shrubs. The following remarks on the Apricot are taken from that useful book, "*Philips's Companion to the Orchard*."

"Turner, whose work was written in 1564 and published in 1568, says, 'I have seen many trees of this kynde in Almanay, and som in England.' Gerarde in 1597 notices two varieties that he tells us 'do grow in my garden, and now-adaies in many other gentlemen's gardens throughout all England.' Parkinson notices two varieties of this fruit, and Coles says also, in 1657, 'I am not assured that there are more than two sorts of Apricot-trees.'

"We have now many varieties of this fruit, some of which, by their names, informs us whence they were procured, as the Alger, the Roman, the Turkey, the Breda, and the Brussels apricot, besides the Muscadine, the Orange, and several new articles. It is one of our earliest wall-fruits, as well as one in the highest estimation.

"The fruit, when gathered young to thin the crop, makes an excellent tart; and, when ripe, it is second to no fruit for preserves or jam: it gives an excellent flavour to ice, and makes a delicious *liqueur*. Of all the fruits used in pastry, none is more beautiful or agreeable than the ripe apricot: they should be placed in an open pastry, which adds as much to the flavour as to the appearance. To prolong the enjoyment of this fruit in its natural state, as the frost often injures the earliest variety in the warmest situation, as the frost often injures the blossoms of the Muscadine apricot, unless it is protected by a glass shutter or some substitute. The Brussels apricot is the latest ripe, and it should be observed that this variety produces better fruit when not exposed to so full a sun. In this age which exerts so much ingenuity to accelerate the maturity of vegetation, we shall endeavour to point out the best means of retarding or prolonging the season of fruits. The apricot as well as the plum may be kept for our dessert two or three weeks later, by gathering it when half ripe and placing it in an ice-house, a dairy, or any cool place, where it slowly ripens.

"Apriests, if not too ripe, agreeably astringe and strengthen the stomach, but like all other perfumed watery fruit, it loses its aromatic and tempting flavour, becomes clammy, and is less easy of digestion, when over-ripe: they should therefore be gathered at least twenty-four hours before they acquire the least degree of maturity.

"The apricot-tree produces its blossoms not only on the last year's wood, but also on the curzons, or spurs, from the two year old wood. Great care should be used, in pruning, not to injure them; and it is advisable to remove all foreright shoots in the growing time.

"The Brussels and the Breda apricot are the best as standard trees: they are all propagated, by grafting them on plum stalks, excepting the Alberge, the seed of which will produce the same fruit, or with very little variation."

AMYGDALUS NUCIPERSICA.

Nectarine.

A most delicious fruit: the name is supposed to be derived from the nectar quaffed by the gods. It is a native of Persia, and was introduced into England during the time of Gerarde, who was most eloquent in its praises, and well he might.

Nectarines are a species of Peach, indeed it is supposed that they are nothing more than the peach improved by cultivation. Since their introduction the gardeners have succeeded in producing many varieties,—the Scarlet, the Brugnor, the Roman, Red, and the Golden, and several others, all good in their kind.

The flowers made into an infusion, and sweetened with sugar, is an useful opening medicine for children.

As the tree is a native of those sunny climes where winters are unknown it will be understood that it requires protection against the winters of our own. Many trees are lost for want of this protection. Above all, keep off the snow, which, if suffered to remain on the branches, is sure to get more or less dissolved during the day, and then the frost comes at night, and congeals the dissolved snow into ice, which destroys the branch if not the whole tree.

AMYGDALUS COMMUNIS.

The Almond Tree.

The almond tree is a native of Barberry, and seems to have been known in the most remote periods of antiquity, being frequently mentioned by Theophrastus and Hippocrates: it is probable however that this tree was not very common in Italy, in the time of Cato, as he calls the fruit by the name of Greek nuts. It was cultivated in England by Lobel previous to the year 1570, and though it does not perfect its fruit in this country, yet it is here very generally propagated for the beautiful appearance of its flowers, which are the more conspicuous by showing themselves early in spring before the leaves are expanded.

The fruit or seeds of most vegetables on being planted produce varieties, differing more or less from the parent plant and from each other, and of the Almond-tree this difference is principally confined to the fruit, which is larger or smaller, the shell thicker or thinner, and the kernel bitter or

sweet: hence the distinction into bitter almonds, and sweet almonds, though the same species of tree affords both. Sweet Almonds are more used as food than medicine, but they are said to be difficult of digestion, unless extremely well comminuted; their medicinal qualities depend upon the oil which they contain in the farinaceous matter, and which they afford on expression nearly in the proportion of half their weight. The oil thus obtained is more agreeable to the palate than most of the other expressed oils, and is therefore preferred for internal use, being generally employed with a view to obtund acrid juices, and to soften and relax the solids; in tickling coughs, hoarseness, costiveness, nephritic pains, &c., externally in tension and rigidity of particular parts. The milky solutions of Almonds in watery liquors, usually called emulsions, possess, in a certain degree, the emollient qualities of the oil, and have this advantage over the purest oil, that they may be given in acute or inflammatory disorders, without danger of the ill effects which the oil may sometimes produce, by turning rancid. The official preparations of almonds are the expressed oil and the emulsion; to the latter the London College directs the addition of gum arabic, which renders it a still more useful demulcent in catarrhal affections, stranguries, &c.

Bitter almonds yields a large quantity of oil, perfectly similar to that obtained from sweet almonds; but the matter remaining after the expression of the oil, is more powerfully bitter than the almond in its entire state. Great part of the bitter matter dissolves by the assistance of heat both in water and in rectified spirits: and a part arises also with *menstrua* in distillation. Bitter Almonds have been long known to be poisonous to various brute animals, and some authors have alledged that they are also deleterious to the human species, but the facts recorded upon this point appear to want further proof. However, as the noxious quality seems to reside in that matter which gives it the bitterness and flavour, it is very probable that when this is separated by distillation, and taken in a sufficiently concentrated state, it may prove a poison to man, as is the case with the common laurel, to which it appears extremely analogous. These Almonds are highly commended for the cure of hydrophobia by Thebesius, who experienced their good effects in twelve cases, in which a few (no particular quantity is mentioned) were eaten every morning. And Bergius tells us, that bitter Almonds in the form of emulsion, cured obstinate intermittents, after the bark had failed.

PREPARATIONS.

OIL OF ALMONDS.

Those who prepare large quantities of the oil of almonds blanch them by steeping them in very hot water, which causes their epidermis to swell and separate easily. After peeling them, they dry them in a stove, then grind them in a mill like a coffee mill, and lastly, express the oil from the paste, enclosed in a hempen bag. By blanching the almonds, the paste which remains within the bag is sold with greater advantage to the perfumers, and the oil obtained is perfectly colourless. But the heat employed disposes the oil to become rancid, and the colour the oil acquires from the epidermis does not injure its qualities. For pharmaceutical use, therefore, the almonds should not be blanched, but merely rubbed in a piece of coarse linen, to separate, as much as possible, the brown powder adhering to the epidermis. Sixteen ounces of sweet almonds commonly give five ounces and a half of oil. Bitter almonds afford the same proportion, but the oil has a pleasant bitter taste.

EXPRESSED OIL OF ALMONDS.

Take of fresh almonds, any quantity :

After having bruised them in a stone mortar, put them into a hempen bag, and express the oil, without heat.

LONDON.

Pound fresh almonds, either sweet or bitter, in a mortar, then press out the oil in a cold press.

ALMOND EMULSION.

Take of sweet almonds, one ounce ;

— water, two pounds and a half :

Beat diligently the blanched almonds in a stone mortar, gradually pouring on them the water ; then strain the liquor.

CULINARY PREPARATIONS.

ALMOND TARTS.

Blanch and beat some fine almonds, with a little white wine and some sugar (one pound of sugar to one pound of almonds), grated bread, nutmeg, cream, and the juice of spinach to colour the almonds. Bake it in a gentle oven ; and when done thicken with candied orange or citron.

GREEN ALMOND TARTS.

Pull the almonds from the tree before they shell, scrape off the down, and put them into a pan with cold spring water, then put them into a skillet with more spring water, set it on a slow fire, and let it remain till it simmers. Change the water twice, and let them remain in the last till tender. Then take them out and dry them well in a cloth. Make a syrup with double refined sugar, put them into it, and let them simmer. Do the same the next day, put them into a stone jar, and cover them very close ; for if the least air comes to them they will turn black. The yellower they are before they are taken out of the water, the greener they will be after they are done. Put them into your crust, cover them with syrup, lay on the lid, and bake them in a moderate oven.

PRESCRIPTION.

Take of oil of almonds, six drachms ;

— milk of almonds, five ounces ;

— rose water, two drachms ;

— gum arabic,

— purified sugar, equal parts, two drachms ;

Let these be well rubbed together, and take two table-spoonful four times a day, add a tea-spoonful upon coughing. This is far preferable to the common white emulsions formed by an alkali, which uniting with the oil produces a kind of soap, which readily mingling with water, forms the white appearance we observe, and is commonly disgusting to patients, and unpleasant in the stomach ; whereas this suits every palate, and removes that tickling in the throat so very distressing to patients.

MYRTUS PIMENTA.

Allspice, or Jamaica Pepper.

This beautiful tree is a native of Jamaica, and grows in all the woodlands on the north side. Soon after the trees have blossomed, the berries become fit for gathering ; the fruit not being suffered to ripen, as in that

state it is moist and glutinous, and therefore difficult to cure, and when dried becomes black and tasteless. The berries are dried by spreading them on a terrace, exposed to the sun for about seven days, during which time they gradually lose their green colour, and become of a reddish brown.

The smell of this spice resembles a mixture of cinnamon, cloves, and nutmegs; its taste approaches to that of cloves, or a mixture of the three foregoing; whence it has received the name of *allspice*.

Neumann ascertained that its flavour resides entirely in a volatile oil heavier than water, and its pungency in a resin or a substance soluble in alcohol and insoluble in water. From 450 parts he got 120 watery extract, 30 volatile oil, and 20 alcoholic extract; and inversely, 66 alcoholic, and 100 watery.

Pimento is a warm aromatic stimulant, and is much used as a condiment in dressing food. As a medicine, it may be advantageously substituted for the more costly spices, especially in hospital practice.

PREPARATION.

ALLSPICE WATER.

Take of allspice, bruised, half a pound;
 ——— water sufficient to prevent empyreuma: *

Macerate for four and twenty hours, and draw off one gallon.

PUNICA GRANATUM.

Pomegranate Tree.

This is a low tree, or rather shrub. Its leaves are oblong, pointed, and placed upon short footstalks: the flowers are large, of a bright scarlet: the fruit is the size of an orange, and crowned with the calyx.

This tree grows wild in Italy and other countries in the south of Europe. It is sometimes met with in our gardens; but the fruit, for which it is chiefly valued, rarely comes to perfection.

This fruit has the general quality of the other sweet summer fruits, allaying heat, quenching thirst, and gently loosening the belly. The rind is a strong astringent, striking a permanent blue with sulphate of iron, and as such is occasionally made use of. The flowers are of an elegant red colour, in appearance resembling a dried red rose. Their taste is bitterish and astringent. They are recommended in diarrhoeas, dysenteries, and other cases where astringent medicines are proper.

CACTUS.

A singular tribe of plants, all foreign, many of which at first appearance are more like some fungus than flowering plants; but when the flowers do appear, the mistake is apparent, as many of them are of a most splendid kind. Eighty-five species of this plant are given in "Don's Catalogue," including every variety of appearance and habit, some thick and succulent, many full of spines or prickles, while others grow out in long slender pieces like a rope covered with hairy prickles. This strange plant may be

sometimes mistaken for an hedge-hog. Other kinds of the stems are formed into every imaginable number of angles. Some flower in the day, and many of the species only flower in the night. The variations in size are as great as in other circumstances: some are almost imperceptible, whilst others attain an altitude of many yards. All of them, from the singularity of their appearance and habits, are favourites with the florists.

As many of the species of Cactus are armed with most formidable prickles, they serve admirably for fences in those countries where they are common.

There is no mention made of the Cactus being made use of as medicine, though it is most likely that future research will bring out something in these plants worth the attention of the physician.

The cultivation is managed in the same way as other succulents, plenty of dry fresh mould, and very little moisture, with moderate care, is all that is required.

OPUNTIA.

Indian Fig.

Another curious tribe of plants, with habits much like the last, and natural to hot climates; but many species are to be seen in the hot houses of the curious in our own country. There are forty-two species of Indian Fig. The principal one is the *Opuntia Cochinitifera*—the plant on which cochineal insect is fed, so valuable in commerce for producing the fine scarlet dye. The *Opuntia Vulgaris* is a native of North America, where it thrives exceedingly, and produces the famous prickly pear,—a great luxury and much prized amongst the Yankees. Stem prostrate, full of prickles, with yellow spreading flowers.

All the species of *Opuntia* are readily propagated, by simply sticking the joints in the ground; and the plants thrive well in dry barren situations.

The following remarks on the raising the cochineal insect, are taken from *Don's Gardener's Dictionary*:—

"The cochineal insect, which feeds upon the different kinds of *Opuntia*, is too well known to need a particular description here; as are also its valuable properties in producing the dye which bears its name, and carmine. It is the *Coccus cati* of Linnæus, a small insect of the order Hymenoptera, having a general appearance not very dissimilar to that of the mealy-bug of our gardens, and equally covered with a white powdery substance. The male is winged. It is originally a native of Mexico, and was cultivated for its precious dye long before the conquest of that country, and these plantations, called Nopaleros, are most extensive in the Misteça and Oaxaca; the latter district alone has exported, according to Humboldt, upon the average 32,000 arrobs annually, estimated at 2,400,000 piastres, above £500,000 sterling.

"In Sloane's Jamaica, vol. I. l. 9. a representation of a Mexican Nopalery, is given from a drawing made at Guaxaca, by an Indian. In these small plantations or enclosures they cultivated the fine sort (*Grana fina* of the Spaniards), or the common kind (*Grana sylvestre*), which differ by the first having a finer quality and more powdery covering; whilst the latter, less valuable in its produce, has a cottony covering; but whether

these two insects be specifically distinct has not yet been determined. The placing of the females, when big with young, is called sowing. The proprietor of a Nopelary buys in April or May the branches of joints of the Tunas de Castilla (*Opuntia Tuna*), which are sold in the market of Oaxaca at about 3 franks a hundred, loaded with cochineals (*semilla*). These are kept in cellars for 20 days, when they are exposed to the air, suspended under a shed. So rapid then is the growth of the insect, that by August or September the females are big with young, and ready for sowing, which is done in small nests, made of the fibrous parts of the foliage of a *Tillandsia* called *Paxtle*. In four months from the time of sowing the harvest commences. The insects are brushed off with a squirrel's or deer's tail by women, who sit during this operation, for whole hours at one Nopal point; so that were it not for the extreme cheapness of labour in that country, Humboldt says, that the rearing of the cochineal would prove an unprofitable employment. After being gathered, the insects are killed by boiling water, or by exposing them in heaps to the sun, or by means of the vapour baths of the Mexicans (*temaxcalli*); and when dry they are fit for exportation. By the latter method, the powdery substance is preserved, which increases the value of the insects in commerce. Dr. Bancroft has estimated the annual consumption of cochineal in Great Britain only at about 750 bags, or 150,000 lbs., worth £275,000, 'a vast amount,' as the authors of the introduction to Entomology observe, 'for so small a creature, and well calculated to show us the absurdity of despising any animals, on account of their minuteness.' According to the same writers, the only kind of cochineal that has been conveyed to the East Indies is the sylvestre or wild cochineal from Brazil, and the Court of Directors of the East India Company have offered a reward of £6,000 to any person who should introduce the more valuable sort. The insects were introduced to the royal gardens at Kew in 1814 from Martinico, by M. Castlneau d'Auros, late superintendent of the botanic garden on that island. In 1820, the fine cochineal was introduced to the apothecaries' botanic garden at Chelsea by W. Prinsep of Calcutta, from some of the Nopelaries of Mexico."

PERESKIA.

Barbadoes Gooseberry.

The character of this and the two preceding are pretty much alike. They are all fleshy, succulent, and prickly; all produce splendid flowers, and many of them luscious fruit. They are all natives of hot countries, requiring little moisture, and growing on barren, stony ground. The island of Barbadoes produces the best fruit, which was called by the Dutch, Blood-apple. The

PERESKIA GRANDIFLORA.

Great leaved Barbadoes Gooseberry.

Is a most splendid plant, very different in habit from the rest of the genera, being furnished with woody branches and proper leaves; but the flowers resemble the others; they are of easy culture, growing freely on any light earth, and cuttings of them are soon rooted under a hand-glass in heat. It is usual for the florists to rear a large plant of this kind, and graft others of the species upon it, when they will have a singular and grotesque appearance, and very ornamental to the green-house.

ORDER II.

PENTAGYNIA

5 PISTILS.

MESPIUS OXYCANTHA

Hawthorn.

A shrub too common in our hedges to need much description. The trunk is irregular, and seldom straight: the branches are strong, tough, and thorny, and the leaves of a glossy green, and beautifully divided: the flowers are white and beautiful; the fruit is small.

The flowers and the dried fruit are used in medicine: they have the same virtue. They work by urine, and are good in the gravel, and all complaints of that kind. But there are so many better things for the same purpose at hand, that these are not much regarded.

MESPIUS GERMANICA.

Medlar Tree.

A common tree in our gardens. It is of the bigness of an apple tree, and grows in the same irregular manner: the branches have thorns on them: the leaves are longer and narrower than in the apple tree, and they terminate in a point: the blossoms are large and white: the fruit is roundish, and open at the bottom, and till very much mellowed, is of an austere taste.

A strong decoction of unripe medlars is good to stop violent purgings. The seeds work by urine, and are good against the gravel, but there are so many more powerful things at hand, that they are seldom used.

MESPIUS MALUS.

Apple Tree.

The wild crab is the only natural apple of England, and it is on this stock that our gardeners graft the apple, and their skill and ingenuity has been such as to procure several varieties of this excellent fruit, affording a wholesome food to all classes of the people.

Gerard, who wrote his History of Plants about seventy years after the introduction of pippins, has given no account of this variety of the apple. He describes but seven kinds: the pome water, the baker-ditch apple, the king of apples, the quining or queen of apples, the summer pearmain, the winter pearmain, and the Paradise apple. In his description of apples, he

says, "The fruit of apples do differ in greatness, forme, colour and taste; some covered with a red skin, others yellow or Greene, varying infinitely according to the soyle and climate; some very great, some little, and many of a middle sort: some are sweet of taste, or something sour; most be of a middle taste, betweene sweet and sour; the which to distinguish I think it impossible, notwithstanding I heare of one that intendeth to write a peculiar volume of apples, and the use of them." This author continues, "The tame and grafted apple-trees are planted and set in gardens and orchards made for that purpose: they delight to grow in good and fertile grounds. Kent doth abound with apples of most sorts; but I have seen in the pastures and hedge-rows, about the grounds of a worshipful gentleman dwelling two miles from Hereford, called M. Roger Bodnorne, so many trees of all sortes, that the servants drink for the most part no other drinke but that which is made from apples. The quantitie is such, that by the report of the gentleman himselfe, the parson hath for tithe many hogsheads of cider." "Like as there be divers manured apples, so is there sundry wild apples or crabs, not husbanded, that is, not grafted. We have in our London gardens, (Gerard's garden was in Holborn) a dwarf kind of sweet apple called the Paradise apple, which beareth apples very timely without grafting."

Apples are a most valuable food for puddings, pies, &c., but their principal use in this country is in the making of cider. Many acres of land are appropriated to the growth of apple-trees in the counties of Hereford and Somerset, for the cider trade. It is considered a most wholesome drink, and we have the testimony of Lord Bacon, and other eminent men, that cider drinkers are for the most part long-lived. It is certainly more nourishing than wine, particularly the sort of wine commonly sold here, which no doubt is much adulterated.

The Siberian crab was not introduced into this country until 1758. Its fruit is considered superior for tarts and puddings, but being so very small it is difficult and impossible to take out the core without wasting more than half the fruit, and if the core is left in it is unpleasant to eat.

Great care is required in pruning apple-trees. No other branches should be cut but those which cross each other. All the shoots or suckers which proceed directly from the stem, must be entirely taken off. November is the best time for pruning, but it must not be done in frosty weather. All sorts of apples grow upon spurs, therefore, if these are destroyed, you cut off a future apple.

It is best to let the apples remain on the trees till quite ripe, particularly if intended for winter use. After gathering them, let them be placed on a heap to sweat, where they may remain a few weeks; they should then be wiped dry, and the sound ones packed in boxes so as to exclude the light and air, and they will remain sound and retain their flavour till wanted.

The diseases of apple-trees have occupied much of the attention of gardeners and practical botanists. The principal disease appears to come from a very minute insect lodging on the bark, and spreading to the leaves and blossom. Mr. Phillips recommends the rubbing of the trunk and branches with the leaves and young shoots of the elder, to which every kind of blight has an antipathy. Brimstone pounded and put on lighted charcoal, has been found a successful fumigation for destroying this blight; but the principal cause of disease in trees is owing to planting them in a soil

not proper for them. The true secret is to know the sort of soil adapted for each sort of vegetable, whether herb, shrub, or tree, and experience alone will give that knowledge.

PYRUS DOMESTICA.

Pear-tree.

The pear-tree is a native of Syria and Egypt, and was brought into Italy from these places, from whence it was brought into England, probably by the Romans, as we have no historical account of its introduction. "Every country," says Gerard, "hath its particular fruit; myselfe knowe some one curious, who hath in one piece of ground, at the point of three score sundrie sorts of pears, and those exceeding good; not doubting but, if his minde had been to seek after multitudes, he might have gotten together the like number of those of worse kindes. Master Richard Pointer," he says, "has them all growing in his ground at Twickenham, near London, who is a most cunning and curious grafter and planter of all manner of rare fruits; and also in the ground of an excellent grafter and painful planter, Master Henry Banbury, of Tounhill-street, neere unto Westminster; and likewise in the ground of a diligent and most affectionate lover of plants, Master Warner, neere Hornsey Down, by London; and in divers other grounds about London."

Mr. Phillips strongly recommends watering pear and other fruit trees in dry weather, for the purpose of increasing the crops by moisture. He had a trench cut round a standard pear-tree for the purpose of giving it water, but the season turned out rainy and made it unnecessary; and as the trench remained, this tree received a double portion of wet. The result was, that the tree ripened a full crop, about half matured another crop, and had its branches covered with the whole blossom for the third time in the month of November!

Pears for winter use may be preserved in the same manner as apples, as stated in the preceding article, though they require greater care.

The timber of the pear-tree is most valuable, and susceptible of great polish. Gerard says, that the cuts which ornament his book were engraved on the wood of the pear-tree. It is also much used for carpenter's tools, rules, and other purposes where a fine grained wood is required; but the wood of the wild pear is much better than the domestic, being harder and more solid.

PYRUS CYDONIA.

Quince Tree.

This is rather a small tree. Leaves simple, oval, of a dusky green, underneath whitish, and standing upon short footstalks. Flowers solitary, conspicuous, of a pale red and white, placed in the axillæ of the leaves. The calyx is cut into five notched segments.

It was originally a native of Cydon, in Crete, and is now common in gardens.

The seeds are successfully employed with liquorice root sliced in diseases of the kidneys and the stone. Its seeds abound so much with a mucilage, that one drachm will render three pints of water quite thick and

ropy; they may be used as the other soft mucilaginous substances. We have in our dispensatory a *mucilago seminum cydoniorum*, which ought not to be ordered as a preparation to be kept in the shops, because it soon grows mouldy in keeping. This mucilage, with conserve and syrup, makes a good linetus for easing a tickling cough, and has been used where oily medicines disagree.

OFFICINAL PREPARATION.

MUCILAGE OF QUINCE SEEDS.

Take of quince seeds, one drachm;

———— distilled water, eight ounces, by measure:

Boil, with a slow fire, for ten minutes; then pass it through linen.

This mucilage, though sufficiently agreeable, is perfectly superfluous, especially as it is apt to spoil, from being mixed with the other principles of the seeds in soluble water. It is, besides, never so transparent as mucilage carefully prepared from gum arabic, is not cheaper, and is unfit for many purposes, being coagulated by acids.

PYRUS MALUS.

Crab-tree.

A common hedge shrub, and when in flower very beautiful. The trunk is uneven, and the bark rough: the branches are knotty and roughish: the wood is firm, and the bark of a dark colour: the leaves are broad and short: the flowers are large and reddish, very beautiful and sweet, and the fruit is a small apple.

Verjuice is made from the crab; and it is a remedy for the falling down of the uvula, better than most other applications. It is also good against sore throats, and in all disorders of the mouth.

SPIRÆA ULMARIA.

Meadow Sweet.

A wild plant, frequent about the sides of rivers, with divided leaves and beautiful tufts of white flowers. It is four feet high. The stalk is round, striated, upright, firm, and of a pale green, or sometimes of a purple colour. The leaves are each composed of about three pair of smaller, set on a thick rib, with an odd leaf at the end: they are of a fine green on the upper side, and whitish underneath, and they are rough to the touch. The flowers are small and white, but they stand so close that the whole cluster looks like one large flower. The seeds are set in a twisted order.

The root of meadow-sweet is reckoned of singular efficacy in fevers. A decoction of it is made with white wine, and given in doses of from one to two table-spoonsful. An infusion made of the flowers is an excellent remedy for disorders of the skin, which may be drank as a common beverage. If individuals who are troubled with a foul scrofulous skin, will take the trouble to wash the surface of the body frequently, and rub well till they become warm, drinking plentifully of the above infusion during the day, and observe a strict temperance in eating and drinking, they may depend upon a cure in time, if the disorder be curable.

ORDER III.

POLYGYNIA.



MANY PISTILS.

Plants with many pistils.

ROSA.

Rose.

By the common and universal consent of the people of all ages, countries, and times, the Rose is acknowledged the queen of flowers. Its beauty and fragrance has been sung by poets, has been admired by the lovers of nature, from the times of Homer and Virgil, through all the intermediate ages, to our own times; and the theme is inexhaustible.

If all the poetry that has been written on the rose were collected, the matter would fill hundreds if not thousands of volumes, and additions to the stock are daily being made. And by an arrangement of our benevolent Creator we find the rose in almost every part of the world, from the frozen regions of Lapland and Siberia, to the equator, wherever indeed a flower of any kind will grow there blooms the rose.

Child of the summer, charming rose,
No longer in confinement lie;
Arise to light; thy form disclose:
Rival the spangles of the sky.
The rains are gone; the storms are o'er:
Winter retires to make thee way,
Come then thou sweetly blushing flower;
Come lovely stranger come away.

CASSIMER.

The diversities of the Rose are so numerous, that botanists have had great difficulty to determine the *species* from the *varieties*. Some have contended (and the great Linnæus among the rest) that the *Rosa Canina*, or common Dog Rose of our hedges is the only natural rose; and all the other sorts are *varieties* caused by cultivation or accident. And when we examine the beauty of the Wild Rose, its elegant simplicity, and delicate fragrance, we may conclude it is not an unworthy parentage. It is found growing plentifully in every part of the world, where trees or shrubs of any kind will grow.

In Mr. Green's Botanical Dictionary, now open before me, I find forty-five sorts of roses, and some of the florists have published lists of hundreds of sorts. A catalogue published by Messrs. Rivers, of Sandwich-worth, of roses on sale by them, gives, of *Rose Indica*, or Chinese Rose, 70 sorts;

Rosa Indica Odorata, or Tea-scented Rose, 51 sorts; of Scotch Roses, 27 sorts; and hundreds of others. Many stocks of roses belonging to English florists have been valued at thousands of pounds; and one amateur florist,—a merchant near Halifax, Yorkshire,—was said to have paid ten thousand pounds for roses alone! This gentleman unfortunately failed, and I hope his creditors would shew some indulgence to him on account of his taste; but alas, when men want money, they do not like to be put off with being told it has been expended in flowers.

The only sorts of roses used in medicine are the following:—

ROSA CANINA.

Dog Rose.

This is the common Wild Rose growing on hedges throughout the kingdom, which is sufficiently known. The excrescence of reddish green colour generally found on this shrub, is occasioned by a small insect, making a puncture to lay its eggs, and where the young pass the larva state. This was considered of a singular efficacy formerly as an astringent.

The following preparations are used:—

CONFECTION OF DOG ROSE.

Take of the pulp of Dog Rose, one pound;
 ——— refined sugar in powder, twenty ounces:

Rub them together till they are properly incorporated.

This is principally used as a basis for more powerful medicines in pills.

The following linctus is also commonly used for coughs:—

Take of the above confection, two ounces;
 ——— oil of almonds, two drachms;
 ——— tincture of squills, one drachm;
 ——— tincture of opium, twenty drops:

A tea-spoonful of the mixture to be taken when the cough is troublesome.

ROSA GALLICA.

Red Rose.

This species has obtained the name of English Rose, because this and the White are the most ancient roses known in this country, and have been assumed by our kings as cognizances of their dignity, and also because the Red Rose occurs oftener in England, and is more commonly used there, than in other places.

The varieties are the Mundi Rose, which has the flowers very elegantly stripped or variegated with red and white. In other circumstances it so perfectly resembles the Red Rose, that there can be no doubt of its being a variety of that. Indeed, it frequently happens that a Red Rose or two appears on the same plant with the variegated flowers. The varieties called Childing, Marble, and Double Virgin Roses, have, in Mr. Miller's judgment, great affinity with each other. The flowers of this species possess neither the fragrance nor the opening quality of the preceding species, but are chiefly valued on account of their astringency, which is most considerable before the petals expand, and therefore in this state they are

chosen for medical use, and ordered in different preparations, as a conserve, honey, infusion, and a syrup. These preparations, especially the first and second, have been highly esteemed in phthisical cases, particularly by the Arabian physicians. But in all the cases cited, it appears that the use of the conserve of roses was constantly joined with that of milk and farinacia, together with proper exercise in the open air; and hence it has very properly been doubted whether the recovery could be wholly imputed to the roses, though their mild, astringent and corroborant virtues, certainly contributed much. In some cases twenty or thirty pounds of the conserve was taken in the space of a month. The infusion is a grateful cooling subastringent, taken for spitting of blood, in which its efficacy chiefly depends on its acidity. The syrup derives its use merely from its colour. Both the acidity and the colour of the petals are best preserved by hasty drying.

The following are from the London Pharmacopœia :

COMPOUND INFUSION OF RED ROSES.

- Take of dried petals of red roses, half an ounce ;
- boiling water, two pints and a half ;
- diluted sulphuric acid, three drachms ;
- refined sugar, one ounce and a half :

Pour the water on the petals in a covered glass vessel, then drop in the acid and macerate for half an hour. Finally strain the liquor and add the sugar.

This is one of the most useful preparations of the Rose. It makes a most useful drink in fevers, and for consumptive patients. It is also useful as a gargle.

ROSE HONEY.

- Take of the petals of red roses dried, four ounces ;
- boiling water, three pints ;
- clarified honey, five pounds :

Macerate the petals in the water for six hours, add the honey to the filtered liquor, and boil it down to a proper consistence by the aid of a water bath.

ROSA CENTIFOLIA.

Hundred-leaved Rose.

This species of Rose-bush commonly rises about five or six feet in height, and is numerously beset with spines: the leaves are pinnated, consisting of two or three pair of pinnae, with an odd one at the end; each pinna, or leaflet, is oval, or rather egg-shaped, broad, serrated, pointed, veined, hairy, and closely attached to the common footstalk, which is rough, but without spines: the peduncles are covered with short bristly hairs: the flowers are large, commonly of a pale red colour, and the parts of inflorescence, which in their simple and natural state are similar to those described of *Rose Canina*, by the effects of cultivation, are forced into numerous petals, and are therefore to be considered as monstrosities.

Most of the Roses, though much cultivated in our gardens, are far from being distinctly characterized. Those denominated varieties are extremely numerous, and often permanently uniform; and the specific differences, as hitherto pointed out, are in many respects so inadequate to the purpose

of satisfactory discrimination, that it becomes a difficult matter to say, which are species, and which are varieties only. The London College, following Gerard and Parkinson, has still retained the name *Rosa Damascena*; but the damask rose is another species widely different from the *Centifolia*, as appears from the descriptions given of it by Du Roi and Miller.

The petals are directed for medicinal use: they are of a pale red colour, and of a very fragrant odour; which to most people is extremely agreeable, and therefore this and most of the other roses are much used as nose-gays. We may remark, however, that in some instances they have, under certain circumstances, produced alarming symptoms. The petals impart their odorous matter to watery liquors, both by infusion and distillation: six pounds of fresh roses impregnate, by distillation, a gallon or more of water strongly with their fine flavour. On distilling large quantities, there separates from the watery fluid a small portion of a fragrant butyrous oil, which liquifies by heat and appears yellow, but concretes in the cold into a white mass: an hundred pounds of the flowers, according to the experiments of Tachenius and Hoffman, afforded scarcely half an ounce of oil.

The following excellent remarks on the history and cultivation of the rose, is taken from *Don's Gardener's Dictionary*.

"*History*.—The rose is known by every body at first sight, and has been a favourite flower from time immemorial among the civilized nations of Europe and Asia. The shrub varies in size in different species and varieties, and the colours are red, white, purple, yellow, striped, or in almost numberless shades and mixtures, from single to semidouble and double. Roses are cultivated in every garden, from the most humble cottage upwards. Some species as *R. centifolia*, *R. damascena*, &c., are also cultivated on a large scale by commercial gardeners for distilling rose-water, and for making attar or essential oil of roses. Six pounds of rose petals will impregnate by distillation a gallon of water strongly with its odour; but a hundred pounds afford hardly half an ounce of attar. The rose is also used in medicine. Botanists are not agreed as to the number of original species of this genus, and notwithstanding the labours of many scientific men the genus still remains a chaos, from which it can never be extricated. We have endeavoured in the foregoing pages to render the species as clear as it is practicable from the present knowledge of the genus. The most scientific work which has appeared upon the subject in England is the '*Rosarum Monographia*,' of John Lindley, 1819; and Miss Lawrence has published about ninety plates of '*A Collection of Roses from Nature*,' 1810. In France Guillemeau has published '*Histoire Naturelle de la Rose*,' 1800, and P. J. Redoute and C. A. Thory have published a separate tract on the culture of roses, entitled, '*Prodrome de la Monographie du genre Rosier*,' &c. 1820. M. A. Pronville a '*Nomenclature Raisonnee*,' in 1818. J. Sabine has given an account of Scotch roses in *Hort. trans.* 4. p. 231. Many varieties of the rose are yearly raised from the seeds in the nurseries.

"*Varieties* are raised from seed on the continent, where the seeds ripen better than in this country. A number of varieties have also been raised in this country, especially of the *R. spinosissima* or *Scotch rose*. New varieties are raised in France and Italy annually. L. Villaresi, royal

gardener at Monza, has raised upwards of 50 varieties of *R. Indica*, some of them are quite black, others shaped like a ranunculus, and many of them highly odoriferous. Ample lists of the varieties are given under their proper species.

"*Propagation*.—By seed for new varieties, and chiefly by layers for continuing approved sorts. They are also increased by budding, cuttings, and suckers.

"*By seed*.—The hips containing the seeds are obtained from semidouble and single flowers, and to increase the chance to new varieties, these should be taken from plants that have been planted among or near to the kinds of which a cross is desired. Extracting the stamens from one flower, and dusting the stigmas with the pollen of another kind, might answer in most instances. In France and Italy the usual mode is to form a plantation of double and semidouble sorts, mixed indiscriminately, and take the result of promiscuous impregnation; it is also done in some of the nurseries of this country. The hips generally ripen in October or November. The seeds do not vegetate till the second season after sowing. The first year, instead of sowing them, they may be preserved among sand, or the hips entire may be so preserved a full year, when the husks will be perfectly rotten, and the seed being separated and sown in February will come up in May or June following. The seeds should be sown in soft soil, and in a shady situation, or they may be covered with earth from a quarter to half an inch, according to the size of the seeds. Early in the second spring they may be planted in rows a foot or two feet apart every way, according to the size of the sorts. Here they may remain till they flower, which varies in the different sorts from the third to the fifth year, but most commonly they flower the fourth summer.

"*By layers*.—The common mode is to lay down the young shoots of the preceding summer late in autumn or early in the succeeding spring, and then, with the exception of the *moss-rose*, and one or two others, they form rooted plants by the next autumn. But it is now found, that if the same shoots are laid down when the plant is beginning to flower in July, they will, with a few exceptions, produce roots, and be fit to remove the same autumn, by which a whole year is gained. Such sorts as do not root in one year must be left on the stools till the second autumn; but layers made when the shoot is in a growing state, and furnished with healthy leaves, root much more freely than shoots of ripe wood. After the plants are removed from the stools they are planted in nursery rows, and in a year the blossom buds, having been carefully pinched off from the first laying down, they will be fit for removal to their final destination. The stools are then to be pruned, and the soil stirred and enriched.

"*By suckers*.—Many of the commoner sorts admit of being rapidly multiplied in this way, and the plants obtained may be planted in their final destination at once.

"*By cuttings*.—Many sorts might be propagated in this way from cuttings of young wood, cut at a joint where it is beginning to ripen, and planted in sand and vegetable mould under a hand-glass. But this mode is only adopted with such sorts as strike easily, as the Indian and Chinese kinds.

"*By budding*.—This mode of propagating roses is adopted only with the rarer kinds, and such as are difficult to propagate by layers; for it is

found that plants so originated, even though on stocks of the hardier sorts, are less durable than such as are raised by any of the other modes. But the chief use of budding in the culture of the *rose* is to produce standard-roses, or to produce several sorts from the same tree or bush. Standard-roses are a modern invention, it is generally supposed of the Dutch, first carried to Paris, and about 30 years ago to England. They are highly artificial objects of great beauty, and form magnificent ornaments to parterres and borders. The stocks are either of the tree rose, *Rosa villosa*, or of any sorts of wild roses, which grow to a large size. They are budded at different heights, from 3 to 7 feet, but commonly between 5 and 6 from the ground. A stock in the Paris garden, which carries several sorts, has a naked stem of nearly 15 feet high, and there are others at Malmaison and at Grand Trianon of equal height. The stocks are procured from woods and copses, and after being planted in nursery lines are often budded the same summer, sometimes in summer by the *escalope* mode of budding, *l'œil puissant* of the French; and never later than the succeeding spring or summer by the common mode. Generally two buds are inserted on opposite sides of the stock, but often 3-4 or a dozen in alternate positions on the upper 6 or 12 inches of the stem. Every stock is supported by a rod, which should reach a foot or eighteen inches higher than the situation of the bud; to this rod the stock is tied, and afterwards the shoots from the buds, which are otherwise liable to be blown out by high winds. The Paris nurserymen being supplied with stronger stocks than can readily be procured in England, and having a better climate and more experience in the culture of roses, excel us in this department of *rose* propagation, and their standards afford an article of commerce with other countries. Their common plants raised by layers are also in extensive demand but in these we equal if not surpass them. Fine collections of standard roses may be seen in Lee's nursery at Hammersmith, in the Count de Vande's garden at Bayswater, in the duchess of Dorset's at Knowle, and in various other places.

"*Final situation.*—No species of *rose*, wild or cultivated, thrives well in or near large towns, on account of the smoke or confined air. The yellow and Austrian roses, *R. lutea* and *R. bicolor* are difficult to flower in any situation. Roses are generally planted in the front of shrubberies and in borders; they are also planted by themselves in rose gardens or rosaries, in groups on lawn or gravel, either with common box or other edgings, or with edgings of wire, in imitation of basket-work; these last are called baskets of roses; the ground inclosed in the basket margin is made convex, so as to present a greater surface to the eye, and increase the illusion; the shoots of the stronger sorts are layered or kept down by pegs till they strike root, so that the points of the shoots furnished with buds appear only above the soil, which is sometimes covered with moss or small shells; under this treatment the whole surface of the basket becomes in two or three years covered with rose-buds and leaves, of one or of various sorts. Where one of the larger free growing sorts are employed, as the *moss rose*, or any of the Provins' varieties, one plant may be trained so as to cover a surface of many square yards. Where different sorts are introduced in the same basket, they should be as much as possible assimilated in size of leaves and flowers and habits of growth, and as different as possible in the colours of their flowers. By mixing small-flowered with large-flowered

sorts, the beauty of the former is lost without adding to the effect of the latter. In rosaries commonly but one plant of a sort is introduced, and the varieties which most resemble each other are placed together, by which their distinctive differences are better seen. Particular compartments are often devoted to one species, as the *Scotch, Chinese, yellow, burnet-leaved, &c.*, which has an excellent effect, sometimes a piece of rock-work in the centre is covered with creeping *roses*, and on other occasions they are trained to trellis-work, which forms a fence or hedge of roses round the whole. In this hedge standard *roses* are sometimes introduced at regular distances: a grove of standards is also frequently formed in the centre of the rosary, and sometimes they are introduced here and there in the beds. Standard *roses*, however, have certainly the best effect in flower borders, or when completely detached on a lawn; their sameness of form, and that form very compact and bushy, prevents them from grouping well, either among themselves or with other objects. Their beauty consists in their singularity, as *rose* plants, and in their flowers; and therefore to display these beauties to the best advantage, they require to be seen singly, or in succession. This is the case where they occur as single objects on a lawn, or in the centre, or here and there among groups of flowers, or in lines or avenues along flower-walks.

"*Soil.*—Most species of the rose, in their wild state, grow in sandy and rather poor soil, excepting such as are natives of woods, where the soil is richer and comparatively moist. But all the cultivated *roses*, and especially the double flowering kinds, require a rich loamy soil, inclining to clay rather than sand, and they require also, like most double flowers, plenty of moisture when in a growing state.

"*General culture.*—To produce strong flowering *roses* requires some attention in pruning; old wood should be yearly cut out, and the young shoots thinned and shortened, according to their strength, and whether number or magnitude of flowers be wanted. Those sorts which throw out numerous suckers, should be taken up every three or four years, reduced, and replanted, and most sorts, excepting the standards, will be improved by the practice, provided attention be paid to remove a part of the old soil and replace it by new. The points of the shoots of the more delicate sorts of roses are very apt to die when pruning is performed in winter or spring, to avoid the consequences of this evil, many give a second pruning in June. Or do not prune the tender sorts at all till the beginning of that month. A very good time for performing the operation is immediately after the bloom is over, cutting out old exhausted wood, shortening shoots which have flowered, to a good bud, accompanied with a healthy leaf, but leaving such shoots as are still in a growing state till October. Where very large roses are wanted, all the buds, except on that of the extreme point of each shoot, should be pinched off as soon as they make their appearance, and the plant liberally supplied with water. To lessen evaporation, and to keep up a constant moisture at the roots of their roses, the Paris gardeners generally mulch them with half rotten stable dung or partially rotten leaves.

"*Forwarding and retaining roses.*—The earliest flowering rose is the *monthly*, which in mild seasons and planted against a wall, will sometimes flower in the beginning of April; the roses next in succession are the *cinnamon*, which flowers in May, the *damask*, in the end of May, or beginning of June; the *blush, York, and Lancaster Provins', and Dutch*

hundred-leaved, in June, July, and August. The *Virginia* and *musk roses* are the latest European sorts; they flower in September, and in shaded situations will sometimes continue in bloom till the middle of October; but the earliest rose (*the monthly*), is also the latest, and generally continues flowering till interrupted by frost. The earliest sorts may be materially forwarded by being planted against a south wall, and if portable sashes be placed before them, and the wall is either fired or heated by fibres, or a lining of dung placed behind, the plants may be brought to flower in February or March. The *monthly* rose, being protected by glass in autumn, or aided by artificial heat, may be continued in bloom till Christmas. A very common mode of obtaining late roses, and one of the greatest antiquity, is by cutting all the flower shoots off when the buds begin to appear, or by rubbing off all the rudiments of shoots of every kind early in the spring; a second crop is in consequence produced, which will not be in a state to bloom before the autumn.

"*Forcing the rose.*—The best sorts for this purpose are the common and *moss Provence*. The Indian sorts force well, or rather in stoves continue in bloom all the year; but the commoner varieties not being fragrant, they are of less repute than the European roses. Rose plants should be a year in pots previously to the autumn when it is intended to force them; they should be planted in pots 6 or 8 inches in diameter, in rich loam, and plunged in an open airy situation, their flower-buds pinched off as they appear, and the plants put into a state of rest, by excluding the sun and rain, but not a free circulation of air. Abercombie says, 'There is no certainty of obtaining a fine blow of roses in the depth of winter by the most expensive artifices of forcing; and yet fine flowers may be produced early in the spring by any ordinary stove, put in operation in December.' When the plants are first introduced, keep the air of the house about 55°, never letting it fluctuate to more than 2 or 3 degrees below the above. In the second week, aim at 60° as the standard; in the third week 65°. When a month has nearly elapsed, begin to increase the heat gradually to 70°, having brought it to this standard, let it afterwards exceed it from 3 to 5 degrees rather than sink below. A succession may be kept up by introducing pots every 8 or 10 days.

"*Insects.*—All the species of *Rosa* are very liable to the attacks of insects, especially of the aphides; some, particularly the briar and Scotch rose, are attacked by the cyneps rose, which by puncturing the bark occasions the productions of rose-galls, and of those massy tufts often seen on wild roses which were formerly known under the name of bedeguar, and used in medicine. A great number of insects seem fond of the flowers of roses, from the earwig to the seemingly harmless lady-bird, which deposits its larvæ in the leaves of various species, both wild and cultivated. There seems no remedy for insects on plants in the open air so simple and effectual as gathering them by hand, or removing the leaf or that part of the shoot which is infected by them. Under cover tobacco smoke will prove an excellent remedy for the aphides; but the larvæ of many others, and especially of the tipula, and the tenthrudinidæ, which occasion the wrapping up and shrivelling of the leaves, can only be removed by hand."

RUBUS FRUTICOSUS.

Bramble.

The most common bush in our hedges. The stalks are woody, angulated, and of a purplish colour, and they are armed with crooked spines: the leaves are rough, indented and stand either five or three on a stalk: the flowers are white, with a very faint tinge of purple; and the fruit is composed of a number of small grains.

The most neglected things have their use. The buds of the bramble leaves boiled in spring water, and the decoction sweetened with honey, are excellent for a sore throat. A syrup made of the juice of the unripe fruit, with very fine sugar, is cooling and astringent. It is good in moderate purgings. The berries are to be gathered for this purpose, when they are red.

RUBUS IDÆUS.

Raspberry.

A little shrub, common in our gardens, but wild also in some parts of the kingdom. The stalks are round, weak, tender, of a pale brown, and prickly: the leaves are each composed of five others; they are large, of a pale green, indented about the edges, and hairy: the flowers are little, of a whitish colour, with a great quantity of threads in the middle: the fruit is the common raspberry, composed like the blackberry of several grains. It is soft to the touch, and of a delicate taste. The colour varies, but white ones are common.

The juice of ripe raspberries, boiled up with sugar, makes an excellent syrup. It is pleasant and agreeable to the stomach, good against sickness and reachings.

PREPARATION

SYRUP OF RASPBERRY.

This is a very pleasant cooling syrup; and, with this intention, it is occasionally used in draughts and juleps, for quenching thirst, abating heat, &c. in bilious or inflammatory distempers. Sometimes, likewise, it is employed in gargarisms for inflammations of the mouth and tonsils.

CULINARY USES

RASPBERRY JAM.

Let your raspberries be ripe and dry. Mash, strew them in their weight of loaf sugar, and half their weight of the juice of white currants. Boil them in half an hour over a clear slow fire, skim well, and put them into pots, or glasses. Tie down with brandy papers, and keep them dry. Strew sugar over as soon as you can after the berries are gathered, and to preserve their fine flavour boil them as soon as you can.

RASPBERRY DUMPLINGS.

Make a puff paste, and roll it out. Spread raspberry jam, and make it into dumplings. Boil them an hour; pour melted butter into a dish, and strew grated sugar over.

RASPBERRY TARTS AND CREAM.

Roll out thin puff paste, lay it in a pattyman; put in raspberries, and strew fine sugar over them. Put on a lid, and when baked, cut it open, and put in half a pint of cream, the yolks of two eggs well beaten, and a little sugar.



Raspberry



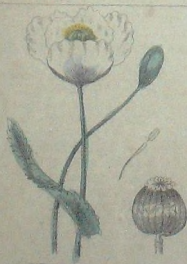
Strawberry



Cinquefoil



Avens



White Poppy



Red Poppy

RUBUS CHAMÆMORUS.

Cloud Berry.

This shrub which produces the most delicious fruit of all the tribe, grows on high moorlands, hence its name, as supposed to grow in the clouds. The leaves are a light green, and large as compared with some of the others; flowers, large and white; the fruit orange coloured; stems trailing and without prickles.

Cloud Berry is a most excellent remedy against scurvy, and if those who go to Harrowgate and other places for the purpose of seeking health, would spend half the time on our elevated moors in England or Scotland, in eating this fruit, *taking care to gather them before eating*, they would find greater advantage, besides escaping many of the vices which are frequently picked up in public watering-places. Doctor Clarke says that his life was saved by these berries, which cured him of a fever, when travelling in Lapland, where it is very plentiful.

Besides the above, we have eleven sorts of *Rubus* common to the British Isles, none of which are of much importance.

FRAGARIA VESCA.

Strawberry.

A very common little plant, both in our woods and gardens. The leaves stand three upon each stalk, they are large, broad, sharp at the point, and serrated about the edges: the stalks trail upon the ground, and take root at the joints: the flowers are white; they stand four or five together upon a long foot-stalk rising from the root, and without any veins; they are white, and moderately large: the fruit is well known. When ripe, it is red, and of an agreeable taste.

The fresh leaves are used; an infusion of them is good liquor to wash a sore mouth or throat: taken in large quantities, it works by urine, and is good against the jaundice.

To ladies, and those who wish for good and clean teeth, there is nothing better than cleaning them with ripe strawberries, and it is a *safe dentifrice*, which cannot be said of nine-tenths of the tooth pastes and powders generally used. It is also one of the most useful fruits grown, in eating of which, you can scarcely indulge to excess. It has with great propriety been called the "Oyster of Summer." It cannot indeed be too extensively cultivated.

Mr. Keen of Isleworth has long been famed for growing the best strawberries, and whose liberality in communicating his knowledge, is equal to his skill, has with the utmost kindness favoured the public with the following detail of his own practice, in the fourth volume of the *Horticultural Transactions*.

"In preparing the soil for strawberries, if it be new, and as is frequently the case, very stiff, it should be trenched, but if the bottom spit of the soil, as sometimes happens, be of inferior quality, I then recommend only a simple digging, placing dung at the bottom underneath the mould so dug; on the contrary, should the land have been kept in a high state of cultivation or be good to the full depth, it will be advisable for the bottom spit to be brought up to the top, placing the dung between the spits. The best

way to obtain new plants, is by planting out runners in a nursery for the express purpose in the previous season; for it is a very bad plan to supply a new plantation from old plants. With respect to the time of planting, I have always found the month of March better than any other. Sometimes when my crops have failed, I have had runners planted in the autumn for the following year, but these have always disappointed my expectations. I plant them in beds containing 3 or 4 rows, and the plants in each row, at a certain distance from each other, leaving an alley between each bed, the distance of the rows and of the plants in the rows, as well as the width of the alleys, depending on the kind of *strawberry* planted. The width of the alleys, as it will afterwards be stated, may appear considerable, but I am satisfied that allowing this space for the workmen to stand on when they water the plants or gather the fruit is beneficial, because I have observed in other persons' grounds, where less space is allotted for this purpose, that great damage is done to the plants and fruit by the trampling of the people.

"After the beds are planted I always keep them as clear of weeds as possible, and on no account allow any crop to be planted between the rows. Upon the growing of the runners, I have them cut when necessary; this is usually three times in each season. In the autumn I always have the rows dug between; for I find it refreshes the plants materially, and I recommend to those persons to whom it may be convenient, to scatter in the spring very lightly some loose straw or long dung between the rows. It serves to keep the ground moist, enriches the strawberry, and forms a clean bed for the trusses of fruit to lie upon; and thus by a little extra trouble and cost, a more abundant crop may be obtained. A short time before the fruit ripens I always cut off the runners to strengthen the root, and after the fruit is gathered, I have what fresh runners have been made taken off with a reaping hook, together with the outside leaves around the main plant, after which I rake the beds, then hoe them, and rake them again. In the autumn, unless the plants appear very strong, I have some dung thrown in between the rows, but if they are very luxuriant the dung is not required, for in some rich soils it would cause the plants to turn nearly all to leaf. I also have to remark, that the dung used for manure should not be too far spent; fresh dung from the stable door is preferable to that dung, which many persons are so fond of. The duration of the beds must be determined by the produce of the plants, which varies much according to the different soils, so that the precise time of the renewal of the beds must be regulated by the observation of the gardener in each particular case.

"I commence my observations on the different sorts, with the *pine strawberry*. The best soil for it is a light loam, though no other kind of *strawberry* will bear a strong loam better than this. It is likewise to be noticed, that this is of all others the most difficult *strawberry* from which to procure a good crop. Particular care must be taken that they are planted in open ground; for in all gardens they grow very strong, but seldom bear fruit, in consequence of being so much shaded by standard trees; and I have observed the shade of the walnut tree to be much more injurious to these than to others, for under it they seldom bear at all, but run entirely to leaf. In planting the beds of *pine strawberries* I keep the rows two feet apart, and put the plants 18 inches from each other in the

row, leaving alleys of 3 feet wide between each bed; these large distances I find necessary, for the trusses of fruit in my garden are frequently a foot long. The duration of this *strawberry* with me is three years; the first year it bears the best; the second year the crop is very good, and the third year it is less.

"The *imperial strawberry*, which was raised by myself from seed, may be treated in a similar way with respect to planting, distance, &c. as the *pine*; but I have to remark, that it requires rather a lighter and richer soil, and is not so liable to run to leaf when planted under trees.

"The *scarlet strawberry* must also be treated like the *pine*. With respect to distance for planting the beds of *scarlets*, I put each row 21 inches apart, and each plant 18 inches distant in the row, and make the alleys 2 feet 6 inches wide. The duration of this *strawberry* with me seldom exceeds three years.

"The *hautbois* I have always found to thrive best in a light soil, and it must be well supplied with dung, for excess of manure does not drive it into leaf like the *pine strawberry*. In planting the beds, each row must be 2 feet apart, and from plant to plant in the rows must be 18 inches, leaving the alleys between the beds 3 feet wide. There are many different sorts of *hautbois*; one has the male and female organs in one blossom, and bears very freely; but that which I most approve is the one which contains the male organs in one blossom, and the female in another; this bears fruit of the finest colour, and of far superior flavour. In selecting these plants care must be taken that there not too many of the male plants among them, for as these bear no fruit they are apt to make more runners than the females. I consider one male to ten females the proper proportion for an abundant crop. I learned the necessity of mixing the male plants with the others by experience in 1809; I had before that period selected female plants only for my beds, and was entirely disappointed in my hopes of a crop. In that year, suspecting my error, I obtained some male blossoms, which I placed in a bottle on the bed of female *hautbois*. In a few days I perceived the fruit near the bottle to swell; on this observation I procured more male blossoms, and in like manner placed them in bottles in different parts of the bed, removing the bottles to fresh places every morning, and by this means obtained a moderate crop where I had gathered no fruit the preceding year. The duration of the *hautbois* with me seldom exceeds three years.

"The *wood strawberry* is best raised from seed, which I obtained from fruit just gathered, sowing it immediately in a bed of rich earth. When the plants are of a proper size, I transplant them into other beds, where I let them continue till the March following. They are then planted in rather a moist soil in beds as the others, each row being 2 feet apart, and the plants in each row 18 inches distant, the alley between each bed being 3 feet wide; in this way I produce abundant crops of very fine fruit. I propagated this *strawberry* from runners, but never with such good success as from seeds, particularly if the runners were taken from old roots. The duration of this *strawberry* with me seldom exceeds two years.

"The *alpine strawberry* must always be raised from seed, which should be sown in a bed of rich earth in spring. When the plants are of a proper size, which will be in July and August, I plant them in rows at the back of hedges, or walls, in a rich or in a very moist soil; the rows should be 2

feet apart, and the distance from plant to plant in the rows 12 inches. My alpine thus managed, bear most abundantly, so much so that in gathering them there is not room for the women to set their feet without destroying many. The alpine differ from all other strawberries in quickness of bearing; for no other sort sown in the spring of the year will produce fruit under 2 years, whereas this yields a crop at the end of one year. Its duration with me seldom exceeds two years.

In order to have early strawberries, follow the directions of Mr. Abercrombie, who says "begin to force *strawberries* about nine weeks before you want to gather fruit. Plants excited before the first of January seldom repay the trouble, and in proportion as the time of beginning to force approaches the vernal equinox the returns are more abundant. Have reserve sets of potted plants for removal into a house or frame every three weeks till the middle of March:" he adds, "*strawberries*, taken into the house in March, fruit in higher perfection than those forced earlier." M'Phail and Nicol begin in January. The latter observes, "those who force *strawberries* to a considerable extent, perhaps 1000 pots, bring them in in different successions, perhaps 100 or 200 at a time; that is in places where there are several forcing houses." M'Phail says "when the weather begins to get cold in September, *strawberries* of the alpine kind in pots may be set in a forcing house or brick frame, and if they be in good health they will produce fruit for a considerable time. They require only a gentle heat of from 50° to 60°; give them water occasionally, but as there is constantly blossom and fruit on them, they need not be watered all over broad-cast. Give them plenty of air; they only require protection from heavy rains and cold weather." Morgan, as has been already noticed, begins to force *alpine*s in November, the *scarlets* in January, and the *pines* in February and March. Thus ensuring, as he says, a successional supply of fruit from October till June.

It is now a common practice amongst the best market gardeners to raise a second crop of strawberries in the open air. After procuring a first crop in the hot-house early in spring, the plants are removed in the open and they will yield an abundant crop in the month of September.

POTENTILLA REPTANS.

Cinque-foil.

A creeping wild common plant about way-sides and in pastures. The stalks are round and smooth, and usually of a reddish colour; they lie upon the ground, and take root at the joints: the leaves stand on long footstalks, five on each stalk; they are above an inch long, narrow, of a deep dusky green, and indented at the edges: the flowers also stand on long footstalks; they are yellow, and of the breadth of a shilling, very bright and beautiful: the root is large and long, and is covered with a brown rind.

The root is the part used. It should be dug up in April, and the outer bark taken off and dried: the rest is useless. This bark is to be given in powder for all sorts of fluxes. It stops purgings, spitting of blood, bleeding at the nose, and is also useful in coughs, jaundice, and ulcers in the kidneys. The best part of this plant for Medical purposes is the bark of

the root, which should be dried, when it will keep all winter, and may be taken in powder of a scruple to a drachm at a dose. An excellent decoction is made by boiling one ounce of the bark of the root, in three gills of water down to a pint, a quarter of which may be drunk two or three times a day for all the above disorders.

This decoction will also be found serviceable to bath inflamed sore eyes.

TORMENTILLA OFFICINALIS.

Tormentil.

A very common wild plant, but very pretty, and of great virtue. The stalks are eight inches long, but they do not stand upright; they are very slender, round, and of a brownish colour: the leaves stand seven, or thereabouts, together at a joint, all rising from one base; they are narrow, longish, pointed at the ends, serrated at the edges, and of a deep green: the flowers are small, but of a beautiful shining yellow; they grow on slender footstalks, and are of the shape and colour of the crow foot flowers, only more beautiful, and much less: the roots are large, thick, and crooked, brown on the outside, and reddish within, and of an austere taste.

The root is the part used, and is best dried. It may be given in powder or decoction. The powder is excellent against the bleeding of the piles, and bloody stools. Two ounces of the root added to a quart of harts-horn drink in the boiling, gives it a pretty colour, and adds to its virtue. The root is cordial as well as astringent, and operates a little by sweat. This decoction is therefore very serviceable in fevers attended with purgings. It checks this moderately, and is good against the fever at the same time.

The powdered root may be given in doses of half a drachm to a scruple, but the best way is to give it in decoction by boiling two ounces of the root to two quarts of water, down to three pints. The patient may take half a tea-cupful at a time. A very strong decoction will remove warts, and is good for old ulcers. If Tormentil came from India or China, it would be more used than it is; but being *cheap* and easily come at, it is (like many other herbs in the same predicament), neglected.

GEUM URBANUM

Avens or Herb Bennet.

A common wild plant neglected, but worthy of our notice. It grows about hedges, and rises to fourteen inches high: the stalk is firm and slender, and is divided into several branches: the leaves are large and rough, the stalk also is hairy: the leaves that grow from the root are winged; they consist of three pair of small ones, and one much larger at the end: those on the stalk are smaller, and consist of fewer parts, but otherwise they are alike: the flowers are small and yellow; they are succeeded by rough heads, as big as a horse bean, composed of many seeds with hooked filaments: the root is longish and large, of a firm substance, reddish colour, and very fragrant spicy smell; it is better than many drugs kept in the shops.

A small quantity of the root of *Avens* put in ale gives it a fine flavour. In some parts the roots are used to tan leather. It is also used to dye wool, to which it gives a permanent yellow colour. The young shoots are a pleasant and wholesome addition to salads.

The root powdered is equal to the Peruvian bark in the ague, given in doses of a drachm every two hours, in weak wine. In cholera morbus, dysenteries, and all disorders arising from a weak or relaxed state of the bowels, an infusion of the root will be found of great advantage. A compound tincture, made in the following manner, is recommended in cases of great weakness of the stomach.

COMPOUND TINCTURE OF AVENS.

Take of *Avens* root, bruised, an ounce and a half;
 ——— Angelica root, bruised,
 ——— Tormentil root, bruised, of each an ounce;
 ——— jar raisins, stoned, two ounces;
 ——— French brandy, two pints:

Macerate for a month in a warm place, then filter through paper. Dose, half an ounce.

Besides the common *Avens*, we have the

GEUM FLORE-PLENO.

Water Avens.

This species is rather scarce, and is only found in moist woods in Scotland and the North of England. It will readily be known to those acquainted with the former, as the difference is not so remarkable, except that the *Water Avens* sometimes produces double flowers. The root dried and powdered is very serviceable in the ague.

COMANUM PALUSTRE.

Marsh Cinquefoil

Stem about a foot high, often tinged with red, bent at the base round and smooth, covered with leaves, which are on long footstalks: the leaves are divided into three, five, and sometimes seven smaller ones, or *leaflets*, oblong, serrated, hoary underneath, sometimes thick: the flowers are of a dark red purple, approaching to blackness, and they appear in a sort of panicle.

Marsh Cinquefoil, or Purple Marsh-locks, as they are called in some parts, are common in marshes and ditches in Norfolk, and some other parts, though not so common as some other watery plants. The roots will give a sort of red dye. Goats will eat this plant, but all other sorts of cattle refuse it.

CLASS XIII.

POLYANDRIA.

1



MANY STAMENS.

Plants with many stamens (1).

ORDER 1.

MONOGYNIA.

2



1 PISTIL.

Plants with one pistil (2).

INTRODUCTORY REMARKS.

It has been observed before that in this and the twelfth Class, the number of the stamens is not so much to be depended upon as the *place of their insertion*. Strictly speaking, all the plants in Icosandria have not more than twenty stamens, and all the plants in Polyandria have *more than twenty*: but this is not the case in reality. The Poppy contains about the same number of stamens as the Rose; but if the reader will take the trouble to look into the flowers of each, he will know what is meant by the *place of insertion*. He will see the situation and stamens in each to be so different as to form a separate class of each.

ACTÆA SPICATA.

Black Bane-berries.

This plant grows about eighteen inches high, with a triangular stem, and triply ternate leaves, sharp pointed, and deeply serrated, with four concave petals to the flower, which fall off almost as soon as the flower opens. The blossoms are white, forming a spike-like cluster, followed by a juicy black-berry.

This plant is also known by the name of *Herb Christopher*, but is not very common, being found in some woods and shady places.

The root of Bane-berry is considered useful in nervous cases, but must be administered with great caution. The berries are poisonous in a very high degree, so that on the whole it is best to let it alone altogether, more especially as there are other plants that are known to possess all the advantages of this without the danger.

NYMPHCEA ALBA.

White Water-Lilly.

A large and elegant plant, the broad leaves of which we see floating upon the surface of the water in our brooks not unfrequently; and in the autumn large white flowers among them. The root of the plant is very long, extremely thick, and lies buried in the mud. The leaves rise singly one on each stalk; the stalks are round, thick, and of a spongy substance, having a white pith in them; and the leaves also are thick, and somewhat spongy: they are of a roundish figure, and they lie flat on the surface of the water. The flowers stand upon single foot-stalks, arising like those of the leaves separately from the root, and being like them light, round, and full of a white pith; the flowers are large and white, and have some yellow threads in the middle; the seed-vessel is large and roundish, and the seeds are numerous.

The root is the part used, and it is best fresh, and given in a strong decoction. It is a powerful remedy in the whites, and in those weaknesses left after venereal complaints: it is also good against violent purgings, especially where there are bloody stools. There are other kinds of water lily in our ditches, particularly a large yellow flowered one, whose roots possess the same virtues with the other but in a less degree.

CHELIDONIUM MAJUS.

Common Celandine.

A common wild plant, with large leaves, and yellow flowers, which, when broken in any part, stalk or leaves, emits a yellow juice. It grows three feet high, but the stalks are not very robust; they are round, green, and naked, with thick joints. The leaves stand two at each joint; they are large, long, and deeply divided at the edges, and are of a yellowish green: the flowers are small, but of a beautiful yellow, and they stand on long footstalks several together.

Celandine should be used fresh, for it loses the greatest part of its virtue in drying. The juice is the best way of giving it; and this is an excellent medicine in the jaundice. It is also good against all obstructions of the viscera, and if continued a time, will do great service against the scurvy. The juice also is used successfully for sore eyes.

To those troubled with warts, they have nothing to do but take the stalk of this plant, break it in two, and apply the juice to the part, and the warts will soon disappear.

The leaves and roots of Celandine have a faint unpleasant smell, and a bitterish very acrid and very durable taste, which is considerably stronger in the roots than in the leaves. Both water and rectified spirit extract nearly the whole of their pungent matter: the leaves, notwithstanding the yellow juice which issues so plentifully from a slight wound, and in which their activity seems to reside, give to rectified spirit a green tincture: the roots, which yield a copious saffron red juice, tinge the same menstruum of a brownish yellow.

The pungency of this plant is not of the volatile kind, little or nothing of it rising in distillation with water any, more than with spirit: it is

nevertheless greatly abated by drying the plant itself, or by inspissating with a gentle heat the spirituous or watery infusions.

This acrid plant has been much recommended in the general character of an aperient and attenuant. In jaundice it was long considered as the most effectual remedy that could be employed, as it appears from the writings of Dioscorides, Galen, Forestus, and other authors of more recent date; hence it was the principal ingredient in the *decoctum ad intericos* in the Edinburgh Pharmacopœia. Nor has its use been confined to hepatic obstructions; in those of the other viscera, as well as in the mesenteric and lymphatic glands, it is said to have been equally efficacious.

It has also been successfully employed as an expectorant; and several writers found it of great efficacy in curing intermittents. It has been administered in various forms and doses. Half a drachm, or a drachm of the dry root in powder, or an infusion in wine or water of a drachm, or a drachm and a half, of the fresh root, or three or four drops of its yellow juice in any convenient vehicle, are directed for a dose. We have little doubt but that the virtues of Celandine have been greatly exaggerated, and its general employment in jaundice seems to have originated in the absurd doctrine of signatures: in certain cases, however, we should expect to find it an useful remedy, for it evidently possesses active powers; and thus it is externally used to destroy warts, clean foul ulcers, and remove opacities of the cornea.

GLAUCIUM LUTEUM.

Yellow Horned Poppy.

Stem much branched, spreading, and two or three feet long: the root-leaves much cut (pinnatifid); the stem-leaves embrace the stem, deeply cut and furrowed, rough above, and smooth beneath: the fruit-stalks thick, slightly hairy, with one or two large yellow flowers. The fruit is in long pods.

It grows on sandy sea shores throughout England, but is particularly abundant on the Kentish coast.

This plant is not noted for any medicinal uses, but being a very showy flower, and therefore it is well worth the florist to scatter a few of the seeds about rock work, where it will thrive without much trouble.

PAPAYER SOMNIFERUM.

White Poppy.

This plant rises two or three feet in height. The leaves are alternate, ovate, smooth, deeply cut into various segments, and closely embrace the stem: the calyx soon drops: the flowers are large and terminal: the stigma is a large flat radiated crown covering the germen, which afterward becomes the pericarp.

The White Poppy originally came from Asia, and is there much cultivated, and it produces the opium imported from thence, which comes to us in flat cakes covered with leaves: it has a reddish brown colour, inclining to black, and a strong peculiar smell. Six hundred thousand pounds of it are annually exported from the Ganges! It is remarkable that the seed possesses not any or a very slight narcotic quality. They consist of a very

simple farinaceous matter, united with a bland oil, and serve as food in some countries, and are given to fatten poultry.

It appears that the poppy may be cultivated for the purpose of obtaining opium to great advantage in Britain. Professor Alston, of Edinburgh, said long since, that the milky juice, drawn by incision from poppy heads, and thickened either in the sun or shade, has all the characters of good opium; its colour, consistence, taste, smell, faculties, phenomena, are all the same; only, if carefully collected, it is more pure and free from feculencies.

Similar remarks have been made by others; to which, says Dr. Woodville, we may add our own; for during that summer (probably 1732) we at different times made incisions in the green capsules of the white poppy, and collected the juice, which soon acquired a due consistence, and was found, both by its sensible qualities and effects, to be the very pure opium. May I be permitted to add, that near fifty years ago I frequently amused myself with slashing the green poppy-heads, and collecting a most pure and well digested opium from them?

Two kinds of opium are found in commerce, distinguished by the names of Turkey and East India opium.

Turkey opium is a solid compact substance, possessing a considerable degree of tenacity; when broken, having a shining fracture and uniform appearance; of a dark brown colour; when moistened, marking on paper a light brown interrupted streak, and becoming yellow when reduced to powder; scarcely colouring the saliva when chewed, exciting at first a nauseous bitter taste, which soon becomes acrid, with some degree of warmth; and having a peculiar heavy disagreeable smell. The best kind is in flat pieces, and besides the large leaves in which it is enveloped, is covered with the reddish capsules of a species of rumex, probably used in packing it. The round masses, which have none of these capsules adhering to them, are evidently inferior in quality. Opium is bad if it be soft, or friable, mixed with any impurities, have an intensely dark or blackish colour, a weak or empyreumatic smell, a sweetish taste, or draw upon paper a brown continued streak.

East India opium has much less consistence, being sometimes not much thicker than tar, and always ductile. Its colour is much darker; its taste more nauseous, and less bitter; and its smell rather empyreumatic. It is considerably cheaper than Turkish opium, and is supposed of only half the strength. One-eighth of the weight of the cakes is allowed for the enormous quantity of leaves with which they are enveloped.

The action of opium on the living system has been the subject of the keenest controversy. Some have asserted that it is a direct sedative, and that it produces no stimulant effects whatever; while others have asserted as strongly, that it is a powerful, and highly diffusible, stimulus, and that the sedative effects, which it undeniably produces, are merely the consequence of the previous excitement. The truth appears to be, that opium is capable of producing a certain degree of excitement, while the sedative effects which always succeed, are incomparably greater than could be produced by the preceding excitement. The stimulant effects are most apparent from small doses. These increase the energy of the mind, the frequency of the pulse, and the heat of the body, excite thirst, render the mouth dry and parched, and diminish all the secretions and excretions,

except the cuticular discharge, which they increase. These effects are succeeded by languor and lassitude. In larger doses, the stimulant effects are not so apparent: but the excitability is remarkably diminished, and confusion of head, vertigo, and sleep, are produced. In excessive doses, it proves a violent narcotic poison, producing head-ache, vertigo, delirium, and convulsions, accompanied with a very slow pulse, stertorous breathing, and a remarkable degree of insensibility or stupor, terminated by apoplectic death. In one case, where the body was inspected after death, the inner membrane of the stomach was remarkably corrugated, and with some inflammation; but as large doses of sulphate of zinc and flour of mustard had been also taken, no inference can be drawn from these appearances. The bad effects of an over-dose of opium are often prevented by the occurrence of vomiting, and they are best counteracted by making the patient drink freely of acids and coffee, and not permitting him to yield to his desire of sleeping. By habit, the effects of opium on the body are remarkably diminished. There have been instances of four grains proving fatal to adults, while others have been known to consume as many drams daily. The habitual use of opium produces the same effects with habitual dram drinking—tremors, paralysis, stupidity, and general emaciation, and, like it, can scarcely ever be relinquished.

In disease, opium is chiefly employed to mitigate pain, diminish morbid sensibility, procure sleep, allay inordinate actions, and to check diarrhoeas and other excessive discharges. It is contradicted in gastric affections, plethora, a highly inflammatory state of the body, and determination of the blood to particular viscera.

In intermittents, it is said to have been used with good effect in every stage. Given even in the hot stage, it has been observed to allay the heat, thirst, headache and delirium, to induce sweat and sleep, to cure the disease with less bark, and without leaving abdominal obstructions or dropsy.

In fevers of the typhoid type, accompanied with watchfulness or diarrhoea, it is extremely useful; but when not indicated by particular symptoms, it does harm, by augmenting thirst and producing constipation.

Especially when combined with calomel, it has lately been much employed in inflammations from local causes, such as wounds, fractures, burns, absorption of morbid poisons, as in swelled testicle, &c.; and even in active inflammations, accompanied with watchfulness, pain, and spasm, after blood-letting.

In small-pox, when the convulsions before eruption are frequent and considerable, or when the accompanying fever is of the typhoid type, opium is liberally used. It is likewise given from the fifth day onwards; and is found to allay the pain of suppuration, to promote the pytialism, and to be otherwise useful.

In dysentery, after the use of gentle laxatives, or along with them, opium, independently of any effect it may have on the fever, is of consequence in allaying the tormina and tenesmus, and in obviating that laxity of bowels which so frequently remains after that disease.

In diarrhoea, the disease itself generally carries off any offending acrimony, and then opium is used with great effect. Even in the worst symptomatic cases, it seldom fails to alleviate.

In cholera and pyrosis, it is almost the only thing trusted to.

In colic, it is employed with laxatives, and often prevents ileus and inflammation, by relieving the spasm. Even in ileus, it is sometimes used to allay the vomiting, the spasms, and the pain.

It is given to allay the pain and favour the descent of calculi, and to give relief in jaundice and dysuria proceeding from spasm.

It is of acknowledged use in the different species of tetanus; affords relief to the various spasmodic symptoms of dyspepsia, hysteria, hypochondriasis, asthma, rabies canina, &c., and has been found useful in some kinds of epilepsy.

In syphilis it is only useful in combating symptoms, and in counteracting the effects resulting from the improper use of mercury, for it possesses no power of overcoming the venereal virus.

It is found useful in certain cases of threatened abortion and lingering delivery, in convulsions during parturition, and in the after-pains and excessive flooding.

The administration of opium to the unaccustomed is sometimes very difficult. The requisite quantity is wonderfully different in different persons, and in different states of the same person. A quarter of a grain will in one adult produce effects which ten times the quantity will not do in another; and a dose that might prove fatal in cholera or colic, would not be perceptible in many cases of tetanus or mania. When given in too small a dose, it is apt to produce disturbed sleep, and other disagreeable consequences; but sometimes a small dose has the desired effect, while a larger one gives rise to vertigo and delirium, and with some constitutions it does not agree in any dose or form. Its stimulant effects are most certainly produced by the repetition of small doses, its anodyne by the giving of a full dose at once. The operation of a moderate dose is supposed to last in general about eight hours from the time of taking it.

Externally, opium is used to diminish pain, and to remove spasmodic affections. It is found particularly serviceable in chronic ophthalmia, when accompanied with morbidly increased sensibility.

Opium may be exhibited,

1. In substance, made up in the form of a pill, lozenge, or electuary. The most efficient form.
2. Dissolved in diluted alcohol, or white wine.
3. Dissolved in water or watery fluids. Very perishable.
4. Dried and reduced to powder.

It is often given combined with aromatics, emetics, camphor, soap, dissolved waters, mucilage, syrups, acids, carbonate of ammonia, unctuous substances, &c. Some of these are unchemical mixtures, for the solutions of opium are copiously precipitated by astringents, the alkali-carbonates, and all the metallic salts.

PREPARATIONS.

PURIFIED OPIUM.

Take of opium, cut into small pieces, one pound;
— proof spirit of wine, twelve pints:

Digest the opium with gentle heat, stirring now and then till it be dissolved, and filter through paper. Distil the tincture so prepared, to a proper thickness.

Purified opium must be kept in two forms; one soft, proper for forming into pills; the other hard, which may be reduced into powder. A pill of half a grain usually produces sleep at night.



White Water Lily.



Limb Tree



Clove Tree.



Castan Cistus



Caper Bush



TINCTURE OF OPIUM, commonly called LIQUID LAUDANUM.

Edin.

Take of opium, two ounces;
—— diluted alcohol, two pounds:

Digest for seven days, and filter through paper.

London.

Take of hard purified opium, powdered, ten drachms;
—— proof spirit of wine, one pint:

Digest for ten days, and strain.

As these tinctures, on evaporation, furnish the same quantity of extract, they are believed to be of nearly equal strength; but it is to be regretted that they are not so well adapted for keeping as could be wished: after some time, a part of the opium is gradually deposited from both, and consequently the tinctures become weaker: the part which thus separates, amounts sometimes, it is said, to near one-fourth of the quantity of opium at first dissolved. The dose is commonly twenty-five drops at bed-time to procure sleep.

AMMONIATED TINCTURE OF OPIUM, formerly PAREGORIC ELIXIR.

Take of benzoic acid,
—— English saffron, sliced, of each three drachms;
—— opium, two drachms;
—— volatile oil of aniseed, half a drachm;
—— ammoniated alcohol, sixteen ounces:

Digest for seven days, in a close vessel, and filter through paper.

This is a preparation of considerable efficacy in many spasmodic diseases, as cholera, &c., the ammonia removing the spasm immediately, while the opium tends to prevent its return. Each drachm contains about a grain of opium. The dose is from twenty to thirty drops.

LIQUORICE TROCHES WITH OPIUM.

Take of opium, two drachms;
—— tincture of Tolu, half an ounce;
—— common syrup, eight ounces;
—— extract of liquorice, softened in warm water,
—— gum arabic, in powder, of each five ounces:

Triturate the opium well with the tincture, then add by degrees the syrup and extract, afterwards gradually mix in the powdered gum arabic. Lastly, dry them so as to form a mass, to be divided into troches, each weighing ten grains.

These directions for preparing the above troches are so full and particular, that no further explanation is necessary; seven and a half contain one grain of opium. These troches are medicines of approved efficacy in tickling coughs depending on irritation of the fauces. Besides the mechanical effect of the viscid matters in involving acrid humours, or lining and defending the tender membranes, the opium no doubt must have a considerable effect, by more immediately diminishing the irritability of the parts themselves. One of these is to be occasionally taken during the day to allay a tickling irritation in the throat.

PRESCRIPTIONS.

1. Take of purified opium, one scruple;
—— soap, two scruples;
—— essential oil of cinnamon, two drops;

Soften the opium first with a little wine, then mix well with the rest. The dose is two pills, to be taken at bed-time to procure sleep.

2. Take of purified opium, three grains;
 — purified storax, eight grains;
 — aromatic powder, four grains;
 — syrup of Tolu, as much as is sufficient:

Make into seven pills. Take two at bed-time.

3. Take of pills of opium, fifteen grains:

Make into four pills. Give one at bed-time, and, if that in an hour does not procure sleep, give another, and, if this produces no effect, in half an hour repeat a third, or even the fourth.

4. Take of tincture of opium (laudanum), twenty-five drops;
 — cinnamon water, one ounce;
 — syrup of Tolu, two drachms:

Make into a night draught.

5. Take of tincture of opium, two drachms;
 — decoction of barley, eight ounces:

Make into a glyster to be thrown up. To stop diarrhœa, and remove spasm.

6. Take of tincture of opium, fifteen drops:
 — chalk mixture, six ounces;
 — cinnamon water, one ounce:

Make into a mixture, of which take a large table-spoonful every six hours. Given to stop a looseness.

7. Take of powder of rhubarb, ten grains;
 — powder of chalk with opium, one scruple;
 — powder of chalk without opium, one drachm:

Make into four papers, of which take one, night and morning.

8. Take of tincture of opium, twenty drops;
 — chalk mixture, four ounces and a half;
 — tincture of cinnamon, half an ounce;
 — cinnamon water, two ounces;

Make a mixture, of which take two table-spoonfuls after every liquid motion. Given in diarrhœa, and the looseness often attendant upon consumption.

9. Take of tincture of opium, two drachms;
 — vitriolated zinc, eight grains;
 — rose water, four ounces:

Take two tea-spoonfuls in a wine glass of weak chamomile tea every four hours. Ordered in diarrhœa.

10. Take two poppy heads,

Boil them in a quart of milk, and use this as a fomentation. Excellent in inflamed eyes, used also to relieve the pain of inflammation from a blister or other cause.

PAPAYER RHÆAS.

Corn Poppy.

This is the well-known red poppy of the corn-fields, which grows throughout Europe, and needs no further description. It partakes of all the virtues of the white, but in a less degree

The following preparations are ordered by the London College:

SYRUP OF RED POPPIES.

Take of the fresh flowers of the red poppy, four pounds;
— boiling distilled water, four pints and a half:

Put the flowers, by degrees, into the boiling water, in a water bath, constantly stirring them. After this, the vessel being taken out of the bath, macerate for twelve hours; then press out the liquor, and set it apart, that the faeces may subside. Lastly, make it into a syrup with double refined sugar.

The design of putting the flowers into boiling water in a water bath is, that they may be a little scalded, so as to shrink enough that they may be all immersed in the water; without this precaution they can scarce all be got in: but they are to be continued no longer over the fire than till this effect is produced, lest the liquor becomes too thick, and the syrup rendered ropy.

As a medicine, it has little power.

The dose of this syrup is half an ounce to an ounce. The red syrup is often used to colour medicines, and given to infants in the dose of a tea-spoonful.

PRESCRIPTION.

Take of syrup of red poppies, two drachms;
— tincture of opium, twenty drops;
— cinnamon water, one ounce;
— rose water, four drachms:

Make into a draught, to be taken at bed-time.

I cannot conclude this subject without a remark or two on the pernicious custom of *opium eating*. It is quite true that opium allays pain and lightens sorrow, diffuses a pleasing languor over the frame, and gives unusual serenity to the mind, dispelling from it every apprehension of sublunary evil, and steeping it in scenes of Elysium. It is indeed an agent which can, for a period at least,

“Raze out the written troubles of the brain,
And, with a sweet oblivious antidote,
Cleanse the full bosom of that perilous stuff,
Which weighs upon the heart.”

But this is only for a time, and the charm being dissolved, the soul awakes from its trance only to experience aggravated woe, in those at least, (and even in Britain the number is not small), who have fallen into the habitual use of this drug. If there be on earth a misery that approaches what we might be allowed to conceive as among the worst sufferings of a future place of punishment, it is the state of an opium-eater, after the action of his dose has subsided. Unhappy and trembling, his head confused, and his stomach sick, remorse at his heart, but his resolution too feeble to attempt a reformation; feeling as an outcast from every thing that is good or great, he returns despairing to a repetition of his dose, and every repetition adds confirmation to the evil habit. His constitution becomes exhausted in a few years; he grows prematurely old, and dies of palsy, dropsy, or some disease as fatal; he dies, having by his own weakness and imprudence lived a life of wretchedness in this world, and looking forward at his exit to the darkest scenes of misery in the next. How often does man turn the greatest blessings into the greatest curse. Should these

remarks prove insufficient to deter the tempted from yielding. to a fascination more fatal than that of the serpent, let him read, with trembling, the "Confessions of an English Opium Eater."

PAPAVER RUBESCENS.

Double Red Poppy.

The flowers of this kind of Poppy are of a bright red, tending to a bluish colour, paired or striped in many places with white, and much jagged at the ends, almost like a feather, the bottoms of all the petals being white. The leaves are several, broad, of a whitish green, giving milk, as all the rest of the plant above ground does wherever it is broken, very much rent or torn in on the sides, and notched or indented besides, compassing at the bottom of them a hard, round, brittle, whitish-green stalk, branching towards the top, and bearing one fair large flower on the head of every branch. The root is hard, woody, and long, perishing every year, and must be new sown every spring, if they do not spring of their own sowing. The seeds are white; and the whole plant is of a strong heady smell.

PAPAVER NIGRUM.

Black Poppy.

This kind varies both in flowers and seed, although neither in leaves or any other thing from the preceding one. The flowers are thick and double, and somewhat jagged at the ends, either red, or bluish, or purplish red, or of a sad murrey, or tawny, with brown, or black, or tawny bottoms. The seed is of a greyish blue colour in some, in others more blackish.

NYPHÆA LUTEA.

Yellow Water-Lily.

Another flowering plant not unlike the last. The leaves are very large, smooth, and egg-shaped, with a deep notch at the base: flowers yellow, floating on still waters, slow rivers, and ponds, in many parts of England. The roots of this plant steeped in milk, and spread upon the floor, will destroy cockroaches and crickets. It is observed that the flowers have a smell like brandy: hence in some parts of England the plant is called *Brandy-bottle*. An infusion of a pound of the fresh root to a gallon of water, taken in the dose of a pint night and morning, is a good remedy for a scrofulous habit of body.

As a flowering plant, though less attractive than the *Nymphaea Albg.*, the White Water Lily, they do well to grow together.

TILLA EUROPÆA.

Lime Tree.

A tree common enough in parks and gardens, and when in flower very beautiful and fragrant. The trunk is thick, and the branches grow with a tolerable regularity: the leaves are short, broad, of a figure approaching so round, but terminating in a point, and serrated about the edges: the

flowers grow on long yellowish stalks, with a yellow, oblong, and narrow leaf upon them. They are themselves also of a yellowish white colour, and extremely delicate and sweet smelling. The fruit is roundish and small.

This tree is much in request for forming avenues to rich men's houses, and its fragrant flowers, which give out their sweet odour in the evening, add greatly to the estimation in which it is held.

Besides its beauty, the Lime-tree is useful. The inner bark of the stem is tough and pliable, so as to be made into ropes and mats. A coarse but useful paper may also be made from the bark. The wood being white and soft, yet smooth and close grained, and not liable to be worm eaten, is much in request by carvers. It is also used by shoemakers for cutting leather upon, as it does not blunt the knife. Turners, toy-makers, and makers of light articles of fancy ware, make great use of the wood of this tree. Much wine and brandy has been made from the fermented flowers, and they are said by the drinkers of such stuff to be very grateful, partaking of the odour of the flowers. An excellent sugar is procured by making incisions in the bark when the *sap* rises, which is to be boiled and clarified, and by fermentation will also produce wine. A reddish gall is common on the leaves of this tree, which is made by an insect, *Cynips Feltorum Tilia*. This has been found to produce a beautiful and durable red dye.

The flowers of the lime are useful in epilepsy, and nervous fevers: made into a decoction, or infusion, they will be found serviceable in asthma, or irritating coughs; as the whole tree, but more particularly the inner bark is full of a soft mucilage. It is exceedingly serviceable in burns, scalds, and gouty swellings, or inflammatory rheumatic affections of the joints. The powdered leaves may be taken in doses of half a drachm, to relieve urinary heats. The juice as obtained by tapping the tree near the root, is considered of great use in the falling sickness.

The following preparation will be found useful for all the purposes for which lime is applied.

INFUSION OF LIME FLOWERS.

Take of lime flowers, four drachms;
 — liquorice root, four drachms;
 — boiling water, three pints:

Infuse for a quarter of an hour. A pleasant and wholesome drink for asthmatic people, to be taken warm.

The propagation of the European lime is from seeds, cuttings, and layers. Hanbury, however says, "That trees from layers or cuttings never grow so handsome nor so fast as those from seeds." These should be gathered from thriving healthy trees of the true red-twigged kind; and then by far the greatest part of the young plants will be of that sort. The seeds will be ripe in October; and let a dry day be made choice of for gathering them. As the seeds grow at the extremity of the branches, and as it would be tedious to gather them with the hand, they may be beaten down with a long pole, having a large winnowing sheet, or some such thing, spread under the tree to receive them.

When you have got a sufficient quantity, spread them in a dry place, for a few days, and then sow them. The manner of sowing them is in beds of

rich mould, about an inch deep, and about an inch asunder all over the bed. The plants will appear the first spring, and should stand in the seminary two years, when they should be removed to the nursery, planting them in rows, about two feet and a half asunder, and a foot and a half in the rows; and here they may remain until wanted for use.

TILIA AMERICANA.

American Lime-tree.

Of this species there are a variety or two, which indeed differ very little in appearance from any of the common European sorts; for the leaves are heart-shaped like theirs. There are a larger and a smaller leaved sort. Their edges are finely serrated, and end in acute points. These beautifully cordated leaves that thus run into acute points, have their under surface of a paler green than their upper. The larger leaved kind is by far the finest sort, and the branches vary from all others of this genus, in that they are covered with a dark brown bark. The flowers excite no attention in the gardener; but the botanist is delighted when he finds they are furnished with nectaria, whereas the flowers of our common Lime-tree have none. The flowers are produced in bunches, like our common sort, but make no better figure. They are very fragrant; and are succeeded by coriaceous capsules, containing the seeds.

The propagation of this species is the same as that of the European sort, if seeds can be procured from abroad; if not, a few plants must be obtained. These should be planted in a light rich soil, if such can be had, for in such they shoot the strongest; though almost any other will do. After these plants have stood a year or two, they should be headed near the ground, for stools. They will then shoot out many young branches from these, which may be layered in the autumn; though, if they stand two years, there will be greater plenty of young twigs for layering; for every shoot of the first summer will the year following divide into several. When the layering of these is to be performed, which ought to be in the autumn, the strong two years shoots must be brought down; and if they are stiff, and do not bend readily, they must have a gentle plash with the knife near the bottom; a slit should be made at the joint for every one of the youngest twigs, and their ends bent backwards, that the slit may keep open. This being done, the mould must be levelled among the layers, and the ends of them taken off to within one eye of the ground. The business is then done, and the autumn following they will have all good roots, many of which will be strong, and fit to plant out to stand, whilst the weakest may be removed into the nursery ground, in rows, to gain strength. All the sorts of Lime trees will also grow from cuttings; but this is found to be an uncertain method; and if it was more certain, plants raised either by them or layers are not near so good as those raised from seeds, which way ought always to be practised where they can be obtained. Where that is not to be done, any art must be used to obtain some few plants; and if the gardener should happen to procure a cutting or two of the American sorts, set them in pots, and plunge them in the bark bed; let him water and shade them, and they will be sure to grow; and these he may afterwards increase at pleasure.

CISTUS CRETICUS.

Cretan Cistus.

This is a most beautiful shrub, filled with branches. The leaves are oblong, pointed, veined, rough, viscous, in pairs, upon short footstalks, and broad at the base. The flowers appear in succession at the end of the branches in June and July, are of a light red, marked with a dark spot at the end of each petal.

This is a perennial shrub, which grows in Syria, and more especially in the Grecian islands. The resin is said to have been formerly collected from the beards of goats which browsed the leaves of the Cistus: at present a kind of rake, with several straps or thongs of skins fixed to it, is drawn lightly over the shrub, so as to take up the unctuous juice, which is afterwards scraped off with knives. It is rarely met with pure, even in the places where it is produced; the dust, blown upon the plant by the wind, mingling with the viscid juice, and the inhabitants also being said to mix it with a certain black sand. In the shops two sorts are met with: the best (which is very rare) is in dark-coloured, almost black masses, of the consistence of a soft plaster, which grows still softer upon being handled; of a very agreeable smell, and of a light, pungent, bitterish taste: the other sort is harder, not so dark-coloured, in long rolls coiled up; this is of a much weaker smell than the first, and has a larger admixture of fine sand, which in the ladanum examined by the French Academy made up three-fourths of the mass; and that found in the shops seems even more sandy.

PREPARATIONS.

COMPOUND BURGUNDY PITCH PLASTER.

Take of Burgundy pitch, two pounds;

— ladanum, one pound;

— yellow resin,

— yellow wax, of each four ounces;

— expressed oil of mace, one ounce:

To the pitch, resin, and wax, melted together, add first the ladanum, and then the oil of mace.

COMPOUND LADANUM PLASTER.

Take of ladanum, three ounces;

— frankincense one ounce;

— cinnamon, powdered,

— expressed oil of mace, of each half an ounce;

— essential oil of mint, one drachm:

To the melted frankincense add first the ladanum, softened by heat, than the oil of mace. Mix these afterwards with the cinnamon and oil of mint, and beat them together, in a warm mortar, into a plaster. Let it be kept in a close vessel.

This has been considered as a very elegant stomach plaster. It is contrived so as to be easily made occasionally (for these kinds of compositions, on account of their volatile ingredients, are not fit for keeping), and to be but moderately adhesive, so as not to offend the skin, and that it may, without difficulty, be frequently renewed; which these sorts of applications, in order to their producing any considerable effect, require to be. They keep up a perspiration over the part affected, and create a local action, which diverts inflammation. Consumption from colds in delicate habits is by such means frequently obviated. After a long continued cough in the winter a Burgundy pitch plaster should be put over the breast-bone.

All the sorts of *Cistus* are propagated by seeds and cuttings. 1. Seeds is the best way, as by them the most handsome plants are produced, though they will not always afford so great a plenty of flowers as the plants raised from cuttings. When they are to be raised by seeds, a moderate hotbed should be in readiness for their reception by the beginning of March; and they should be sown in drills a quarter of an inch deep. A dry day should be made choice of for the purpose, and pegs should be stuck to shew the extremity of the drills. The drills may be made two inches asunder; and the bed being neated up, no other covering will be necessary than an old mat, to guard the plants, when coming up, from the spring frosts which may happen; for if the seeds are good, you may expect many plants to appear in less than a month; at which time they should be covered in the night, but be always kept uncovered in open and fine weather. As the dry weather comes on, they must be watered moderately every other morning, and the weeds constantly cleared off; and as the summer heat increases, the mats used to guard them from the frost in the night, must change their office: they must never come near them in the night, but only protect them from the scorching heat in the middle of the day. By the latter end of August many of the plants will be four or five inches high; when they may be thinned, and those drawn out either pricked in the nursery ground, in beds at small distances, in well sheltered places, or planted in pots, to be secured in the winter, and turned out at leisure. Of all the sorts, the Bay-leaved and the Sea Purslain-leaved species, with all their varieties, require this treatment. The rest are all very hardy. Those that are pricked out in rows in the nursery will immediately strike root: and, as well as those left in the old hotbed, if they are in well sheltered places, will do without any protection. If the place is not well defended, either by trees or hedges, it will be proper to prick some furze bushes all around, to break the keen edge of the severe frosts. Those left in the old bed should be planted out in the spring in the nursery ground; and in a spring or two after this, they should all be planted out where they are to remain; for none of these plants succeed so well if removed when grown old and woody. 2. These plants are easily raised by cuttings; and plants raised this way are often the best flowerers, though their manner of growth is not always so upright and beautiful. August is the month for this work; and if a dripping day happens in that month, it must be made choice of; if not, a bed of fine mould must be prepared, and the cuttings should be planted a few inches asunder; and after that, should be watered to settle the mould to them. The beds should be hooped; and the next day, as the heat of the sun comes on, they should be covered with mats: this covering should be repeated, observing always to uncover them in the evenings, and also in moist and cloudy weather. These cuttings will take root in a very little time; and their after management may be the same as the seedlings.

CARYOPHYLLUS AROMATICUS.

Clove Tree.

This is not a lofty tree, and divides into large branches. The leaves are large, entire, and stand upon short footstalks. The flowers terminate the branches. The colour of the petals is blue. The pericarp is one-celled.

umbilicated, and terminated by the indurated converging calyx. The seed is a large oval berry.

• Cloves yield by distillation with water, about one-seventh of their weight of volatile oil; 960 parts also gave to Neumann 380 of a nauseous, somewhat astringent, watery extract. The same quantity gave only 300 of excessively fiery alcoholic extract. When the alcoholic extract is freed from the volatile oil by distillation with water, the oil that arises proves mild, and the resin that remains insipid. Its pungency, therefore, seems to depend on the combination of these principles. The Dutch oil of cloves is extremely hot and fiery, and of a reddish brown colour; but it is greatly adulterated, both with fixed oils and resin of cloves; for the genuine oil when recently distilled is comparatively quite mild and colourless, although it gradually acquires a yellow colour. It is heavier than water, and rises in distillation with some difficulty; so that it is proper to use a very low-headed still, and to return the distilled water several times upon the residuum.

Cloves, considered as medicines, are very hot stimulating aromatics, and possess in an eminent degree the general virtues of substances of this class.

CAPPARIS SPINOSA.

Caper Bush.

• Leaves alternate, on short footstalks, oval, veiny, succulent, of a bright green. Flowers numerous, axillary, on long peduncles, white, with a faint blush of red. Petals waved. Filaments conspicuous, of a pale purple; anthers the same. Germen standing upon a round purple footstalk, having the appearance of a style.

Native of the south of France, Italy, and the Levant.

The bark of the root has been used in obstructions of the liver and menstrual suppressions.

The buds are made into a pickle with vinegar, and chopped up with melted butter, and eaten with boiled mutton. At first the taste is unpleasant, but after a little use becomes extremely agreeable.

THEA.

Tea Tree.

• It is generally believed, although there are many varieties, that the tea is but of one species, and that the differences are the production of soil, climate, and a particular mode of preparation. The two obvious distinctions of green and black teas naturally suggested the idea that there were two distinct species of this plant; and I believe it was Sir John Hill who first attempted at the distinction, remarking that the green tea (*Thea viridis*) had six petals, whereas the black tea (*Thea bohea*) has nine; and it must be allowed that the two plants differ greatly in the formation of the leaves, obvious even to the most inattentive observer. The green tea plant has leaves of a larger size than the other, elliptic, sharp-pointed; whereas the black is a perfect oval, rounder at the apex, and the first is of an apple-green colour, whereas the black is of a dark olive; the former has a very

wrinkled leaf, the latter perfectly smooth: the textures also differ; the green has a much looser texture, hence the one is somewhat transparent, the other opaque; the green spreads out, waving like the leaves of corn, and distant, whereas the black are numerous, stiff, and pressed close to the stem: the edges also differ: the green is unequally toothed, teeth large, it may be said to be jagged; the black is simply serrated, the teeth even, and minute. No two plants, therefore, can be more readily discriminated than the black and green, although the fructification so greatly resembles in both that these are usually not to be distinguished; for the number of petals in both kinds is very subject to vary. The leaf of the bohea tea, by the firmness of its texture, approaches very near to the Japan rose (*Camellia Japonica*), only these are half the size; and it seems closely allied to this plant, so that gardeners also notice this resemblance: and it is curious that the early plants imported to Europe as the true tree, sold by the Chinese, were actually the (*Camellia Japonica*); and I think it more than probable that the leaves of this plant are used with the green tea, which may render that kind of tea so stimulating; and it is allowed on all hands that this plant is intermixed with the green tea, and may produce much pernicious effect upon some peculiar habits. But I mention this only as my own imperfect conjecture; for swayed by the general, and now universally received, opinion, I am not indeed allowed to consider the black and green tea (*Thea nigra et viridis*) as forming distinct teas of themselves.

It is cultivated everywhere, from Canton to Peking; where the winter, according to the observations of the missionaries, is more severe than at Paris. It would no doubt be possible, says the learned Des Fontaines, to propagate this valuable plant in France, if one could procure a sufficient number of individuals to make experiments, by cultivating it in different soils and under different climates. This object deserves the attention of government, as the consumption of tea is immense, and as the quantity imported every year amounts to a considerable sum, for which Europe is rendered tributary to China. The tea seeds brought to us from that country become rancid, and spoil at sea; so that scarcely one of a thousand produces plants. It would therefore be necessary that persons who go to China should procure them exceedingly fresh, and take care to sow them, before they sail, in boxes filled with light earth: they would then spring up on the passage. Nothing would be necessary but to water them from time to time, and to preserve them from the sea water: the young plants might then arrive in safety.

These are the chief distinctions of teas in Europe:

GREEN TEAS.

1. *Bing*. (so called from the man who first made that tea,) imperial, or bloom tea, with a large loose leaf, of a light green colour, and a faint delicate smell, and the leaves are not rolled.

2. *Hy-tiann, hikiang, hayssuen, or hee-ahun*—known to us by the name of hyson tea, named from an Indian merchant, who first sold tea to an European, his tea being asked for ever after. The leaves are closely curled and small, of a green colour verging towards blue. Another hyson tea, with narrow short leaves, is called *hyson-utchin*. There is also a green tea named *gabs*, with long narrow leaves, strongly rolled.

3. *Song-lo* or *Singlo*, which name it receives, like several others, from the place where it is cultivated.

BOHEA TEAS.

1. *Soo-chuen*, *sut-chong*, *sou-chong*, or *su-chong*, called by the Chinese *saa-tyang*, and *sæt-chaon*, or *sy-tyann*, is a superior kind of *cong-fou* tea. It imparts a yellowish green colour by infusion, and has its name from a place or province in China.

Padre-souchong, called so because the priests drink it, has a finer taste and smell. The leaves are large and yellowish, not rolled up, and packed in papers of half a pound each. It is generally conveyed by caravans into Russia. Without much care it will be injured at sea. It is rarely to be met with in England.

2. *Cam-ho* or *Soum-lo*, called after the name of the place where it is gathered. A fragrant tea, with a violet smell. Its infusion is pale.

3. *Congo-fou*, *congo* or *bongo-fu*. This has a larger leaf than the following, and the infusion is a little deeper coloured. It resembles the common bohea in the colour of the leaf.

There is a sort called *lin-kisam*, with narrow rough leaves. It is seldom used alone, but mixed with other kinds: by adding it to *congo*, the Chinese sometimes make a kind of *pekoe* tea.

4. *Pekuo*, *pekco*, or *pekoe*, by the Chinese called *back-ho* or *pack-ho*. It is known by having the appearance of small white flowers intermixed with it.

5. Common bohea, or black tea, called *moji* or *mo-ee* by the Chinese, consists of leaves of one colour, a brownish green. The best is named *tao-kyonn*. An inferior kind is called *An-kai*, from a place of that name.

Besides these, tea, both bohea and green, is sometimes imported in balls, from two ounces to the size of a nutmeg and of peas. The Chinese call it *pencut-tcha*. The smallest in this form is well known under the name of gunpowder tea.

Tea is indeed the common beverage of all the labouring people in China, and they are scarcely ever represented at work of any kind, but the tea-pot and tea-cup appear as their accompaniments: reapers, threshers, and all who work out of doors, as well as within, have these attendants.

With respect to the qualities of tea, it appears that an infusion of green tea has the effect of raising the sensibility of the nerves, and the irritability of the muscles; and that it gives out in distillation an odorous water, which is powerfully narcotic.

That the recent plant contains such an odorous narcotic power, we might presume from the necessity which the Chinese find of drying it with much heat before it can be brought into use; and that even after such preparation they must abstain from the use of it for a year or more, that is, till its volatile parts are still further dissipated: and it is said, that unless they use this precaution, the tea in a more recent state manifestly shows strong narcotic powers. Even in this country the more odorous teas often show their powers in affecting the nerves of the stomach, and indeed of the whole system.

From these considerations it may fairly be concluded, that tea is to be considered as a narcotic and active substance; and that it is especially

such in its most odorous state, and therefore less in the *bohea* than in the green tea, and the most so in the finer kinds of the latter.

Its effects however seem to be very different in different persons; and hence the contradictory accounts that are given of them. But if we consider the difference of constitution, which occasions some variation in the operating of the same medicine, and of which we have a remarkable proof in the operation of opium, we shall not be surprised at the different operations of tea.

It is not at the same time to be denied, that green tea may sometimes have good effects. It is very possible, that in certain persons, taking in moderate quantities, it may, like other narcotics, prove exhilarating, or, like them, have some effect in taking off irritability, or in quieting some irregularities of the nervous system.

As its bad effects have been often imputed to the warm water that accompanies the tea, so there is no doubt that some of its good effects may also be ascribed to the same cause, and particularly its being so often grateful after a full meal.

After all, the infusion of tea, as it is commonly taken in England, with a competent quantity of milk or cream and sugar, cannot be very narcotic or sedative, especially as after a long voyage it is kept some time in the East India Company's warehouses: and the finer sorts of it are not so much in request as formerly. Nor can it be an unwholesome beverage for sedentary persons and such as live freely, provided it be not taken too hot, or in immoderate quantities, or without any solid food accompanying it. For the lower class of people, who generally live poorly, and procure little animal food, tea, conveying little or no nourishment, is a bad succedaneum for beer; and a meal on it, including sugar and butter, is so expensive, that they must forego what is more necessary for their support, in order to enjoy it.

In 1641, Tulpus, a celebrated physician, and consul at Amsterdam, wrote in praise of the good qualities of tea. It is asserted that he did so by desire of the Dutch East India Company, who rewarded him with a considerable sum of money. In 1667, Jonquet, a French physician, extolled its virtues. In 1678, Bontetre, physician to the elector of Brandenburg, who had acquired great reputation, bestowed high encomiums on its qualities, in a dissertation which he published on tea, coffee, and chocolate. This work was attended with great success, and contributed not a little to render the use of it more general; and before the end of the century the consumption of it was considerable.

The introduction of tea into England was about the year 1660, when the first mention of it was made in the statute-book, and a duty of fourpence a gallon laid on the liquor made and sold in coffee-houses.

A quantity of it being brought over from Holland in the year 1666 by Lord Arlington and Lord Ossory, tea soon came into request among people of fashion, and its use by degrees since that period has become general. Hanway informs us, that at this time it sold for sixty shillings a pound.

From these small beginnings we have seen the infusion of a leaf from the furthest extremity of the earth become, in a manner, a necessary of life in several parts of Europe, and the passion for it descended from the most elevated to the lowest orders of society. In 1785 it was computed that the

whole quantity of tea imported into Europe was about nineteen millions of pounds, of which it is conjectured that twelve millions were consumed in Great Britain and its dependencies.

Sir George Staunton informs us, that the annual public sales of tea by our East India Company did not, in the beginning of the eighteenth century, much exceed fifty thousand pounds weight, independently of what little might be then perhaps clandestinely imported. The company's annual sales now (in the year 1797), approach to twenty millions of pounds, being an increase of four hundred fold in less than one hundred years, and answers to a rate of more than a pound each in the course of a year for the individuals of all ranks, sexes, and ages, throughout the British dominions, in Europe and America.

Since the year 1797, it is probable that the importation of tea has much increased, and that at least sixty millions of pounds are annually imported into Europe alone.

Since the free use of tea, the stone has become a very rare disease in England.

HELIANTHEMUM.

Sun-rose, or Heliotrope.

Seventy-three sorts of this most splendid flower are given in the catalogue of the florists, and new varieties are constantly appearing.

This plant is also called Turnsole or Turnsole, because their flowers turn to the sun, as many others do. They may all be raised from seed sown in the spring; but the famous sort especially, which is called the *Heliotropium Tricoceum*, whose juice will give a tincture to liquids, should not be wanting in a virtuoso's garden, for it is of use in many experiments. Among the seeds of this there is juice, which being rubbed upon paper or cloth, gives them a green colour, but soon changes to a bluish purple; and the same cloth or paper, being afterwards put in water, and pressed gently, will change the water to a claret colour; there is a good deal of philosophy in this, and by a little practice we might come to know the degree of acidity in any liquor. We may have this from the druggists, by the name of Turnsole or Heliotrope.

ORDER II.

PENTAGYNIA. 5 PISTILS.

PÆONIA CORALLINA.

Broad-leaved Peony.

A flower common in our gardens, but of great use as well as ornament. The common double peony is not the kind used in medicine, this is called the female peony; the single flowered one called the male peony, is the right kind; this grows two or three feet high: the stalk is round, striated, and branched: the leaves are of a deep green, and each composed of several others: the flowers are very large, and of a deep purple, with a green head in the middle. When these are decayed, this head swells out into two or more seed vessels, which are whitish and hairy on the outside, and red within, and full of black seeds. The root is composed of a number of roundish lumps, connected by fibres to the main source of the stalk; these are brown on the outside, and whitish within.

If all the statements of the old physicians be true respecting the virtues of peony, it is indeed a wonderful medicine. Galen states that the root cut into thin slices, and suspended round the neck as an amulet, is a certain remedy for the falling sickness or epilepsy. The root is given in powder in the dose of one or two scruples twice a day; or the expressed juice mixed with wine, and sweetened with sugar. The expressed juice is also made into a syrup. A distilled water is also made with the flowers; and an antileptic emulsion has been made by beating up the seeds, with the distilled water of the plant, with lump sugar and gum arabic, which is said to prevent epilepsy. As I have before observed, most extraordinary virtues were formerly attributed to peony, but they want proof in modern practice. It may be that the cultivated plant has not the same virtues as the wild one, as we know that many wild herbs of known virtue, lose the whole of their virtue when transferred into the garden.

DELPHINIUM CONSOLIDA.

Lark Spur.

A common flower in our gardens, but not without its virtues. It grows a yard high; the stalks are round, upright, firm, and of a pale green: the leaves are cut into a multitude of long, narrow, and very fine divisions, and are of a deep green colour: the flowers which grow in long spikes at the tops of the branches, are naturally blue, but often red or white; they are moderately large and have a kind of spur behind.

The leaves are used: they must be boiled fresh in water, and the decoction is good against the bleeding piles. It stops the hemorrhage, and at the same time cools the body, whereas too many of the astringent medicines are heating.

DELPHINIUM STAPHISAGRIA.

Staves-Acre.

A very pretty plant, native of Italy, and kept in our gardens. It is two feet and a half high: the stalk is round, thick, firm, and upright, and a little hairy: the leaves are of a roundish figure, but divided deeply into seven parts, and these serrated at the edges; they are large, and of a deep green, and stand on long foot-stalks: the flowers are of a deep blue, large, and very like the flowers of lark-spur; they grow in a spike at the top of the stalks: the seed-vessels are notched, and the seeds rough.

Staves-acre is one of the class of herbs, such as Foxglove, Hemlock, and others, *that are not to be made use of without great caution*: it is a very acrimonious and dangerous plant. The seeds are held in great repute for the cure of the itch, destroying lice, and other vermin on the human body, and generally enters into the composition of ointments for such purposes.

The powdered seeds have been given as a purge for dropsical patients, but must be given in very small quantities at first, (two or three grains are enough to begin with,) and increased till the effect be produced. The following decoction is one of the best outward applications for the itch, it must be laid on with a linen rag two or three times a day.

DECOCTION OF STAVES-ACRE.

Take of the seeds of staves-acre, two ounces,
— spring water, three pints;

Boil down to two pints, strain, and add forty drops of Laudanum.

TINCTURE OF STAVES-ACRE.

Take of staves-acre seeds bruised, one ounce,
— Alcohol, one pint;

Macerate for fourteen days, and strain.

Dr. Blanchard, of America, strongly recommends this tincture as a remedy for the asthma; in doses of twenty drops, to be gradually increased to forty if necessary.

ACONITUM NAPELLUS.

Monk's Hood, or Wolf's Bane.

This grows from two to five feet, erect. The leaves are lobed, deeply lacinated, standing alternate upon long footstalks; upper leaves almost sessile, the laciniae broader than the under: the superior surface of the leaf a deep green, the under whitish. Flowers numerous, terminal, of a deep purple. The upper petal helmet-shaped, or hood-like.

It is a perennial plant, found in the alpine forests of Carinthia, Carniola, and other mountainous countries in Germany, and cultivated in our gardens.

The fresh plant and root are very violent poisons, producing remarkable debility, paralysis of the limbs, convulsive motions of the face, bilious vomiting, and catharsis, vertigo, delirium, asphyxia, death. The fresh leaves have very little smell, but when chewed have an acrid taste, and excite lancinating pains, and swelling of the tongue. By drying, its acrimony is almost entirely destroyed. For medical use, the plant must be withered before the stem shoots.

When properly administered, it acts as a penetrating stimulus, and generally excites sweat, and sometimes an increased discharge of urine.

On many occasions it has been found a very effectual remedy in glandular swellings, venereal nodes, spina ventosa, amaurosis, gouty and rheumatic pains, intermittent fevers, and convulsive disorders.

We may begin by giving one or two grains of the dried leaves in powder, but it is commonly used in the form of an inspissated juice. As soon as the plant is gathered, the juice is expressed and evaporated without any previous clarification, to the consistence of an extract. It is to be regretted that the powers of this medicine vary very much, according to its age, and the heat employed in its preparation. When recently prepared, its action is often too violent; and when kept more than a year, it becomes totally inert. It may therefore be laid down as an universal rule in the employment of this and of many other similar active medicines, to begin with very small doses, and to increase them gradually to the necessary degree; and whenever we have occasion to begin a new parcel of the medicine, we should again commence with the smallest dose, and proceed with the same caution as at first.

We may begin by giving half a grain of this extract, either formed into a powder with ten grains of white sugar, or made up with any convenient addition into a pill, twice or thrice a day, and gradually increase the dose; or a tincture of aconite may be prepared by digesting one part of the dried leaves in six parts of spirit of wine; the dose of which will be at first five or ten drops, and may be gradually increased to forty.

PREPARATION.

INSPISSATED JUICE OF ACONITE.

Bruise the fresh leaves of wolf's bane, and, enclosing them in a hempen bag, compress them strongly till they yield their juice, which is to be evaporated in flat vessels heated with boiling water, saturated with muriate of soda, and immediately reduced to the consistence of thick honey.

After the mass has become cold, let it be put up in glazed earthen vessels, and moistened with alcohol.

NIGELLA DAMASCENA.

Fennel Flower.

A singular and pretty plant kept in gardens. It grows a foot and half high: the stalk is firm, round, striated, upright and hollow: the leaves are divided into a multitude of fine slender parts like those of fennel, only very small in comparison, and thence it had the English name of fennel flower; they stand irregularly on the stalks, and are of a pale green: the flowers stand at the tops of the branches, they are singular and pretty; the colour is whitish, and they are moderately large; the green leaves about them give them a very particular grace.

The juice of the plant fresh gathered, is good for the head-ache; it is to be snuffed up the nose, and it will occasion sneezing; inwardly taken it works by urine, and it is good in the jaundice.



Peony



Wolf's Bane



Scilla



Stavesacre



Tulip



AQUILEGIA VULGARIS.

Common Columbine.

A common garden flower, but a native also of our country. It grows two feet high; the leaves are divided into many parts, generally in a threefold order: the stalks are round, firm, upright, and a little hairy: the flowers are blue and large: the seeds are contained in a kind of horned capsules.

The leaves and the seeds are used; a decoction of the leaves is said to be good against sore throats. The seeds open obstructions, and are excellent in the jaundice, and other complaints from like causes.

This is another dangerous plant, and although formerly strongly recommended in small pox, measles, &c., it is now wholly abandoned, particularly as we have other remedies equally certain in their effects, and free from danger. A blue syrup is made of the flowers by the chemists, which is considered a better test for the presence of acids and alkalies, than the syrup of violets.

SYRUP OF COLUMBINE.

Take of the fresh flowers of columbine, two pounds,
——— boiling water, four pounds;

After digesting them for ten hours, strain the liquor; then repeat the process twice with a like quantity of flowers.

Add to the third straining,
white sugar, four pounds;

Clarify, and boil gently to the consistence of a syrup. It requires great care to preserve the fine blue colour of the flowers: the flowers should not be bruised, and the infusion should be protracted as little as possible.

STRATIOTES ALOIDES.

Water Aloe, or Water Soldier.

A water plant, with numerous radical leaves, six to nine inches long, resembling the aloe. The flower stalk rises from the centre, from which grows one large white flower: common in slow streams and fens throughout England. When the plants have done flowering at the latter end of summer, they sink down to the bottom of the water, and in the spring there rises up numerous suckers from the old root, each bearing a young plant which floats on the surface till it grows to maturity. It is curious to see eight or ten of these flowers in one circle, all growing from one root; in such a manner they go on spreading so as entirely to cover and choke up the ditch, and forming a compact covering of splendid flowers, of a snowy whiteness. It is well worthy of cultivation in swamps.

ORDER III.

POLYGYNIA.

MANY PISTILS.

ZOSTERA MARINA.

Common Grasswack.

Stems much branched, two or three feet long: the leaves floating on the sea, grass-like: flowers in a sheath three or four inches long. There is a sort of transparent membrane covering one side of the spathe. It is found everywhere on the sea shores and in salt water ditches. Exposure to the weather bleaches it white. It is useful in building mounds or walls. Roofs are thatched with it, which endure a long time. It is much used as a manure by the inhabitants on sea coasts. Horses and pigs will eat it, for which purpose it is collected by the inhabitants of Sweden. At present it is not used for any purpose of medicine.

ANEMONE.

Anemone, or Pasque Flower.

This is called Wind-flower in some parts of England, and it is just one of those sorts that warms the heart and reanimates the spirits of the true lovers of nature. Twenty-eight sorts are mentioned in Don's Catalogue, four of which are natives of Britain. The most common is the

ANEMONE NEMOROSA.

Wood Anemone.

It grows to six or eight inches high: the leaves doubly threefold or lobed and variously jagged, with slight hairy veins: flowers white, slightly tinged with purple at the base of the outer petals, and rather drooping: the flowers are sometimes double, or entirely, of a purplish colour; grows in moist shady woods throughout England, and is one of the earliest of spring flowers, being frequently seen with the Primrose, Pilewort, &c. The following is from Withering.

"The flowers fold up in a curious manner, and bend downwards, against rain. The whole plant is acrid. Goats and sheep eat it, but it is to apt to disorder the latter violently. Horses, cows, and swine refuse it. Linn.—(The recent flowers are poisonous, and the plant yields an acrid, volatile principle, so corrosive as to be used externally instead of Cantharides. It is also serviceable in head-aches, tertian agues, and rheumatic gout. Swediaur. E.) This plant is sometimes found with yellow dots on the under surface of the leaves, and has been mistaken for a *Polypodium*. Some have supposed these dots the work of an insect, but without sufficient proof. Dr. Pultney has rendered it probable that they are formed of a

minute species of *Lycoperdon*, though as they may be discovered in their younger state under the outer cuticle of the leaf, it is not obvious how the seeds could be introduced. These plants are evidently in a diseased state, of a yellow green, and do not bear flowers. The leaf of *Betonica officinalis* is liable to be affected in the same manner: also that of *Fragaria*. The roots afford a nidus for *Peziza tuberosa*. By garden culture the stamens become transformed into supernumerary petals, and thus it attracts the admiration of the florist more than when in its native shades it merely affects the "*simplex munditiis*." The remarks of an elegant writer may be applied with peculiar propriety to this genuine primæval production, fit emblem of virgin modesty. 'The love of flowers seems a naturally implanted passion, without any alloy: but, perhaps, it is the early flowers of spring that always bring with them the greatest degree of pleasure, and our affections seem immediately to expand at the sight of the first opening blossom, however humble its race may be. It is not intrinsic beauty, or splendour, that so charms us, for the fair maids of spring cannot compete with the grander matrons of the advanced year; they would be unheeded, perhaps lost, in the rosy bowers of summer and autumn: no, it is our first meeting with a long-lost friend, the reviving glow of a natural affection, that so warms us at this season: to maturity they give pleasure as a harbinger of the renewal of life, a signal of awakening nature, or of a higher promise: to youth, they are expanding being, opening years, hilarity, and joy. With summer flowers we seem to live as with our neighbours, in harmony and good will; but spring flowers are cherished as private friendships.' Though the more splendid varieties of Anemonies or Wind-flowers are derived from exotic species, which beautifully enamel the meads of Greece, our native ornament of the lonely thicket cannot fail to engage a due degree of admiration.

'Where thickly strewed in woodland bowers
Anemonies their stars unfold.'

WINTERIA AROMATICA.

Winter Bark.

A tree rising often fifty feet. Leaves oval or elliptical, entire, obtuse, flat, shining, of a pale blue underneath, irregularly placed upon thick peduncles. Calyx thick, fleshy. Corolla petals white, small. Germen turbinate.

This is the produce of a tree first discovered on the coast of Magellan by Captain Winter in the year 1567. The sailors then employed the bark as a spice, and afterwards found it serviceable in the scurvy; for which purpose it is at present also sometimes made use of in diet drinks. The true Winter's bark is not often met with in the shops, canella alba being generally substituted for it; and by some they are reckoned to be the same: there is, however, a considerable difference betwixt them in appearance, and a greater in quality. The Winter's bark is in larger pieces, of a more cinnamon colour than the canella, and much warmer and more pungent. Its smell resembles that of cascarilla. Its virtues reside in a very hot, stimulant, volatile oil.

This bark is a warm stomachic and but little applied in medicine, the

canella alba being generally substituted in its place, which is supposed to have nearly the same virtues.

HELLEBORUS NIGER.

Black Hellebore, or Christmas Rose.

The scape or flowerstalk is erect, and proceeds from a bractea, or rather involucre. The flowers are white, at first conspicuous, afterwards turn green. The nectaries are eight, tubular, and bilabiate, of a green colour. The germina vary from four to eight. The leaves are compound, divided in a peculiar manner resembling a foot, fixed upon radical footstalks. The simple leaves are oval, smooth, thick, and serrated towards the top.

This plant is perennial, and grows wild in the mountainous parts of Austria, and on the Pyrennees and Appennines. The earliness of its flowers, which sometimes appear in December, has gained it a place in our gardens.

The roots consist of a black furrowed roundish head, about the size of a nutmeg, from which short articulated branches arise, sending out numerous corrugated fibres, about the thickness of a straw, from a span to a foot in length, deep brown on the outside, white or yellowish white within, and of an acrid, nauseous, and bitterish taste, exciting a sense of heat and numbness in the tongue, and of a nauseous acrid smell. These fibres only are used in medicine, and the decayed parts are rejected. For the roots of the real black hellebore, the roots of the *Adonis vernalis*, *Trollius Europæus*, *Acetæa spicata*, *Astrantia major*, *Helleborus viridis* foetidus, *Veratrum album* and *Aconitum neomontanum*, are often substituted. The last is a most virulent poison, and may be distinguished by its roots being fusiform, or nearly globular, sending out numerous very brittle fibres, of a grayish black or brown colour, as thick as the finger, and repeatedly divided. But the surest way to avoid mistakes, is by the apothecary cultivating the plant itself in his own garden.

Neumann got from 2880 grains, 380 alcoholic, and 181 watery extract; and inversely, 362 watery, and 181 alcoholic. Its active constituent seems to be of a volatile nature; for it loses its virtues by keeping, and water distilled from it has an acrid taste.

In large doses, hellebore is a drastic purgative; in smaller doses, it is diuretic and emmenagogue. It is principally used as a purgative in cases of mania, coma, dropsy, worms, and psora, and as an emmenagogue. But its use requires very great caution, for its effects are very uncertain, and affected by many circumstances.

It is commonly exhibited in the form of extract, although its activity be much dissipated by the preparation. An infusion and tincture certainly promise to be medicines of more uniform powers.

PREPARATION.

TINCTURE OF BLACK HELLEBORE.

Take of black hellebore, in coarse powder, four ounces;
 ————— cochineal, powdered, two scruples.
 ————— proof spirit of wine, two pints:

Digest with a gentle heat for seven days, and strain.



Winter Bark Tree



Black Hellebore



Clematis



Meadow Rue



Globe Flower



This is perhaps the best preparation of hellebore, when designed for an alterative, the menstruum here employed extracting the whole of its virtues. It has been found particularly serviceable in uterine obstructions. In sanguine constitutions, where chalybeates are hurtful, it has been said that it seldom fails of exciting the menstrual evacuations, and removing the bad effects of their suppression. A tea-spoonful of the tincture may be taken twice a day in warm water, or any other convenient vehicle.

PRESCRIPTION.

Take of the washed flowers of sulphur, two ounces;
 ——— black hellebore, in powder, two drachms;
 ——— essence of bergamot, one drachm;
 ——— hog's lard, two ounces:

Make into an ointment; smear only the joints for three nights, and wash it off with soap and water the following morning. The itch is sure to disappear. Repeat the same process in a week, when an effectual cure will be produced. It may be as well at the same time to take night and morning a tea-spoonful of an electuary of flowers of sulphur mixed with honey or treacle.

HELLEBORUS FETIDUS.

Stinking Hellebore.

This also rises to two feet in height. The leaves below are numerous, and stand upon long footstalks, resembling the former: those above are narrow, lanceolate, of a dark green: the flowers are inconspicuous, green, terminal, upon long peduncles.

This plant is found wild in England, and flowers in February.

A decoction of about a drachm of the green leaves, or fifteen grains of the dried, is given to children, and repeated three mornings, when it seldom fails expelling the round worms; or a tea-spoonful of the juice, mixed with syrup, may be given for that purpose.

Its extract, which contains mostly its gummy parts, with some of its resin, is milder than the root itself, and is used for the same purposes; it is given from five grains to a scruple.

Its tincture, called *tinctura melampodi*, the old name given to this plant, which is drawn with one pound of proof spirit from four ounces of the root, is of the same nature. Dr. Mead recommends it as one of the most powerful medicines he knew for removing obstructions of the menses, given in the quantity of a tea-spoonful twice a day. I have often used it on Dr Mead's recommendation; and though it did not succeed in every case, yet I found no medicine so efficacious in removing uterine obstructions, and restoring the natural menstrual discharge, as this tincture.

CLEMATIS VITALBA.

Traveller's Joy.

This is the beautiful climbing plant, frequently seen at the doors of houses, and arbours in gardens, intertwining and covering the trellis work. In good old times in England, when labourers had cottages and gardens, and when they had *self respect*, when dukes would as soon have thought of hanging them, as to offer them "curry powder" instead of bacon, or to consign them to the tender mercies of an union workhouse, after having spent the prime of life in hard work. In those days scarce a labourer's



Winter Bark Tree.



Black Hellebore



Clematis



Meadow Rue



Globe Flower



This is perhaps the best preparation of hellebore, when designed for an alterative, the menstruum here employed extracting the whole of its virtues. It has been found particularly serviceable in uterine obstructions. In sanguine constitutions, where chalybeates are hurtful, it has been said that it seldom fails of exciting the menstrual evacuations, and removing the bad effects of their suppression. A tea-spoonful of the tincture may be taken twice a day in warm water, or any other convenient vehicle.

PRESCRIPTION.

Take of the washed flowers of sulphur, two ounces;
 ——— black hellebore, in powder, two drachms;
 ——— essence of bergamot, one drachm;
 ——— hog's lard, two ounces;

Make into an ointment; smear only the joints for three nights, and wash it off with soap and water the following morning. The itch is sure to disappear. Repeat the same process in a week, when an effectual cure will be produced. It may be as well at the same time to take night and morning a tea-spoonful of an electuary of flowers of sulphur mixed with honey or treacle.

HELLEBORUS FETIDUS.

Stinking Hellebore.

This also rises to two feet in height. The leaves below are numerous, and stand upon long footstalks, resembling the former: those above are narrow, lanceolate, of a dark green: the flowers are inconspicuous, green, terminal, upon long peduncles.

This plant is found wild in England, and flowers in February.

A decoction of about a drachm of the green leaves, or fifteen grains of the dried, is given to children, and repeated three mornings, when it seldom fails expelling the round worms; or a tea-spoonful of the juice, mixed with syrup, may be given for that purpose.

Its extract, which contains mostly its gummy parts, with some of its resin, is milder than the root itself, and is used for the same purposes; it is given from five grains to a scruple.

Its tincture, called *tinctura melampodii*, the old name given to this plant, which is drawn with one pound of proof spirit from four ounces of the root, is of the same nature. Dr. Mead recommends it as one of the most powerful medicines he knew for removing obstructions of the menses, given in the quantity of a tea-spoonful twice a day. I have often used it on Dr Mead's recommendation; and though it did not succeed in every case, yet I found no medicine so efficacious in removing uterine obstructions, and restoring the natural menstrual discharge, as this tincture.

CLEMATIS VITALBA.

Travelier's Joy.

This is the beautiful climbing plant, frequently seen at the doors of houses, and arbours in gardens, intertwining and covering the trellis work. In good old times in England, when labourers had cottages and gardens, and when they had *self respect*, when dukes would as soon have thought of hanging them, as to offer them "curry powder" instead of bacon, or to consign them to the tender mercies of an union workhouse, after having spent the prime of life in hard work. In those days scarce a labourer's

cottage was to be seen which was not covered with the vine, the hop, or the traveller's joy. Like all the favourites in those days, it had a *religious name given*, which it retains in some parts of England at present, namely, "Virgins bower," or "our Lady's bower;" and wherever it can be grown, it deserves to be planted for the beauty and freshness of the leaves, and the delicate sweetness and fragrance of the flowers. Besides the claspers with which it is furnished, the very leaves have a tendency to worm round plants. Some common beggars produce ulcers by applying the juice of this plant to the skin, in the same manner as the acrid juice of the *Ranunculus Acris*.

Dr. Stoerck recommends an infusion of two or three drachms of the leaves in a pint of boiling water, of which he gave four ounces three times a day. The bruised leaves were applied to ulcers as an escharotic. Given also in cutaneous affections, ulcers, and venereal affections of long standing.

Besides the above, we have

Clematis Viticella, the Virgin's Bower; a deciduous climber; native of Italy and Spain.

Clematis Viorna, the Virginia Climber, or the Purple Climber; a deciduous climber; native of Virginia and Carolina.

Clematis Crispa, the Carolina Climber, or the Curled Purple Climber; a deciduous climber; native of the East.

Clematis Orientalis, the Oriental Climber; a deciduous climber; native of the East.

Clematis Cirrhosa, the Evergreen Clematis, or Evergreen Spanish Climber; an evergreen climber; native of Spain and Portugal.

Clematis Flammula, the creeping Climber; a deciduous climber; native of the south of Europe.

Clematis Virginiana, the Sweet-scented Clematis, or the Sweet-scented American Climber; a deciduous climber; native of South America.

These are all the hardy climbing species of this genus yet known. The varieties of the first kind are notable, and afford as much diversity in a garden as if they were distinct species. The other sorts also admit of varieties; but the difference is very inconsiderable, and makes little variety, as they nearly agree with some or others of the above sorts.

The propagation of all these sorts is by layers; and this is best done in summer on the young shoots as they grow. As soon, therefore, as they have shot about a yard or four feet in length, let the ground be well dug about each stool, and made fine, and a gentle hollow made about a foot from the stool. In this hollow let the young shoots be pressed, and covered with mould, leaving their ends out to continue growing. In a very little time they will be a yard or more in length; when a second hollow may be made, at a distance from the other, and the shoots pressed down and covered with mould as before, the ends still being left out to grow. On some of the long shooting sorts this may be repeated again, and even again; and others must be waited for until the autumn following. This summer method of layering is highly necessary, because some of the sorts, particularly the Virgin's Bower, if layered in winter in the common way, will be often two whole years, nay sometimes three, before they will strike root. Any time from autumn to spring the layers may be taken up; and from one stool some scores are often obtained. These with good roots may

be set out to remain ; and every bit that has a fibre should be cut off below that fibre, and should be headed to one eye or joint above the part that had been out of the ground ; and thus all the layers being collected together should be planted in the nursery at small distances, and in a year or two they also will be good plants for use.

The Traveller's Joy may be layered at any time, for the roots will easily strike ; nay, they will grow by cuttings.

The Evergreen Spanish Climber requires no art or trouble to increase it ; for it will increase itself if the ground is left undisturbed a year or two, and will throw out plenty of suckers, which will have roots, and be good plants.

THALICTRUM MAJUS.

Meadow Rue.

There is also a small Meadow Rue called *Thalictrum Minus*. The large Meadow Rue grows with a perennial root, throwing up one or two stems every year, which are two or three feet high, rather crooked, cylindrical, scored, of a purplish green, leafy, several branches from the same point of different lengths. The leaves are small, egg-shaped or roundish, two or three cleft towards the end, rather glaucous above, and quite so underneath. Flowers pendant, and of a purplish green.

Very violent fits of rheumatism and the gout have been much relieved by a poultice made of the leaves, and applied as hot as it can be borne. The root gives a yellow dye to wool. It is an acrid plant, and by no means fit for the inexperienced to deal with, though an outward application like the above can do no harm, and has certainly been productive of very salutary effects.

RANUNCULUS ACRIS.

Upright Meadow Crow-foot.

Root perennial, consisting entirely of long white slender fibres. Stalk erect, branched near the top, round, hairy, about two feet in height. Leaves on long upright footstalks, trifid, subdividing into smaller lacinated lobes, marked beneath with small prominent reticulated veins : at the base of the peduncles, the leaves are simple, linear, and fringed with hairs. The flowers are yellow, terminal, on long round hairy peduncles. Calyx of five leaves, which are ovate, spreading, hairy, yellowish. Corolla of five petals, yellow, shining, heart-shaped, commonly notched at the top. Filaments numerous, short, furnished with yellow inclining antheræ. Nectarium, a small scale at the base of each petal. Germina numerous, forming an orbicular head. Styles none. Stigmata reflexed. Seeds numerous, roundish, of a brown colour.

It is a native of meadows and moist pastures, flowering in June and July.

The great acrimony of this, and many of the other species of *Ranunculus* is such, that on being applied to the skin they excite itching, redness, and inflammation, and even produce blisters, tumefaction, and ulceration of the part. On being chewed they corrode the tongue ; and, if

taken into the stomach, bring on all the deleterious effects of an acrid poison.

The corrosive acrimony, which this family of plants possesses was not unknown to the ancients, as appears from the writings of Dioscorides; but its nature and extent had never been investigated by experiments before those instituted by C. Krapf at Vienna, by which we learn that the most virulent of the Linnæan species of *Ranunculus* are the *bulbosus*, *sceleratus*, *acris*, *arvensis*, *thora*, and *illyriens*. The effects of these were tried either upon himself, or upon dogs, and show, that the acrimony of the different species is often confined to certain parts of the plant, manifesting itself either in the roots, stalks, leaves, flowers, or buds: the expressed juice, extract, decoction, and infusion of these plants were also subjected to experiments.

In addition to these species, mentioned by Krapf, we may also notice the *R. Flammula*, and especially the *R. Alpestis*, which, according to Haller, is the most acrid of this genus. However, as the species here delineated is a common English plant, and possesses this active principle diffused in a very considerable degree throughout the whole herb, it has been judged proper to select it for this work as a sufficient example and representative of the whole tribe.

Mr. Curtis observes that even pulling up this plant, and carrying it to some little distance, excited a considerable inflammation in the palm of the hand in which it was held.

It is necessary to remark, that the acrimonious quality of these plants is not of a fixed nature; for it may be completely dissipated by heat; and the plant on being thoroughly dried, becomes perfectly bland.

Krapf attempted to counteract this venomous acrimony of the *Ranunculus* by means of various other vegetables, none of which was found to answer the purpose, though he thought that the juice of sorrel, and that of unripe currants, had some effect in this way; yet these were much less availing than water; while vinegar, honey, sugar, wine, spirit, mineral acids, oil of tartar, and other sapid substances manifestly rendered the acrimony more corrosive. It may be also noticed, that the virulency of this plant, as well as of most others, depends much upon the situation in which they grow, and is greatly diminished in the cultivated plant.

This and some other species of *Ranunculus* have, for medical purposes, been chiefly employed externally as a vesicatory, and are said to have the advantage of a common blistering plaster, in producing a quicker effect, and never causing strangury. But, on the other hand, it has been observed, that the *Ranunculus* is less certain in its operation, and that it sometimes occasions ulcers, which prove very troublesome and difficult to heal. Therefore their use seems to be applicable only to certain fixed pains, and such complaints as required a long continued topical stimulus, or discharge from the part, in the way of an issue, which in various cases has been found to be a powerful remedy.

RANUNCULUS ARVENSIS.

Corn Crowfoot.

This species is easily distinguished from the Meadow Crowfoots, by its

annual root and prickly seeds. The stalk is upright, a foot high or more, leafy, round, smooth, except towards the top, where it is pubescent, branching. Root-leaves trifid, broader than the others, and on longer petioles: stem-leaves alternate, usually three-parted, with the lobes again deeply divided into two or three parts. Flowers very small, brimstone-coloured. Stamens 14-16. Seeds 5 or 6 (sometimes 8 or 9) flat, covered with awl-shaped prickles.

Corn Crowfoot abounds among crops of all kinds in most parts of Europe. It flowers in May and June; and has seeded before harvest. Linnaeus affirms that the seeds do not come up till the second year. It is said to be as highly acrimonious, when fresh, as any of the species. In some countries it has the name of *Hungerweed*; whence we should presume, that it is supposed to indicate a barren soil.

It were much to be wished that these vernacular names could be collected together; for till that is done, there will never be an understanding between theoretical and practical men.

RANUNCULUS BULBOSUS.

Bulbous Crowfoot, or Butter-cup.

Root bulbous, like a small turnip; the new bulb formed above that of the last year. Stalks a foot high, round, hairy, branched towards the top. The bottom leaves are on long hairy footstalks, very wide, and embracing the stalk at their base, branching into three parts at top, and spreading out into three leaflets, each usually subdivided into three lobes which are gashed and toothed; they are hairy on both sides, and pale underneath; the middle leaflet is on a much longer footstalk than the others. The leaves on the stalks are sessile or nearly so, deeply divided into numerous segments, much narrower than the others, divided and subdivided into threes: the uppermost multifid, linear, with very few teeth, and sometimes only digitate. Calyx hairy; stamens about sixty; germs from thirty to forty.

Ray observes very justly, that this species differs from the creeping Crowfoot, not only in the root, but in having more upright stalks that never creepe; the leaves towards the top of the stalks cut into longer narrower segments; the leaves of the calyx, after the flower opens, turned back to the peduncle; the heads of seeds a little more rounded, and each seed not terminating in a spinule, as the creeping sort does: finally, it flowers a little earlier. We may add, that it is easily distinguished from the upright Crowfoot by its furrowed or grooved peduncles.

The formation of the bulb is a clear proof, that the notion of Haller, Linnaeus, and some others, of the creeping Crowfoot being only an autumnal variety of this, is without foundation. No remains of creeping roots are to be found in the spring, when the old and new bulbs are found together; and in a turf which was taken up, with five or six roots, they were all entirely distinct, and had each the old and new bulb together.

It flowers in April and May, and abounds in dry pastures. It inflames and blisters the skin, and beggars are said to use it for that purpose, to excite compassion by artificial sores.

The juice is even more acrid than that of *Ranunculus Sceleratus*. The

roots are said to lose their acrimony on being kept, and to be even eatable when boiled. Hogs are certainly very fond of them

RANUNCULUS REPENS

Creeping Crowfoot.

Root perennial, consisting of numerous whitish fibres; these are thrown out at every joint of the stalk, as it creeps along the ground. The whole plant tinged with brownish purple, and hairy, particularly the membranes at the base of the petioles, which are semi-cylindric, rounded underneath, but flat and channelled above. The leaves are generally hairy on both sides, especially underneath; the upper surface is often clouded with white; the first and lower leaves are composed of three leaflets, each on a petiole, the middle one longest, cut deeply into three lobes, which are sharply notched: the rest are only three-lobed, except the uppermost next the flowers, which are only trifid, and sometimes even simple; these are linear. Flowering-stalks upright, angular, supporting two flowers, sometimes only one, on a deeply-furrowed peduncle. Calyx hairy, coloured yellowish and purple. Corolla very shining, of a deeper yellow than the upright Crowfoot. Stamens from thirty to forty or fifty. Germs about forty.

This sort flourishes in almost any soil or situation, and therefore varies extremely in size and appearance. Though commonly covered with hairs, which on the stalks and upper surface of the leaves are pressed close, yet sometimes it is smooth.

Linnaeus observes, that the flowers close during rain, but do not hang down.

It flowers in June, and continues flowering the rest of the summer.

It has less of the acrid quality which is found in most of the genus, and is said to be eaten as a pot-herb. Cattle, however, do not feed on it willingly, and yet in many grass fields it makes a considerable part of the pasturage.

Besides the above species of *Ranunculus* there are above fifty others, many of which are splendid flowers, claiming the attention of the florist. There is no doubt of their possessing valuable medical properties, but in the present state of the science it is safest and best for those unacquainted with medicine to let them alone, or use them with the greatest caution.

RANUNCULUS FICARIA.

Pilewort, or Little Celadine.

The great and the little Celadine are plants so perfectly different, that it is hard to conceive what could induce the old writers to call them both by the same name. They hardly agree in anything, except it be that they have both yellow flowers. The great Celadine approaches to the nature of the poppy; the small Celadine to that of the Crowfoot; nor are they more alike in virtues than in form.

Little Celadine is a low plant, which is seen almost everywhere in damp places in spring, with broad deep green leaves, and glossy yellow flowers. It does not grow to any height. The leaves are an inch long, and nearly



Water Crowfoot



Marsh Marigold



Bugle



Wood Sage



Tervain



Catnip

as broad ; they somewhat resemble those of the garden hepatics, and are of a dark green, and frequently spotted ; they rise singly from the root on long, slender, and naked footstalks : the flowers rise also singly from the root on long, slender, and naked stalks ; they are as broad as a shilling, of a fine shining yellow colour, and composed of a number of leaves : the root is fibrous, and has small white tuberous lumps connected to the strings.

The roots are commended very much against the piles, the juice of them is to be taken inwardly ; and some are very fond of an ointment made of the leaves ; they chop them in pieces, and boil them in lard till they are crisp, then strain off the lard, which is converted into a fine green cooling ointment. The operation of the root is by urine, but not violently.

RANUNCULUS AQUATILIS.

Water Crowfoot.

No one would take this to be of the same family as the others. It is a water plant ; a great portion of the stem is submersed in water. The leaves under the water are hair-like, or like small roots ; those above the water take a very different shape, being three-lobed, not unlike the leaves of clover : the flowers are white, with a yellow spot at the base of the petals : the stems are round, lengthened or branching out according to the depth of the water. It often covers the whole surface of the water with one entire green mass of leaves and flowers. Dr. Pulteney remarks, that the Water Crowfoot does not contain the deleterious properties of the others ; and further, that it is useful in feeding pigs and other animals, which devour it with avidity. If this be true, it is worth the attention of those who keep pigs, as many a cottager has been at his wits' end to provide food, with heaps of this plant as it were under his nose, which only wants raking off the pond.

TROLLIUS EUROPÆUS.

Globe Flower.

This is also called *Ranunculus Globosus*, as it has every appearance of the *Ranunculus* family, and unquestionably belongs to them. The stem is upright, from one to two feet high, round, smooth, and branching inwards : the petals of the flowers converging inwards so as to form a perfect globular flower, large yellow leaves divided to the base in five segments, very entire at the base, jagged upwards, but presenting on the whole a rounded circumference : the seed-vessel ribbed transversely, terminated by a crooked horn, pointing outwards, giving the head a star-like appearance when the petals have fallen off.

Globe flower is very much cultivated by the florists, the consequence is, that there are many varieties. It makes an excellent addition to the flower garden, and in its double state makes a handsome appearance.

HYDRA PALUSTRIS.

Marsa Marigold.

This is very like one of the tribe of *Ranunculus*, but much larger, both

in the flowers and leaves, growing in wet places early in spring. The stem from twelve to eighteen inches high; the leaves kidney-shaped, entire, sometimes veined and regularly toothed: the blossoms are sometimes double. The plant is very common throughout England, Wales, and Scotland, where it is called gowans.

"We twa hae run about the braes,
And pu'd the gowans fine."

The remarkable yellowness of butter in the spring is supposed by some to be owing to the cattle feeding upon this plant and the Crowfoots, but it is a mistake, as no horned cattle will touch it except compelled by extreme hunger.

The flowers gathered young, and preserved in salted vinegar, are a good substitute for capers, and the juice of the flowers will dye a good yellow. An infusion of the whole plant has been recommended as a cure for fits; but I should say it is most useful as an ornamental plant on the margin of ponds in a good garden.

SAGITTARIA SAGITTIFOLIA.

Water Arrow head.

The leaves of this plant are like an arrow: hence its name. It is a very large plant, with white flowers floating on the water. The stalks have six edges: sometimes the flowers have a purplish tinge at the claws of the petals. There is a scale at the bottom of each fruitstalk embracing the stem. There is always a bulb at the lower part of the root, which is fast embedded in the solid earth below the mud: this bulb is eaten in some parts, and the plant is cultivated with great care and attention for the sake of the root, which, when boiled or roasted, is said to be wholesome and nutritious. Like all water plants of this class, it is well worthy the attention of the gardener for ornamenting the borders of ponds. One root inserted in the bottom below the mud, will quickly spread, and the snow white flowers, and beautiful arrow-shaped leaves floating on the water will amply repay the trouble.

MAGNOLIA.

There are four sorts of this splendid flowering shrub, and it is rather a valuable one, both for wood and flowers. I will insert them all at full.

Magnolia Glauca, the Sea-green Magnolia, or the Bay-leaved Tulip Tree, or the Small Magnolia; a tall sub-evergreen shrub; native of Virginia and Pennsylvania.

Magnolia Acuminata, the Long-leaved Magnolia; a sub-evergreen shrub or tree; native of Pennsylvania.

Magnolia Tripetala, the Umbrella Tree; a sub-evergreen shrub or tree; native of Carolina and Virginia.

Magnolia Grandiflora, the Evergreen Magnolia, or Laurel-leaved Tulip tree; an evergreen tree; native of Florida and Carolina.

The Sea-green or Small Magnolia grows with us to about the height of ten or twelve feet. The wood is white; and the branches, which are not

very numerous, are covered with a smooth whitish bark. The leaves are tolerably large, and of two colours; their upper surface being smooth, and of a fine green, whilst their under is hoary. They are of an oval figure, have their edges entire, and often continue the greatest part of the winter before they fall off the trees. The flowers are produced at the ends of the branches, in May: their colour is white; and the petals of which they are composed are concave and large; so that, together with the numerous stamina in the centre, they present a beautiful appearance. They are also remarkable for their sweet scent; and are succeeded by conical fruit, which never ripens in England; but in the places where they grow naturally, a singular beauty and oddity is added to these trees by the fruit; for the seeds are large, and lodged in cells all around the cone. When quite ripe, these are discharged from their cells, and hang each by a long narrow thread, causing thereby an uncommon and pleasing effect.

Long-leaved Magnolia will grow to be near twenty feet high. The wood of this sort is yellow, and the branches are covered with a smooth light bark. The leaves are very large, being near ten inches long; their figure is oval, spear-shaped, and all end in points. The flowers which are produced in May, are white, and composed of twelve obtuse petals, which, together with the number of stamina, make a good show. These also are succeeded by conical fruit, which never ripens in England.

The wood of the Umbrella Tree, which grows to about twenty feet in height, is more spungy than any of the other species of Magnolia. It is called the Umbrella Tree, from its manner of producing the leaves; for these are exceedingly large, and so produced as to form the appearance of an umbrella. The flowers of this sort also are white, and the number of petals of which each is composed is about ten: they are succeeded by fruit of a conical figure, with many cells all round for the seeds, which never ripen in England.

The Evergreen Laurel-leaved Magnolia, in the countries where it grows naturally, arrives to the height and bulk of a timber tree. Those countries are adorned with woods that are chiefly composed of this plant; and indeed, a wood of so noble a tree, luxuriantly shooting, flowering, and seeding, healthy and strong, in soil and situation wholly adapted to its nature, must be a sight of which we can hardly form an adequate idea, or have a just conception of its beauty and grandeur; for the tree naturally aspires with an upright stem, and forms itself into a regular head. Many other trees do the same; but its most excellent properties consist of the superlative beauties of the leaves, flowers, and seeds. The leaves much resemble those noble leaves of the Laurel, from which it is so called, only they are larger, and of a thicker consistence: many of them will be ten inches or more in length, and four broad, and all are firm and strong. Their upper surface is of a shining green, but their under is lighter, and often of a brownish colour. This tinge, which is not always found in all trees, is by some thought a great beauty, and by others an imperfection, so various is the taste of different people. These leaves are produced without any order on the tree, and sit close to the branches, and having no separate footstalks. The idea we can form of a tree, of seventy or eighty feet high, plentifully ornamented with such large and noble leaves, must be very great, and will induce us on their account only to endeavour to naturalize so noble a plant to our country. But let us consider their flowers,

These we find large, though single, and of a pure white. They are produced at the ends of the branches, in July, and each is composed of about nine or ten large spreading petals. They have the usual properties of those that are broad and rounded at their extremity, of being narrow at the base, and their edges are a little undulated or waved. In the centre of these petals are situated the numerous stamina, which the botanist will be more curious in observing than the gardener. But what affects all equally alike that have the sense of smelling is, their remarkable fragrance, which indeed is of so great a degree, as to perfume the air to some distance: and if one tree, when in blow, is sufficient to effect this, what conception should we form of the odours diffused in the countries where there are whole woods of this tree in full vigour and blow! The fruit is nearly of the shape and size of a large egg; but what makes it most singular and beautiful are the pendulous seeds of a fine scarlet, which being discharged from their cells, hang by long threads, and have an effect both striking and uncommon.

This species of *Magnolia* is more tender than the other sorts, and the gardener should not be over-hasty in committing these plants to the winter's cold and planting them finally out. Snow is peculiarly injurious to them while young, so that, at the approach of such weather, they must be particularly covered; and if snow should happen to fall unawares, it should be carefully cleared off the leaves and stems. When these plants are set abroad to remain, if the place is not exceedingly well sheltered, it will be proper to have a shed at hand, which the gardener may put together, to screen them from the severe northern frosts, and the bleak easterly winds, from which this shrub is most likely to suffer damage; and these frosty winds are the most destructive to it when they come early in the winter while the shoots are rather tender; for then they are often destroyed, and the tree rendered unsightly for some time, though it will shoot out again. When this shrub is to be increased by layers, it will be necessary, after the operation is performed, to make a hedge of reeds, or something, at a little distance round it, to keep off the strong winds, and prevent them from blowing the layers out of the ground; for without some guard this will be in danger of being done; since the leaves being very large and strong, the wind must have great power over them.

LIRIODENDRON TULIPIFERA.

Virginian Tulip Tree.

In those parts of America where it grows common, it will arrive to a prodigious bulk, and affords excellent timber for many uses; particularly, the trunk is frequently hollowed, and made into a canoe sufficient to carry many people; and for this purpose no tree is thought more proper by the inhabitants of those parts. With us, it may be stationed among trees of forty feet growth. The trunk is covered with a grey bark. The branches, which are not very numerous, of the two years old wood, are smooth and brown; whilst the bark of the summer's shoots is smoother and shining, and of a bluish colour. They are very pithy. Their young wood is green, and when broken emits a strong scent. The leaves grow irregularly on the branches, on long footstalks. They are of a particular structure, being



Peppermint



Ground Ivy



White Garden Sage



Yellow Wood Sage



Betony



Large Flowered Betony

composed of three lobes, the middlemost of which is shortened in such a manner, that it appears as if it had been cut off and hollowed at the middle: The two others are rounded off. They are about four or five inches long, and as many broad. They are of two colours; their upper surface is smooth, and of a stronger green than the lower. They fall off pretty early in autumn; and the buds for the next year's shoots soon after begin to swell and become dilated, insomuch that, by the end of December, those at the ends of the branches will become near an inch long, and half an inch broad. The outward lamina of these leaf buds are of an oval figure, have several longitudinal veins, and are of a blueish colour. The flowers are produced with us in July, at the ends of the branches: they somewhat resemble the Tulip, which occasions its being called the Tulip tree. The number of petals of which each is composed, like those of the Tulip, is six; and these are spotted with green, red, white, and yellow, thereby making a beautiful mixture. The flowers are succeeded by large cones, which never ripen in England.

The propagation of the Tulip tree is very easy, if the seeds are good; for by these, which we receive from abroad, they are to be propagated. No particular compost need be sought for; neither is the trouble of pots, hot-beds, boxes, &c., required: they will grow exceedingly well in beds or common garden mould, and the plants will be harder and better than those raised with more tenderness and care. Therefore, as soon as you receive the seeds, which is generally in February, and a few dry days have happened, that the mould will work freely, sow the seeds covering them three quarters of an inch deep; and in doing of this, observe to lay them length ways, otherwise, by being very long, one part, perhaps that of the embryo plant, may be out of the ground soon, and the seed be lost. This being done, fet the beds be hooped; and as soon as the hot weather and drying winds come on in the spring, let them be covered from ten o'clock in the morning until sunset. If little rain happens, they must be duly watered every other day; and by the end of May the plants will come up. Shade and water in the hottest summer must be afforded them, and they will afterwards give very little trouble. The next winter they will want no other care than, at the approach of it, sticking some furze bushes round the bed, to break the keen edge of the black frosts; for it is found that the seedlings of this sort are very hardy, and seldom suffer by any weather. After they have been two years in the seed bed, they should be taken up and planted in the nursery a foot asunder, and two feet distant in the rows. After this, the usual nursery care of hoeing the weeds, and digging between the rows in winter, will suffice till they are taken up for planting out.

ANNONA TRILOBA.

Papaw, or Custard Apple.

The Papaw grows to about sixteen or eighteen feet high. The leaves are large, and shaped like a spear, and they fall off pretty early in the autumn: the flowers, which will shew themselves in the beginning of May, are of a kind of chocolate colour tinged with purple, and grow two or three on a footstalk: the fruit is large, and never ripens in England; but in the

countries where it grows naturally, it is eaten by the meanest of the inhabitants. The difference of its shape from that of a pear is, that its widest part is nearest the footstalk; and it contains a number of large seeds lying in a row. It is a native of Maryland, Carolina, Virginia, and the Bahama Islands; and from thence we have the seeds brought, by which numbers of plants are annually raised.

The manner of raising them is this: let a bed be prepared in a part that is rather moist, exceedingly well sheltered, and naturally sandy, or inclined thereto. If the soil is opposite to this, let a fourth part of drift sand be mixed with the mould; and having obtained the seeds from abroad, sow them in this bed about half an inch deep, letting the seeds be at some distance from each other. It is probable they will come up in the spring, though they sometimes remain till the second, or even the third spring before they make their appearance. When this happens, the beds must be weeded all the time, and the mould at the surface gently loosened, if it should be inclined to crust over. After the plants are come up in spring, no other than the usual care of seedlings need be taken, until autumn, when the beds must be hooped over, to be covered with mats at the approach of any frost; and the gardener must constantly observe the weather, whether the air hath the least tendency to it, that he may cover the bed over; for one night's hard frost, while they are so very young, would destroy them all. With this careful eye he must constantly watch over these plants all winter. He must double his covering as the frost increases, and must always uncover them again in mild and open weather. The second winter the same care must be observed, though so strict an eye will not be necessary; for although they will be subject to be destroyed by hard frosts, yet if a gentle frost should catch them unawares to the gardener in the night, there will not be much danger of their suffering; for they will be got tolerably strong by the second summer's shoot. They will, nevertheless, be too tender to stand the brunt of a winter's frost for a year or two after that, and consequently must have a proportional share of this attention every year during these months. By this time the plants will have grown to be tolerably strong, and may be taken up and planted where they are to remain; though their situation should be well defended; for a severe frost in an exposed place would still overpower them, though, after they have grown to be of larger size, they are hardy enough.

If a person has the conveniency of a greenhouse, or some such room, he may sow his seeds in boxes or pots filled with maiden earth, from a rich pasture, mixed with drift sand. These boxes or pots should be afterwards plunged into the natural mould, in a shady part of the garden; and the autumn after the plants are come up, they may be removed into the greenhouse, where they will be naturally protected from the injuries of weather. This protection may be afforded them every winter, till they are strong enough to defend themselves, when they may be turned out of the boxes or pots, mould and all, into the places where they are designed to remain.

he

CLASS XIV.

DIDYNAMIA.



4 STAMENS.

Two long ones, and two short ones.

ORDER I. GYMNASPERMIA.

*Seeds Exposed.*

INTRODUCTORY REMARKS.

The character of the fourteenth Class according to the Linnæan system, consists in each flower having four stamens, *two pairs*; one pair short and growing together, close, and adhering to the pistil: the two longer ones standing at a distance from each other, and having the shorter ones betwixt them. An examination of the flowers of the Fox-glove, will exhibit the character of this Class most fully.

All the flowers of this Class grow at the axillæ of the leaves, that is, the leaves and flowers grow close together, having their roots, as one may say, on the same part of the stem, and frequently both flowers and leaves grow in a whorl round the stem; some of the whorls are composed of more than twenty flowers. Another character of the flowers of this Class, is that they are all more or less *lipped*; composed of an upper and lower part, like the upper and lower lips of animals; hence some Botanists have named the Class *Labiata*, or lipped; others have named it *Verticillate* or *Ringent*, in allusion to the growth of the flowers, which grow in a sort of ring around the stem.

All things considered, it is not too much to say that the character of this Class as given by the great Linnæus is the best; but it does unfortunately happen, that there are some plants, which have every other character of the Class, but that of having the *same number of stamens*. All the family of Sage, are, as I have noticed before, exactly like Balm or Mint, with this exception, that the former have only two stamens, and the latter have four: it is the same with Gipsywort, and one or two others. These are difficulties, but those who have invented other names, and other sorts of Classification, meet with difficulties of another kind. The truth is, Dame Nature, like some other females, is somewhat stubborn, and selfwilled; she appears at times to set all system at defiance, and laughs at the vain efforts of Philosophers, to invent principles which will be sufficient for a complete arrangement: and the system-mongers in Botany, have done no more in getting rid of one difficulty, than make an opening in most cases for two: at the best it is only like the key in Bluebeard, the poor woman rubbed the blood out at one side, but it appeared at the other. At any rate, it is best to stick to the system of Linnæus, till modern Botanists can agree about another

The orders of this Class are not distinguished by the number of pistils, as none of the flowers have more than one. The simple fact of the seeds being *naked*, or *covered*, constitute the difference of two orders of the Class. Order one is called *Gymnospermia*, which is a Greek word, meaning naked seeds; and the other is called *Angiospermia*, meaning covered seeds. By looking into the seed-vessels of Betony, and foad-flax, after the flowers are fallen off, you will see the character of each order clearly exemplified.

AJUGA REPTANS.

Common Bugle.

A common wild plant, and a very pretty one, with glossy leaves, creeping stalks, and blue flowers; it is frequent in damp woods. The stalks, when they rise up to bear the flowers, are eight or ten inches high, square, of a pale green colour, often a little purplish; and have two leaves at every joint, the joints being somewhat distant: these leaves are of the same form with those which rise immediately from the root; oblong, broad, blunt at the point, and of a deep green colour, sometimes also a little purplish, and are slightly indented round the edges: the flowers are small and of a beautiful blue, in shape like those of betony; they grow in a sort of circles round the upper parts of the stalks, forming a kind of loose spikes: the cups remain when the flowers are gone, and hold the seeds.

The juice of this plant is esteemed good for inward bruises; it is a very good diuretic.

AJUGA CHAMÆPITYS.

Ground Pine.

A very singular little wild plant, of a mossy appearance, and resinous smell. It grows four inches high: the stalks are hairy, and seldom stand upright: the leaves are very close set, and the young shoots which grow from their bosoms perfectly obscure the stalk; it seems a thick round tuft. These leaves are short, narrow, and divided into three parts at their ends, and they stand two at every joint of the stalk; they are rough and hairy like the stalk: the flowers are little and yellow, and they stand at the joints.

The whole plant is used, and it has great virtue; it is to be used dry in powder or infusion. It works strongly by urine, and it opens all obstructions of the liver and spleen, and is good in jaundice, the rheumatism, and most of the chronic disorders.

As much of the powdered leaves as will cover a shilling taken in a glass of wine, twice in the day; or an infusion made with an ounce of the dried plant to a quart of boiling water, of which a cup-ful may be taken two or three times a day, will be found highly serviceable in the above complaints. A decoction made with equal quantities of Ground-pine, Dandelion, and Agrimony, is of great service in liver complaints and all obstructions.

TEUCRIUM CHAMÆDRYS.

Common Germander.

Root much branched and fibrous: stalk about a foot long, bending.

branched, rough: the leaves stalked and in pairs, of an oval shape, toothed, veined, and hairy: the flowers are small, of a purple colour; they stand in clusters about the upper joints, and they appear in June and July.

The leaves and tops of Germander have a moderately bitter taste, accompanied with a weak aromatic flavour, which is diminished but not totally dissipated when the plant is dried. They give out their virtues both to watery and spirituous menstrea. Water seems to dissolve the bitter matter more perfectly than pure spirit, the watery extract being stronger in taste than the spirituous; though the quantity of both extracts, according to Cartheuser's experiments, is very nearly alike.

The Chamaedrys has been esteemed chiefly in the character of a mild aperient and corroborant: it is recommended in uterine obstructions, intermitting fevers, and in the rheumatism and gout. Of the last mentioned complaint, Charles the Vth is said to have been cured by a vinous decoction of this, with some other herbs, taken daily for sixty successive days.

Other and less equivocal evidence of the good effects of the Chamaedrys in this disorder, are recorded by different authors, who appear to have employed it in various forms and combinations, of which the celebrated antiarthritic, or Portland powder, is an instance.

According to Murray, the virtues of this plant should be nearly allied to those of the Marrubium, and therefore promises to be equally useful in asthmatic affections, coughs, and infractions of the lungs. However, while we admit this conclusion, we consider the virtues of both as somewhat problematical.

TEUCRIUM SCORODONIA.

Wood Sage.

Stem square, hairy: the leaves heart-shaped, serrated, on longish stalks: flowers in branches, on an erect stem, white, or straw coloured rather woolly.

Wood sage is a common plant throughout England, on dry banks, and woods, commons, &c. It may be said to be longest above ground of any of our wild herbs. I have in this present month of January, 1851, seen abundance of it fresh and green; and I have also seen it in December. Wood sage is a bitter plant, and no doubt will be found of great value, as an improver of the stomach; for which purpose it enters into the composition of many popular diet drinks. It is also used in some parts of England, as a substitute for hops in brewing beer and ale. It possesses all the bitterness and a good deal of the flavour of hops, and it has this advantage, at present at least, it may be gathered *without giving notice to an excise officer*, and having to pay an enormous tax, for the purpose of supporting a parcel of fellows in idleness, out of the toil of the industrious: let those who brew try it. Besides the above, there is a

TEUCRIUM SCORDIUM.

Water Germander.

A little mean looking plant, wild in some parts of England, but kept in gardens also for its virtues. The stalks are square, hairy, of a dusky

green, and so weak, that they seldom stand much up; they are eight or ten inches long: the leaves are short, broad, and indented about the edges, but not sharply or deep as those of the other germander; they are of a sort of woolly soft appearance and touch, and of a dusky deep green colour: the flowers are very small and red, and they stand on the upper joints of the stalks, in little parcels together. The whole plant has a strong and disagreeable smell.

The whole plant is to be used fresh or dried. It has been celebrated greatly as a sudorific, and for its virtues against pestilential fevers, but it is now little used, except a tincture which is found in some foreign pharmacopias.

The leaves of Scordium have a smell somewhat of the garlic kind, and to the taste they are bitterish, and slightly pungent. "When moderately and newly dried they give out their smell and taste both to water and to rectified spirit. In distillation, their peculiar flavour arises with water, but the impregnation of the distilled fluid is not strong, nor could any essential oil be obtained on submitting to the operation several pounds of the herb.

The ancients, to whom Scordium was well known, attributed to it a peculiar antiseptic and alexipharmic power, and for many ages, it had the character of being remarkably efficacious in all pestilential and putrid diseases; with a view to this, it was afterwards directed in the composition of several official medicines, supposed to be antidotes to various kinds of poisons and infections; and we are told, even at a date not very remote from the present, of its successful use in the plague, which raged in Turkey. But notwithstanding the Scordium was formerly considered such a celebrated remedy, and still has place in both the Pharmacopoeas, yet it appears to be a very insignificant article of the Materia Medica, and is therefore very justly fallen into disuse; and in this opinion we have the authority of Dr. Cullen, who says, "this plant has a bitter, joined with some volatile parts; but neither of these qualities is considerable enough to retain it in the present practice." Bergius however states Scordium to be antiputredinosa, tonica, diaphoretica, diuretica, resolvens; and some others recommended it to be employed externally in antiseptic cataplasms and fomentations.

TINCTURE OF WATER GERMANDER.

Take of Water Germander, dried, six ounces;
— proof spirit, two pints:

After steeping for three days, pour the liquid upon other four ounces of the plant, let them steep a little longer, filter the tincture, and bottle up carefully.

A good remedy in small doses for rousing torpid faculties.

TEUCRIUM MARUM.

Marum Germander, or Herb Mastick.

The root of this plant is long, woody, and very fibrous: the stalks are numerous, slender, woody, rather branched, and above a foot high: the leaves are oblong, pointed, and a little lobed, of a pale green colour at the

top, downy underneath; they grow in pairs upon long slender leafstalks: the flowers grow in spikes, and are small, of a pale purple colour.

This little shrub flowers from July till September. It is a native of Spain, and is said to grow plentifully also in Greece, Egypt, Crete, and Syria.

Whether this plant was known to the ancients or not, does not appear from the descriptions of Theophrastus and Dioscorides.—Cortusus discovered that cats are remarkably fond of Marum; and from this circumstance we are enabled with certainty to trace back its history to his time, for ever since it has been known by the name of Cat-thyme: there occurs however considerable difficulty in ascertaining its synonyma; and probably some of those to which we have referred, are not sufficiently identified. It was first cultivated in England by Parkinson in 1640, and is now to be found in many of our gardens.

The leaves and younger branches of Marum, when recent, on being rubbed between the fingers, emit a volatile aromatic smell, which readily excites sneezing, but to the taste they are bitterish, accompanied with a sensation of heat and acrimony. Lewis observes that "the Marum loses but little of its pungency on being dried, and in this respect it differs remarkably from many other acrid herbs, as those called antiscorbutic. It gives out its active matter partially to water, and completely to rectified spirit.—Distilled with the former, it yields a highly pungent, subtile, volatile essential oil, similar to that of scurvy grass, but stronger, and of less perishable pungency. Rectified spirit carries off likewise, in the inspissation of the spirituous tincture, a considerable share of the smell and pungency of the Marum, but leaves much the greatest part concentrated in the extract; which, on being tasted, fills the mouth with a durable, penetrating, glowing warmth."

Judging from the sensible qualities of this plant, it may be supposed to possess very active powers, and on this consideration it is strongly recommended by Wedelius as an important remedy in many diseases requiring medicines of a stimulant, aromatic, and deobstruent quality; and his opinion seems in some measure to have been since verified by actual experience of its efficacy, as appears from the instances of its successful employment by Linnaeus, Rosenstein, and Bergius.

At present, however, Marum is here chiefly used as an errhine, and is an ingredient in the pulvis asari compositus of the London Pharmacopœia. The dose of the powdered leaves is from a scruple to half a drachm, which Murray advises to be given in wine.

NEPETA CATARIA.

Catmint.

A common wild plant about our hedges, but of very great virtues: it grows a yard high, and has broad whitish leaves, and white flowers like mint. The stalks are square, whitish, hairy, and erect: the leaves stand two at a joint; they are broadest at the base, and terminate in an obtuse end; they are a little indented at the edges, and of a whitish green on the upper side, and very white underneath: the flowers are small and white; they grow in a kind of spiked clusters, surrounding the stalks at certain

distances. The whole plant has a very strong and not very agreeable smell.

Catmint should be gathered just when the flowers are opening, and dried. It is an excellent woman's medicine; an infusion of it is good against hysteric complaints, vapours, and fits, and it moderately promotes the menses: it is also good to promote the evacuations after delivery.

A good remedy for obstinate coughs is made by boiling cat-mint with honey-water, or the decoction will do, sweetened with brown sugar or treacle.

The fresh leaves of cat-mint are bitter and pungent: dried and powdered they destroy worms. A strong decoction of the whole plant is an excellent fomentation for a gangrene. It is also considered good against the bite of a scorpion, but we have no scorpions.

VERBENA OFFICINALIS.

Vervain.

A common wild plant about our path-ways, with slender spikes, and a few little flowers. It is two feet high: the stalks are numerous, square, very strong, a little hairy, and often purplish: the leaves grow two at each joint; they are oblong, narrow, notched at the edges, of a dusky green, and of a wrinkled and rough surface: the flowers are white, with a tinge of purplish: there is a long spike of their buds, and of the remaining cups, but only two or three flowers are open at a time.

The fresh gathered tops are used; an infusion of them is good against obstructions of the liver and spleen: it is warm upon the stomach, and a continued use of it will remove nervous complaints.

The ancient medical practitioners were in the habit of extolling the virtues of Vervain almost before any other plant; but its principal virtues consisted in some mysterious or cabalistic power, like the misseltree and some others. It is not unlikely that it was used in some measure in sacrificial purposes, in the Pagan or Jewish rites.

The root was bruised and worn as an amulet round the neck, to cure all manner of diseases, particularly those of the head. And even down to our times, men of education and learning have contended for the use of those amulets. Such is the power any thing mystical has upon the human mind.

Mr. Curtis observes that "the Vervain may be considered as a kind of domestic plant, not confined to any particular soil, but growing by the road sides, pretty universally at the entrance into towns and villages;" and Miller declares that it is never found more than a quarter of a mile from a house: hence it has been also called *Simpler's Joy*.

Ancient writers have distinguished this plant by the names *Verbenaca*, *Verbenaca*, and *Peristerium*. It is destitute of odour, and to the taste manifests but a slight degree of bitterness and astringency.

Notwithstanding these testimonies in favour of Vervain, it has deservedly fallen into disuse in Britain; nor has the pamphlet of Mr. Morley, written professedly to recommend its use in scrofulous affections, had the effect of restoring its medical character. This gentleman directs the root of Vervain to be tied with a yard of white satin ribband round the neck,

where it is to remain till the patient recovers. He also has recourse to infusions and ointments prepared from the leaves of the plant; and occasionally calls in aid the most active medicines of the *Materia Medica*.

The following judicious remarks on this plant, by the editor of *Withering's Botany* are worth attention:—

Vervain has so little pretension to sensible qualities, or even to external attraction, that it is surprising it should have acquired such general notoriety, either for its medicinal virtues as a deobstruent, especially efficacious in the cure of scofula; or for the more mystic powers in times past universally attributed to it; for it was believed to be capable of curing the bites of all rabid animals, arresting the progress of the venom of serpents, reconciling antipathies, conciliating friendships, &c. And yet there is no well-grounded reason to doubt our plant being the genuine "*Herba Sacra*" of the ancients; in honour of which *Verbenalia* were annually held; and one of several which were more immediately appropriated to the use of the altar and the decoration of the priesthood: though it must be admitted that the dry harsh nature of our herb but ill accords with the "*pinguis Verberna*" of Virgil, any more than with the prevalent idea of an evergreen. Vervain was usually offered as a pledge of mutual good faith between the Romans and their enemies; as in the solemn league between Tullus Hostilius and the Albans; and may, in powerful protection, be deemed equivalent to the more modern flag of truce: for, on like occasions, as Drayton observes,

"A wreath of Vervain heralds wear."

Ambassadors and heralds at arms likewise wore chaplets of Vervain on denouncing war or conveying messages of defiance. But surely these usages would seem to imply some more ostensible production. Where

"Dark superstition's whisper dread
Debar'd the spot to vulgar tread,"

the sanctimonious Druid instilled veneration for the Vervain nearly equal to that claimed for the Misseltoe: and thus Mason describes its connexion with these solemn incantations,

"Lift your boughs of Vervain blue
Dipt in cold September dew;
And dash the moisture, chaste and clear,
O'er the ground, and through the air.
Now the place is purg'd and pure."

Vestiges of these superstitions, though extinct in Britain, may still be traced in Germany and some parts of France, where the rustics are wont to gather the plant under certain phases of the moon, accompanied by unintelligible cabalistic ejaculations, believing that the herb thus procured will operate as a charm against every calamity, natural or supernatural and even possess the power

"That hind'reth witches of their will."

Vain were it to revive the recollection of what has long, to common

understandings, been deservedly forgotten, (even though the neglected weed seems to hanker after its lost fame, and to linger around the dwellings of man,) did not the British public of the nineteenth century appear to be impelled (by a somewhat erratic "march of intellect,") towards the opposite extremes of superstition and infidelity. It may, therefore, possibly be profitable at least to one portion of the community, in such anticipation, to record the abundant efficacy of this amulet, when suspended round the neck, (as conscientiously accredited through successive ages, till recently denominated the darker); nor might it be imprudent in the simpler to anticipate a more extended demand for a commodity respecting which Ray, doubtless in ignorance, presumed to exclaim, "*Mirum tot viribus pollere plantum nulla insigni qualitate sensibili dotatum!*" and which father Gerard himself, in honest simplicity, still more unceremoniously denounces, despite the authority of Dioscorides, Pliny, and a host of veracious commentators; "Many odde olde wives fables are written of Vervaine tending to witchcraft and sorcerie, which you may reade elsewhere, for I am not willing to trouble your eares with reporting such trifles as honest eares abhorre to heare. Most of the later physicians do give the juice or decoction heerof to them that have the plague; but these men are deceived, not onely in that they looke for some truth from the father of falshood and leasings, but also because insteede of a good and sure remedie they minister no remedie at all; for it is reported, that the *divell did reveale it as a secret and divine medicine.*" Nevertheless, as a charm to conciliate friendship, we would not willingly relinquish even this simple talisman.

"There are fairer flowers that bloom on the lea,
And give out their fragrant scent to the vale;
But the Vervain, with charmed leaf, shall be
The plant of our choosing, though scentless and pale.

For, wrapp'd in the veil of thy lowly flower,
They say that a powerful influence dwells,
And that, duly cull'd in the star-bright hour,
Thou bindest the heart by thy powerful spells.

We will plant thee beneath our sheltering tree,
In our bower we will bid thy blossoms unfold;
So faithful and firm may our friendships be,
So never may glowing heats grow cold."

MENTHA.

Mint.

The mints are a family of plants known by all people, and their usefulness is alike generally admitted, both as valuable seasoning for food, such as salads, &c., and as medicines. The number of sorts of mint amount to about forty, thirteen of which are British. The most useful are the following.

MENTHA SYLVESTRIS.

Horse Mint.

This species grows with shaggy spikes of flowers, and an erect stem:

leaves acute, pointed, deeply serrated, growing close to the stem, rather hairy: flowers purple: grows in moist waste ground throughout Europe, and a great part of Asia. There are several varieties of Horse Mint, but they are all not so pleasant in smell as some others of the family, and are consequently not much used.

MENTHA VIRIDES.

Spear Mint.

A common wild plant in our gardens, and of frequent use in the kitchen. It is two feet high, the stalks are square, single, upright, firm, and of a pale green. The leaves stand two at each joint; they are long, narrow, of a blackish green, serrated at the edges, and sharp-pointed: the flowers are small and purple; they stand in long spikes, in a beautiful manner. The whole plant has a fragrant smell, and a pleasant aromatic taste.

This plant grows wild in many parts of England, and was found on the banks of the Thames by Mr. Hudson; but it is more rarely met with in this state than the preceding species. It is not so warm to the taste as pepper-mint, but has a more agreeable flavour, and is therefore preferred for culinary uses, and more generally cultivated in our gardens. Many virtues are ascribed to mint by the ancients. Even at this time the different species of this extensive family are not satisfactorily ascertained; but, in a medical sense, this is of little importance, as the virtues of all reside in the aromatic flavour, which is common to the whole genus.

On drying, the leaves lose about three-fourths of their weight without suffering much loss of their smell or taste; nor is the smell soon dissipated by moderate warmth, or impaired on keeping. Cold water, by maceration for six or eight hours on the dry herb, and warm water in a shorter time, become richly impregnated with its flavour.—By distillation, a pound and a half of the dry leaves communicate a strong impregnation to a gallon of water: the distilled water proves rather more elegant if drawn from the fresh plant in the proportion of ten pints from three pounds. Along with the aqueous fluid an essential oil distils, of a pale yellowish colour, changing to a red, in quantity near one ounce from ten pounds of the fresh herb in flower, smelling and tasting strongly of the mint, but somewhat less agreeable than the herb itself. Dry mint, digested in rectified spirit, either in the cold or with a gentle warmth, gives out readily its peculiar taste and smell, without imparting the grosser and more ungrateful matter, though the digestion be long continued. The tincture appears by daylight of a fine dark green, by candle-light of a dark red colour: a tincture extracted from the remaining mint by fresh spirit, appears in both lights green: the colour of both tinctures changes in keeping, to a brown. On gentle distillation, with proof spirit, the spirituous portion which rises at first, discovers little flavour of the mint; but as soon as the watery part begins to distil, the virtues of the mint come over plentifully with it. Hence the spiritus menthæ sativæ. P.L. which is prepared by drawing off a gallon of proof spirit from a pound and a half of the dried plant, proves strongly impregnated with the mint.

To Spear-mint are to be ascribed the same medicinal qualities which belong to Pepper-mint; but the different preparations of the former,

though more pleasant, are perhaps less efficacious. It contains much essential oil, but of an odour somewhat less agreeable than that of *Lavender* or *Marjoram*. It is therefore less employed as a cephalic; but it acts very powerfully on the parts to which it is immediately applied, and therefore considerably on the stomach, invigorating all its functions. It acts especially as an antispasmodic, and therefore relieves pains and cholice depending upon spasm. It will also stop vomiting, depending upon such a cause, but there are many cases of vomiting in which it is of no service: and in these cases, anywise depending upon inflammatory irritation in the stomach itself, or in other parts of the body, it aggravates the disease, and increases the vomiting. Practitioners have thought, and perhaps justly, that the infusion of mint in warm water, agrees better with the stomach than the distilled water, which is often somewhat empyreumatic.

Lewis observes, "that it is said by some to prevent the coagulation of milk; and hence it has been recommended to be used along with milk diets, and even in cataplasms and fomentations for resolving coagulated milk in the breasts: upon experiment, the curd of milk, digested in a strong infusion of mint, could not be perceived to be any otherwise affected than by common water; but milk, in which mint leaves were set to macerate, did not coagulate near so soon as an equal quantity of the same milk kept by itself."

We are told, that when cows have eaten the *Mentha Arvensis*, as they will do largely at the end of summer, when the pastures are bare, and hunger distresses them, their milk can hardly be made to yield cheese; a circumstance which sometimes puzzles the dairy-maids.

The officinal preparations of Spear-mint are an essential oil, a conserve, a simple water, and a spirit.

All the species of Mint are now supposed to be equally efficacious, and as the flavour of Spear-mint is more grateful than the others, it is preferred both for medical and culinary purposes, for which purpose it is grown largely in our gardens.

PREPARATIONS.

DISTILLED SPEAR-MINT WATER.

Take of Spear-mint, one pound and a half;

— water, as much as to prevent empyreuma:

Distil off one gallon.

SPIRIT OF SPEAR-MINT.

Take of Spear-mint, one pound and a half;

— diluted alcohol, nine pounds;

— proof spirit, one gallon:

Macerate for two days in a close vessel; then pour on as much water as will prevent empyreuma, and draw off by distillation nine pounds.

COMPOUND INFUSION OF SPEAR-MINT.

Take of the leaves of Spear-mint, dried, two drachms;

— boiling water, as much as will afford six ounces of the infusion, when filtered:

Digest for half an hour, in a covered vessel; strain the liquor when cold, and then add of

Double refined sugar, two drachms;

Oil of Spear-mint, three drops, dissolved in

Compound tincture of Cardamums, half an ounce. Mix.



Hedge Woundwort



Black Horehound



Bistany of Crete



Lavender



This infusion is slightly stimulating and diaphoretic, and forms a very agreeable herb-tea, which may be used in any quantity in diet, or as a vehicle for more active remedies.

MENTHA RUBRA.

Water Mint.

A common wild plant of the mint kind, not so much regarded as it deserves. It is frequent by ditch sides. It is a foot and a half high. The stalks are square, upright, firm, and strong, and generally of a brown colour: the leaves are broad and short; they stand two at a joint, and are of a brownish or deep green colour, somewhat hairy, and serrated about the edges: the flowers are larger than those of the common mint, and are of a pale red colour; they stand in round thick clusters at the tops of the stalks, and round the upper joints. The whole plant has a strong smell, not disagreeable, but of a mixed kind, between that of Mint and Pennyroyal; and the taste is strong and acrid, but it is not to be called disagreeable.

A distilled water of this plant is excellent against colics, pains in the stomach and bowels, and it will bring down the menses. A single dose of it often cures the colic. The use of peppermint has excluded this kind from the present practice, but all three ought to be used. Where a simple weakness of the stomach is the complaint, the common mint should be used; when colicky pains alone, the peppermint; and where suppressions of the menses are in the case, this wild Water Mint may be given: they may all be given in the way of tea, but a simple water, distilled from them, and made sufficiently strong, is by far the most efficacious.

MENTHA PIPERITA

Pepper-mint.

A plant kept in our gardens, but much more resembling the wild mint last described, than the Spear-mint, both in form and qualities. It grows two feet and a half high. The stalk is square and firm, upright, and of a pale green: the leaves stand two at each joint; they are broad, not very long, of a dark green, and serrated deeply at the edges: the flowers grow in thick spikes, but not very long ones; they are large, and of a pale red. The whole plant has an agreeable quick smell, and a hot taste like pepper, but not disagreeable.

The spontaneous growth of this plant is said to be peculiar to Britain; but as it is generally preferred to the other species of mint, its cultivation has long been extended over Europe, and that employed here is commonly raised in gardens. This species has a more penetrating smell than any of the other mints, and a much stronger and warmer taste, pungent and glowing like pepper, sinking as it were into the tongue, and followed by a sensation of coldness.

By maceration, or infusion, it readily and strongly impregnates both water and spirit with its virtue. In distillation with water it yields a considerable quantity of essential oil of a pale greenish yellow colour, growing darker coloured by age, very light, subtle, possessing in a high degree the specific smell and penetrating pungency of pepper-mint. Rectified

spirit, drawn off with a gentle heat from the tincture made in that menstruum, brings over little of the virtue of the herb, nearly all its pungency and warmth remaining concentrated in the extract.

Its stomachic, antispasmodic, and carminative qualities renders it useful in flatulent colics, hysterical affections, retchings, and other dyspeptic symptoms, acting as a cordial, and often producing immediate relief. Its official preparations are an essential oil, a simple water, and a spirit.

Dr. Cullen observes, that "rectification is particularly necessary and proper for this essential oil. What has been called essence of Peppermint, seems to me to be no other than the rectified oil dissolved in spirit of wine."

The whole plant is used, fresh or dried; but the best way is to give the distilled water. It cures the colic, often almost instantaneously, and is good against the gravel.

The following preparations of Peppermint will be found useful :

PEPPERMINT WATER.

Take of the herb of Peppermint, dried, a pound and a half;
 ——— water, as much as is sufficient to prevent burning :

Distil off a gallon. This has been known to allay sickness when nothing else would succeed, and is used in flatulent colics. A wine-glass may be taken, and often repeated. It is especially ordered with opening medicines, to prevent the gripings that would otherwise accompany them.

SPIRIT OF PEPPERMINT.

Take of the herb of peppermint, dried, a pound and a half;
 ——— proof spirit, a gallon;
 ——— water, sufficient to prevent burning ;

*Distil off a gallon. This is used for the same purposes as the last, but in a smaller dose.

NOTE.—The proof spirit usually met with in the shops is very rarely pure, or free from all unpleasant flavour, which, though concealed by means of certain additions, plainly discovers itself when employed for the preparation of distilled spirits. This nauseous flavour does not begin to arise till after the alcohol has come over, which is the very time that the virtues of the ingredients begin also to arise most plentifully; and hence the liquor receives an ungrateful tint. To this cause principally is owing the general complaint, that the cordials of the apothecary are less agreeable than those of the same kind prepared by the distiller; the latter being extremely curious in rectifying and purifying the spirits, which he uses for what he calls fine goods, from all unpleasant flavour.

OIL OF PEPPERMINT.

This is made like the other essential oils, and is frequently mixed with water, and this is passed off for the true distilled peppermint water; but it is more pungent and heating, and has less of the virtues of the plant.

MENTHA PULEGIUM.

Pennyroyal Mint.

A wild plant creeping about on marshy places, with little leaves and tufts of red flowers at the joints. The red stalks are a foot long, round, and often of a reddish colour: the leaves are small, broad, and pointed at the ends, and of a pale green colour: the flowers stand round the joints in

thick clusters; they are like those of mint, and of a pale red, and the cops in which they stand are green, and a little hairy. The whole plant has a strong penetrating smell, and an acrid but not disagreeable taste.

Pennyroyal, like the other mints, is a native of Britain, affecting heaths and moist situations; but that used for medicinal purposes is commonly the produce of cultivation. It has a warm pungent flavour, somewhat similar to mint, but more acrid, and less agreeable both in smell and taste. Its "active principle is an essential oil, of a more volatile nature than that of mint, coming over hastily with water at the beginning of the distillation, and rising also in great part with highly-rectified spirit; in taste very pungent, and of a strong smell; when newly drawn, of a yellowish colour, with a cast of green; by age turning brownish."

The *Pulegium* certainly possesses the general properties of the other mints: it is supposed, however, to be of less efficacy as a stomachic, but more useful as a carminative, and emmenagogue, and is more commonly employed in hysterical affections. We are told by Boyle and others, that it has been successfully used in the whooping cough; but the chief purpose to which it has long been administered is promoting the uterine evacuation. With this intention, Haller recommends an infusion of the herb with steel in white wine, which he never knew to fail of success. However, in the opinion of Dr. Cullen, mint is in every respect a more effectual remedy than pennyroyal, and "nothing but the neglect of all attempts to establish principles, could have made physicians think of this as a peculiar medicine different from the other species;" and conformably to this remark, it may be observed that this plant is less frequently used now than formerly.

Its official preparations are a simple water, a spirit, and an essential oil.

MENTHA CITRATA.

Orange, or Bergamot Mint.

This is very like the others, except the whole plant is smooth and together with the odour peculiar to Mints, it emits an orange-like scent.

All the species of *Mentha*, as well as the present, are raised by the same methods, viz: by parting the root, by offset young plants, and by cuttings of the stalks. By the roots—This is performed in spring and autumn. Having some full roots from any established beds, divide them as expeditiously, and drawing drills, with a hoe, about 2 inches deep and 6 inches asunder, place the roots in the drills moderately close, and earth them over to an equal depth. By offsets—In the spring procure these from established plants, and dibble them in rows 6 inches asunder. By cuttings of the young stalks—In May, June, or advanced summer, taking the opportunities of showery weather, cut these into lengths of 5 or 6 inches, and plant the cuttings by dibble, 6 inches apart, inserted half way into the earth.

"*Taking the crop.*" For culinary use or salads, gather both when the young green tops are from 1 to 6 inches in length, and in their advanced growth throughout the summer. When nearly full grown in June, July, or August, or beginning to flower; gather a store for winter, spread the heads thinly in some dry place, shaded from the sun, to be well dried, then, tied in bunches, house the store. When desired for distillation, let them

attain full growth, coming into flower, then cut and use the heads immediately. Peppermint being principally used for distillation, should stand in the ground until they begin to flower, being then in the highest perfection. Cut in dry weather, and tie the bundles, and carry under cover ready for immediate use. Cut full grown stalks close to the bottom. It is best to cut as soon as the dew is off in the morning, for in the afternoon, and especially during bright sunshine, the odour the plant is found to be much diminished.

"New Plantation. All the species continue by the roots many years, but when the plants grow weakly, make a fresh plantation in time.

"Forcing Spearmint. Mint in a young green state, may be obtained all winter, and early in spring, by planting some roots in a gentle hot-bed, or in pits, or shallow pans, to be plunged therein. Plant the roots pretty thickly, and earth over an inch and a half deep; or some roots thus planted in pots or boxes, may be placed in a stove. Plant for succession every 3 weeks, as forced roots soon decay." *Don's Gardener's Dictionary*, vol. 4, page 718.

GLECHOMA HEDERACEA.

Ground Ivy.

A low plant that creeps about hedges, and flowers in Spring. The stalks are hollow and square, a foot or more in length: the leaves are roundish and notched at the edges: in Spring they are usually of a purplish colour, and the flowers are blue: the leaves stand two at each joint, and the roots are fibrous. The whole plant has a peculiar and strong smell, it should be gathered when in flower.

Its taste is bitterish, and somewhat aromatic. It is one of those plants which was formerly in considerable estimation, and supposed to possess great medicinal powers, but which later experience has been unable to discover: in proof of this, its name is omitted in the catalogue of the *Materia Medica* by the London College. The qualities of this plant have been described by different authors, as pectoral, detergent, aperient, diuretic, vulnerary, corroborant, errhine, &c.—and it has been variously recommended for the cure of those diseases to which these powers seemed most adapted, but chiefly in pulmonary and nephritic complaints. In obstinate coughs, it is a favourite remedy with the poor, who probably experience its good effects by still persevering in its use. Ray, Mead, and some others, speak of its being usefully joined with fermentating ale; but Dr. Cullen observes, "it appears to me frivolous. In short, in many cases where I have seen it employed, I have had no evidence either of its diuretic or of its pectoral effects. In common with many other of the verticillate, it may be employed as an errhine, and in that way cure a head-ache, but no other ways by any specific quality." It is usually taken in the way of infusion, or drunk as tea.

Dr. Withering has observed, that the leaves are "beset underneath with hollow dots, in which are glands secreting an essential oil; and above with little eminences, but which do not secrete any odoriferous oil; for the surface being rubbed gives out no peculiar scent, whereas the under surface affords a pleasant reviving odour."

From the general use of Ground-Ivy, mixed with ale, &c., it acquired the name of Ale-hopf and Tun-hoof.

LAMIUM ALBUM.

White Archangel.

A common wild plant, more vulgarly called the dead-nettle. It grows about our hedges, is a foot high, and has leaves shaped liked those of the nettle, but they do not sting. The stalk is square, and the leaves are hairy: the flowers are large and white; they stand at the joints where the leaves are set on, and are very pretty: the leaves stand in pairs, and the root creeps under the surface.

The flowers are the only part used; they are to be gathered in May, and made into a conserve. A pound of them is to be beat up with two pounds and a half of sugar. They may also be dried. They are excellent in the whites, and all other weaknesses.

There is a little plant with red flowers called also the Red Archangel, or red dead nettle. It is common under hedges and in gardens. The stalks are square and weak: the leaves are short and notched at the edges, and the flowers are red and small. The plant is not above four or five inches high, and the flowers grow near the tops among the leaves. They are in shape like those of the White Archangel, but small.

The herb is used fresh or dried, as well as the flowers. The decoction is good for floodings, bleedings at the nose, spitting of blood, or any kind of hæmorrhage. It also stops blood, bruised and applied outwardly.

LAMIUM PURPUREUM.

Red Dead Nettle.

Root annual: stalks weak, bending, branched towards the bottom, naked for a considerable space near the top, six inches high, and upwards: leaves veiny, downy with hairs, but not rough, the lowermost smaller, and on long petioles, the uppermost growing thick together; both these and the stalks are frequently tinged with red: flowers close together, and many in a whorl, chiefly between the upper leaves: corolla purple, with the under lip usually spotted; there are two teeth on each side of the throat or entrance into the tube, the upper ones long and pointed; the lower blunt, with a spot on them.

The corolla varies in colour, from a full bright red, to a very pale purple, and even white. The colour is usually red in a dry soil and open exposure; and pale when the plant grows in the shade.

The leaves vary much in size, but particularly in the indentures about the edges. Ray and others have remarked them to be sometimes so deeply cut, as to be in a manner lobed. On the contrary, I have a specimen in which the leaves have no indentures whatsoever about their edges.

It is a common weed in kitchen gardens and corn-fields, under hedges, &c., flowering very early, and a great part of the year.

As a medical plant it is disused; nor is it ever, as we believe, eaten among us as a pot-herb, whatever they may do in Upland, a province of Sweden.

er blunt,

It would be impertinent to mention the squareness of the stalks, the regular opposition of the leaves, the manner of the flowers growing in whorls, and the four naked seeds at the bottom of the calyx, which serves them for a capsule; for these circumstances form no part of the specific character, being common not only to all the *Lamiums*, but to the *Verticillate* plants in general.

GALEOPSIS LADANUM.

Red Hemp Nettle.

There are several species of Hemp Nettle common in cultivated fields in England. They all grow with strong upright stems, much branched, and beset with strongish hairs, with a swell below the joints. The leaves of the Red Hemp Nettle are spear-shaped, serrated, taper-pointed, and growing on longish leafstalks. The flowers are red and a little woolly. This plant, with the

GALEOPSIS VERSICOLOR,

Large-flowered Hemp Nettle.

Are well-known as the largest weeds growing amongst standing corn in badly cultivated fields. This last is a very large plant, growing up like a small tree, over-topping the standing corn. It must be a very pernicious weed to the farmer, as a plant of such a size and strength will naturally draw a deal of nutriment from the soil. The general habit of the large-flowered Hemp Nettle is like the preceding one, but much larger, and more hairy in every part. The leaves are of a pale green, and very hairy underneath. The swellings below the joints are larger. The flowers large, about an inch long, and beautifully variegated with yellow, purple, and white. The beauty of the blossom, as Dr. Withering observes, might give it a place in the flower-garden. This species has a strong fibre, capable of being manufactured into a sort of hemp; hence its name.

GALEOBDOLOON LUTEUM.

Yellow Water Snout.

Stem one foot to eighteen inches high: pretty full of leaves, hairy, and square. Blossom orange-colour: the middle segment of the lower lip marked with three lines and spotted: the leaves pointed, spear-shaped, stalked, serrated, hairy, especially at the edges. The lower leaves are more round or heart-shaped. The flowers are like all the rest in class *Didynamia*, whorled round the stem, each whorl consisting of from six to ten flowers. It grows in woods and moist shady places, flowering in May and June.

This plant is also called *Yellow Archangel*, and was formerly much used in medicine. It is now however totally neglected.

BETONICA OFFICINALIS.

Wood Betony.

A common wild herb, but of very great virtue. It is frequent in our

woods and among bushes, and flowers in June. The stalks are almost naked and a foot high, and the flowers are purple. There grows many leaves from the root; they have long stalks, and are broad, above an inch long, of a blackish green colour, and hairy, blunt at the point, and indented about the edges. The stalks are square, of a dark colour, hairy, and not very strong. The leaves of them are very few, and very distant; but they stand two at a joint, and are like the others. The flowers stand at the tops in form of a kind of thick short spike; they are small and purple, and of the shape of the flowers of mint.

Betony is to be gathered when just going to flower. It is excellent for disorders of the head, and for all nervous complaints. The habitual use of it will cure the most inveterate head-aches. It may be taken as tea, or dried and powdered. Some mix it with tobacco and smoke it, but this is a more uncertain method.

There is a tall plant with small purple flowers growing by waters, hence and from the shape of the leaves, called Water Betony, but it has none of the virtues of this plant. It is a kind of fig-wort, and possesses the virtues of that plant but in an inferior degree.

A handful of Wood Betony, and of Marjoram, together with a small portion of the root of Florentine Iris, reduced to a powder, and well mixed, is an excellent snuff for pains in the head. Some add a little eye-bright, which certainly does not make it any worse.

Antonius Musa, physician to the emperor Augustus, caused this plant to have such a general repute in Italy, that "sell your coat to buy Betony" became a common proverb. The great Pliny likewise extolled its virtues to such an extent, that in praising a woman it was common to say, "she has as many virtues as Betony."

A British herb snuff and tobacco have been made of equal quantities of Betony and Eye-bright, and it were well if the good people of England never smoked or snuffed any thing worse.

STACHYS SYLVATICA.

Hedge Woundwort.

This plant is not unlike the last, but it is hairy all over: stem without branches: leaves heart-shaped, stalked: flowers deep purple, six in a whorl: grows from eighteen inches to two feet high, common in hedges throughout England.

Woundwort, as its name implies, has had a very great reputation for curing of wounds; but modern doctors have set it aside, and without so much as examining its virtues. We have had sadly too much of this sort of work. Any thing that our forefathers considered good was sure to be set aside. What! shall we take our medical knowledge from our catholic ancestors! a set of stupid fools! these men who knew nothing about bank notes, funding, and contracting national debts! They were ignorant of that blessed science which enabled a Jew to accumulate a fortune of five millions during his life, and of allowing, at the same time, half a million of working men (the very worst of whom was of more value to society than the aforesaid Jew), to starve to death for want of food. They had no

Ricardoes to amass a fortune of £500,000, by "watching the turn of the market," besides purchasing the land of one hundred Yeomen, to make a park for his own pleasure. They know none of these things, but I am confident they knew more about the virtues of herbs than we do, probably because we have got our heads so high in the clouds that we cannot look so low as an herb. However, we are now beginning to see that their knowledge and practice was not altogether useless. The various herbs, roots, &c. whose virtues have been handed down by tradition, are found to be really valuable; they are found to effect those cures which they stated they would effect. We have found that the means of relief for all the ills that flesh is heir to, may be gathered in the fields, the woods, and hedge-rows, without money and without price.

The number of converts to this opinion, amongst whom are the most eminent Botanists, are daily increasing, as the following remarks in the journal of a naturalist will testify.

"A plant formerly in high repute as a vulnerary, as its English names intimate. For a curious account of its problematical virtues refer to Gerard. In a sceptical age, little credit is given to the accounts transmitted by our forefathers of the wonder-working efficacy of various native herbs; and the plants are rather too unceremoniously cast aside. Doubtless many of them merit more strict attention, and that they and their reported virtues may not be wholly lost sight of, it is still important to discriminate them by their more ancient or vulgar names. Nor were these to the confiding patients, devoid of comfort: for modern science may wrap up the meaning of its epithets in Greek and Latin terms: but what pleasure it must have afforded the poor sufferer when the good neighbour came to bathe his wounds, or assuage his inward torments, with such things as 'All-heal, Break-stone, Bruise-wort, Gout-weed, Fever-few,' and twenty other such comfortable mitigators of his afflictions; why, their very names would almost charm away the sense of pain! And then the 'herbalist of old profess'd to have plants which were 'All-good;' they could assuage anger by their 'Loose-strife;' they had 'Honesty, True-love, and Hearts-ease.' The extra tropical condiments of these days were not required, when the next thicket would produce 'Poor Man's Pepper, Sauce Alone, and Hedge Mustard;' and the woods and wilds around, when they yielded such delicate viands as 'Fat-ben, Lambs-quarters, Way-bread, Butter and Eggs, with Codlins and Cream,' afforded no despicable bill of fare. The terms of modern science fluctuate daily; names undergo an annual change, fade with the leaf, and give place to others; but the ancient terms, which some may ridicule, have remained for centuries, and will yet remain till nature is swallowed up by art."

It is an excellent wound herb, but must be used fresh. The leaves are to be bruised and laid upon a new-made wound, without any addition; they stop the bleeding, and cure.

Besides the above we have the *Stachys Palustris*, Marsh Woundwort; *Stachys Arvensis*, Corn Woundwort; and *Stachys Germanica*, Downy Woundwort, of which last the editor of Withering has given the following excellent remarks:—

"Certain species of Bees, with their mandibles, industriously scrape off the soft woolly material afforded by these plants, and rolling it into little

balls with their fore legs, convey it to their nests, and closely envelop the cells with a coating impervious to every change of temperature.—Thus may instinct afford instruction to reason: and the contemplation of the minute insect, infinitely disproportionate as the little creature is to our own powers and faculties, is calculated to elevate the reflecting mind to that source of all wisdom, which we cannot penetrate, and which surpasses human conception. Whatever God has created must be worthy the respect and consideration of man: and the more intimately we become acquainted with His works, the more ready shall we be to admit

‘The hand that made them is divine.’”

BALLOTA NIGRA.

Black Horehound.

A common wild plant, of a disagreeable smell, thence also called by some, stinking horehound. The stalks are square: the leaves grow two at every joint, and are broad, short, and of a blackish green colour, but in shape not unlike those of the white kind: the flowers stand in clusters round the stalk at the joints, as in the other, but they are red. The whole plant has a dismal aspect: the root is fibrous.

The plant is to be used fresh or dried, and it has more virtue than most imagine. It is to be given in the form of tea; it promotes the menses, and is superior to most things as a remedy in hysteric cases, faintings, convulsions, and low spiritedness, and all the train of those disorders.

The use of Black Horehound has been neglected in medicine, on account of its disagreeable taste and unpleasant odour, but it is a most valuable medicine. A poultice made of the leaves, mixed up with a little lard, is an excellent application to scald heads, ring-worms, and hard gouty and scrofulous tumours. One handful each of the leaves of Black Horehound, of White Horehound, and of Betony, infused in six pints of boiling water, is an excellent drink for gouty and rheumatic people.

This species of Horehound is very rarely employed in medicine, although it possesses powerful properties, especially in hysteria and hypochondriasis. The celebrated Tournefort relates several instances of gout, if not absolutely cured, at least rendered much more tolerable and less frequent in its occurrence by the use of this plant. It is seldom, however, taken internally, on account of its unpleasant taste and fetid odour. Externally, the leaves in form of poultice, or bruised with honey, resolve hard tumours, allay pain, and cleanse ill-conditioned ulcers. The same may be also beneficially applied to piles; and by Boerhaave, a decoction of the plant was esteemed an excellent detersive application in scald head. The inhabitants of Gothia consider it a panacea in most cutaneous diseases, as itch, scurvy, ring-worm, &c.

Black Horehound is best given in the form of an infusion, or an extract, which is the most agreeable.

INFUSION OF BLACK HOREHOUND.

Take of the leaves of Black Horehound.....	} of each	
leaves of White Horehound.		one
leaves of Betony.....		handful.

Infuse in six pints of boiling water, and when cold, strain. A cupful to be taken three or four times a-day.

MARRUBIUM VULGARE.

White Horehound.

A white hoary plant, with little flowers in tufts round the stalks, frequent in dry places in many parts of the kingdom. It grows sixteen inches high. The stalks are square, and very robust, hairy, pale coloured, and upright; the leaves stand two at each joint; they are short and broad, blunt at the ends, and widely indented at the edges, of a rough surface and white colour: the flowers are white, and the points of their cups are prickly.

The best part of the plant for medicinal use is the tops of the young shoots. A decoction of these made very strong, and boiled into a thin syrup with honey, is excellent against coughs, hoarsenesses of long standing, and all disorders of the lungs. The same decoction if taken in large doses, and for a continuance, promotes the menses, and opens all obstructions.

LEORURUS CARDIACA.

Mother-Wort.

A tall and not unhandsome wild plant. It grows wild about farm-yards and in dry places. It is a yard high: the stalk is square, thick, upright, and firm: the leaves stand on long footstalks, two at each joint; they are divided into three parts, the middle one being the longer, and are deeply indented at the edges, of a dark green colour, and bad smell: the blossoms are of a pale red; they grow in a kind of prickly cups, from the blossom of the leaves, surrounding the stalks: the root creeps, and is whitish.

The whole plant may be used dried, but the tops fresh cut are best; they are to be given in a strong infusion or decoction. It is good against hysteric complaints, and famous for curing the palpitation of the heart, when that arises from an hysteric cause, for there are palpitations which nothing can cure.

CLINOPODIUM VULGARE.

Wild Basil.

Basil is a small herb, native of warm countries, but not uncommon in our gardens. It is bushy and branched: the stalks are square, and the leaves stand two at each joint; they are broad and short, and somewhat indented at the edges: the flowers are small and white, and are of the shape of the dead nettle; they stand on the upper parts of the branches in loose spikes. The whole plant has a very fragrant smell.

Basil is little used; but it deserves to be much more. A tea made of the green plant is excellent against all obstructions. No simple is more effectual for gently promoting the menses, and for gently removing those complaints which naturally attend their stoppage.

There are two or three other kinds of Basil, but they have not equal virtue.



Common Skullcap



Bastard Balm



Red Barzila



Yellow Rattle



ORIGANUM VULGARE.

Wild Marjoram.

A wild plant, frequent about way-sides in many places, not superior to the other in beauty and in virtues. It very well deserves a place, on both accounts, in our gardens. It grows a foot and a half high. The stalk is firm, very upright, a little hairy, and of a purplish brown colour, extremely regular in its growth: the leaves are broad and short, of the bigness of one's thumb-nail, and of a dark green colour, two stand at every joint, and they have long footstalks: the flowers grow on the tops of the branches; there stand on these long scaly heads, of a beautiful form, and purple colour, and from different parts of those arise the flowers, which are little, but of a beautiful red colour. The whole plant has a fragrant smell and an aromatic taste.

The fresh tops of the herb are to be used. They are best taken in infusion. They strengthen the stomach, and are good against habitual colics: they are also good in head-aches and in all nervous complaints; and they open obstructions, and are good in the jaundice. Chemists sell what they call oil of Origanum, but it is commonly an oil made from garden thyme. It is very acrid. A drop of it put upon lint, and laid to an aching tooth, often gives ease.

ORIGANUM MARJORAMA.

Sweet Marjoram.

This rises a foot and a half. Leaves egg-shaped, obtuse, downy, entire, of a pale green, standing in pairs upon footstalks: flowers very small, inconspicuous, white. Bractea leaves numerous, compact, terminal.

Native of Britain, flowers in August.

It yields fifteen ounces of essential oil from one hundred and fifty pounds of the recent plant. This oil, if kept long, becomes solid, and is employed also for the toothache. In a recent state it has been applied to cancer, and some report with advantage. This may obviate at any rate the factor attendant upon that cruel disease. It is chiefly used for culinary purposes, as in making of stuffing for veal, &c.

ORIGANUM DICTAMAS.

Dittany of Crete.

This rises about a foot. Leaves ovate, blunt, opposite, on short footstalks, covered with soft hairs: flowers purple: bractea numerous, coloured: corolla lipped, upper straight, under cut into three obtuse lobes, middle one largest.

Flowers from June till August; native of the island of Candia, where tomentose plants abound.

It is certainly a stimulant, and thought to be emmenagogue; but its real virtues are but ill understood as yet.

The leaves of this plant are apparently very warm and aromatic; of an agreeable smell, and hot biting taste. They impart their virtues both to water and rectified spirit. Distilled with water, they give over a moderately

strong impregnation to the aqueous fluid ; from which, if the quantity of Dittany be large, there separates, as Neuman observes, a small portion of a yellowish essential oil, of a highly pungent aromatic taste and smell, and which congeals in the cold into the appearance of camphor.

Both the Greek and Roman writers have fabled this plant into great celebrity.

Though rarely used to this day, it certainly possesses, in a very considerable degree, the stringulant and aromatic qualities which characterize this class of plants ; and has at least an equal share of emmenagogue, carminative, and stomachic virtue.

THYMUS SERPYLLUM.

Mother of Thyme.

This rises from four inches to a foot in height. Leaves ovate, entire, smooth, covered with glands, fringed with hairs towards the base ; in pairs, upon short footstalks : the flowers are purple, in whorls round the stem, also terminal.

It is a native of Britain on heaths and mountainous situations ; flowers in July and August.

This plant is made into tea for nervous habits, and produces an essential oil ; but it is chiefly employed for culinary purposes.

THYMUS VULGARIS.

Common Garden Thyme.

This rises a foot in height. Leaves small, narrow, elliptical, slightly indented, in pairs, standing upon short petioles : flowers of a pale purple.

Native of the south of France ; flowers from May till August.

Like the last it abounds with an essential oil, also a native camphor, but is employed chiefly for culinary purposes.

THYMUS CALAMINTA.

Calamint.

A common wild plant of great virtues, but too much neglected. It is frequent by our hedges, and in dry places, and is a very robust herb. It is eight or ten inches high, and has roundish dark green leaves, and white flowers. The stalks are square, and very much branched : the leaves are of the bigness of a man's thumb nail, somewhat hairy, and slightly indented about the edges : the flowers stand in little clusters surrounding the stalks, and are of a whitish colour, a little tinged with purplish : the root is composed of a few fibres. Calamint should be gathered when just coming into flower, and carefully dried. It is afterwards to be given in the manner of tea, and it will do great service in weaknesses of the stomach, and in habitual colics. I have known effectual and lasting cures performed by it.

There are two kinds of thyme cultivated for culinary purposes. The common and the lemon thyme. Of the garden or common thyme there are two varieties, the broad and narrow-leaved, besides the variegated, grown

for ornament. The lemon thyme, *Thymus Lemonum*, is a low, trailing shrub, of a yellowish colour, having a strong scent of lemons. The young leaves and tops of both kinds are used in soups, stuffings, and sauces. For these purposes the broad-leaved common is generally preferred; but the flavour of the lemon thyme is much liked in peculiar dishes.

"To raise thyme from seed is the general and most eligible method. It is occasionally multiplied by parting the roots of stocky close plants, and by slips of the young shoots. By seed, sow in March and April in a bed or border of light fine earth, either broad-cast, scattered thin and raked in lightly, which is the general course, or in small shallow drills, six inches asunder: the young plants may either remain, or be transplanted in the summer when two or three inches high. A portion may be drilled for an edging to a border. As soon as the plants are three or five inches in growth, in June or July, taking the opportunity of rain, thin them out, and plant six inches asunder, and water at planting. Others may be planted in a single row to form an edging to a border, either set close to form a full edging at once, or as far as three inches apart. Seedlings thus treated will come in for use the same year.

"Those who raise considerable supplies of thyme for the markets usually sow large portions thickly in beds, to remain till of useful growth, then to be drawn off, root and top together, at different seasons as wanted; it is tied in small bunches for market. Some persons also transplant considerable portions in spring and summer to six, ten, or twelve inches distance, to form a stocky full growth, to be drawn off in large bushy plants. Thyme is also propagated by slips of the branching shoots in the spring or early in autumn, but more especially by sections of the bush, or by removing rooted branches. Plant all these in light rich earth, and shade and water till rooted. In autumn, to provide against the effects of frosts on exotic evergreens, dry and house a store for winter; either cutting the tops or drawing the entire plants. Seed is produced abundantly in this country, and ripens in summer and autumn. Gather the seed spikes and spread them upon a cloth to dry; rub out clean, and put the seed up for sowing the following year."—*Don's Gardener's Dictionary*, vol. 4, p. 767.

* LAVENDULA SPICA.

Lavender.

Plant bushy, flowering stem erect, often rising four or five feet. ^{vee} numerous, long, narrow, without footstalks, mostly opposite, of a ^{vee} green colour. Flowers in terminal spikes, of a bright blue. Corolla ringent. Upper lip cut into two divisions, lower lip into three.

Lavender is a well known, small, shrubby, perennial plant, a native of the south of Europe, but frequently cultivated in our gardens for the sake of its perfume. There are two varieties. The flowers of both have a fragrant, agreeable smell, and a warm, pungent, bitterish taste; the broad-leaved variety is the strongest in both respects, and yields in distillation thrice as much essential oil as the other; its oil is also hotter, and specifically heavier: hence, in the southern parts of France, where both kinds grow wild, this only is used for the distillation of what is called oil of lavender. The narrow-leaved is the variety commonly met with in our gardens. It flowers from July till September.

It is a warm cordial, and is used in hysteria, lowness, and other nervous affections.

OFFICINAL PREPARATIONS.

SPIRIT OF LAVENDER.

From two pounds of the flowering spikes of lavender, according to the Edinburgh college, and from a pound and a half, according to the London, this spirit is to be formed. It is used as an analeptic perfume; also taken inwardly, in case of fainting, from a drachm to half an ounce.

COMPOUND SPIRIT OF LAVENDER.

Take of the spirit of Lavender, three pounds;
spirit of Rosemary, one pound;
cinnamon, half an ounce;
nutmeg, the same;
red sanders, three drachms:

Digest for ten days and then strain off. This is often taken upon sugar, and is a salutary cordial, far preferable to drams, which are too often had recourse to by persons feeling a great sinking, or depression of the spirits.

LAVENDER WATER.

The common mode of preparing this is to put three drachms of the essential oil of lavender, and one drachm of the essence of ambergris, into one pint of spirits of wine.

OCYUM THYRSIFLORUM.

Garden Basil.

A well-known plant in our gardens, and richer in aromatic fragrance than all the tribe. It is much used in cookery, particularly by the French, who surpass all the world in making savoury soups, jellies, and the like. It is also of great value as a medical plant; a strong decoction of the leaves applied to rheumatic pains, will allay the pain, after its continuance for a time. The best way is to bathe the part afflicted, with flannels dipped into the decoction, wrung out and applied as hot as the patient can bear it. The young shoots of Basil make an agreeable addition to salads.

MELISSA OFFICINALIS.

Common Balm.

A plant common in our gardens. It grows to two feet in height, and the stalks are robust, square, and hairy. The leaves are oblong, broad, pointed at the end, and dentated about the edges, and they stand two at a joint: the flowers are small and white, but they have large rough tops, which remain after they are fallen; they stand in circular clusters round the stalk at the upper joints. The whole plant is of a fragrant smell: the root creeps and spreads abundantly: the plant is in flower in July.

The qualities and medical properties of all the plants of this class and order are so much alike, that it is nothing but repetition to enumerate them; being of a hot and pungent nature, they act as tonics, strengtheners

of the stomach, bracers of the nerves, and their outward application will relieve pain. There is, however, one particular virtue which this herb possesses, namely, causing a *perspiration*, and therefore it is serviceable in colds, head-aches, indigestions, &c., for the removal of which complaints it has long been a favourite herb in England.

The following is the best preparation of Balm, and will answer every purpose.

COMPOUND SPIRIT OF BALM.

Take of the fresh leaves of Balm, eight ounces;
lemon-peel, bruised, four ounces;
nutmegs and caraway seeds, of each two ounces;
cloves, cinnamon, and angelica root, of each one ounce:

Distil all together with a quart of brandy. It must be well preserved in bottles with ground glass stoppers.

Besides the common Balm, there are thirty sorts of this useful herb described in Don's large work; but although of foreign origin, they will all bear the climate of England, and grow in our gardens without much trouble.

HYSOPUS OFFICINALIS.

Common Hyssop.

A very pretty garden plant, kept for its virtues. It grows two feet high. The stalks are square, robust, upright, and of a pale green colour: the leaves stand two at each joint; they are long, narrow, pointed at the ends, and of a bright green colour: the flowers are small, and they stand in long spikes at the tops of the branches; they are of a beautiful blue colour. The whole plant has a strong but not disagreeable smell.

Hyssop is to be gathered when just beginning to flower, and dried. The infusion made in the manner of tea is not unpleasant, and is the best way of taking it. It is excellent against hoarseness and obstructions in the breast. A strong infusion made into a syrup with honey, is excellent for the same purposes, mixed with an equal quantity of oil of almonds.

A handful of dried hyssop tied in a linen cloth, and dipped in boiling water, is the best application to a black or blood-shot eye, put on as warm as possible.

Hyssop tea is good to give to children troubled with worms.

The Hyssop mentioned in the Old Testament is not supposed to be the plant here described. It was first cultivated in England by Gerard, in 1696, and is now extremely common in our gardens. The leaves of Hyssop have an aromatic smell, and a bitterish moderately warm taste. They give out their active matter both to water and to rectified spirit; to the last most perfectly. On inspissating the spirituous tincture, very little of the flavour of the herb exhales or distils with the menstruum: the remaining extract is bitterish, and very warm, and discovers a penetrating pungency, somewhat like that of camphor. Water, distilled from the fresh herb, is found strongly impregnated with its flavour: an essential oil rises to the surface, which is very pungent, and in smell exactly resembles the Hyssop.

Dr. Cullen classes this and all the verticillated plants as stimulants, and

this quality is to be ascribed to the quantity of essential oil which they contain: the Hyssop therefore may be esteemed stimulant and aromatic; and with a view to these effects, Bergius recommends it as an emmenagogue and antihysteria; but it is chiefly employed as a pectoral, and has been long thought an useful medicine in humeral asthmas, coughs, and catarrhal affections; for this purpose, an infusion of the leaves, sweetened with honey or sugar, and drank as tea, is recommended by Lewis. The external application of Hyssop is said to be particularly efficacious in the way of fomentation and poultice, in contusions, and for removing the blackness occasioned by the extravassated fluids.

MELITTIS MELISSOPHYLLUM.

Bastard Balm.

Bastard Balm is sometimes called *Balm-leaved Archangel*. The stem square, scored, and rather hairy: leaves opposite, egg-shaped, wrinkled, and serrated: the fruit-stalks rising from the bosom of the leaves: flowers white, with a longish tube. In some species the flowers are spotted with purple.

This plant is supposed to possess the virtues of Balm, but on trial its effects have been found not so certain. Besides it is by no means so pleasant in the smell as the true Balm, but is rather offensive. It is now common in gardens because of the beauty of the flower being the most elegant of the whole species.

SCUTELLARIA GALERICULATA.

Common Scull-cap.

A very little plant growing on the sides of still waters throughout England. Like all the plants in class Didynamia, its flowers grow at the root of the leaves, and they are a most beautiful blue, with a long tube considering the size of the plant, which is seldom more than twelve inches high. The leaves grow on very short leaf-stalks, are wrinkled, veined, green above, pale underneath, heart-shaped, scolloped, and wrinkled.

When the blossom has fallen off, the observer will see one of the most curious contrivances of nature exhibited in the seed-vessel. In most flowers the seed-vessel bursts open when the seeds are ripe; but in this the seeds are much smaller than the cup, and for this reason are unable to escape by their own pressure against the sides of the vessel; and they would consequently remain in confinement, but nature, ever fruitful in resources, finds a method to discharge them. Instead of the seed-vessel closing up by the drawing of its parts together at the top, it is covered with a lid, and as the cup becomes dry it shrinks, and the lid is disengaged from the top in consequence, and the seeds fall to the ground. This cover is like a cup with a lid upon it, called in Latin, *Scutella*; hence its name.

Besides the above we have a

SCUTELLARIA MINOR.

Lesser Scull-cap.

This is in all respects like the other but smaller, and being very scarce

it is difficult to meet with ; but when found it is in the same places as the other. They are both very pretty plants, but not noted for any particular use.

The exotic species of the Scull-cap are numerous and varied, and make a great addition to the flower garden and green house. They are all showy plants, not unlike the *Salvias*, exhibiting every variety of size and colour ; some of them not more than two or three inches high, while others grow to the height of two or three yards. The *Scutellaria Longifolia* of New Spain has a leaf from four to six inches long, and a splendid scarlet flower eight times the length of the calyx ; and the *Scutellaria Peregrina* is so small as to look more like a moss than a flowering plant. All the sorts, which amount to above sixty, are great favourites as flowerers, and they deserve it.

SALURIA HORTENSIS.

Savory.

A common little plant in our kitchen gardens. It is ten inches or a foot high. The stalks are numerous, and very hard, and woody towards the bottom : the leaves are oblong and narrow ; they stand two at each joint, with a quantity of young ones in their bosoms : the flowers grow on the upper parts of the stalks among the leaves ; they are white, with a tinge of blue or red. The whole plant has a pleasant smell and an agreeable taste.

The whole plant is used. An infusion of it, drank in the manner of tea, is good against colicky pains, and it opens obstructions.

There is another kind of *Savory*, with more woody stalks called Winter *Savory*. This has much the same virtues.

PRUNELLA VULGARIS.

Self-heal.

A little wild plant common about way sides, with dark green leaves, and short tufts of blue flowers. It grows six inches high. The stalk is square and a little hairy : the leaves stand in pairs upon it, but there are seldom more than two or three pairs, the great quantity of them rise immediately from the root ; they are oblong, broad, blunt at the point, and not at all indented at the edges : the flowers are small ; they stand in a kind of short spikes or heads ; the cups of them are often purplish : the root is small and creeping, and full of fibres.

The juice of *Self-heal* is astringent. It is good against purgings with very sharp or bloody stools. The dried herb is made into an infusion, and sweetened with honey, and it is good against a sore throat, and ulcers of the mouth.

PHLOMIS.

Jerusalem Sage Tree.

All the other plants in this class are herbaceous, whereas this is shrubby and some of the species are even woody, so as to find a place in the plan-

tations of the curious. There are in the whole fourteen species, two of which are adapted to the shrubbery.

1. *Phlomis Fruticosa*, the Yellow *Phlomis*, or Jerusalem Sage; a non-deciduous hoary shrub; native of Spain and Sicily.

2. *Phlomis Purpurea*, the Purple *Phlomis*, or Portugal Sage; a non-deciduous hoary shrub; native of Portugal and Italy.

1. The Yellow *Phlomis*, or Jerusalem Sage. The varieties of this species are, the Broad-leaved Sage Tree of Jerusalem, the Narrow-leaved Jerusalem Sage Tree, the Cretan Sage Tree.

The Broad-leaved Jerusalem Sage Tree is now become very common in our gardens, which indeed is no wonder, as its beauty is great, and its culture easy. It will grow to be about five feet high, and spreads its branches without order all around. The older branches are covered with a dirty, greenish, dead, falling, ill-looking bark; and this is the worst property of this shrub. But the younger shoots are white and beautiful; they are four-cornered, woolly, and soft to the touch. The leaves are roundish and oblong, and moderately large; and these grow opposite at the joints of the shrub on long footstalks: they are hoary to a degree of whiteness, and their footstalks also are woolly, white, tough, and strong. The flowers are produced in June, July, and August, at the top joints of the labiated kind, each consisting of two lips, the upper end of which is forked, and bends over the other. A finer yellow can hardly be conceived than the colour of which they are possessed; and being large, they exhibit their golden flowers at a great distance, causing thereby a very handsome show.

The Narrow-leaved Jerusalem Sage Tree is of lower growth than the other, seldom rising higher than three or four feet. This shrub is in every respect like the other, only the shoots seem to have a more upright tendency of growth. The leaves also, which are narrower, are more inclined to a lanceolate form: they are numerous in both the sorts, and hide the deformity of the bark on the older stems, which renders them less exceptionable on that account. In short, these sorts are qualified for shrubberies of all kinds, or to be set in borders of flower gardens, where they will flower, and be exceeded even in that respect by very few shrubs.

Cretan Sage Tree is still of lower growth than either of the former, seldom arriving to a yard in height. The leaves are of the same white hoary nature; they are very broad, and stand on long footstalks. The flowers are also of a delightful yellow colour, very large, and grow in large whorls, which give the plant great beauty.

2. Purple *Phlomis*, or Portugal Sage. The stalks of this species are woody, four feet high, and send forth several angular branches, which are covered with a white bark. The leaves are spear-shaped, oblong, woolly underneath, crenated, and grow on short footstalks. The flowers are produced in whorls, from the joints of the branches. They are of a deep purple colour, and have narrow involucre. They appear in June or July, but are not succeeded by ripe seeds in England.

There is a variety of this species, with iron-coloured flowers, and another with flowers of a bright purple.

There are some other shrubby sorts of *Phlomis*, of great beauty; but these not only often lose their leaves, and even branches, from the first

frost, but are frequently wholly destroyed, if it happens to be severe. They are low shrubs, very beautiful, and look well among perennial flowers, where they will not only class as to size with many of that sort, but, being rather tender, may with them have such extraordinary care as the owner may think proper to allow them.

The propagation of the above sorts is very easy, either by layers or cuttings. 1. If a little earth be thrown upon the branches, any time in the winter, they will strike root, and be good plants by the autumn following, fit for any place. Thus easy is the culture by that method. 2. The cuttings will also grow, if planted any time of the year. Those planted in winter should be the woody shoots of the former summer. These may be set close in a shady border; and being watered in dry weather will often grow. This shrub may be propagated by young slips, also, in any of the summer months. These should be planted in a shady border, like Sage, and well watered. If the border is not naturally shady, the beds must be hooped, and covered with matting in hot weather. Watering must be constantly afforded them; and with this care and management many of them will grow.

ORDER II.

ANGIOSPERMIA.

*Seeds enclosed.*

BARTSIA ODONTITES.

Red Bartsia.

The stem is cylindrical, much branched, and about a foot high: the leaves are spear-shaped, sharply serrated: the flowers, which are a reddish white or purple, all point one way, forming long terminal leafy bunches: the leaves are somewhat reddish. It is common in meadows, corn fields, and pastures.

The name *Bartsia* was given to this plant by the great Linnæus, in honour of his intimate friend and brother naturalist, Doctor JOHN BARTSCH, of Königsberg, who perished in Surinam while pursuing his botanical researches. The event is feelingly lamented by Linnæus in his "*Flors Succia*."

Besides the above we have the *Bartsia vircosa*, and the *Bartsia Alpina*, both rather scarce. There are no foreign plants of the genus.

RHINANTHUS CRISTA GALLI.

Yellow Rattle, or Cock's-comb.

The root is annual, small, with few fibres: the stem four-cornered, smooth, upright, sometimes branched, with purple spots upon it: the flowers in short peduncles, and form a sort of terminating spike, yellow, with a remarkable large calyx covering the flower as if it was a sort of bag.

Yellow Rattle is common in pastures, and flowers early in June. It is known in some counties by the name of Penny-grass. Horses, sheep, and goats are said to eat it, and kine to refuse it. Others affirm that cattle in general at liberty refuse it, but that they will eat it in the stall or stable; others again, that they will eat it when fresh, but reject it when dry among hay. As it comes early, it is usually far advanced when grass is mowed, and the leaves dropping off, nothing remains but the stalk and the membranaceous seed-vessels. In this state the seeds, being loose, rattle in the capsule; hence its English name: and Linnæus informs us, that this circumstance indicates to the Swedish peasant the time of mowing

his grass for hay. We commonly mow earlier, whilst it is in flower. The growth of this plant is remarkably quick, and it is supposed in some foreign countries to be very injurious to the crop of Rye. With us it abounds in indifferent pastures.

EUPHRASIA OFFICINALIS.

Eye Bright.

A very pretty low herb, common in our meadows; with woody stalks, and bright little variegated flowers: it grows six or eight inches high: the stalks are round, thick, firm, and very hard: the leaves are flat, broad, and very deeply indented at the edges, and they are of a bright shining green: the flowers are little, and they are very bright; their ground colour is white, and they are streaked and spotted with black and some other dark colours.

It is common on barren meadows, heaths, and pastures, producing its flowers from July till September.

Eyebright, without any sensible odour, is somewhat bitterish and astringent, communicating a black colour to a solution of sulphate of iron. It derives its name from its reputed efficacy in various disorders of the eyes, for which it was used both externally and internally, and has long been so much celebrated as to be considered almost in the character of a specific, the "*verum oculorum solomen*."—But as there cannot possibly be a general remedy for all diseases of the eyes, the absurd and indiscriminate recommendation of Euphrasia as such, must receive but little credit from those who practice medicine on rational principles. It must be acknowledged however, that some authors have stated peculiar complaints of the eyes, in which the use of this plant was thought more remarkably evident; and, judging by these, we should say, that eyes weakened by long continued exertion, and those that are dim and watery, as in a senile state, are the cases in which Euphrasia promises most advantage; nor are old people to despair, for according to Hildanus and Lanzoneus, several, at the age seventy and eighty years, recovered almost from entire blindness.

But though the great reputation which Eyebright formerly supported for several ages, must have induced some practitioners of later days to have tried its ophthalmic power; yet we do not find a single instance of its efficacy recorded in modern times. How far this remark ought to invalidate the positive testimonies in its favour, we leave others to determine.

The Icelanders are said to be in the constant habit of using the juice of Euphrasia in all affections of the eyes.

In common with many other plants, the Euphrasia has also been recommended in the jaundice.

The character of Euphrasia was not unknown to Milton:

— "then purged with euphrasy and rue,
The visual nerve, for he had much to see."

MELAMPYRUM SYLVATICUM.

Small-flowered Cow Wheat.

A common wild plant in our woods and thickets, with narrow and black-

ish leaves, and bright yellow flowers. It is eight or ten inches high: the stalks are square and slender, very brittle, weak, and seldom quite upright: the leaves are oblong and narrow, sometimes of dusky green colour, but oftener purplish or blackish; they are broadest at the base, and small all the way to the point; they are commonly, but not always, indented a little about the edges: the flowers stand or rather hang, all on one side of the stalk, in a kind of loose spike; they are small and yellow, and grow two together: the seeds which follow these are large, and have something of the aspect of wheat, from whence the plant has its odd name.

These seeds are the part used; they are to be dried and given in powder, but in small doses. They have virtues which few seem to imagine; they are a high cordial and provocative to venery; but if given in too large a dose, they occasion the head-ache and a strange giddiness. I knew an instance of a woman who had boiled the fresh tops of the plant in a large quantity of water, as a remedy for the jaundice, (I know not by what information,) and having drunk this in large draughts, was as a person drunk and out of her senses; she complained of numbness in her limbs, and seemed in danger of her life, but nature recovered her after a few hours without other assistance.

Cows are very fond of it, and it is remarked, that where it abounds, the milk and butter is exceedingly sweet.

LATHRÆA SQUAMARIA.

Toothwort.

The root is white, tender, and succulent, variously divaricated, and formed of a beautiful arrangement of scales: the stalk is five or six inches high, as thick as one's little finger, tender, succulent, brittle, and surrounded by a thin skin: there are membranes, resembling leaves, on the lower part of it, and, on the upper, there is placed a series of large, dusky-coloured flowers, all hanging on one side.

It is found in dark, shadowy lanes.

This plant like the last, is good for cattle of all sorts, which, if plentifully supplied, soon grow fat and in good condition. It is called Toothwort, from the scales of the roots being supposed to resemble human teeth.

PEDICULARIS PALUSTRIS.

Marsh Lousewort.

The root is fibrous and white: the stalks are round, procumbent, and of a purplish colour; the leaves are finely divided, and of a deep green colour: the flowers stand towards the extremities of the stalks; they are small, and of a bright red colour.

The plant is frequent in our meadows.

This plant is an unwholesome guest in meadows, being very disagreeable to cattle, and sometimes almost overpowering the grasses. The spread of its seeds should be prevented as far as possible. Goats eat it. Horses, sheep, and cows refuse it. Swine are not fond of it.

The expressed juice, or a decoction of this plant, has been used with

PLATE XI



Lousewort



Yellow Throat Flax



Ivy-leaved Snap Dragon



Figwort



advantage as an injection for sinuous ulcers: It is said that if the healthiest flock of sheep be fed with it, they become scabby and scurfy in a short time; the wool will become loose, and they will be over-run with vermin.

ANTIRRHINUM CYMBALARIA.*Ivy-leaved Snap Dragon.*

A common wild plant in many parts of Europe, and is very frequent in our gardens, and upon the walls of the gardens. Its natural situation is on hills and amongst barren rocks, and nothing comes so near that as the top of an old wall with us. The seeds are light, and are easily carried thither by the wind, and they never fail to strike, and the plant flourishes. It is two feet high: the stalks are round, thick, firm, and tolerably upright, but generally a little bent towards the bottom: the leaves are very numerous; they are oblong, narrow, not indented at the edges, blunt at the ends, and of a bluish green colour: the flowers are large and red; they stand in a kind of loose spikes upon the tops of the stalks: the root is white and oblong.

The fresh tops are used. An infusion of them works by urine, and has been recommended by some in the jaundice, and in other diseases arising from obstructions of the viscera; but we have so many English plants that excel in this particular, and the taste of the infusion is so far from agreeable, that it is not worth while to have recourse to it.

ANTIRRHINUM ELATINE.*Fluellin Snap Dragon.*

A low plant frequent in corn-fields, and conspicuous for its pretty, though small flower. The stalks are five or six inches long, round, hairy, weak, and trailing upon the ground: the leaves are little, hairy, rounded, and placed irregularly: the flowers are very small, but they are variegated with purple and yellow, both colours very bright; they have a heel behind, and each stands upon a little hairy foot-stalk, arising from the bosom of the leaf.

There is another kind, the leaves of which have two ears at their base; in other respects they are the same, and they have the same virtues. The juice of either is cooling and astringent. It is given by the country people in the bloody flux.

ANTIRRHINUM LINARIA.*Toad Flax, or, Butter and Eggs.*

A common wild plant with narrow bluish leaves, and thick spikes of yellow flowers. It grows on dry banks, and is a foot and a half high: the stalk is round, thick, firm, upright, and single: the leaves stand irregularly; they are oblong, narrow, smooth, not dented at the edges, and are pointed at the ends: the flowers stand in a short and thick spike; they are large, and many of them are generally open together; they have a spur

behind, and their fore-part is of two yellows, a darker in the middle, and a paler on each side.

The tops are used fresh gathered, or the whole herb dried. An infusion of them is excellent against the jaundice, and all inward obstructions, and works by urine. A fine cooling ointment is made by boiling the fresh plant chopped to pieces in lard, till it be crisp; the lard is then to be strained off, and is of a fine green colour.

SCROPHULARIA AQUATICA

Knotty rooted Figwort.

A tall and regular growing wild plant, with small dee, purple flowers. It grows four feet high, and is common in our woods, and ditches where there is little water. There is another kind of it in wet places, called also water betony, which is to be distinguished from it by the round indentings of the leaves. It also grows in water, or just by it; the right Figwort only loves shade and dampness, but not absolute wet. The stalk is square, upright, hollow, and very firm: the leaves stand two at each joint, opposite one to the other; they are large, broad at the base, narrow at the point, and sharply indented; they stand on long foot-stalks, and they have the shape of the nettle leaf, but they are perfectly smooth, and of a shining colour; they are sometimes green, but often brown, as is also the whole plant: the flowers are very small and gaping, their colour is a blackish purple: the root is long, white, and full of little tubercles; it spreads a great way under the surface.

The juice of the fresh gathered root is an excellent sweetener of the blood taken in small doses and for a long time together. The fresh root bruised and applied externally, are also said to be excellent for the evil, They cool and give ease in the piles, applied as a poultice.

Besides the above, we have the *S. Scorodía*, *S. Aquatica*, and *S. Vernalis*; all considered useful in medicine, but rather dangerous, and not fit to be used by the unskilful.

DIGITALIS PURPUREA.

Purple Fox-glove.

A very beautiful wild plant, in our pastures, and about wood sides. The leaves are whitish, and the flowers large and red. It is three feet high. The leaves are large, long on the surface, pointed at the ends, and serrated round the edges: the stalks are round, thick, firm, and upright, and of a white colour: the flowers hang down from the stalk in a kind of spike; they are hollow, red, large, and a little spotted with white; they are shaped like the end of the finger of a glove.

This is perhaps one of the most dangerous herbs grown in England, as it is a *most deadly poison*. Several cases are mentioned in the medical periodicals, of parties being poisoned with taking imprudent doses of the different preparations of Fox-glove.

Dr. Henry, of Manchester, relates a case in the Edinburgh surgical journal, of a woman who had taken nearly a pint of a strong decoction of Fox-glove for the cure of a dropsical complaint. In an hour after taking

it she was seized with sickness, her tongue and lips swelled, and foam rose at the mouth; she could make no water, and her breath was exceedingly bad, her skin covered with a cold sweat, with a low irregular pulse. As the doctor was called in *in time*, he administered the usual remedies, effervescing draughts, and the volatile alkalies with ether, and she gradually recovered.

Fox-glove, although a dangerous plant, is after all a most valuable medicine in skilful hands. In the dropsy it may be considered a specific. Dr. Withering says, "if dropsy can be cured at all, it can be cured with Fox-glove, for if this fails there is little chance of any other succeeding."

The writer of the Monthly Review for February, 1824, says, "In 1785, Dr. Withering published his 'Account of the Fox-glove,' which forms beyond doubt the most important point in his medical career. For ten years he had been engaged in studying the properties of this powerful drug; and even after this long period, it is probable that he would still have delayed to give his opinions on the subject to the public, had he not found the measure necessary for the purpose of protecting his own fame, and his just right to the merit of the discovery." Those who are most intimately acquainted with the history of medicine can best tell what multitudes of drugs have been discovered, lauded, universally employed, and in no long time consigned to neglect and oblivion; but the Fox-glove is at this day acknowledged to possess all the virtues which its discoverer claimed for it, namely, 'a power to control the action of the heart, and to increase the secretion of the kidneys.' As a remedy for various kinds of dropsy, particularly that hitherto almost incurable disease Hydrothorax, its importance has been amply decided. It has been more recently employed as a sedative, and has proved serviceable in retarding the undue quickness of pulse; in many cases of pulmonary consumption and other inflammatory action, and yet more permanently advantageous in abating animal excitement, according to the prediction of the author." "From every part of Doctor Withering's work," adds an anonymous writer, "the reader may promise himself instruction,"—"it is a book which, according to the public testimony of the celebrated Professor Cullen, "should be in the hands of every practitioner of physic." The valuable qualities of this very handsome plant have not been inappropriately commended by S. H.—

"The Fox-glove's leaves with caution giv'n,
Another proof of favouring heav'n
Will happily display:
The rapid flush it can abate;
The hectic flush can moderate;
And, blest by Him whose will is fate,
May give a lengthen'd day."

The safest way of administering this medicine is in the form of tincture, prepared as follows:—

TINCTURE OF FOX-GLOVE.

Take of dried Fox-glove leaves, four ounces;
proof spirit, two pints:

Digest for three weeks and filter. The dose must begin with three or four drops cautiously increased to twenty or thirty, till the effect be produced.

The unskilful must not meddle with Fox-glove.

LINNÆA BOREALIS.

Two-flowered Linnæa.

This plant has a long thread-shaped stem, trailing on the ground: the leaves roundish, egg-shaped, growing in pairs: small upright branches, about an inch long, each branch bearing six or eight leaves: the flowers white on the outside, flesh-coloured within.

This humble northern plant was named after the great Linnæus, by one of his best friends, as a mark of respect, and in allusion to the humble and unobtrusive habits of this great philosopher, whose genius, immortal as it has now become, was a long time before it obtained due consideration,—a sure mark of true merit; unlike the effects which follow the impudent, officious, bawling rant of many in our days, who, although they push themselves into notice by sheer noise and flash, are immediately forgotten as soon as they cease to be noisy. How different the fame, which follows true greatness! The humble Swedish philosopher was not much known during his life, but his fame is now established on an imperishable foundation, throughout the entire civilized world!

SIBTHORPIA EUROPÆA.

Creeping Sibthorp.

This plant has numerous stems, small thread-shaped, about a foot long, hairy: the leaves are rather succulent, alternate, at a distance from each other, roundish, one side opening near the centre, with six or seven slight lobes, and sprinkled with scattered bristles: flowers very small, purplish: the whole herb pale and delicate.

The plant is not common except in Cornwall, where it is called creeping Money-wort, in allusion to the round shape of the leaves. It is not known to be particularly useful, but it is well worth transplanting into our gardens, where it would be a great addition to the beauty of rockwork.

LIMOSSELLA AQUATICA.

Mudwort.

A minute creeping plant, throwing up clusters of narrow leaves, one or two inches long: the flowers very small, growing at the axil of the leaves, of a pale rose colour. Growing in muddy situations throughout England.

OROBANCHE MAJOR.

Common Broom-rape.

Besides this species of *Orobanche*, we have the *O. Elatior*, *O. Minor*, a small plant, but much like the *O. Major*, *O. Cerulea*, and *O. Ramosa*.

The common Broom-rape grows with a stem from eight to twelve inches high, covered with scales. The whole plant is of a dull, purplish brown: flowers in a spike, fifteen to twenty, of a brown rust colour: seeds numerous. In dry situations, this plant becomes *parasitic*, that is, growing on other plants, like the Mistletoe.

The different sorts of Broom-rape, are nearly alike in the effects, being

astringent; a decoction of the whole plant, has been given with good effect, in a loose relaxed state of the bowels. They are a most troublesome weed to the cultivator of the soil; as they impoverish the land, and do great injury to all other crops.

VITEX AGNUS CASTUS.

Chaste Tree.

This small shrub or tree, divides into numerous branches, covered with a greyish bark: the leaves are much cut and divided, so as to appear like the human hand,—hence called by botanists, *Digitate*: the flowers are purplish, in whorled spikes: the fruit is a round berry, dividing into four parts, each containing one seed, of a blackish colour.

The Chaste-tree is a native of Sicily, affecting humid and shady places. It has long been introduced into the gardens of this country, where it is found to brave the cold of winter in the open ground.

The seeds, which have long been medicinally used, and were formerly received as an article of the *Materia Medica*, have a pungent acrid taste, and an unpleasant aromatic odour. These, from the days of Dioscorides, have been highly celebrated for possessing a power of subduing the inclination natural between the sexes. Hence the name *Agnus castus*; and from being therefore thought more especially useful to those leading a monastic life, these seeds have been called *Piper monachorum*, or Monk's pepper. The seeds of the Chaste-tree, are, however, so far from being thought antiaphrodisiac, that writers of later times have ascribed to them an opposite quality; and their aromatic pungency seems to favour this opinion, and also that of Bergius, who states them to be carminative and emmenagogue. We are aware that Lewis says, "the seeds in substance, as met with in the shops, have little taste, and scarcely any smell;" but Dr. J. E. Smith, who examined them in their recent state, observes, that "they have an unpleasant aromatic smell:" it is therefore probable that on being long kept, they lose much of their sensible qualities, nor is this to be regretted from any medical advantage they seem to promise in our Island; and the plant has been figured here, rather with a view to illustrate this natural order, by its variety, than to serve the purposes of medicine.

The Tree of Chastity, (being held by the ancients as conducive to that amiable virtue) affords two Varieties:

The Broad-leaved Chaste-tree.

The Narrow-leaved Chaste-tree.

One description will nearly serve for both sorts; though it has been observed, that the narrow-leaved sort will grow to be the tallest. The branches are produced from the bottom and sides of the stalk. They are very pliable, and the joints are long. It is difficult to express the colour of the bark. To say it is grey, is not proper; and to say it is brown, is not true; it is of a colour between both, though, in different soils, the bark of some trees will be of a darker colour than others. The leaves are digitated, being composed of several folioles, which so unite at their base in one common footstalk as to resemble an open hand. These folioles are of a dark green colour; and their number is uncertain; being five, six, seven,

and sometimes eight. They are narrow, and the longest grow always in the middle, whilst the shorter occupy the outsides. This character is common to both the sorts; though it is observable, that the folioles of the broad-leaved sort are both shorter and broader, which occasions its being so called. Their edges are also serrated, whilst those of the narrow-leaved are entire; and in this the most important difference of these plants consists. The flowers of both sorts are produced at the ends of the branches, in whorled spikes. These spikes are pretty long, and their colour is that of a bluish purple. They appear in September and October; and are not succeeded by seeds in England. Each individual flower is inconsiderable; but the whole spike makes a good show: and the circumstances of the flowers being produced late, even often when most other flowers are over, as well as being also very fragrant, greatly heighten their value. The early frosts often destroy the beauty of these spikes, before and when they are in full blow; so that it is no wonder their ornamental fruit seldom, if ever, succeeds them.

There is a variety of each kind with white flowers.

The propagation of these sorts is easily done, either by layers or cuttings. 1. The young shoots being layered, any time in the winter, will have roots by the autumn following; though it will be proper not to take them up until the spring, as they shoot late in the autumn, and have often their ends destroyed by the frosts. When this work is deferred until the spring, all the killed ends may be taken off; and all danger from severe frosts being over, they will meet with no check in their preparing to shoot. The removing of these trees in the spring, however, is not absolutely necessary; for it may be done any time in the winter, though the cutting off the dead ends should be deferred until the latter end of March, when they should be gone over with the knife, and cut down to within an eye or two of the ground, whether planted in nursery lines, or finally set out to stand. 2. Plenty of plants may be soon raised by cuttings. About the middle of March is the best time for planting them; and they should be set in a shady border of good light garden mould. Nothing but weeding, and now and then watering, will be required all summer; though, if the place is not naturally well sheltered, they must be defended from black frosts, by sticking plenty of furze bushes all around them. If this be judiciously done, it will take off the keen edge of frosty winds sufficiently, and will occasion much less trouble and expense than reed hedges, &c. All these plants are very hardy; but they require this protection, to preserve the young shoots. Here they may grow until they are fully planted out; and if it be a moist, light, rich soil, and a well sheltered situation, they will like it the better.

ACANTHUS MOLLIS.

Smooth Acanthus.

This shrub is also a native of the sunny climes of Italy and Greece, and is noted for its beautiful foliage, giving the pattern or design for the ornamental capitals on the tops of the Corinthian pillars in Greek architecture. It is also called Bear's Breech, *Branca Uersina*, and is now frequently found in our gardens. The whole plant contains a soft mucilaginous mat-

ter, which has caused it to find a place in some foreign pharmacopœias, under the character of an emollient and demulcent; but it is little used for such a purpose now as we have much better remedies.

BIGNONIA RADICANS.

Scarlet Trumpet Flower.

A most splendid flowering plant, and native of North America. It will arrive to a prodigious height, if it has either buildings or trees to climb up by; for it strikes root from the joints into whatever is near it, and thus will get up to the tops of buildings, trees, &c., be they ever so high. This species has pinnated leaves, which grow opposite by pairs at the joints. These leaves are composed of about four pairs of folioles, which end with an odd one. They are of a good green colour, have their edges deeply cut, and drawn out into a long point. The flowers are produced in August, at the ends of the branches, in bunches; they are large, and, like the other, are composed of one tube; but they are shaped more like a trumpet than any of the sorts. They are of a fine red colour, and make a grand show.

There is another sort called the *Smaller Trumpet Flower*. It differs from the last only in that the leaves and flowers are smaller, and some fancy their colour to be a finer red; the colour of the former, in some situations, often approaching to that of an orange colour. These two sorts are more hardy than any of the others, and consequently more proper to be set against old walls, &c., in exposed situations; they will all, however, bear our climate very well; though it would be advisable to set the tender sorts in well sheltered places, as they will otherwise be in danger of suffering by severe frosts, especially while young, if there be nothing to break them off.

The propagation of these plants may be obtained, 1. By the shoots being laid upon the ground, and covered with a little mould, they will immediately strike root, and become good plants for setting out where they are wanted. 2. They will grow by cuttings. The bottom part of the strongest young shoots is the best; and by this method plenty may be soon raised. 3. They are to be raised by seeds; but this is a tedious method, especially of the pinnated-leaved sorts; for it will be many years before the plants raised from seeds will blow.

CLASS XV.

TETRADYNAMIA.



6 STAMENS

Four long ones, and two short ones.

ORDER I.—SILICULOSA.

*Seeds in a short pod.*

INTRODUCTORY REMARKS.

THE reader will have observed that the character of the last class consisted in all the flowers having four stamens, two long, and two short, the longest pair being the outermost, and the shortest pair in the centre. Now this class includes a tribe of plants all of which have six stamens, four long and two short, the four long ones in the centre, and the two short ones outside. An examination of any of the wild flowers in the class will show the character; but in so doing, it must be observed that the character is much less distinct in some species than in others; it is much less distinct in the cultivated than the wild sorts of the same species. If you examine the wild Wall-flower, — *Cherianthus*, — in its natural situation, on some old wall, you will there see the four long and two short stamens clear and distinct enough; whilst in the cultivated Wall-flower of the garden the character is hardly discernible. The fact is, all cultivation destroys, in a greater or less degree, the character and the *beauty* of plants, the same as high feeding disfigures a bloated alderman, or paint and tight lacing what would otherwise be a beautiful woman. And the Botanist must not go into the garden to prosecute his studies; if he does, it is ten to one he will be led astray. He must study nature on her own domain, — the woods, the hedges, the mountain tops, and the valleys; and it is in these places alone where the man with a true taste can discover real beauty. All others are glaring, false, and unnatural.

The plants of this class have also another peculiarity. All the flowers have four petals placed *cross-wise*; hence they are frequently called *cruciate*, which is no bad distinction, and this distinction is maintained in the cultivated flowers.

There are two orders, the first, *Siliculosa*, round podded; the second, *Siliquosa*, long podded. Shepherd's Purse is a good representation of the first, and any of the Mustards will exemplify the second.

Nearly all the plants in this class possess similar properties. They are all bitter and acrid, and are reckoned good for the stomach, and for purifying the blood, and removing scorbutic complaints. Some of them by cultivation, such as Turnips, Cabbages, Rape, &c., are now extensively used as food both for man and all sorts of cattle. On the whole, the class includes a most valuable collection of plants.

ALYSSUM MARITIMUM.

Sweet Alyssum, or Mad-wort.

The number of this genus are thirteen, but the above is the most important. It is a sea-side plant, with a woody stem much branched, but low. The leaves are pointed, and a little hairy, with numerous white fragrant blossoms: the pouches grow in long clusters, each containing two seeds.

Mad-wort is difficult to meet with in England, as it is much more common in warmer climates, but the fragrance of the flowers has caused it to find a place in the gardens, where it thrives with ordinary care. It is supposed to possess powerful anti-scorbutic qualities; but its scarcity in its natural state prevents its being generally used.

CAMELINA SATIVA.

Gold of Pleasure.

A very pretty plant, common in many parts of England, and known at sight by the vast quantity of seed-vessels. It is two feet high: the stalk is round, thick, firm, upright, and towards the top has a great many branches, all standing upright: the leaves stand irregularly, and not numerous; they are long, not very broad, and of a pale green; they are indented about the edges, and surround the stalk at the base: the flowers are little and white: the seed-vessels are short and roundish, and they stand in vast quantities, forming a kind of spikes all the way up to the tops of the branches, with few flowers at the summit.

The fresh tops of the plant are to be used before it is run to seed. An infusion of them, sweetened with honey, is excellent for sore throats, and ulcerations of the mouth. The seeds yield a great quantity of oil on pressing, and they are so plentiful, that it might seem worth while to cultivate the plant for them; the oil is pleasant and well tasted.

There are a few other varieties of the above, and they are worthy the attention of the florist. They are all easily propagated by seeds requiring no care.

CRAMBE MARITIMA.

Sea Kale.

This vegetable is now as well known as the Asparagus, and is indeed as useful; being one of the earliest of vegetables, it is more valuable on that account. Those who live on the sea-coast, where it is common, watch the plant shoot up amongst the sand: these they cut up close to the root exactly as is done with Asparagus, and boil them as greens; and a very wholesome vegetable it is when used in that way. It is now about a hundred years since this vegetable was first introduced into gardens, and it is now exceedingly plentiful, as well as profitable to the gardener. Like Asparagus it is forced either by taking up the roots and planting them in a hot-bed, or in a border of a forcing house, or by covering and surrounding them with litter in the open garden. Before you cover the plants with warm litter, put over them the blanching pot, to keep off the dung from

from the young plants, and to cause them to be blanched. It is very easily forced, and will yield a crop the first year, which *Asparagus* does not. The whole plant is smooth, covered with a fine mealy down. The root-leaves are large, with lobes, each leaf containing at the root the bud for next year's growth. The flowers are in large panicles, each flower is small, of a pure white, and a fragrant honey-like smell.

One of the most valuable books on the subject of plants that has been published in modern times, is, beyond all question, "Don's Gardener's Dictionary;" but like many other good books it broke down when part published for want of due support. The present writer is in possession of a copy of the work as far as it has come out, which cost fourteen guineas, and he has had the chagrin to see the same work in the bookseller's shops offered for thirty shillings! Thus we see a book of acknowledged utility, which must have cost a princely fortune to bring it out, consisting of four volumes of closely printed matter, and containing many hundreds of engravings,—a book which is an honour to the author and the publishers, and indeed the age,—we see a book of this sort go down for want of support, while the publishers of "Jack Sheppard," "Peeping Tom," and such like rubbish, which Charles Knight most appropriately calls the "sewers of literature," obtain wealth without a farthing of outlay, either in money or brains. Verily, the schoolmaster has a deal of work to do yet.

The following instructions for the cultivation of Sea-kale, from the above-mentioned work, will show its value, and perhaps be the means of promoting the sale of the few copies which remain in the hands of the spirited, but badly remunerated, publishers.

"Sea-kale may be cultivated by rearing the plants from seed, on a seed-bed, and when a year old transplanting them into beds, at the distance of eighteen inches each way. But in setting young plants, place them in patches of three plants each, taking care, in removing them from the seed-bed, not to injure the tap-roots.

"Sea-kale plants of a proper age may be had of any nursery-man, but in well-regulated gardens, a part should be annually sown, so as to have a supply always on hand. However, where circumstances will admit, it would be advisable to sow the seed in the beds where they are to remain to come to perfection. This is attended with much less trouble, and if the beds have been properly prepared, the plants will become stronger than those which have been transplanted. Sea-kale is also propagated by some eminent gardeners in the vicinity of London, by cutting the roots of the old plant into pieces about an inch long, and planting them in drills like potatoes. By this means the buds will spring and find their way to the surface with greater certainty than if planted by the dibble; by which latter process many of them run a chance of being placed with their end uppermost, and consequently be unproductive of shoots.

"In light sandy garden-soil the Sea-kale comes to perfection with little care; but in strong clayey soils it is often apt to rot in winter. In preparing ground for Sea-kale, if the ground be naturally strong, it should be trenched to a depth of 3 feet, if the ground will admit of that depth, and well manured. Divide the ground into 4 feet beds, with alleys 18 inches wide; throw out the mould of the alleys to the depth of 10 or 12 inches, which mould being laid on the beds will raise them from 15 to 18 inches

above the bottom of the alleys, which will render the beds dry. If the ground be particularly stiff, lay on a quantity of fine sharp sand and leaf mould, which, if properly mixed in the process of trenching, will render the beds sufficiently light for the cultivation of this excellent vegetable, for the success depends upon the lightness of the mould and dryness of the bottom. About the middle of April, if the beds be prepared as above, proceed to draw two drills in each bed, about 2 inches deep, in which the seeds must be sown. Sow moderately thick, so as to secure a crop, which afterwards should be thinned out to 12 inches apart, or sow in patches 18 inches apart. The turnip-fly and the wire-worm are great enemies to this as well as to all cruciferous plants. The best remedy for the latter is to have them picked out of the ground by the hand; the former may be prevented from doing much injury by a circle of quick-lime strewed round the plants. If the months of June and July prove dry, water the whole beds plentifully; and in the following November as soon as the leaves are decayed, clear them away and cover the beds an inch thick with light rich earth and sand, that has lain in a heap and been turned over at least three times the preceding summer. Upon this dressing of sandy loam, throw about 6 inches of light stable litter, which finishes every thing to be done the first year. In the spring of the second year, when the plants begin to grow, rake off the stable litter, digging a little of the most rotten into the alleys, and add another inch in depth of fresh loam and sand. Abstain from cutting this year, though some of the plants will probably rise very strong, treating the beds the succeeding winter exactly as before. The third season, a little before the plants begin to stir, rake off the winter covering, laying on now an inch in depth of pure sand or gravel. Then cover each parcel or plant with one of the blanching-pots, or large flower-pots with the hole corked up, pressing it very firmly into the ground, so as to exclude all light and air, for the colour and flavour is greatly injured by being exposed to either. But the most convenient method for blanching Sea-kale which is not forced, is to cover the beds in autumn with leaves raked up from the woods or pleasure-ground, covering each bed in thickness according to the strength and age of the plants, giving the greater covering to the oldest and strongest roots. The covering may be from 5 to 15 inches deep, when first laid on, and over that place a slight covering of light littery dung to prevent the leaves from blowing about; this covering is to remain on until the crop be all cut, when it may be taken away, and the beds dug over, or when, from particular circumstances, this has not been attended to in autumn. At the time the buds begin to appear, fork the beds regularly over, and cover the plants from 12 to 15 inches with saw-dust or rotten tan, when it can be conveniently procured; if neither can be had, break the mould on the surface of the beds as fine as possible and mould up the plants with it.

"As the heads become ready for use they will raise the covering, by which means they will be easily perceived without removing any more of the covering than the part where those heads are that are intended to be cut. Those beds which have had the thickest covering in autumn come first into use, and the other in rotation, so that the last cutting is from what was sown the spring before. Although cutting from one year old plants is generally disapproved of, *W. 2162* (Cult. hort. men.) defends the

practice from his experience of its not proving injurious; and because thereby the Sea-kale season is prolonged, as the one year old plants come into use much later in spring than the old established roots.

"When the young shoots are 3 or 4 inches high, remove the leaves, or whatever has been used in blanching, carefully, and cut them off; but so as not to injure the remaining buds, which are springing from the same root. A succession of gatherings may be continued for 5 or 6 weeks, after which period the plants should be uncovered and their leaves suffered to grow, that they may acquire and retain a sufficient quantity of nutriment to the roots for next year's buds. The flowers, when the seeds are not wanted, ought to be nipped off with the finger and thumb as long as they appear, as they tend considerably to weaken the plants.

"*Forcing Sea-kale.* 'No vegetable is more easily or cheaply forced than Sea-kale, whether the operation be performed in beds or drills in the open air, or in hot-bed frames or flued pits.' Ahercombe, Nicol, and Maher recommend forcing in beds 'in the open air.' 'Seven weeks,' the former observes, 'before the time at which you wish to cut shoots for the table, begin to prepare the plants for forcing, and to ferment a sufficient quantity of stable dung. Having trimmed the leaves from the plants, carefully point the surface of the ground, and over the top of the roots spread fresh light earth, mixed with light sand or coal ashes 2 or 3 inches in depth, this is the best remedy against worms. Salt also destroys worms and will not injure the Sea-kale. When the dung is well prepared, which will be in about three weeks, proceed to forcing. If you mix tree-leaves with the dung, begin to ferment them a week or a fortnight sooner. Cover each of the plants either with a regular blanching-pot, or with a garden-pot of the largest size, taking care to stop up the hole. Then lay a portion of prepared dung alone, or mixed with tree-leaves about and over each pot, pressing it down firm, extending it 8 or 10 inches all round, and raising the bank six or eight inches above the pot. It will be necessary to examine the plants frequently, and to measure the heat within the covers now and then, lest by some inadvertency the quantity of litter should not have been well apportioned or well prepared; if the heat be under 50 deg. there is not enough to excite the plants; and if above 60 deg. it is too fiery, and may injure them, for it is better to begin time enough and force slowly rather than too quickly.' The litter round the pots should be renewed at least once in eight weeks, but oftener if the weather is rigorous. When the stools will produce no more shoots, remove the litter and the covers, and dress the ground, that the plants may be suffered to grow and return strength to the root for the next year's shoots. Nicol says, he knows of a row of Sea-kale having been forced in the above way every season for seven years, in which the plants were at the end of that period as healthy and vigorous as others in the same quarter that were forced only every second year.

"Barton (Caled. hort. mem.) forces *Sea-kale* on dung beds, under frames exactly in the same manner usually adapted for *Asparagus*. For a common melon-frame will contain as many heads as are capable of being produced in two drills, of twenty yards each, by covering with dung. He finds three frames of two lights each, quite sufficient for a large family; the first prepared about the beginning of November, and the second about

the last week in December; and by the time the second frame is exhausted, Sea-kale will be ready for use in the open ground.

"Gibbs (Caled. hort. mem. 1. p. 388.) also forces in frames, blanching by keeping the beds covered with mats. As the plants are no longer of use after being forced in this and the preceding method, a succession is kept up by annual sowings, and the plants are allowed to attain three years growth before taken up for forcing. Economy and certainty are advantages attending these last methods.

"Balwin (Hort. trans. 4. p. 63.) forces Sea-kale where it stands in the following manner. 'On each side of a three foot bed, in which the Sea-kale has been planted, trenches are formed two feet deep, and eighteen inches wide at bottom; the side of the trench next the bed is perpendicular, the other side is sloped so as to make the top of the trench at the surface level, two feet and a half wide; this trench is filled with linings of hot dung, on the inner edges of which garden-lights are placed, and the glass kept covered with mats until the kale is fit to cut, and a covering of broad canvass or mats might be substituted for the glass lights.'

"Melross (Caled. mem. 4. p. 164.) forces Sea-kale in a vinery. He plants along the back of the fine where no vine-roots are, places covers on the plants, and in two weeks, when the heat for forcing vines is kept up, he has as fine Sea-kale as could be desired. When a dish is cut, he lifts the roots and supplies their places by others from the open ground.

"*Gathering.* 'Remove a part of the earth, leaves or pots, or whatever is employed in blanching, cut off the heads or shoots, and slip off the stalks of the leaves,' (Loud. ency. gard. p. 732.)

"*Produce.* From four to six heads, according to the size, held together like *Asparagus*, make a dish; and Maher says, a blanching pot which contains three plants will afford a dish twice in a season. Hence from sixty to a hundred pots will suffice for forcing Sea-kale for a large family. (Loud. 1. c.)

"*To save seed.* Let a stool, which has not been cut, run in spring; and seed will be produced in the autumn."

ISATIS TINCTORIA

Dyer's Wood, or Woad.

Root biennial: stem upright, stiff, round, very smooth, reddish, leafy, branched very much towards the top, from two to three feet high in a wild state, but attaining nearly the height of four feet when cultivated: leaves next the root, ovate-lanceolate, running a little into the petiole, slightly toothed about the edge, somewhat glaucous, not unlike the leaves of Hound's-tongue; the leaves on the stem are alternate, and embracing, two or three inches in length, and scarcely half an inch in breadth, mostly entire, but sometimes very finely toothed about the edges, quite smooth, except that some of the lower ones have a few hairs on the lower surface about the edges, and on the midrib. In the cultivated plant, the leaves are smoother than in the wild one, of a more lucid green, and of a thicker consistence; both they and the whole plant are larger; the uppermost leaves are linear-lanceolate. The flowers are small, but very abundant.

growing very close in racemes or clusters, at the ends of the stem and branches. The corolla is of a yellow colour, each of the four petals notched at the end; the calyx being also of a greenish yellow, some old writers took it for part of the corolla; the leaflets of this, however, are smaller than the petals. The filicles or little pods hang down on slender fruit-stalks; they are oblong, flattened, blunt at the end, broader in the middle and at the top, narrower at bottom, half an inch long, and one eighth of an inch broad, smooth, and when ripe turning of a chestnut colour so dark, as to appear black.

Woad can hardly be considered as an indigenous of Britain, though plants are occasionally found that have escaped from cultivation. It is a native, however, of many parts of Europe, from the shores of the Baltic to Spain and Italy. With us it flowers in June and July. It is in great use among the dyers both for dying blue, and as a basis for several other colours. It is commonly supposed to be the plant with which the ancient Britains painted their bodies; though Mr. Miller will have it, that they used the *Weld*, because that is a native, whereas *Woad* is of late introduction.

Cæsar, and other Latin authors, call Woad by the name of *Vitrum*, which probably is a translation of the Gaulish name *Glassa*. Our English names, *Woad* and *Wade*, are from the German *Waid*; in Low Dutch, *Weet*; or from the Italian *Guado*, which may possibly be from *Glastum*.

According to Hackluyt, we were dependant upon France for Woad, in 1576: and we are informed, in Stow's annals, that in Queen Elizabeth's time, the cultivation of it was even forbidden.

It appears, however, that this prejudice was well got the better of. For Walter Blith, in 1653, says,—“It hath been one of the greatest enrichments to the masters thereof, until the midst of our late wars, of any fruit that the land did bear.”

It requires a strong soil, that is not moist; and it is commonly sown on fresh land, near great towns, where plenty of dress can be procured. We observed considerable pieces of it last year in the neighbourhood of Bristol.

“The culture of Woad, though not general, has been practised in Flanders. It was an object of the French government to spread the cultivation of it, and a considerable quantity of the seed was sent gratis into the country for that purpose. Woad thrives best on sandy and gravelly soils, which must be well pulverised, manured, and formed into beds as in the case of Madder culture. It is sown in March or April in rows, or broadcast, and harrowed or covered with a rake. All weeds are cleared away, and the plants thinned, if a careful culture is followed. The leaves are the part of the plant used by the indigo manufacturer. They should be gathered singly, like those of spinach, as soon as they begin to show signs of maturity, and the mature leaves taken off from time to time as they grow. This operation goes on from June to September in the first year, and from June to August in the second; when the plant, being a biennial, shoots into flower-stems. The leaves are fermented, and the dye precipitated from the liquor and dried, &c. in a manner analogous to what is practised in India with indigo, but with great improvements, made at the instigation of the French government, which in 1810 called forth the process described in a French work, and translated in the Appendix to Rad-

cliff's Report. At present it is to be considered more as matter of curious historical information or of local adoption than of general utility; because no mode of cultivating or preparing Woad could bring it into competition, either in the European or American market with indigo."—*London's Encyclopædia of Agriculture*, p. 81

DRABA VERNA.

Whitlow Cress.

The genus *Draba*, includes forty-one species; many of them producing pretty flowers, which causes them to be favourites in gardens, and particularly for ornamenting rockwork. This species is one of the earliest spring flowers, being frequently seen in full bloom in the month of February. The stem is a span high, hairy when young, but smooth when in flower: the leaves all grow from the root: the flowers in broad-topped spikes, like an umbel, of a drip white, and small. It is common on walls.

This plant possesses the antiscorbutic qualities of all the tribe; and the leaves are frequently gathered in spring, as an addition to salads. The other British species consist of *D. Muralis*, Speedwell-leaved Whitlow Cress; *D. Hirta*, Hairy Whitlow Cress; all possessing the same properties, and not unlike in appearance.

The sorts used for beautifying rockwork in the gardens, are the *Draba Aizoides*, and the *D. Bryoides*; both natives of warmer climates, but by ordinary care, they will grow, and produce both flowers and seeds in this country. The safest way is to keep a plant or two in pots, so as they can be removed in the cold, rainy weather. They thrive best in a mixture of sand loam and peat, and the pots should be drained with potsherds. They are increased either by dividing the roots, or by seeds. The annual sorts may be sown on a shady border, or on rockwork. The Speedwell-leaved should be kept a little in the shade.

LEPIDIUM PETREUM.

Peppercort.

The number of species of Peppercort is sixty one, besides several modern varieties, which would swell the amount to above an hundred. The above is one of the smallest of the tribe, being seldom more than two inches high. The leaves are a dark green, composed of a number of leaflets, tapering each way on leaf stalks, consisting of from six to twelve pairs, with an odd one at the end: the flowers grow in a sort of corymb, are small, white, and very pretty.

LEPIDIUM LATIFOLIUM.

Broad-leaved Peppercort.

The stem of this plant is about three feet high, round, smooth, and much branched: the leaves are smooth, a little serrated about the middle, the lower ones five or six inches long; upper ones shorter: the flowers are purplish, white about the edges, growing in panicles.

The whole of this tribe are the most acid plants in the class. A strong

infusion will vomit, but there are safer emetics. Its fiery acrid properties have caused it to be called *poor man's pepper*. The roots are frequently used instead of Horse-radish. There is a

LEPIDIUM SATIVUM.

Garden Cress.

This is cultivated in gardens, for the sake of the young leaves, which make an agreeable addition to salads, having a peculiarly warm and grateful relish. It is frequently sown along with mustard, in alternate rows, and when cut young, are sold in large quantities by the market gardeners early in spring. The varieties are, the common plain-leaved, which is most cultivated; the curled-leaved is equally good as a salad, but rather more difficult to raise, it is also *later*, which is a great object in the cultivation of spring crops.

All sorts of garden Cress are raised from seed, and it requires an ounce for a bed about three feet by six. It should be sown at different times, about once a week, in order to ensure a succession of young and tender plants. In the open garden it is best to begin early in March, in the warmest situation; and if cold weather should come, just cover the bed from sunset to sunrise. In order to have Cress in winter, the seeds may be sown in a moderate hot-bed: boxes or pans filled with old bark, are the best and cheapest method of raising these crops in cold weather; these placed in the stove, will give an abundance of Cress during the coldest months. There is a sort of earthenware vessels, made for the purpose of raising this plant in the winter season; they are of a conical form, with small gutters in the side for retaining the seeds. They answer the purpose well, and can be had of any of the earthenware manufacturers, who call them Pyramids. They look well in the winter season, covered with the fresh green plant, and afford, with moderate care, an abundant supply, which can be increased *ad libitum*, by increasing the number of Pyramids.

THLASPI BURSA-PASTORIS.

Common Shepherd's Purse.

The most common almost of all wild plants, over-running our garden beds, and court-yard. The leaves spread upon the ground, and are long, somewhat broad, and more or less indented at the edges, for in this, there is great variation: the stalks are round, upright, and eight or ten inches high; they have few leaves on them: the flowers stand at the tops in little clusters, and they are small and white: below there is commonly a kind of spike of the seed-vessel; these are short, broad, and of the figure of a bag, or pouch, and are divided a little at the end. The seeds are small and yellowish, and the roots white.

The juice of shepherd's purse is cooling and astringent; it is good against purgings, with sharp and bloody stools; and against the bleeding of the piles.

COCHLEARIA OFFICINALIS.

Common Scurvy-grass.

This plant rises five or six inches in height. The radical leaves are

fleshy, and stand upon long footstalks; those of the stem are sessile, alternate, dentated with large teeth: the flowers are white, terminating the branches in thick clusters: the pod is nearly globular, containing several rough seeds.

It is found on the mountains of Wales, and in Scotland; also near the sea shore: flowers in April and May.

We have the testimony of its great use in scurvy not only by physicians but navigators, as Anson, Linscoten, Maertens, Egede, and others. Forster found it in abundance in the islands of the South Sea. It produces an essential oil, so ponderous as to sink in water. It should be eaten as salad, or the expressed juice mixed with some convenient vehicle.

PREPARATIONS.

COMPOUND JUICE OF SCURVY-GRASS.

Take of juice of garden scurvy-grass, two pints;
brooklime,
water-cresses, of each one pint;
Seville oranges, twenty ounces by measure:

Mix them, and, after the faeces have subsided, pour off the liquor, and strain it.
Edin.

Take of juice of scurvy-grass,
juice of water-cress, expressed from fresh-gathered herbs;
juice of Seville oranges, of each two pounds;
spirit of nutmegs, half a pound:

Mix them, and let them stand till the faeces have subsided; then pour off the clear liquor.

Both these compositions are of considerable use for the purposes expressed in the name: the orange juice is an excellent assistant to the Scurvy-grass, and other acrid anti-scorbutics, which, when thus mixed, have been found from experience to produce much better effects than when employed by themselves. They may be taken in doses, from an ounce or two to a quarter of a pint, two or three times a day; they generally increase the urinary secretion, and sometimes induce a laxative habit.

The juices of the succulent plants are obtained by expression. They are of a very compound nature, consisting of the sap, the secreted fluids, and fecula, mixed together. When first procured they are highly coloured, turbid, and loaded with parenchymatous matter. They may be purified by rest, filtration, heat, and clarification. Rest may be employed with juices which are very fluid, do not contain volatile matter, and are not susceptible of alteration, and with sub-acid juices, as that of lemons. By rest these undergo a kind of slight fermentation, and all their mucilaginous and other viscid parts separate. Filtration is perhaps the most perfect means of defecation, but it is tedious, and applicable only to very fluid juices. In many instances it may be facilitated by the addition of water. The action of heat is more expeditious, and is employed for juices which are very alterable, or which contain volatile matters. It is performed by introducing the juice into a matrass, and immersing it in boiling water for some minutes. The feculae are coagulated, and easily separated by filtration. Clarification by white of egg can only be used for very viscid mucilaginous juices, which contain nothing volatile. The white of two eggs

may be allowed to each pint of juice. They are beat to a fine froth, the juice gradually mixed with them, and the whole brought to ebullition. The albumen coagulating, envelops all the parenchymatous and feculent matters, and the juice now passes the filter readily. By this process juices are rendered sufficiently firm; but the heat employed deepens their colour, and manifestly alters them, so that it is not merely a defecating but a decomposing process. When depurated, juices are yellow or red, but never green.

The fluids thus extracted from succulent fruits, whether acrid or sweet; from most of the acrid herbs, as Scurvy-grass and Water-cresses; from the acid herbs, as Sorrel and Wood-sorrel; from the aperient lactescent plants, as Dandelion and Hawkweed; and from various other vegetables, contain great part of the peculiar taste and virtues of the respective subjects. The juices, on the other hand, extracted from most of the aromatic herbs, have scarcely any thing of the flavour of the plants, and seem to differ little from decoctions of them made in water boiled till the volatile odorous parts have been dissipated. Many of the odoriferous flowers, as the Lily, Violet, Hyacinth, not only impart nothing of their fragrance to their juice, but have it totally destroyed by the previous bruising. From want of sufficient attention to these particulars, practitioners have been frequently deceived in the effects of preparations of this class: juice of mint has been often prescribed as a stomachic, though it wants those qualities by which mint itself and its other preparations operate.

There are differences as great in regard to their preserving those virtues, and this independently of the volatility of the active matter, or its disposition to exhale. Even the volatile virtue of Scurvy-grass may, by the above method, be preserved almost entire in its juice for a considerable time; while the active parts of the juice of the wild cucumber quickly separate and settle to the bottom, leaving the fluid part inert. Juices of Arum root, Iris root, Bryony root, and other vegetables, in like manner allow their medicinal parts to settle at the bottom.

If juices are intended to be kept for any length of time, about one-fortieth part of their weight of good spirit of wine may be added, and the whole suffered to stand as before: a fresh sediment will now be deposited, from which the liquor is to be poured off, strained again, and put into small bottles which have been washed with spirit, and dried. A little oil is to be poured on the surface, so as very nearly to fill the bottles, and the mouths closed with leather, paper, or stopped with straw, as the flasks are in which Florence oil is brought to us: this serves to keep out dust, and suffers the air to escape, which, in process of time, arises from all vegetable liquors, and which would otherwise endanger the bursting of the glasses, or, being imbibed afresh, render their contents vapid and foul. The bottles are to be kept on the bottom of a good cellar or vault, placed up to the necks in sand. By this method some juices may be preserved for a year or two, and others for a much longer time; though, whatever care be taken, they are found to answer better when fresh; and, from the difficulty of preserving them, they have of late been very much laid aside, especially since we have been provided with more convenient and useful remedies.

COCHLEARIA ANGLICA.

Sea Scurvy Grass.

A common plant also about our sea-coasts, and by the sides of rivers, where the tide comes. The leaves are not so numerous as those of the other; and they are oblong, of a reddish green colour, pointed at the ends, and indented at the edges in an irregular manner; they are considerably larger than those of garden scurvy grass, and more fleshy: the stalks are eight or ten inches high; they are tender, round, and striated; they have few leaves on them: the flowers are small and white, and stand in clusters at the tops of the stalks, as in the other.

The leaves are to be used fresh gathered, or their juice is to be taken. These virtues are the same as those of the other. But it is the general opinion that they are greater, though the taste be not so agreeable.

COCHLEARIA ARMORICA.

Horse Radish.

A plant as well known in our gardens as the other, and wild also in many places. The root is very long, and of an exceedingly acrid taste, so that it cannot be eaten as the other: the leaves are two feet long, and half a foot broad, of a deep green colour, blunt at the point, and a little indented at the edges; sometimes they are leaves deeply cut and divided, but that is an accidental variety: the stalks are a yard high; the leaves on them are very small and narrow, and at the tops stand little white flowers, in long spikes; these are followed by little seed-vessels. The plant seldom flowers, and when it does, the seeds scarce ever ripen. It is propagated sufficiently by the root, and wherever this is the case, nature is less careful about seeds.

The juice of Horse-radish root operates very powerfully by urine, and is good against the jaundice and dropsy. The root whole, or cut to pieces, is put into diet drink, to sweeten the blood; and the eating frequently, and in quantities, at table, is good against the rheumatism. As an external application in rheumatic affections, there are few remedies to compare with the juice of Horse-radish. It will also relieve the palsy.

The London Pharmacopœia, directs the following preparation:—

SYRUP OF HORSE-RADISH.

Take of Horse-radish roots.....one drachm;
Boiling water.....four ounces.

Infuse in a close covered vessel for two hours, then add double its weight of sugar. A useful syrup in small doses, for relieving hoarseness.

COMPOUND INFUSION OF HORSE-RADISH.

Take of Horse-radish root, sliced, one ounce;
Mustard seed, bruised, one ounce;
Boiling water, one pint:

Macerate for two hours in a loosely covered vessel, and strain; then add one ounce of Compound Spirit of Horse-radish. Dose, from 1 to 3 ounces, 3 or 4 times a day.

COMPOUND SPIRIT OF HORSE-RADISH.

Take of Horse-radish root, sliced, . . . twenty ounces;
 Orange peel, dried, twenty ounces;
 Nutmeg, bruised, five drachms;
 Proof spirit, one gallon;
 Water, two pints.

Mix, and distil a gallon with a slow fire. Dose, from one to four drachms.

Mr. J. Knight has favoured the world with the following excellent instructions for the cultivation of this plant, in the *Horticultural Transactions*, vol. 1, page 207.

"Horse-radish thrives best in deep, soft, sandy loam, that is not very dry in summer, nor inundated in winter; the situation must be open. During winter, trench the ground three feet deep, and in the following February procure the sets; in the choice of which, take the strongest crowns or leading buds, cutting them about two inches long. Mark out the ground, four feet beds, and one foot alleys; then take from the first bed nine inches of the top soil, laying it upon the adjoining bed; after which, take out an opening at one end of the bed, in the common way of trenching, fifteen inches deep from the present surface; then level the bottom, upon which, plant a row of sets across the bed, at nine inches apart each way, with their crowns upright; afterwards dig the next trench the same width and depth, turning the earth into the first trench over the row of sets, thus proceeding trench after trench to the end, for as many beds as are wanted. The plants must be kept clear of weeds during summer, and as soon as the leaves decay in autumn, let them be carefully raked off with a wooden-toothed rake: in the following February, eighteen inches of the earth of the unplanted bed, must be laid as light as possible and equally over the beds that are planted, then trench and plant the vacant beds as before directed. The following autumn the first planted *horse-radish* may be taken up by opening a trench at one end of the bed to the bottom of the roots, so that the sticks or roots of *horse-radish* may be taken up entire and sound, which for size and quality will be such as have not been seen. The following February, the one year old crop will require additional earth as before directed, which must of course be taken from those beds which are now vacant, which when done, if the ground appears poor or unlikely to produce another vigorous crop, they must have a coat of manure. Upon every alternate bed, which is not planted, a dwarf annual crop may be grown, such as *spinach* or *radishes*."

CORNOPUS RUELLII

Swine's Cress.

The stem and root-leaves are prostrate, and longer than the branches: the leaflets are cut all along the fore-edge, but without cuts on the back, with one terminal leaf, strap-shaped: the pouch containing the seeds, is heart-shaped, with numerous furrows and ridges towards the edge: the flowers are white, and small. The whole plant is disagreeably acrid.

This is a common weed on rubbish, by road-sides, and on dunghills, flowering most part of the summer. It is acrid, and of the same genus

with Sourvy-grass and Horse-radish. It was an ingredient in Mrs. Stephen's medicine for the stone.

TEESDALIA NUDICAULIS

Shepherd's Cress,

This plant, named in honour of Mr. Robert Teesdale, gardener at Castle Howard, grows up with numerous stems from one root. The root-leaves are smooth, and spreading flat upon the ground in a circle: the stem rises from two to four inches high, with one leaf adhering close to the stem: the flowers are small and white, growing in a spike on the top of the stem.

Shepherd's Cress is not noted for any particular uses, and if it were, it would be difficult to meet with in its natural state, as it is a scarce plant. The *Teesdalia Iberis*, native, and the *Teesdalia Lapidium* are very pretty flowers, and may be sown on rock work or dry barren places, where they will bloom and scatter their seeds, giving a constant succession of summer flowers without further trouble.

ANASTATICA HIEROCHUNTINA.

Rose of Jericho, or Holy Rose.

Native of the arid sands of Egypt and Barberry, and throughout the Holy Land. The stem is much branched: the leaves are oblong, but narrowed at the base: the pods swelled. It is stated in "Don's Gardener's Dictionary," that "the leaves fall off from the plant after flowering, and the branches and branchlets become dry, hard, and ligneous, and rise upwards and bend inwards at their points, hence they become contracted into a globular form, and in this state the plant is easily withdrawn from the sand by the wind and blown from the desert into the sea, and as soon as it comes in contact with the water, the branches gradually expand, and the pods open and relieve the seeds, which are thrown again upon the shore by the tide, and scattered with the sand through the desert by the wind. If this plant is taken up before it is withered, and kept entire in a dry room, it may be long preserved, and after being many years in this situation, the root be placed in a glass of water a few hours, the buds of flowers will swell, open, and appear as if newly taken out of the ground, or it will recover its original form in the same manner if wholly immersed in water. The common people in Palestine believe that if you put this plant in water at the time when a woman first experiences the pains of child-birth, it will expand at the precise moment when the infant is brought into the world. The plant is called *Kaf Maryam* or *Mary's Flower* in Palestine, because it is supposed that the flower opened at the instant our Saviour was born.

"The seeds of this plant rarely ripen in England, unless they be sown in a hot-bed early in the spring, and the plants afterwards put into pots which should be plunged again into the hot-bed to bring them forward; for although the seeds will come up in the open ground, where the soil is dry, yet the plants rarely rise to any size, nor do they perfect seeds unless the summer is very hot and dry; but if the plants are kept in a frame, giving them free air in warm weather, they will flower in June and ripen their seeds in September. This plant is only grown in the gardens of the curious for its singularity."

BISCUTELLA AURICULATA.

Ear Buckler Mustard.

There are twenty-seven sorts of this plant, all natives of warm climates, and are kept in the gardens of the curious. This species grows with a strong stem, about two feet high: the pods smooth, dotted in the centre: the leaves much jagged: flowers numerous, pale yellow. Common in cultivated fields, in France, Spain, and Italy.

They are all pretty plants, with sweet yellow flowers; well adapted for ornamenting open dry borders, and rockwork. A dry, sandy soil, suits them; and as they produce abundance of seeds, they propagate themselves without further care.

IBERIS AMARA.

Bitter Candy Tuft.

A pretty wild plant, but not frequent in all parts of the kingdom. It is a foot high. The stalk is round, firm, and upright, of a pale green colour: the leaves are small, longish, and of a pale green also; and the flowers stand at the tops of the branches, into which the stalk divides in its upper part; they are white, and little: the leaves that grow immediately from the root, are four inches long; narrow and serrated about the edges, and of a deep green.

The leaves are used. They are recommended greatly in the Sciatica or hip-gout; they are to be applied externally, and repeated as they grow dry. The best way is to beat them with a little lard. It is an approved remedy, and it is strange that it is not more in use.

Besides the *I. Amara*, there are twenty-seven sorts, principally foreign; many of which, particularly the *I. Odorata*, Sweet Scented Candy Tuft; and the *I. Semper-florens*, Ever-flowering Candy Tuft. They are cultivated in gardens, and are a great ornament to them. The annual sorts are sown in an open border, where they will flower and ripen their seeds: the best way is to sow at different times through the summer, when a succession of flowers may be kept up till the frosts of winter. Many hardy sorts will bloom through the winter, if the weather should be moderately mild. The shrubby sorts are well adapted for rockeries, as they flower profusely; these are easily propagated by cuttings, placed under a hand-glass until they take root. There are two species which must be grown, if grown at all in this country, in the green-house,—the *I. Gibraltaria*, and the *I. Semper-florens*. They will grow freely in any light rich soil, and the cuttings placed in the same soil will root freely.

HUTCHINSIA ROTUNDIFOLIA.

Round-leaved Hutchinsia.

This genus is named in honour of Miss Hutchins, of Belfast,—a great contributor to the science of Botany. It is a small herb with many stems, and furnishes a great number of seeds. The leaves are entire, somewhat fleshy, stalked, and of an oval shape: the flowers are purplish: the seeds in a round pod.

It is a native of France, Spain, and the south of Europe, and is frequently seen on the Alps up to the very borders of the snow, where it grows in the fissures of the rocks.

There are twelve sorts, all of which have been cultivated in the gardens in this country, as they are well adapted for ornamenting rock-work, in which places they may be sown early in spring, after which they will scatter a sufficient quantity of seed to ensure their future propagation.

ADYSETON OBCORDATUM.

Obovate Adyseton.

There are thirty sorts of Adyseton mentioned by Don. The above is about the only species said to be native of these islands, and it is doubtful. The leaves are linear, lanceolate, toothed, downy, and swelled: the pods smooth, roundish: the stem about six inches high: flowers white.

It is a native of Virginia, but has been so long in this country that it is now considered by many Botanists as a native.

All the sorts are very proper for ornamenting rock-work, and are cultivated in the same manner as the others mentioned above.

LUNARIA BIENNIS.

Biennial Honesty.

Native of Sweden, Germany, and France, from whence it has been transferred into our gardens, where it is pretty well known under the name of Honesty. This last species is a large well-known and ornamental flower. It thrives well in open borders in common garden soil, but can only be propagated by seeds. In order to have showy flowers it is best to raise the plants in a bed, and afterwards transplant them in a more open place.

RICOTIA LUNARIA.

Moon-podded Ricotia.

The leaves of Ricotia are much cut, jagged, and divided with oblong, angular lobes. The stem about four inches high: the flowers are of a pale lilac colour, with white claws: pods oval.

There are three varieties of this sweet little flower. They are used in the garden, like most of the sorts mentioned above, for ornamenting rock work. A light sandy soil suits them best, and all that is required is to throw in the seeds, where they will grow ever after.

CLYPEOLA PONTIASPI.

Common Treacle Mustard.

This plant is also called *Flat-seeded Violet*. It is a small plant about three inches high. The leaves are oblong, linear, entire: flowers small, yellow, or when old whitish. There are two or three varieties, and they are considered pretty curious annual plants, much sought after for rock work, and requiring no trouble only sowing the seeds in the first instance, and nature will do all the rest.

VELLA ANNUA.

Cress Rocket.

This is an erect shrub from two to three feet high, with oblong hairy leaves, with beautiful yellow flowers. It is a great favourite with florists, and although frequently kept in the green-house, it is hardy enough to live in the garden throughout the year, except in very severe winters. It is propagated by cuttings which strike root under a hand-glass.

SUBULARIA AQUATICA.

Common Awl-wort.

This is a native of Russia and other northern parts of Europe, where it is found in ditches and lakes. It is a small shrub without stem, and white fibrous roots. The leaves are small and awl-shaped. The whole plant is entirely under water, where it flowers and the seeds come to perfection. It is considered worth cultivation as a curiosity. The seeds are sown in any pond or rivulet with a sandy bottom, or they will grow in a pot filled with gravel and submersed in water.



Sea Kale



Gold of pleasure.



Woad



Pepperwort



Common Scurvy Grass



Horse Radish

ORDER II.

SILICUOSA.

*Seeds in a long pod.*

DENTARIA BULBIFERA.

Coral-wort, or Tooth-wort.

The root of this plant is fleshy, white, and cut in such a manner as to give a fanciful representation of a set of teeth. The stem is upright, about eighteen inches high, leafy, but naked at the bottom: the flowers are large, and of a pale purple colour: the lower leaves are winged, the upper ones are undivided. There is a black scaly bulb produced on the leaves, which falling on the ground vegetates, and by this means nature secures a succession of the species, otherwise it would become extinct, as the seeds seldom come to perfection.

Tooth-wort was considered useful in disorders of the teeth at one time, but its uses have long been discontinued.

CARDAMINE PRATENSIS.

Ladies-smock, or Pinks-flower.

This plant rises near a foot, with a smooth and erect stalk. Leaves few; radical ones spreading in an irregular manner, larger than the stem leaves, and nearly round; both terminate in an odd leaf, which is largest. Flowers in a cluster terminate the stem upon smooth long flower-stalks, conspicuous, of a delicate bluish-red, or crimson purple, delicately veined.

This plant is common in moist meadows, and produces its flowers in April and May. This is the plant mentioned as a spring flower by our immortal Shakspeare, in *Love's Labour's Lost*:

"When daisies pied and violets blue,
And lady-smocks all silver-white,
And cuckoo-buds of yellow hue
Do paint the meadow with delight.

Violets and Daisies we know; but the other two have given origin to conjecture. Berkenhout says, "I never saw silver white Lady-smocks;

and the *Lychnis-flos-cuculi* is red. Nevertheless the poet might have easily called this flower by that name; for, as Dr. Smith observes, "they are very abundant in the moist part of meadows, and at a distance look like large white patches, resembling the inner female garment hung out to bleach." The Cuckoo-buds were either Cowslips or Butter-cups, which are quite immaterial; but more probably the latter, as these flowers are called Cuckoo-buds in Staffordshire.

Cardamine Pratensis is a warm plant, and has been esteemed to be a powerful diuretic. Galen and many authors allege that it possesses the same virtues as the Water-cresses. Dale, in his *Pharmacologia*, mentions that its flower is recommended in convulsive disorders in a manuscript of Dr. Tancred Robinson's; and Sir George Baker, president of the College of Physicians, has mentioned, in the first volume of *Medical Transactions*, some nervous and hysteric cases in which he administered the flowers with good effect. The dose is half a drachm to two drachms of the powdered flowers, given twice a day. St. Vitus's dance, and spasmodic asthma, have yielded to these flowers. Dr. Withering says, "The virtue of the flowers of this plant in hysteric and epileptic cases was first mentioned by Ray in his Letters, as appears from their publication. They do not act like the *Erysimum cheiranthoides*, which is called treacle wormseed, from the seeds destroying worms; and thus cure the epilepsies of children by destroying the worms in the stomach and intestines, which is often the cause of fits. I have accounts of the success of this plant in recent cases from good authority, but have never been fortunate enough to see it cure hysterical affections. Whilst in Cornwall, in the year 1793, I had the pleasure of meeting with the Rev. Mr. Gregor, who told me, that the flowering tops of the Ladies-smock had been successfully used by his family for some generations in the cure of epilepsies; and some cases which he mentioned to me were not likely to have proceeded from worms." Dr. Woodville says, "In epilepsy this remedy has been generally found unsuccessful." Can this arise from our medical brethren only using the leaves, whereas Mr. Gregor used the flowering tops?

There are some splendid foreign varieties of this plant, which find a place in the green-houses. The number of all the species, according to Don, are sixty-five. They have all the same medical properties,—bitter, acrid, and anti-scorbutic, but not all safe medicines, as some are exceedingly acrid. The sorts cultivated for the green-house requires a moist soil, or damp situation. The rarer kinds may be planted in pots, placed in either pots or tubs plunged in water. The *Cardamine Hirsuta*, Hairy Ladies-smock, and some others, are *viviparous*, producing a young plant from the leaves. The plant will thus propagate itself most extensively in moist soils; but the most certain way with the perennial kinds is to divide the root. The annual sorts only require the seeds to be sown on an open border, but it must be in a damp situation. Many of the foreign kinds are very ornamental and *showy* flowers; but to my mind there are none can vie in sweet beauty and simplicity with our native British Ladies-smock.

NASTURTIIUM OFFICINALE.

Common Water-cress.

A small aquatic plant found in ditches. The stalks are thick, and

alternately branched. Stem with angular projections. Leaves alternate, lanceolate, pinnate, having above one pair, and below two to five pairs of pinnae, terminating in an odd one, which is the largest. Pinnae oblong, irregularly crenate, blunt, opposite, sessile, ovate, obtuse, rarely any veins beneath, of a bright green, those nearest the stem smallest. Lower leaves heart-shaped. Flowers on short terminal spikes, white.

It is common in wet ditches and brooks, where it is gathered by simpletons. Professor Martyn, in his Letters on Botany, addressed to a young lady, which never can be too much praised, says, "We have another instance of fatal confusion, not in two plants of this tribe, but in one of this with another of a different class; namely, of the creeping Water-parsnep with Water-cress, which belongs to the cruciform flowers. You are so well mistress of both tribes, that it is impossible you should mistake them when in flower; but this is not the time when Water-cresses are eaten, and this plant is so different in its flowering state, that I am persuaded an eater of it would think himself imposed upon if he were then shown it for Water-cresses. When they are both young they are really not unlike; and since they frequently grow together, the one may sometimes be gathered for the other; though I must confess that I have not met with the mistake more than twice, and that only in a single piece among a considerable quantity; however, the leaves of the Water-parsnep are of a light green; the small leaves composing the whole winged or pinnate leaf are longer and narrower, serrated on the edges, and pointed at the end; whereas those of Water-cresses have a tincture of brown upon them, the leaflets are roundish, and particularly the odd one at the end is very large and blunt, and they are none of them regularly serrated, but have only a few indentures on their edges."

The admirable author of the Edinburgh New Dispensatory says, "Water-cress acts as a gentle stimulant and diuretic; for these purposes the expressed juice, which contains the peculiar taste and pungency of the herb, may be taken in doses of an ounce or two, and continued for a considerable time. It should be at the same time eaten at breakfast, also at dinner, and for supper, to experience benefit from the virtues of this herb." Haller says, "We have seen patients in deep declines cured by almost entirely living on this plant. It is reported, he adds, that the juice of this plant snuffed up the nostrils has cured a polypus of the nose. It enters into a composition esteemed famous for curing the scurvy."

The Water-cress has long been cultivated as a salad in this country, and the quantity raised in the neighbourhood of London is truly astonishing. Every morning throughout the year, although there are something like two millions of inhabitants, they have all Water-cresses within call, and can have them to breakfast if they choose. A stream of clear water is all that is required, but it must not be *too rapid*. Stagnant water will do, but it causes the accumulation of all manner of filthy insects, and the cresses are not wholesome, as they partake of the pernicious properties of the feed water. "In the bed of this stream [clear water] the plants are inserted in rows, in the direction of the current, and all that is necessary is to take up, and re-plant occasionally, and to keep the plants free of mud and weeds, or any accumulation of extraneous matter. They will not grow so freely in a muddy bottom as amongst sand and gravel, neither will their flavour be

so good. Some cultivate them in water beds, but they never prosper so well nor is their flavour so good as when cultivated in natural streams. The Spring or Autumn is the best time for transplanting the Water-cress. Some market gardeners, who can command a small stream of water, grow the Water-cress in beds sunk about two feet in a retentive soil, with a very gentle slope from one end to the other. Along the bottom of this bed, which may be of any convenient length and breadth, chalk or gravel is deposited, and the plants are inserted, about six inches apart every way. Then according to the slope and length of the bed, dams are made six inches high across it, at intervals; so that when these dams are full, the water may rise not less than three inches on all the plants included in each. The water being turned on will circulate from dam to dam, and the plants, if not allowed to run to flower, will afford abundance of young tops in all but the winter months. A stream of water not larger than what will fill a pipe of an inch bore, will suffice to irrigate in this way the eighth of an acre. As some of the plants are apt to rot off in the winter, the plantation should be laid dry two or three times a year, and all weeds and decayed parts removed, and vacancies filled up. Water-cress grown in this way is, however, far inferior to that grown in natural streams."—*Don's Gardener's Dictionary*, vol. 1. p. 156.

Besides this species of *Nasturtium*, there are thirty sorts in the family, all partaking of the same properties; but the common Water-cress is the best and most profitable to cultivate.

BARBAREA PRECOX.

American Cress.

This is much cultivated in gardens, as it produces a large crop, and does not require water. It is generally liked as a winter Cress, and it can be had early: the flavour is not unlike the Water Cress, but more bitter. It is raised from seeds sown in small drills: a quarter of an ounce of the seed is sufficient for three yards of drill. Let the drills be eight inches apart, and have your ground in good condition, but light, and the plants will come up strong and tender. For winter use, sow the seeds at the latter end of August, and in the frost you must protect the plants with some litter, dried straw, or fern. You may let a few of the choicest plants run to seed, as it is best to have seed of your own gathering, as most seedsmen are not to be depended upon.

There is a *Barbarea Vulgaris*, Double Yellow Rocket, which is an elegant plant, with double yellow flowers; which is cultivated by the florists. It can be increased by cuttings, or dividing the roots, and will thrive on any soil, in a damp situation.

TURRDIS GLABRA.

Tower Mustard.

A large plant, common throughout Europe. It is named Tower Mustard, in allusion to the form of the stem, and the disposition of the leaves giving the plant a tower-like form. The young plant is rather rough, but becomes smooth with age: the leaves are somewhat arrow-shaped, clasping



Bitter Candy Tuft



Ladies Smock



Water Cress.



Black Mustard



Jack by the Hedge.



Wall Flower

the stem; the lower ones toothed: the flowers are white, or sulphur-coloured: the seed pods are linear, and erect.

The plants are sometimes cultivated as ornaments to rockwork; but for all useful purposes, the Common Mustard is the best.

ARABIS VERNA.

Vernal Wall Cress.

This plant, which is supposed to come from Arabia, is found in many parts of Europe, growing on dry, stony, or sandy soils. The genus includes sixty-seven known species; many of which, are delicate, and as such find a place in all good flower gardens. The Vernal Wall Cress is a plant a few inches high, with heart-shaped leaves, clasping the stem, rather hairy: the flowers small, of a purple colour, which gives it a pretty appearance.

All the species of *Arabis* are proper for rockwork in gardens, requiring a dry warm soil. They require nothing but sowing the seeds, in the first place, afterwards they sow themselves, and give no further trouble.

SINAPIS NIGRA.

Common Mustard.

This plant rises three feet. Leaves near the root large, irregularly heart-shaped, and pinnatifid or lobed at the base; those on the branches narrow, pointed, entire. Flowers terminate the branches, and are of a bright yellow.

It is common in corn-fields and banks of ditches, is cultivated for use, and flowers in June. There are two kinds, the common black mustard, having blackish seeds, and the white, which has lighter seeds, but they do not differ in qualities. White mustard-seed, when mixed with water, sends out very volatile, pungent effluvia. It abounds with oily, gum-resinous, and earthy fixed parts; its oil, got by expression, is almost as mild as that procured from sweet almonds.

It is given as a warm, cordial medicine, in cold phlegmatic habits, where there is too much viscid phlegm; and in chronic diseases, where there is too languid a circulation. It sometimes proves a strong diuretic; and we have an instance, related by Dr. Mead, where the waters of a dropsy were all evacuated by urine, from taking a spoonful of the unbruised mustard seed twice a day. It is likewise prescribed in this form as a warm cordial medicine in palsies; and has a good effect in chronic rheumatism, when taken in the same way. Bruised mustard-seed, or its flowers, mixed with warm water, proves a speedy and safe emetic, and is often used as such in paralytic cases.

The seeds, reduced to powder, make the common mustard so much in request as a condiment at our tables. They yield a considerable quantity of expressed oil, which partakes but little of the acrimony of the plant. The seeds, when unbruised, impart but little taste in boiling water. Taken inwardly, in the quantity of a meat spoonful or more, they gently relax the bowels, and are of service in asthma, chronic rheumatism, and palsy.

The powdered seeds curdle milk, and give a strong impregnation to boiling water. The infusion taken in considerable quantity, vomits; thus affording the most ready emetic, when prompt relief of that kind may be requisite. In smaller doses, it is an useful aperient and diuretic. Cataplasms, formed with crumb of bread, vinegar, and powdered mustard-seed, hence called sinapisms, are very commonly applied to the soles of the feet, as stimulants, in fevers that require such treatment; they are used with advantage, topically applied, in fixed rheumatic and sciatic pains. Upon the whole, wherever we want a strong stimulus, that acts upon the nervous system, without exciting much heat, we know none preferable to mustard-seed. The plant is cultivated largely in Essex, and the seed sold to the manufacturers of flower of mustard. It is prepared by drying the seeds on a kiln, and grinding them into powder. Mr. Salisbury states that in the Isle of Ely, wherever new ditches are thrown out, or the earth dug to any unusual depth, a crop of black mustard immediately appears; the seeds in some instances having remained under ground for ages. Its acrimony consists in an essential oil.—*Phalona fuliginosa* lives upon the different species; and the caterpillar of *Pontia Daphidice* devours the seeds.—*Multum ardet* in Latin, or *Moult arde* in old French ("it burns much") might have been imagined the real *thema* of the word *mustard*, had not a whimsical history attached to its etymology. In 1382 Philip the Bold, Duke of Burgundy, granted to the town of Dijon armorial ensigns with the motto "*Moult me tarde*," ("I long, or wish ardently;") which, being sculptured over the principal gate, by some accident the middle word became effaced. The merchant dealers in *Seneve*, (*Sinapi*), intending to ensign their pots with labels of the city arms, copied the imperfect motto as it then remained, "*Moult-tarde*," and hence the name which the *Sinapi* composition has preserved to this day.

"To raise seed for flower of mustard and other officinal occasions, sow either in March or April, generally the black, or occasionally the white, in an open compartment, or large sowings in fields, where designed for public supply. Sow moderately thick either in drills six or twelve inches asunder, or broad-cast, after the ground has been properly ploughed and harrowed, and rake or harrow in the seeds. When the plants are two or three inches high, hoe or thin them moderately, when too thick, and clear them from weeds. They will soon run up to stalks, and in July, August, or September, return a crop of seed ripe for gathering; being tied up into sheaves, and left three or four days on the stubble. It is then stacked in the field. It is remarked that rain damages it. Black mustard is an exhausting crop, but profitable when the soil answers, and especially in breaking up rich loamy lands, as it comes off earlier than White Mustard, and allows time for preparing the soil for wheat. This plant is cultivated to great extent in Durham. The seed of the *black mustard*, like the *charlock*, is difficult to extirpate, for it will remain in the ground if buried to the depth of 3 or 4 inches for ages without germinating until it is raised to the surface. The black mustard is exclusively used for grinding into flower of mustard, and the black husks of the seeds are separated by very delicate machinery. The French either do not attempt or do not succeed in separating the husks, as their mustard when brought to table is always black. It is, however, more pungent than ours, because the quality resides

chiefly in the husk. The constituents of mustard appear to be chiefly starch, mucous, a bland fixed oil, an acrid volatile oil, and an ammoniacal salt."—*Don's Gardener's Dictionary*, vol. 1, p. 248.

PREPARATIONS.

MUSTARD CATAPLASM.

Take of mustard-seed, powdered,
crumb of bread, of each half a pound;
vinegar, as much as is sufficient.

Mix, and make a cataplasm.

Cataplasms of this kind are commonly known by the name of sinapisms. They were formerly frequently prepared in a more complicated state, containing garlic, black soap, and other similar articles; but the above simple form will answer every purpose for which they are capable of accomplishing. They are employed only as stimulants: they often inflame the part, and raise blisters, but not so perfectly as cantharides. They are frequently applied to the soles of the feet, in the low state of acute diseases, for raising the pulse and relieving the head. The chief advantage they have, depends on the suddenness of the action.

COMPOUND PLASTER OF SPANISH FLIES.

Take of Burgundy pitch,
Venice turpentine,
cantharides, each twelve parts;
yellow wax, four parts;
sub-acetite of copper, two parts;
mustard-seed,
black pepper, each one part:

Having first melted the pitch and wax, add the turpentine, and to these, in fusion, and still hot, add the other ingredients, reduced to a fine powder, and mixed, and stir the whole carefully together, so as to form a plaster.

This is supposed to be the most infallible blistering plaster. It certainly contains a sufficient variety of stimulating ingredients. Where a quicker action is required, this is a better form than the ordinary blister, but less suited for very irritable skins, or for children.

PRESCRIPTION.

Take of mustard-seed,
horse-radish root, of each two drachms;
boiling-water, a pint:

Macerate for two hours, then strain; add to the strained liquor, ginger in powder two drachms, and aromatic confection one drachm, of which take a table-spoonful four times a day, in cold phlegmatic habits, and paralytic disorders.

SINAPIS ARVENSIS.

Charlock, or Wild Mustard.

Root annual: stem from nine inches or a foot to a foot and a half in height, upright, round, striated or grooved, rough with a few stiff hairs, commonly much branched, and the branches spreading: leaves deeply and irregularly indented and serrated, sometimes entire, but most frequently jagged at the base, and sometimes pinnatifid; they are always harsh or rugged, and have not any cast of sea-green: flowers at the ends of the

stalk and branches, on peduncles the length of the calyx, and slightly hispid: calyx yellow, half as long as the corolla, standing open at the top: corolla always yellow: pods scarce perceptibly angular, sometimes smooth, sometimes slightly hairy, swelling, ending in a short beak: seeds dark brown, shining, eight or nine in a pod.

Charlock flowers in May and June, and has perfected its seeds before harvest; it is therefore very abundant in spring corn. Being an annual, it may be destroyed, or at least checked, by spring feeding with sheep, or by weeding with the hook, to prevent its flowering. The seed will lie for ever in the ground, till turned up within the sphere of vegetation.

Its classical name in English is Wild Mustard; but it is known among husbandmen by the names of Charlock, Carlock, Garlock, Chadlock, Cadlock, and Kedlock; all evidently the same name originally, but variously pronounced in different countries. We find the last in Fitzherbert, and our other oldest English writers. In some parts of Yorkshire it is called Runsh.

The young plants, and particularly the tender tops, before they flower, are boiled and eaten as greens by husbandmen in many countries.

Mr. Miller affirms, that it is the seed of this species, which is commonly sold under the title of Durham Mustard-seed.

The young plants may be mistaken for turneps. As they grow up they vary in many circumstances. The stem is sometimes wholly green, but more frequently tinged with red. Among corn it is more drawn up, and often scarcely branched. The leaves vary much in form and degree of division. And the plant differs in height and degree of hairiness.

ERYSIMUM ALLIARIA.

Sauce Alone, or Jack-by-the-hedge.

Stalk three feet in height: leaves alternate, large, heart-shaped, on footstalks, unequally toothed, veiny: flowers white, in terminal spikes: pod two inches long, obscurely quadrangular.

Common on hedge banks, flowers in May and June: the leaves have a strong flavour resembling that of garlie or onions, and give the same smell to the breath; hence used for the same culinary purposes.

The medical virtues of this plant are the same as garlie, which, when steeped in gin, is taken in dropsy of the chest and anasarca; also in humoral asthma: and Boerhaave says, that used as an external application he cured with it a gangrene of the leg, from a neglected fracture and contusion.

"The whole plant, as the generic name imports, scents strongly of garlie. It is occasionally used as a salad, boiled as a pot-herb, or introduced in sauces. Mr. Neill observes that 'when gathered as it approaches the flowering state, boiled separately, and then eaten to boiled mutton, it certainly forms a most desirable pot-herb: and to any kind of salted meat an excellent green.' According to Linnaeus's observation, horses, sheep, and swine refuse it, but kine and goats eat it. If eaten by cows it gives a strong disagreeable taste to the milk. When it grows in poultry-yards the fowls eat it, and it gives an intolerable rank taste to their flesh. The seeds excite sneezing. The leaves were formerly recommended internally

as sudorific and deobstuent, of the nature of garlic, but much milder; externally as antiseptic, in gangrenous and cancerous ulcers."—*Don, vol. 1.*

ERYSIMUM OFFICINALE.

Hedge Mustard.

Root annual, tapering, furnished with long fibres: stalk from one to two feet in height, erect, round, branched, hairy: leaves on foot-stalks, rough, downy, pinnatifid segments, opposite, ovate, toothed, terminal one the largest: flowers yellow, small, placed in long racemi or spikes: calyx of four leaflets, which are ovate, narrow, blunt, hairy: corolla composed of four petals, placed oppositely, inversely ovate, standing upon long claws: filaments six, tapering, two of which are shorter than the others, and having at the base two nectarious glands: antheræ heart-shaped: germen cylindrical, striated: stigma roundish, compressed, notched: pods nearly conical, obscurely quadrangular, hairy, pressed to the stalk: seeds of a dingy yellow colour, obliquely truncated at each end.

It is common on dry banks and waste places, and flowers from June till September.

The taste of this herb is somewhat acrid, especially the tops of the flower spikes. Its seeds are considerably pungent, and appear to be nearly of the same quality with those of mustard, but weaker.

The Erysimum is said to be attenuant, expectorant, and diuretic, and has been strongly recommended in chronical coughs and hoarseness. Rondeletius informs us, that the last mentioned complaint, occasioned by loud speaking, was cured by this plant in three days. Other testimonies of its good effects in this disorder are recorded by writers on the *Materia Medica*, of whom we may mention Dr. Cullen, who, for this purpose recommends the juice of the Erysimum to be mixed with an equal quantity of honey or sugar. In this way also it is said to be a useful remedy in ulcerations of the mouth and throat.

In most cases of disease, perhaps the seeds of Erysimum, as more pungent, should be preferred to its leaves.

DIPLTAXIS CRASSIFOLIA.

Thick-leaved Sand Mustard.

There are sixteen sorts of Sand Mustard, all natives of warm climates. The seeds are disposed in two rows in the pods: the stems swelled at the base: the leaves are pinnatifid or deeply cut, thick and succulent, not much branched: flowers yellow: the stem from three to four feet high. We have also the *D. Tenusfolia*, Fine-leaved Sand Mustard; and *D. Muralis*, Wall or Sand Mustard, both of which are stated by some botanists to be natives of Britain; but it is doubtful.

All the sorts of Sand Mustard are, as might be expected, exceedingly acrid and biting plants, the seeds especially. A plaster made of the bruised seeds of the thick-leaved Sand Mustard will raise a blister almost as soon as the cantharides, but as yet none of them have been brought into use, as we have other plants that answer every purpose. None of the species have been thought worth cultivating as flowers.

CHEIRANTHUS FRUTICULOSUS.

Wild Wall Flower.

It were a waste of time to attempt a description of this universal favourite : but the wild flower is a very different plant to the one found in gardens. The native Wall-flower of Britain, as its name imports, is found on old walls, ruined castles, churches, abbeys, and the like. The plant is smaller, and the flowers are always yellow, and the fragrance is sweeter than the garden plant.

"The yellow Wall-flower, stained with iron brown,
And lavish stock that scents the garden round."

In the emblems of flowers, the Wall-flower is considered as an emblem of fidelity in misfortune, because it attaches itself to the desolate, and beautifies those buildings which are in a ruinous condition, and which would otherwise present an unsightly appearance.

"For this obedient zephyrs bear
Her light seeds round yon turret's mould ;
And, undispers'd by tempests there,
They rise in vegetable gold."

Or, as elegantly expressed by another poet of nature,

"But thou, neglected Wall-flower, to my breast
And muse art dearest, wildest, sweetest flower !
To whom alone the privilege is given
Proudly to root thyself above the rest,
As genius does, and, from thy rocky tower,
Lend fragrance to the purest breath of heaven."

Herrick, who would attribute every thing agreeable to the passion of love ; with an ingenuity and pathos scarcely inferior to those of his classical prototypes, ascribes the origin and very name of this favourite flower, to the adventurous spirit of a fair damsel, (long detained in durance vile) who, braving all perils to steal an interview with her "sprightly spingal,"

"Up she got upon a wall,
Tempting down to slide withal :
But the silken twist untied,
So she fell, and bruised, she died.
Love, in pity of the deed,
And her loving, luckless speed,
Turned her to this plant, we call
Now the Flower of the wall."

CHEIRANTHUS CHEIRI.

Garden Wall-flower.

The varieties most remarkable are as follows :

Single yellow.
Double yellow.

Large flowered yellow.
Large yellow, saw-leaved.
Double yellow, spreading.
Double rusty.
Double variegated with purple and yellow.
Large double, pale yellow.
Bunch-flowered, yellow.
Flowers with anthers changed into carpels.
Single and double, bloody-flowered.

The flowers of all the species vary in size from single to double, from yellow to rusty, blood-coloured, or variegated with the same colours. Many of the varieties produce showy flowers, but for real beauty there are none equal to the national species. In some parts of England it is a common practice to sow the seeds of Wall-flower in pastures, as it is supposed to possess properties which act as a preventative to the rot in sheep.

All the species of Wall-flower are easy of cultivation. They will either grow from seeds, or they may be increased by cuttings. They may be planted on rock-work, and they will live in such a situation and survive the severest wintry frosts.

MATHIOLA INCANA.

Brompton, or Hoary Stock.

The Stocks are a species of well-known garden flowers. They are all strong stems, from one to two feet high. The whole plant is covered with a soft white down. The leaves are lance-shaped, entire, and hoary: pods long and round: the flowers vary from scarlet to purple, and some are white, and there are also variegated species. These varieties have had different names for a long time, though there is no doubt they are all one and the same plant, and the changes are brought about by the ingenuity of the florist.

All the young leaves of this and the preceding plant may be boiled as pot-herbs, and they are wholesome eating in the spring. They purify the blood and juices, and prepares the body to endure the heats of summer.

The number of the species of *Mathiola*, according to Mr. Don, are twenty eight; but the varieties are constantly increasing, as they have long been favourites with the florists.

Mr. Don says, "In order to procure fine double *Stock-Gilliflowers*, *Brompton*, and *Queen-stocks*, is to make choice of such single flowering plants as grow near many double ones, for it has been observed that seed saved from plants growing among double kinds have produced a much greater number of double flowering plants, than those which have been saved from plants separated from the double ones. Sow the seed in May, and after they reach two or three inches high they should be thinned at least nine inches asunder, and the plants so taken out may be planted at about six inches apart in the flower border, if the following winter should be severe, the plants should be sheltered by mats, and in the following May and June they will become the greatest ornament of the flower border. Fine double varieties may be propagated by cuttings, which take root readily if planted under a hand-glass shaded. The *Annual* or *Ten-week-*

stock should be sown at three or four different times, February, March, April, and May, the plants from the last sowing will continue to flower till Christmas. Care should be taken in preserving only such single flowering plants for seed, both of the *Stock-Gilliflower* and *Ten-week-stock*, as have flowers of a fine colour. All the biennial and hard shrubby pieces of *Matthiola* should be treated in the same manner as that recommended for the *Stock-Gilliflower*, and all the annual species in the manner recommended for *Ten-week-stocks*. Fine double stocks may be planted in pots, in order that they may be sheltered by a frame during winter. *M. Fenestralis* thrives best if sown on rock-work. The green-house shrubby kinds thrive best in a light soil, mixed with sand, and cuttings will strike root readily if planted under a hand-glass."—*Don's Gardener's Dictionary*, vol. 1, p. 154.

CAKILE MARITIMA.

Sea Rocket.

Sea Rocket is a smooth fleshy-branched herb. The leaves are cut (pinnatifid) or toothed, growing at the tops of the stem: flowers white or purplish, in dense clusters: the stem about a foot high. It is found on sandy sea shores throughout Europe.

Sea Rocket is a violent purgative; but it is *dangerous* for those of delicate constitutions. There are two or three varieties of *Cakile* besides the above, and they are thought to be worthy of a place in the flower-gardens, where they will thrive with ordinary care and attention.

HESPERIS MATRONALIS.

Common Rocket, or Dame's Violet.

This is one of a very interesting family of flowers, including annual, biennial, and perennial plants. The leaves are ovate, in some cases toothed or runcinate like the leaves of Dandelion; they are furnished with hairs, from which exude a sort of gummy resin: the flowers are white or variegated, sometimes purplish, growing on the tops of the stems, sweet-scented, and more so towards the evening.

The common Rocket is a great favourite throughout Europe. In some parts of England it was common for ladies to keep pots with the flowers growing in their apartments; hence it is called Dame's Violet. Parkinson, who wrote his book on plants above two hundred years since, calls the flowers "*Queen's Gilloflowers*."

The number of species amount to twenty-two; but there are many varieties of each, and they are constantly increasing. The perennial species thrive well on a light rich soil, but they require to be frequently transplanted and divided, or they die away. The *Hesperis Matronalis* may have its roots divided after it has done flowering, when new plants may be increased to any extent.

SISYMBRIUM OFFICINARUM.

Common Hedge Mustard.

See *Erysimum Officinale*



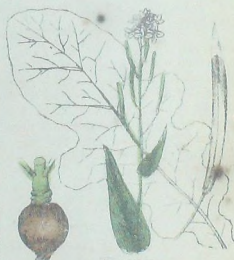
Hoary Stock



Wild Radish



Wild Cabbage



Turnip



Sea Rocket



Dandelion Violet

SISYMBRIUM SOPHIA.

Fliz-weed.

A pretty wild plant, about our waste places and farm yards, conspicuous for its leaves, if not so for its flowers. It grows two feet high, and the stalk is round, erect, very firm and strong, and not much branched. The leaves are moderately large, and most beautifully divided into numerous small segments, long and narrow; they stand irregularly on the stalks: the flowers are small and yellow; they stand in a kind of spikes, at the tops of the stalks; they are followed by short pods. The whole plant is of a dark green.

The seeds are the part used. They are to be collected when just ripe, and b.iled whole. The decoction cures the bloody flux, and is good against the overflowing of the menses.

STERIGMA TOMENTOSAM.

Woolly Sterigma.

There are three or four species of Sterigma. It is an erect perennial herb, clothed with a fine down. The roots are hard, pointed, with a number of small fibres. The leaves grow in alternate rows on the stem; they are of an oblong shape, tapering at the base, sometimes entire, but more frequently cut and divided. The flowers are yellow, in dense clusters, succeeded by a pod covered with a thick down.

All the sorts of Sterigma are very appropriate for ornamenting rock-work, and only require once sowing, when they increase themselves without further trouble.

MONICANDIA ARVENSIS.

Field Monocardia.

A very pretty tribe of plants, suitable for the flower-garden or greenhouse. The stems are round, whitish, erect: leaves thickish, flowers purple, growing in bunches at the tops of the stems: the stem about a foot high.

This is a native of Algiers, Greece, and the South of Italy; but it is found to thrive and produce most elegant flowers in our gardens, and it deserves all the attention that can be given to it. The seeds may be sown in the open ground early in spring, on light dry land. If kept in pots as greenhouse plants, they will endure several years, and will always flower early in the season. They may be propagated either by seeds or cuttings.

RAPHANUS SATIVUS.

Cultivated Radish.

I imagine this plant needs no description, as there are few who have not enjoyed the first bunch laid on the breakfast table in spring, which, if the person before whom they are set, have a moderate appetite, and plenty of nice bread and good butter, is a pleasure which is not easily forgotten. The varieties of the Radish are numerous.

1. *The early White Turnip Radish.* The flesh of this species is clear and white, and is of a very superior flavour when grown on proper soil.

2. *The small early White Turnip Radish.* The root of this is rather oblong, with a tinge of purple at the top; it is not so good as the last but earlier.

3. *The Pink, Rose-coloured, and Scarlet Turnip Radishes.* This variety was brought from France. The root is a fine deep scarlet outside, but white within. The flesh is mild and good.

4. *The Rose-coloured Turnip Radish.* The root is rose-coloured both within and without. It is rather oblong, and sometimes in good soil it lengthens out into a long-rooted radish.

5. *The Purple Turnip Radish.* The flesh is sometimes red, and sometimes white, and not unfrequently streaked with purple. It is a good Radish, and worth cultivating.

6. *The Yellow Turnip Radish.* The root is more oval than round, of a pale green colour, and rather rough; but the flesh is firm and juicy.

Of the long-rooted Radishes there are the following sorts:—

1. *Long White Radish.* This is the oldest variety of Radish known, and is exceedingly sweet and wholesome, of a most grateful flavour; but it is late, which has caused it to be neglected.

2. *White Russian Radish.* This grows to be a large Radish on good soils, and it is hotter and more acrid than the last; but it is a good Radish, pleasant, and wholesome.

3. *Twisted long White Radish.* The root of this Radish grows to a considerable length, and is blunt. The flesh is transparent: considerable part of the root rises above the ground. It is a good Radish, but very late, but is worth cultivation for the latter part of the year.

4. *Scarlet Radish.* This is a Dutch Radish, of a brilliant pink colour. The root rises full an inch above the ground. This root is cultivated most extensively in the neighbourhood of London for the London market, and is a most excellent Radish.

5. *Purple Radish.* This Radish was for a long time considered the best, but has been supplanted by the *Scarlet Radish*. It is yet much cultivated by the Dutch, who contrive to send it in large quantities to the London market. The root grows about two inches out of the ground. It is an early sort, and deserves more attention from the English gardener than it has got of late. The first leaves are an useful addition to small salads.

6. *Red-necked Radish.* This Radish has a white and purple root. It is a good Radish, and is cultivated on account of the singular variety of the colours.

Besides the above, there are several varieties, not of much importance; as indeed the varieties are constantly increasing; but as far as the ingenuity of gardeners have gone at present, they have not succeeded in improving the Radish much, for if they have increased the bulk, the quality has decreased in the same proportion, and it would seem as if this was a general law in most vegetable productions.

The following valuable instructions for the cultivation of Radishes are taken from the last edition of Don's Gardener's Dictionary, the excellent work above referred to.

"Radishes are all easy of cultivation. They are sown at various times of the year, according to the time they are designed for use. Those intended to come in early in the spring are generally sown in October, on a warm border: the long-rooted kinds are preferred for this purpose. The *Turnip-radishes* are generally sown in spring or summer, to come in after the long-rooted kinds. These all force well on hot-beds, or dung-beds covered with mats. The winter *Radishes* should be sown in July; and those intended for winter use should be taken up in dry weather, in November, be divested of their leaves and fibres, and preserved in sand until they are wanted.

"Formerly the leaves of the Radish were boiled and eaten, but now the roots are chiefly employed. These are eaten raw in spring, summer, autumn, and winter. The young seedling leaves are often used with Cress and Mustard, as small salad; and Radish seed-pods, when of plump growth, but still young and green, are used to increase the variety of vegetable pickles, and are considered a tolerable substitute for capers.

"The spindle-rooted kinds are cultivated in the largest proportion for the first crops. The small turnip-rooted sorts may be sown in spring as secondary crops, and in summer and autumn for more considerable supplies. The winter sorts have a coarser flavour than the other kinds, but being of a hardy nature, are frequently sown; they are sliced in salads, or occasionally eaten alone, with salt, vinegar, and other condiments.

"The soil should be light and mellow, well broken by digging. For sowing between the middle of October and the middle of February, let the site be a dry sheltered border, open to the full sun. From the middle of February to the end of March, any dry, open compartment will be suitable. As spring and summer advance, allot cooler and shaded situations. A scattering of the smaller growing sorts may be sown among some broadcast crops of larger growth, such as Spinach, Lettuce, and Onions. It may be also drilled between wide rows of beans, or on ground intended to be sown with a late spring-crop.

"The crops raised between the middle of October and middle of February, are usually confined to the spindle-rooted kinds. Of the early short-top-scarlet, a first small sowing may be made at the end of October, in November, and in the last fortnight in December, if open temperate weather; respectively to stand over the winter; but make the principal early sowings in January, or the beginning of February. From this time sow every fortnight or ten days, in full succession crops, till the end of May, as well the white and red small turnip-rooted, as the autumn sorts. The winter sorts are sometimes raised at the beginning of summer; but the fittest season to sow them is from the end of June to the end of August; that is in July for use in autumn, and in August to provide a supply throughout the winter.

"Sow each sort separately, and for a bed four feet six inches by twelve feet, two ounces of seed will be required of the spring sorts, and an ounce and a half for the summer, winter, and autumn varieties. All the kinds may be either sown broadcast or in drills, but the latter is preferable, as allowing the roots to be drawn regularly with less waste. If sown broadcast, it is a good method to make beds four or five feet wide, with alleys between a foot wide, the earth of which may be used to raise the beds or

not, as the season may make it desirable to keep the beds dry or moist. Avoid sowing excessively thick, as it tends to make the tops run, and the roots stringy. Rake in the seed well, full half an inch deep, leaving none on the surface to attract the birds. If you trace drills, let them be for the spindle-rooted kinds, half an inch deep, and about two inches and a half asunder; for the small turnip-rooted kinds, three quarters of an inch deep, and four or five inches asunder, and for the black turnip or Spanish six or eight inches asunder, because the root grows to the size of a middle-sized turnip. As the plants advance in growth, thin them, so as to leave the spindle-rooted kinds two inches square distance, and the other sorts three, four, or five, leaving the most space to the respective sorts in free, growing weather; water pretty frequently, this swells the roots and makes them mild and crisp.

"The crops sown between the end of October and the end of February, besides being favoured in situation, will want occasional shelter according to the weather. On the first approach of frost, whether the seed is just sown, or the plants have appeared, cover the ground, either with clean straw, dry long haulme, or dried fern, two or three inches thick, or with mats supported with short stout pegs. The covering will keep off the birds, and by its warm effect on the mould, forward the germination of the seed. The time for removing or restoring it must be regulated by the weather; as the plants should be exposed to the full air whenever it can be safely done. If the season be cold without frost, take off the covering every morning, and put it on towards evening, and if the weather be sharp and frosty, let it remain on night and day, till the plants have advanced into the first rough leaves, and afterwards occasionally till the atmosphere is settled and temperate. Replace it constantly at night till there is no danger of much frost happening, then wholly discontinue the covering. Radish seed-pods should be taken for pickling when of plump growth, in July and August, when young and green.

"Abercrombie says, 'to obtain the earliest spring Radishes, sow on a hot-bed of dung or leaves some Early Dwarf Short Tops, in December, January, or the beginning of February. Having made a hot-bed two feet, or two and a half feet high of dung, placed on a frame; earth the bed at top six inches deep; sow on the surface, covering the seed with fine mould about half an inch thick, and put on the glasses. When the plants have come up, admit air every day, in mild, or tolerably good weather, by tilting the upper end of the lights, or sometimes the front, one, two, or three inches, that the Radishes may not draw up weak and long-shanked. If they have risen very thick, thin them, when young, moderately at first, to one or two inches apart. Be careful to cover the frame at night with garden mats or straw litter. Give gentle waterings about noon in sunny days. If the heat of the bed declines much, apply a moderate lining of warm dung or stable litter to the sides, which by gently renewing the heat will forward the Radishes for drawing in February and March. Remember, as the plants advance in growth, to give more copious admissions of air daily; either by tilting the lights several inches in front, or, in fine mild days, by drawing the glasses mostly off; but be careful to draw them on again in proper time. Small Turnip-rooted Radishes, or the white and red kinds, may be forced in the same manner. For raising early Radishes

on ground not accommodated with frames, a hot-bed made in February may be arched over with hoop-bends, or pliant rods, which should be covered with mats constantly at night, and during the day in very cold weather. In moderate days turn up the mats at the warmest side; and on fine mild days take them off altogether.

"For seed transplant a sufficiency of the finest plants in April or May, when the main crops are in full perfection. Draw them for transplanting in moist weather, selecting the straightest, best-coloured roots, with the shortest tops, preserving the leaves to each; plant them by dibble, in rows, two feet and a half distant, inserting each root wholly into the ground, down to the leaves. Keep the kinds in separate situations to prevent the commixture of the pollen, and to preserve the kinds distinct. With proper watering they will soon strike fresh root, and shoot up in branchy stalks; producing plenty of seed; which will be ripe in September or October. In transplanting for seed the turnip-rooted kinds, select those with the neatest-shaped roundest roots, of moderate growth, and with smallest tops; they, as the other, will ripen seed in autumn. To obtain seed of the winter sorts, sow in spring to stand for seed; or leave, or transplant in that season some of the winter standing full roots. As the different kinds ripen seed in autumn cut the stems, or gather the principal stems or branches of pods; and place them in an open, airy situation, towards the sun, that the pod, which is of a tough texture, may dry and become brittle, so as readily to break and give out the seed freely, whether it be threshed or rubbed out."—*Don's Gardener's Dictionary*, vol. 1, p. 261.

RAPHANISTRUM ROSTRATUS.

Beak-podded Radish.

The pods of this description of Radish are much indented between the seeds, so as to give them the form of a necklace; in other respects they are not unlike the common Radish, but the root is not edible. Flowers are purple, and some are white. The

RAPHANISTRUM RAPHANISTRUM

is the ordinary wild Radish of England, and it is supposed by some to be the stock from which all the others have sprung; but this is doubtful. It is a very troublesome weed to some farmers, as it abounds in corn-fields in many parts of England, and as the seeds ripen before the corn is cut, they drop on the ground and secure another crop. It is a worthless plant, not worth cultivating except in such Botanical gardens where it is intended to keep a specimen of each genus.

BRASSICA.

Cabbage, Rape, and Turnips.

Next to Wheat, the plants of the family of Brassica are undoubtedly the most important, whether considered as food for man or other animals. It is peculiarly the advantage of this climate that we can grow these crops to perfection; the climates of other countries being generally either too hot in summer, or too cold in winter; and these

not, as the season may make it desirable to keep the beds dry or moist. Avoid sowing excessively thick, as it tends to make the tops run, and the roots stringy. Rake in the seed well, full half an inch deep, leaving none on the surface to attract the birds. If you trace drills, let them be for the spindle-rooted kinds, half an inch deep, and about two inches and a half asunder; for the small turnip-rooted kinds, three quarters of an inch deep, and four or five inches asunder, and for the black turnip or Spanish six or eight inches asunder, because the root grows to the size of a middle-sized turnip. As the plants advance in growth, thin them, so as to leave the spindle-rooted kinds two inches square distance, and the other sorts three, four, or five, leaving the most space to the respective sorts in free, growing weather; water pretty frequently, this swells the roots and makes them mild and crisp.

"The crops sown between the end of October and the end of February, besides being favoured in situation, will want occasional shelter according to the weather. On the first approach of frost, whether the seed is just sown, or the plants have appeared, cover the ground, either with clean straw, dry long haulme, or dried fern, two or three inches thick, or with mats supported with short stout pegs. The covering will keep off the birds, and by its warm effect on the mould, forward the germination of the seed. The time for removing or restoring it must be regulated by the weather; as the plants should be exposed to the full air whenever it can be safely done. If the season be cold without frost, take off the covering every morning, and put it on towards evening, and if the weather be sharp and frosty, let it remain on night and day, till the plants have advanced into the first rough leaves, and afterwards occasionally till the atmosphere is settled and temperate. Replace it constantly at night till there is no danger of much frost happening, then wholly discontinue the covering. Radish seed-pods should be taken for pickling when of plump growth, in July and August, when young and green.

"Abercrombie says, 'to obtain the earliest spring Radishes, sow on a hot-bed of dung or leaves some Early Dwarf Short Tops, in December, January, or the beginning of February. Having made a hot-bed two feet, or two and a half feet high of dung, placed on a frame; earth the bed at top six inches deep; sow on the surface, covering the seed with fine mould about half an inch thick, and put on the glasses. When the plants have come up, admit air every day, in mild, or tolerably good weather, by tilting the upper end of the lights, or sometimes the front, one, two, or three inches, that the Radishes may not draw up weak and long-shanked. If they have risen very thick, thin them, when young, moderately at first, to one or two inches apart. Be careful to cover the frame at night with garden mats or straw litter. Give gentle waterings about noon in sunny days. If the heat of the bed declines much, apply a moderate lining of warm dung or stable litter to the sides, which by gently renewing the heat will forward the Radishes for drawing in February and March. Remember, as the plants advance in growth, to give more copious admissions of air daily; either by tilting the lights several inches in front, or, in fine mild days, by drawing the glasses mostly off; but be careful to draw them on again in proper time. Small Turnip-rooted Radishes, or the white and red kinds, may be forced in the same manner. For raising early Radishes

on ground not accommodated with frames, a hot-bed made in February may be arched over with hoop-bends, or plant rods, which should be covered with mats constantly at night, and during the day in very cold weather. In moderate days turn up the mats at the warmest side; and on fine mild days take them off altogether.

"For seed transplant a sufficiency of the finest plants in April or May, when the main crops are in full perfection. Draw them for transplanting in moist weather, selecting the straightest, best-coloured roots, with the shortest tops, preserving the leaves to each; plant them by dibble, in rows, two feet and a half distant, inserting each root wholly into the ground, down to the leaves. Keep the kinds in separate situations to prevent the commixture of the pollen, and to preserve the kinds distinct. With proper watering they will soon strike fresh root, and shoot up in branchy stalks; producing plenty of seed; which will be ripe in September or October. In transplanting for seed the turnip-rooted kinds, select those with the neatest-shaped roundest roots, of moderate growth, and with smallest tops; they, as the other, will ripen seed in autumn. To obtain seed of the winter sorts, sow in spring to stand for seed; or leave, or transplant in that season some of the winter standing full roots. As the different kinds ripen seed in autumn cut the stems, or gather the principal stems or branches of pods; and place them in an open, airy situation, towards the sun, that the pod, which is of a tough texture, may dry and become brittle, so as readily to break and give out the seed freely, whether it be threshed or rubbed out."—*Don's Gardener's Dictionary*, vol. 1, p. 261.

RAPHANISTRUM ROSTRATUS.

Beak-podded Radish.

The pods of this description of Radish are much indented between the seeds, so as to give them the form of a necklace; in other respects they are not unlike the common Radish, but the root is not edible. Flowers are purple, and some are white. The

RAPHANISTRUM RAPHANISTRUM

is the ordinary wild Radish of England, and it is supposed by some to be the stock from which all the others have sprung; but this is doubtful. It is a very troublesome weed to some farmers, as it abounds in corn-fields in many parts of England, and as the seeds ripen before the corn is cut, they drop on the ground and secure another crop. It is a worthless plant, not worth cultivating except in such Botanical gardens where it is intended to keep a specimen of each genus.

BRASSICA.

Cabbage, Rape, and Turneps.

Next to Wheat, the plants of the family of Brassica are undoubtedly the most important, whether considered as food for man or other animals. It is peculiarly the advantage of this climate that we can grow these crops to perfection; the climates of other countries being generally either too hot in summer, or too cold in winter; and these

crops require almost as much of a winter as a summer cultivation to grow them to a profit. It is on this account that the agricultural produce of England, taking acre for acre, is more valuable than that of any other country, and it has with truth been said that the Turnips, and other winter crops of England, are of more value than the vines of France.

The first plant we shall notice of this tribe is the

BRASSICA OLERACIA.

Cultivated Cabbage.

It is probable that the whole vegetable kingdom does not produce a plant which exhibits a greater number of varieties than this. Take a walk on the sea-coast, and it is likely you will see a small plant, with sea-green leaves, and small yellow flowers, very like the Wild Charlocks or Mustards, so frequent in cultivated grounds. The leaves are rather glaucous and toothed; the plant itself about a foot high. It is altogether an unpretending plant, a perfect weed in fact, and yet this is the *true stock* from whence has proceeded all the red Cabbages, the white Cabbages, the Cauliflowers, Savoy, Coleworts, and Brocolis, with the hundreds if not thousands of varieties of this most useful and truly important esculent, which the industry and skill of the gardeners have produced.

A bare list of all the different sorts—a simple record of the names only—would occupy several pages of this book; and every season adds to the number. I shall therefore only set down a few of the most prominent, and then proceed to give such instructions as will be found useful, particularly to the working man, for whose benefit, more particularly, this work is intended.

1. Sea Colewort, or Wild Cabbage, already alluded to.
2. Greens, Kales, or Brocolis.
3. Savoy Cabbage, or Brussels Sprouts.
4. Common Cabbage, red and white.
5. Turnip-stemmed Cabbage.
6. Cauliflower and Brocoli.

All these specimens are sub-divided, as I have observed before, into hundreds of sorts; but the main principle worth attention at present is to make choice of those sorts which will give, first, the most early Cabbage, and, second, the greatest amount of food with the least cost of labour and manure, of which more hereafter.

The most certain mode of cultivating the Cabbage with success, is to cultivate it along with the

BRASSICA RAPA.

Cultivated Turnip.

I will here make a few remarks on the various sorts of this root, and then proceed to point out the best modes of cultivating both these crops in succession. We have,

1st. *Brassica Campestris*, Wild Navew. As the Sea Colewort is the original stock of all the cultivated Cabbages, so is the Wild Navew with respect to the Turnips. It is a native of the entire northern parts of Europe, from Britain to Lapland. The stem rises from one to two feet:

the leaves are like the white Turnip leaves: the flowers yellow, and grow in a sort of corymb.

The most profitable sort for the farmer, of this kind, is the second, *Brassica Ruta-baga*, Swedish Turnip. This sort is again sub-divided into an immense number of sorts; some early and yielding but a small crop; others later, but much more productive. From these two sorts, the first representing the round white Turnip, and the second the long-coloured one. The principal divisions of the first are,

1. Early White Dutch.
2. Early stone.
3. Common round white.
4. Large round white.
5. Green-topped, large round white, skin of the crown green.
6. Red-topped, large white.
7. Small round French.
8. Large Scotch.
9. White globe.

The principal varieties of the yellow or Swedish Turnip are,

1. Yellow Dutch.
2. Aberdeen yellow.
3. Maltese golden.
4. Large yellow field.
5. Scarsbrook, or Preston yellow.
6. Mouse-tail, or six weeks yellow.

Another division gives,

1. Large round red Turnip.
2. Red or stone Turnip.
3. Oblong red Turnip.
4. Oil-bearing Turnip.

The first, or white sorts of Turnip, are most to depend upon for early growth for the table, and the Early white Dutch is the first, and the Large round white will succeed this as a summer crop. In the fields the large red-topped sorts may be sown for autumn; but the surest plant for winter use is the Swedes. They stand the frost; and their flavour is agreeable, containing a greater proportion of nutrition than all others.

One of the best and wisest of men that England has known for the last century, whether considered as a politician or farmer, was the late Mr. Cobbett. Amongst the many useful books which emanated from his pen, not the least useful was his "Cottage Economy." In this unpretending book, written expressly for the use of the labourers, to whom his whole life and almost superhuman energies were devoted. He shows that a cow may be kept, and kept well too, out of the produce of a quarter of an acre, or forty rods of ground, and as the rules there laid down include the cultivation both of the Turnip and Cabbage, I will here insert them verbatim, with the hopes that this sample will induce a few purchasers of one of the best books on the management of the labourer's resources that has ever been printed. And I may here observe that the book contains other information besides cow-keeping,—making bread, brewing beer, feeding pigs, with instructions for keeping bees, rabbits, geese, ducks, and poultry; in short, all that is needful for a labourer to know, in order to add to the comfort of himself and family.

"In providing food for a cow, we must look, first, at the *sort of cow*; seeing that a cow of one sort will certainly require more than twice as much food as a cow of another sort. For a cottage, a cow of the smallest sort common in England is, on every account, the best; and such a cow will not require above seventy or eighty pounds of good moist food in the twenty-four hours.

"Now, how to raise this food on forty rods of ground is what we want to know. It frequently happens that a labourer has *more* than forty rods of ground. It more frequently happens, that he has some common, some lane, some little outlet or other, for a part of the year, at least. In such case he may make a different disposition of his ground, or may do with less than the forty rods. I am here, for simplicity's sake, to suppose, that he have forty rods of clear, unshaded land, besides what his house and sheds stand upon; and that he have nothing further in the way of means to keep his cow.

"I suppose the forty rods to be clean and unshaded: for I am to suppose that when a man thinks of five quarts of milk a day, on the average, all the year round, he will not suffer his ground to be encumbered by apple-trees that give only the means of treating his children to fits of the belly-ache, or with currant and gooseberry bushes, which, though their fruit do very well to amuse, really give nothing worthy of the name of food, except to the black-birds and thrushes. The ground is to be clear of trees; and in the spring we will suppose it to be clean. Then dig it up deeply, or, which is better, trench it, keeping, however, the top spit of the soil at the top. Lay it in ridges, in April or May, about two feet apart, and made high and sharp. When the weeds appear about three inches high, turn the ridges into the furrows (never moving the ground but in dry weather), and bury all the weeds. Do this as often as the weeds get three inches high, and by the fall you will have really clean ground and not poor ground.

"There is the ground then ready. About the 26th of August, but not earlier, prepare a rod of your ground, and put some manure in it (for some you must have), and sow one half of it with Early York Cabbage-seed, and the other half with Sugar-loaf Cabbage-seed, both of the *true* sort, in little drills, at eight inches apart, and the seeds thin in the drill. If the plants come up at two inches apart (and they should be thinned if thicker), you will have a plenty. As soon as fairly out of the ground, hoe the ground nicely, and pretty deeply, and again in a few days. When the plants have six leaves, which will be very soon, dig up, make fine, and manure another rod or two, and prick out the plants, four thousand of each, in rows at eight inches apart and three inches in the row. Hoe the ground between them often, and they will grow fast and be straight and strong. I suppose that these beds for plants take four rods of your ground. Early in November, or, as the weather may serve, a little earlier or later, lay some manure (of which I shall say more hereafter) between the ridges, in the other thirty-six rods, and turn the ridges over on this manure, and then transplant your plants on the ridges, at fifteen inches apart. Here they will stand the winter; and you must see that the slugs do not eat them. If your plants fail, you have plenty in the bed where you prick them out; for your thirty-six rods will not require more than four thousand plants. If the winter be very hard, and bad for plants, you cannot cover thirty-six rods,

but you may the bed where the rest of your plants are. A little litter, or straw, or dead grass, or fern, laid along between the rows and the plants, not to cover the leaves, will preserve them completely. When people complain of all their plants being "cut off," they have, in fact, nothing to complain of but their own extreme carelessness. If I had a gardener who complained of *all* his plants being cut off, I should cut him off pretty quickly. If those in the thirty-six rods fail, or fail in part, fill up their places, later in the winter, by plants from the bed.

"If you find the ground dry at top during the winter, hoe it, and particularly near the plants, and root out all slugs and insects. And when March comes, and the ground is dry, hoe deep and well, and earth the plants up close to the lower leaves. As soon as the plants begin to grow, dig the ground with a spade clean and well, and let the spade go as near to the plants as you can without actually displacing the plants. Give them another digging in a month; and, if weeds come in the meanwhile, hoe, and let not one live a week. 'Oh! what a deal of work!' Well! but it is for *yourself*, and, besides, it is not all to be done in a day; and we shall by-and-by see what it is altogether.

"By the first of June; I speak of the South of England, and there is also some difference in seasons and soils; but, generally speaking, by the first of June, you will have turned-in Cabbages, and soon you will have the Early Yorks solid. And by the first of June you may get your cow, one that is about to calve, or that has just calved, and at this time such a cow as you will want will not, thank God, cost above five pounds.

"I shall speak of the place to keep her in, and of the manure and litter by-and-by. At present, I confine myself to her mere food. The thirty-six rods, if the cabbages all stood till they got solid, would give her food for two hundred days, at eighty pounds weight per day, which is more than she would eat. But you must use some, at first, that are not solid; and then, some of them will split before you can use them. But you will have pigs to help off with them, and to gnaw the heads of the stumps. Some of the Sugar-loaves may have been planted out in the spring; and thus these thirty-six rods will get you along to some time in September.

"Now mind, in March, and again in April, sow more Early Yorks, and get them to be fine stout plants, as you did those in the fall. Dig up the ground and manure it, and, as fast as you cut Cabbages, plant Cabbages; and in the same manner and with the same cultivation as before. Your last planting will be about the middle of August, with stout plants, and these will serve you into the month of November.

"Now we have to provide from December to May inclusive; and that, too, out of this same piece of ground. In November there must be, arrived at perfection, three thousand Turnip plants. These, without the greens, must weigh, on an average, five pounds, and this, at eighty pounds a day, will keep the cow one hundred and eighty-seven days; and there are but one hundred and eighty-two days in these six months. The greens will have helped out the latest Cabbages to carry you through November, and perhaps into December. But for these six months you must depend on nothing but the Swedish Turnips.

"And now how are these to be had upon the same ground that bears the Cabbages? That we are now going to see. When you plant out your

Cabbages at the outset, put first a row of Early Yorks, then a row of Sugar-loaves, and so on throughout the piece. Of course, as you are to use the Early Yorks first, you will cut every other row; and the Early Yorks that you are to plant in summer will go into the intervals. By-and-by the Sugar-loaves are cut away, and in their place will come Swedish Turnips, you digging and manuring the ground as in the case of the Cabbages; and at last you will find about sixteen rods where you will have found it too late, and unnecessary besides, to plant any second crop of Cabbages. Here the Swedish Turnips will stand in rows at two feet apart (and always a foot apart in the row), and thus you will have three thousand Turnips; and if these do not weigh five pounds each on an average, the fault must be in the seed or in the management.

"The Swedish Turnips are raised in this manner. You will bear in mind the four rods of ground in which you have sowed and pricked out your Cabbage plants. The plants that will be left there will, in April, serve you for greens, if you ever eat any, though bread and bacon are very good without greens, and rather better than with. At any rate, the pig, which has strong powers of digestion, will consume this herbage. In a part of these four rods you will, in March and April, as before directed, have sown and raised your Early Yorks for the summer planting. Now, in the last week of May, prepare a quarter of a rod of this ground, and sow it, precisely as directed for the Cabbage-seed, with Swedish Turnip-seed, and sow a quarter of a rod every three days, till you have sowed two rods. If the fly appear, cover the rows over in the day-time with cabbage leaves, and take the leaves off at night: hoe well between the plants; and when they are safe from the fly, thin them to four inches apart in the row. The two rods will give you nearly five thousand plants, which is two thousand more than you will want. From this bed you draw your plants to transplant in the ground where the Cabbages have stood, as before directed. You should transplant none much before the middle of July, and not much later than the middle of August. In the two rods, whence you take your Turnip plants, you may leave plants to come to perfection, at two feet distances each way; and this will give you, over and above, eight hundred and forty pounds weight of turnips. For the other two rods will be ground enough for you to sow your cabbage plants in at the end of August, as directed for last year.

"I should now proceed to speak of the manner of harvesting, preserving, and using the crops; of the manner of feeding the cow; of the shed for her; of the managing of the manure, and several other less important things; but these, for want of room here, must be reserved for the beginning of my next number. After, therefore, observing that the Turnip plants must be transplanted in the same way that Cabbage plants are, and that both ought to be transplanted in dry weather and in ground just fresh digged, I shall close this number with the notice of two points, which I am most anxious to impress upon the mind of every reader.

"The first is, whether these crops give an ill taste to milk and butter. It is very certain, that the taste and smell of certain sorts of cattle-food will do this; for, in some parts of America, where the wild Garlic, of which the cows are very fond, and which, like other bulbous-rooted plants, spring before the grass, not only the milk and butter have a strong taste of

Garlick, but even the veal, when the calves suck milk from such sources. None can be more common expressions, than, in Philadelphia market, are those of 'Garlicky Butter,' and 'Garlicky Veal.' I have distinctly tasted the 'Whiskey' in milk of cows fed on distillers' wash. It is also certain, that, if the cow eat putrid leaves of Cabbages and Turnips, the butter will be offensive. And the white Turnip, which is at best but a poor thing and often half putrid, makes miserable butter. The large cattle Cabbage, which, when loaved hard, has a strong and even an offensive smell, will give a bad taste and smell to milk and butter, whether there be putrid leaves or not. If you boil one of these rank cabbages, the water is extremely offensive to the smell. But I state upon positive and recent experience, that Early York and Sugar-loaf Cabbages will yield as sweet milk and butter as any food that can be given to a cow. During this last summer, I have, with the exception about to be noticed, kept, from the 1st of May to the 22nd of October, five cows upon the grass of two acres and a quarter of ground, the grass being generally cut up for them and given to them in the stall. I had in the spring five thousand cabbage plants, intended for my pigs, eleven in number. But the pigs could not eat half their allowance, though they were not very small when they began upon it. We were compelled to resort to the aid of the cows; and, in order to see the effect on the milk and butter, we did not mix the food; but gave the cows two distinct spells at the cabbages, each spell about ten days in duration. The cabbages were cut off the stump with little or no care about dead leaves. And sweeter, finer butter, butter of a finer colour, than these cabbages made, never was made in this world. I never had better from cows feeding in the sweetest pasture. Now, as to Swedish turnips, they do give a little taste, especially if boiling of the milk pans be neglected, and and if the greatest care be not taken about all the dairy tackle. Yet we have, for months together, had the butter so fine from Swedish turnips, that nobody could well distinguish it from grass-butter. But to secure this, there must be no sluttishness. Churns, pans, pail, shelves, wall, floor, and all about the dairy, must be clean; and, above all things, the pans must be boiled. However, after all, it is not here a delicacy of smell so refined that faints at anything that meets it except the stink of perfumes. If the butter do taste a little of the Swedish turnip, it will do very well where there is plenty of that sweet sauce which early rising and bodily labour are ever sure to bring.

"The other point (about which I am still more anxious) is the seed; for if the seed be not sound, and especially if it be not true to its kind, all your labour is in vain. It is best, if you can do it, to get your seed from some friend, or some one that you know and can trust. If you save seed, observe all the precautions mentioned in my book on *Gardening*. This very year I have some Swedish turnips, so called, about seven thousand in number, and should, if my seed had been true, have had about twenty tons weight, instead of which I have about three! Indeed, they are not Swedish turnips, but a sort of mixture between that plant and Rape. I am sure the seedsman did not wilfully deceive me. He was deceived himself. The truth is, that seedsmen are compelled to buy their seeds of this plant. Farmers save it; and they but too often pay very little attention to the manner of doing it. The best way is to get a dozen of fine turnip plants,

perfect in all respects, and plant them in a situation where the smell of the blossoms of nothing of the Cabbage, or Rape, or Turnip, or even Charlock kind, can reach them. The seed will keep perfectly good for four years.

"I have now, in the conclusion of this article, to speak of the manner of harvesting and preserving the Swedes; of the place to keep the cow in; of the manure for the land; and of the quantity of labour that the cultivation of the land and the harvesting of the crops will require.

"Harvesting and preserving the Swedes. When they are ready to take up, the tops must be cut off, if not cut off before, and also the roots; but neither tops nor roots should be cut off very close. You will have room for ten bushels of the bulbs in the house, or shed. Put the rest into ten-bushel heaps. Make the heap upon the ground in a round form, and let it rise up to a point. Lay over it a little litter, straw, or dead grass, about three inches thick. Then cut a thin round green turf, about eighteen inches over, and put it upon the crown of the heap to prevent the earth from being washed off. Thus these heaps will remain till wanted for use. When given to the cow, it will be best to wash the Swedes and cut each into two or three pieces with a spade or some other tool. You can take in ten bushels at a time. If you find them sprouting in the spring, open the remaining heaps, and expose them to the sun and wind; and cover them again slightly with straw or litter of some sort.

"As to the place to keep the cow in, much will depend upon situation and circumstances. I am always supposing that the cottage is a real *cottage*, and not a house in a town or village street; though, wherever there is the quarter of an acre of ground, the cow may be kept. Let me, however, suppose that which will generally happen; namely, that the cottage stands by the side of a road, or lane, and amongst fields and woods, if not on the side of a common. To pretend to tell a country labourer how to build a shed for a cow, how to stick it up against the end of his house, or to make it an independent erection; or to dwell on the materials, where poles, reeds, whittles, rushes, furze, heath, and cooper's chips, are all to be gotten by him for nothing or next to nothing, would be useless: because a man who, thus situated, can be at any loss for a shed for his cow, is not only unfit to keep a cow, but unfit to keep a cat. The warmer the shed is, the better it is. The floor should slope, but not too much. There are stones, of some sort or other, everywhere, and about six wheel-barrow fulls will pave the shed, a thing to be by no means neglected. A broad trough, or box, fixed up at the head of the cow, is the thing to give her food in; and she should be fed three times a day at least; always at day-light and at sun-set. It is not absolutely necessary that a cow ever quit her shed, except just at calving time, or when taken to the bull. In the former case the time is, nine times out of ten, known to within forty-eight hours. Any enclosed field or place will do for her during a day or two; and for such purpose, if there be not room at home, no man will refuse place for her in a fallow field. It will, however, be good, where there is no common to turn her out upon, to have her led by a string, two or three times a week, which may be done by a child only five years old to graze, or pick, along the sides of roads and lanes. Where there is a common, she will, of course, be turned out in the daytime, except in very wet or severe weather; and in a case like this, a smaller quantity of ground will suffice for the keep-

ing of her. According to the present practice, a miserable 'tallet' of bad hay, is, in such cases, the winter provision for the cow. It can scarcely be called food; and the consequence is, the cow is both dry and lousy nearly half the year; instead of being dry only about fifteen days before calving, and being sleek and lusty at the end of the winter, to which a warm lodging greatly contributes. For, observe, if you keep a cow, any time between September and June, out in a field, or yard, to endure the chances of the weather, she will not, though she have food precisely the same in quantity and quality, yield above two-thirds as much as if she were lodged in house; and in wet weather she will not yield half so much. It is not so much the cold as the wet that is injurious to all our stock in England.

"The Manure. At the beginning this must be provided by collections made on the road; by the results of the residence in a cottage. Let any man clean out any place about his dwelling; rake and scrape and sweep all into a heap; and he will find that he has a great deal. Earth of almost any sort that has long lain on the surface, and has been trodden on, is a species of manure. Every act that tends to neatness round a dwelling, tends to the creating of a mass of manure. And I have very seldom seen a cottage, with a plot of ground of a quarter of an acre belonging to it, round about which I could not have collected a very large heap of manure. Every thing of animal or vegetable substance that comes into a house, must go out of it again, in one shape or another. The very emptying of vessels of various kinds, on a heap of common earth, makes it a heap of the best manure. Thus goes on the work of reproduction; and thus is verified the words of Scripture, 'Flesh is grass,' and there is 'Nothing new under the sun.' Thus far as to the outset. When you have got the cow, there is no more care about manure; for, and especially if you have a pig also, you must have enough annually for an acre of ground. And let it be observed, that, after a time it will be unnecessary, and would be injurious, to manure for every crop; for that would produce more stalk and green than substantial part; as it is well known, that wheat plants, standing in ground too full of manure, will yield very thick and long straws, but grains of little or no substance. You ought to depend more on the spade and the hoe than on the dung-heap. Nevertheless, the greatest care should be taken to preserve the manure; because you will want straw unless you be by the side of a common which gives you rushes, grassy furze, or fern; and to get straw you must give a part of your dung from the cow-stall and pig-stye. The best way to preserve manure, is to have a pit of sufficient dimensions close behind the cow-shed and pig-stye, for the run from these to go into, and from which all runs of rain water should be kept. Into this pit would go the emptying of the shed and of the stye, and the produce of all sweepings and cleanings round the house; and thus a large mass of manure would soon grow together; much too large a quantity for a quarter of an acre of ground. One good load of wheat or rye straw is all that you would want for the winter, and half of one for the summer; and you would have more than enough dung to exchange against this straw.

"Now, as to the quantity of labour that the cultivation of the land will demand in a year. We will suppose the whole to have five complete diggings, and say nothing about the little matters of sowing and planting, and hoeing and harvesting, all which are a mere trifle. We are supposing the

owner to be an able labouring man ; and such a man will dig twelve rods of ground in a day. Here are two hundred rods to be digged, and here are little less than seventeen days of work at twelve hours in the day ; or two hundred hours' work, to be done in the course of the long days of spring, and summer, while it is light before six in the morning, and long after six at night. What is it then ? Is it not better than time spent in the ale-house, or in creeping about after a miserable hare ! Frequently, and most frequently, there will be a boy, if not two, big enough to help. And (I only give this as a hint) I saw, on the 7th of November last (1822), a very pretty woman, in the village of Hannington, in Wiltshire, digging a piece of ground and planting it with Early Cabbages, which she did as handily and as neatly as any gardener that ever I saw. The ground was wet, and therefore, to avoid treading the digged ground in that state, she had her line extended, and put in the rows as she advanced in her digging, standing in the trench while she performed the act of planting, which she did with great nimbleness and precision. Nothing could be more skilfully or beautifully done. Her clothes were neat, clean, and tight about her. She had turned her handkerchief down from her neck, which, with the glow that the work had brought into her cheeks, formed an object which I do not say would have made me actually stop my chaise had it not been for the occupation in which she was engaged ; but, all taken together, the temptation was too strong to be resisted. But there is the Sunday ; and I know of no law, human or divine, that forbids a labouring man to dig or plant his garden on Sunday, if the good of his family demand it ; and if he cannot, without injury to that family, find other time to do it in. Shepherds, carters, pigfeeders, drovers, coachmen, cooks, footmen, printers, and numerous others, work on the Sundays. Theirs are deemed by the law works of necessity. Harvesting and hay making are allowed to be carried on on the Sunday, in certain cases ; when they are always carried on by provident farmers. And I should be glad to know the case which is more a case of necessity than that now under our view. In fact, the labouring people do work on the Sunday morning in particular all over the country, at something or other, or they are engaged in pursuits a good deal less religious than that of digging and planting. So that, as to the two hundred hours, they are easily found, without the loss of any of the time required for constant daily labour.

" And what a produce is that of a cow ! I suppose only an average of five quarts of milk a day. If made into butter, it will be equal every week to two days of the man's wages, besides the value of the skim milk ; and this can hardly be of less value than another day's wages. What a thing, then, is this cow, if she earn half as much as the man ! I am greatly under-rating her produce : but I wish to put all the advantages at the lowest. To be sure, there is work for the wife, or daughter, to make milk and butter. But the former is done at the two ends of the day, and the latter only about once in the week. And, whatever these may subtract from the labours of the field, which all country women ought to be engaged in whenever they conveniently can ; whatever the cares created by the cow may subtract from these, is amply compensated for by the education that these cares will give to the children. They will all learn to milk, and the girls to make butter. And which is a thing of the very first importance, they

will all learn, from their infancy, to set a just value upon dumb animals, and will grow up in the habit of treating them with gentleness and feeding them with care. To those who have not been brought up in the midst of rural affairs, it is hardly possible to give an adequate idea of the importance of this part of education. I should be very loath to intrust the care of my horses, cattle, sheep, or pigs, to any one whose father never had cow or pig of his own. It is a general complaint, that servants, and especially farm-servants, are not so good as they used to be. How should they? They were formerly the sons and daughters of small farmers; they are now the progeny of miserable propertyless labourers. They have never seen an animal in which they had any interest. They are careless by habit. This monstrous evil has arisen from causes which I have a thousand times described; and which causes must now be speedily removed, or they will produce a dissolution of society, and give us a beginning afresh.

"The circumstances vary so much, that it is impossible to lay down precise rules suited to all cases. The cottage may be on the side of a forest or common; it may be on the side of a lane or of a great road, distant from town or village; it may be on the skirts of one of these latter; and then, again, the family may be few or great in number, the children small or big, according to all which circumstances, the extent and application of the cow-food, and also the application of the produce, will naturally be regulated. Under some circumstances, half the above crop will be enough, especially where good commons are at hand. Sometimes it may be the best way to sell the calf as soon as calved; at others, to fat it; and, at others, if you cannot sell it, which sometimes happens, to knock it on the head at soon as calved; for, where there is a family of small children, the price of a calf of two months old cannot be equal to the half of the value of the two months' milk. It is pure weakness to call it 'a pity.' It is a much greater pity to see hungry children crying for the milk that a calf is sucking to no useful purpose; and as to the cow and the calf, the one must lose her young, and the other its life, after all; and the respite only makes an addition to the sufferings of both.

As to the pretended unwholesomeness of milk, in certain cases; as to its not being adapted to some constitutions, I do not believe one word of the matter. When we talk of the fruits, indeed, which were formerly the chief food of a great part of mankind, we should recollect that those fruits grew in countries that had a sun to ripen the fruits, and to put nutritious matter into them. But as to milk, England yields to no country upon the face of the earth. Neat cattle will touch nothing that is not wholesome in its nature; nothing that is not wholly innocuous. Out of a pail that has ever had grease in it, they will not drink a drop, though they be raging with thirst. Their very breath is fragrance. And how, then, is it possible that unwholesomeness should distil from the udder of a cow? The milk varies, indeed, in its quality of taste according to the variations in the nature of the food; but no food will a cow touch that is in any way hostile to health. Feed young puppies upon milk from the cow, and they will never die with that ravaging disease called the distemper. In short, to suppose that milk contains anything essentially unwholesome is monstrous. When indeed the appetite becomes vitiated; when the organs have been long

accustomed to food of a more stimulating nature; when it has been resolved to eat ragouts at dinner, and drink wine, and swallow a devil, and a glass of strong grog at night; then milk for breakfast may be heavy and disgusting, and the feeder may stand in need of tea or laudanum, which differ only as to degrees of strength. But, and I speak from the most ample experience, milk is not heavy, and much less is it unwholesome, when he who uses it rises early, never swallows strong drink, and never stuffs himself with flesh of any kind. Many and many a day I scarcely taste of meat, and then chiefly at breakfast, and that, too, at an early hour. Milk is the natural food of young people; if it be too rich, skim it again and again till it be not too rich. This is an evil easily cured. If you have now to begin with a family of children, they may not like it at first. But persevere; and the parent who does not do this, having the means in his hands, shamefully neglects his duty. The son who prefers a 'devil' and a glass of grog to a hunch of bread and a bowl of cold milk, I regard as a pest; and for this pest the father has to thank himself.

"Before I dismiss this article, let me offer an observation or two to those persons who live in the vicinity of towns, or in towns, and who, though they have large gardens, have 'no land to keep a cow,' a circumstance which they 'exceedingly regret.' I have, I dare say, witnessed this case at least a thousand times. Now, how much garden ground does it require to supply even a large family with garden vegetables. The market gardeners round the metropolis of this wen-headed country; round this Wen of all wens; round this prodigious and monstrous collection of human beings, these market gardeners have about three hundred thousand families to supply with vegetables, and these they supply well too, and with summer fruits into the bargain. Now, if it demanded ten rods to a family, the whole would be demanded, all but a fraction, nineteen thousand acres of garden ground. We have only to cast our eyes over what there is, to know that there is not a fourth of that quantity. A square mile contains, leaving out parts of a hundred, seven hundred acres of land; and nineteen thousand acres occupy more than twenty-two square miles. Are there twenty-two square miles covered with the London market gardens? The very question is absurd. The whole of the market gardens from Brompton to Hammersmith, extending to Battersea Rise on the one side, and to Bayswater on the other side, and leaving out roads, lanes, nurseries, pastures, corn-fields, and pleasure-grounds, do not, in my opinion, cover one square mile. To the north and south of London there is very little in the way of market garden; and, if on both sides of the Thames, to the eastward of London, there be three square miles actually covered with market gardens, that is the full extent. How, then, could London be supplied, if it required ten rods to each family? To be sure, potatoes, carrots and turnips, and especially the first of these, are brought, for the use of London, from a great distance, in many cases. But so they are for the use of the persons I am speaking of; for a gentleman thinks no more of raising a large quantity of these things in his garden, than he thinks of raising wheat there. How is it, then, that it requires half an acre, or eighty rods, in a private garden, to supply a family, while these market gardeners supply all these families (and so ample too) from ten, or more likely, five, rods of ground to a family? I have shown, in the last Number, that nearly fifteen tons

of vegetables can be raised in a year on forty rods of ground; that is to say, ten loads for a waggon and four good horses. And is not a fourth, or even an eighth, part of this weight, sufficient to go down the throats of a family in a year? Nay, allow that only a ton goes to a family in a year, it is more than six pounds weight a day; and what sort of a family must that be that really swallows six pounds weight a day? and this a market gardener will raise for them upon less than three rods of ground; for he will raise, in the course of the year, even more than fifteen tons upon forty of ground. What is it, then, that they do with the eighty rods of ground in a private garden? Why, in the first place, they have one crop where they ought to have three. Then they do not half till the ground. Then they grow things that are not wanted. Plant cabbages and other things, let them stand till they be good for nothing, and then wheel them to the rubbish heap. Raise as many radishes, lettuces, and as much endive, and as many kidney-beans, as would serve for ten families; and finally throw nine-tenths of them away. I once saw not less than three rods of ground, in a garden of this sort, with lettuces all bearing seed. Seed enough for half a county. They cut a cabbage here, and a cabbage there, and so let the whole of the piece of ground remain undug, till the last cabbage be cut. But after all, the produce, even in this way, is so great, that it could never be got rid of, if the main part were not thrown away. The rubbish heap always receives four-fifths even of the eatable part of the produce.

"It is not thus that the market gardeners proceed. Their rubbish heap consists of little besides mere cabbage stumps. No sooner is one crop on the ground than they settle in their minds what is to follow it. They clear as they go in taking off a crop, and, as they clear they dig and plant. The ground is never without seed in it, or plants on it. And thus, in the course of the year, they raise a prodigious bulk of vegetables from eighty rods of ground. Such vigilance and industry are not to be expected in a servant for it is foolish to expect that a man will exert himself for another as much as he will for himself. But if I was situated as one of the persons is that I have spoken of in a preceding paragraph; that is to say, if I had a garden of eighty rods, or even of sixty rods of ground, I would, out of that garden, draw a sufficiency of vegetables for my family, and would make it yield enough for a cow besides. I should go in a short way to work with my gardener. I should put *Cottage Economy* into his hands, and tell him that if he could furnish me with vegetables, and my cow with food, he be my man; and that if he could not, I must get one that could and would I am not for making a man toil like a slave; but what would become of the world if a well-fed healthy man could exhaust himself in tilling and cropping and clearing half an acre of ground? I have known many men dig thirty rods of garden ground in a day; I have, before I was fourteen, digged twenty rods in a day, for more than ten days successively; and I have heard, and believe the fact, of a man at Portsea, who digged forty rods in one single day, between day-light and dark. So that it is no slavish toil that I am here recommending." — *Cobbett's Cottage Economy*, paragraphs 115 to 138.

Many cart-loads of volumes of books have been published respecting the cultivation of Turnips and Cabbages; but the above extract has completely exhausted the subject. I must add, however, that after expe-

rience of Mr. Cobbett caused him to conclude that the Mangel Wurzel was more profitable to cultivate than the Swedish Turnips; but all that is required is to substitute the Mangel Wurzel instead of the Swedes, as the sowing, transplanting, reaping, &c., is precisely the same for both crops, so that there needs no alterations in the instructions than to read Mangel Wurzel instead of Swedish Turnip. The great advantage of the Mangel Wurzel is, that *the leaves may be eaten*, as well as the roots. Further remarks I will give in Mr. Cobbett's own words.

"The leaves of the Mangel Wurzel are of great value, especially in dry summers. You begin, about the third week in August, to take off, by a downward pull, the leaves of the plants; and they are excellent food for pigs and cows; only observe this, that, if given to cows, there must be, for each cow, six pounds of hay a day, which is not necessary in the case of the Swedish turnips. These leaves last till the crop is taken up, which ought to be in the first week of November. The taking off of the leaves does good to the plants: new leaves succeed higher up; and the plant becomes longer than it otherwise would be, and, of course, heavier. But, in taking off the leaves, you must not approach too near to the top.

"When you take the plants up in November, you must cut off the crowns and the remaining leaves; and they, again, are for cows and pigs. Then you put the roots into some place to keep them from the frost; and, if you have no place under cover, put them in pies, in the same manner as directed for the Swedish turnips. The roots will average in weight 10lbs. each. They may be given to cows whole, or to pigs either, and they are better than the Swedish turnip for both animals; and they do not give any bad or strong taste to the milk and butter. But, besides this use of the Mangel Wurzel, there is another, with regard to pigs at least, of very great importance. The juice of this plant has so much of sweetness in it, that, in France, they make sugar of it; and I have used this sugar, and found it equal in goodness to West India sugar. Many persons in England make beer of this juice, and I have drunk of this beer, and found it very good. In short, the juice is most excellent for the mixing of moist food for pigs. I am now (20th Nov., 1831) boiling it for this purpose. My copper holds seven strike-bushels; I put in three bushels of Mangel Wurzel cut into pieces two inches thick, and then fill the copper with water. I draw off as much of the liquor as I want to wet pollard, or meal, for little pigs, or fattening-pigs, and the rest, roots and all, I feed the yard-hogs with; and this I shall follow on till about the middle of May.

"If you give boiled, or steamed potatoes to pigs, there wants some liquor to mix with the potatoes; for the water in which potatoes have been boiled is hurtful to any animal that drinks it. But mix the potatoes with juice of Mangel Wurzel, and they make very good food for hogs of all ages. The Mangel Wurzel produces a larger crop than the Swedish turnip."—*Cobbett's Cottage Economy, paragraphs 255 to 257.*

I cannot conclude this article without recommending every working man who can obtain possession of a small plot of ground, to make a purchase of Mr. Cobbett's excellent book. Like all his writings it goes to the root of the matter. The language is the best of any writer, and yet it is so plain and perspicuous as to be understood by all. It is, in fact, a book exactly suited to the labourer.

The reader will of course see that it is not necessary that he should keep a cow in order to produce the above crops. The cow, or a few pigs, are certainly useful for the purpose of producing manure; but to a working man, who lives near a market, what an advantage it is to have all this quantity of green food to sell. If he be without a cow, he might appropriate some of his ground to other purposes, such as potatoes, fruit-trees, and the like. But the cow is certainly the most profitable, more especially in conjunction with a pig.

CAULIFLOWER.

This is the most delicate and most esteemed of all this tribe. The flower bud forms a firm, close head, of a white delicate colour, and being wrapped up in a clean linen cloth, and boiled, is served up at table as a very delicate dish, and as such is universally considered.

Varieties.—Of this there are several varieties, or sub-varieties, but the principal sorts cultivated are the Early, for the first early crops; the Large or Later, for principal early and main crops, and the Red Cauliflower; the stalk of the head of this is of a reddish or purple colour, and considered more hardy than the others, and more suitable for an early crop.

Propagation.—The cauliflower is raised from seed, which should be sown on a light but not over rich soil; and for a bed ten feet long, by four wide, half an ounce of seed will be required.

Times of Sowing for the different Crops.—Sow this seed at three different times in the year, viz: for the first or early and general summer crop, make a considerable sowing in the last week in August, and do not transplant them out until the middle or end of November, or just before hard frost is apprehended. The situation should be under a wall with a south aspect, and the ground not over rich; and if they take hold before frost comes, they will stand the winter without any other additional shelter than the wall. Plants thus treated, always make much the largest and best cauliflowers during the summer, though they certainly do not come to perfection quite so soon. Cauliflower plants are frequently killed with kindness or too much attention. When thus treated they are very tenacious of life. To have them in a little earlier two methods may be used; one is to plant some plants in small pots, and place them under a frame, or in some convenient part of a vinery or other glazed house, until the middle of March, when they may be taken out of the pots, and planted with the soil attached, into the open ground, and covered for a short time at nights with hand or bell glasses. The distance at which the plants should stand, is two and a half feet every way. The second method is to select the seed when ripe, taking that produced by the flower stem and sowing it by itself, and the plants from this seed will come into flower a fortnight sooner than those produced from seed of the laterals. This, however absurd it may appear, is absolutely the case, which has been proved by repeated trials, and this may be considered the case with the whole of the Brassica tribe; even with the turnip it is the case. This crop will commence flowering in the end of May, and be in full perfection in June.

For a late crop to succeed the early or main summer crops, sow some of

the large or later sort in the latter end of February or beginning of March, under a frame or hand glasses, on a border of as light rich earth as possible, and when the young plants are big enough to plant out, that is, when they have got leaves an inch broad, prick them out into other beds of the same description, and at the distance of three inches every way; here they must stand until the end of April or beginning of May, at which time they are strong enough to remove into their final situation in the open garden. If the weather should prove unfavourable at time of sowing, as may be expected at this early season, a moderate hot bed should be prepared, and after setting on the frames, the bed should be covered four or five inches thick with as light and rich a soil as possible, and the seed sown pretty thick, and when the plants are come up large enough to transplant, prick them out under another frame, but without heat, to gain strength for the open air. The cauliflowers raised from this sowing, will be in perfection in the end of July, and beginning of August.

For a third and last crop, sow some of the same sort of seed as for the last crop, in the last week in May, also on a bed of light rich earth, and in a warm situation, and when they are big enough, prick them out as before. This is commonly called the Michaelmas crop, and will begin to produce their heads in the latter end of October, and will hold out or continue till Christmas, if open mild weather follows.

Planting.—Prepare the ground on which the plants are to grow upon by manuring and digging several times over, in order that the manure and soil may become incorporated, as the richer the ground is, the finer and larger are the cauliflowers, consequently the ground cannot be too rich. Commence planting by beginning at one end of the ground, and dig over as much as will serve for one row, then stretch a line across, and draw a drill with a hoe about four inches deep, in which insert the plants, at two and a half feet distance, and give them a good watering to settle the soil to the roots, and then proceed for another row in the same way, until the whole be complete, after which they must have a liberal supply of water, until they have got good hold of the ground.

The ground for early crops should be open and well exposed to the sun; but all crops planted after the first week in May, should be planted in a shady border.

Subsequent Culture.—After each of the respective crops are finally planted out, the ground about the plants must be kept hoed in order to cut down the weeds, and at the same time to draw some soil to the stems of the plants. When the soil has been drawn up to the plants some little time, fork the ground between the rows lightly over, which will be of considerable advantage to their growth. All crops must be liberally supplied with water in dry weather; those out of flower twice a week, and those in, every other day, which will contribute to their producing very large heads. As the flower heads appear, the larger leaves should be broken down over them, to defend them from the sun and rain, as well as to preserve them in white and close perfection.

In respect to the *hand-glass division*; some gardeners, towards the end of October, transplant a quantity finally into rich ground, which has been well dunged, under hand-glasses in rows three feet and a half asunder, and three feet apart in the rows, placing two or three plants centrally under

each glass three or four inches asunder, with the design of retaining only one or two the best in the spring. A better method is, to plant them in small pots of not very rich soil, and plunge the pots into the ground, two or three under the centre of each glass, and give a moderate watering. Allow the leaves of the plants to get dry, and then put on the glasses close, until they have taken root, which may be seen in a week or ten days by their showing a renewed growth, after which, tilt up the glasses to admit free air on the warmest side, raising them two or three inches according as the weather is. Continue the glasses all the winter, but tilt up the south side every day in mild weather, in order to strengthen and harden the plants, and in very fine weather take the glasses quite off a few hours in the middle of the day, especially if the plants appear to draw or get too forward in growth, but put them on early in the afternoon, and always keep them on at night in frosty weather, until the end of March, or beginning of April, admitting air more freely as the fine weather advances, and when the weather is very mild and dripping, frequently take the glasses quite off in order to give a shower of rain.

In the beginning of April take up all the pots, and turning the plants carefully out, with the balls entire, place them in the holes where the pots came out, and close the earth about them, placing one plant under each glass, give them a little water, and when the leaves are a little dry, shut the glasses close down over them, until they begin to grow, when they must have fresh air for a week, the glasses may then be taken quite away, and the earth drawn well about the stems, which will greatly encourage them. Water must not be withheld in dry weather, but liberally supplied.

Preserving Cauliflowers through the Winter.—There are various methods for preserving cauliflowers through the winter, but the one most approved, is to take the plants up a day or two before they are full grown, and when they are perfectly dry, take off all the large under leaves, place them in rows in a dry shed, and cover the roots of each row with dry earth, laying them sideways with the crown or head of the second row close to the under leaves of the first, and so on till the whole is complete; thus they may be kept in a good state from the beginning of November to the end of January. It may be necessary to cover the whole with a mat in very rigorous frosts, but generally so, and care must also be taken to clear away all decayed leaves as they appear.

To save Seed.—Mark out some of the prime plants of the early and main crop when the heads are in full perfection, as those of the late sowing will not ripen seeds effectually. The seed will ripen in September, when it must be tended, otherwise the birds will destroy a great part of it, and the branches must be gathered as the seed ripens, and laid elevated from the ground, in an airy situation, to dry and harden to full perfection, after which it must be rubbed out and cleaned from the husky parts, and spread on a cloth to dry equally, when it may be wrapped up and put by for use the following spring and summer.

BROCOLI.

This plant is also a sub-variety of the Brassica Oleracea tribe. There are of this a considerable variety, all of which have no doubt arisen from

the White and Purple Brocoli, (mentioned by Miller,) either by accident, or premeditated impregnation; and from this circumstance new sorts are continually coming into notice. The common characteristics of Brocoli is, its harder constitution to stand the winter, and the colour of the flower and leaves. This plant is considered more palatable in proportion as they approach to a pale or white colour; consequently the white kinds are preferable to the purple ones, only are not so hardy to stand the winter. We shall here enumerate such as are most commonly grown in British gardens, almost every one of which requires different treatment in its culture.

Purple Cape Brocoli.—This has a close compact head, of a beautiful purple colour; the leaves are nearly entire, erect, concave, lobed at bottom, and much waved regularly surrounding the head; the midrib and veins are stained with purple, which declares it to be the true sort: in growing, the head is exposed to view, not very large, and as it enlarges, the projecting part of the flower shows a greenish white mixed with the purple colour; when boiled, the whole flower becomes green.

Propagation and Culture.—This must be sown according to the season it is required to come to table; if in August and September, the seed must be sown in the middle of May. If they are to come to table early in spring, the seed must be sown in July and August. When desired at table in the months of June and July, the seed must be sown in September, and the plants preserved through the winter in frames, as Cauliflowers. By good management this sort may be had at table every day nine months out of the twelve. It is too tender to depend upon to stand the winter. It grows from a foot to a foot and a half high, and should be planted about two feet apart every way.

The seed must be sown very thin, in a bed of light earth; and when the plants have from eight to ten leaves, they must be finally planted out where they are to remain, in rows, two feet apart, and two feet between the plants in the row. It delights in a sandy loam, previously prepared by digging and manuring; the manure should be frequently turned over before applied, and every sort of grub picked out; otherwise the roots of the plants may suffer by them. The ground is to be kept constantly clean by hoeing, weeding, &c., and the loose soil drawn up close round the stems of the plants.

The second crop must be treated exactly as the first, only, that if any remain uncut that are in perfection when the frost approaches, they should be taken up with as much soil adhering to their roots as possible, and put in flower-pots, large enough to hold the roots, which must be fastened in the pot, and a little water given to them. In this state they must be placed in a shed, and occasionally covered with mats, if danger of frost be apprehended: they will thus keep good for several weeks.

The third crop must be sown in September, and the plants preserved through the winter in frames, as Cauliflowers.

Green Cape Brocoli differs very little from the preceding, except in the colour, and the heads as well as the whole plant being in general larger: the leaves are long and narrow, much resembling those of the Cauliflower, they are but little waved, consequently have a smooth appearance. The head, somewhat resembling the Cauliflower, is of a greenish-white colour, and is usually covered with the leaves. These two sorts have a strong

tendency to degenerate and run much into each other, yet they are quite distinct, and the greatest possible care should be taken in saving the seed, but the plants are true, and all others kept from running into seed near which is a circumstance frequently happening, and that through neglect in not pulling other crops of the different varieties up when over, before they run into seed. This remark may be applied to all other sorts.

Grange's early Cauliflower Brocoli.—The leaves are broader and shorter than those of the Green Cape, they are lobed at bottom, but not much waved; they have long footstalks; the veins and mid-rib are a whitish-green, and the head quite white.

Propagation and culture.—This sort should be sown at three different times from the beginning of May to the end of June, and afterwards treated as the others above mentioned. It will produce full heads from Michaelmas to Christmas.

Green close-headed Winter Brocoli.—This is a new and much esteemed sort, apparently a seedling from the Green Cape, as it succeeds it in coming to use. The plants are dwarf, leaves numerous, spreading, indented, much waved, and large, and the veins are white: the flower much resembles the Green Cape in appearance, and does not rise to any great height.

Propagation and culture.—This is esteemed the more on account of its continuing to bear throughout the winter. The time for sowing the seed is in May; and when the plants are grown sufficiently large, let them be planted from one and a half to two feet distant, both between the rows and plants; and if the winter proves favourable, they will be in use from the beginning of November to the end of February.

Early Purple Brocoli.—This is also a much esteemed kind, and if true, is of a deep purple colour, and close-headed at first, but it afterwards branches, and is apt to become green and too much branched, especially in light land. The plants grow strong, and from two to three feet high: the leaves are of a purplish green colour, much indented, spread out wide, but not long, though the stalks are so; and the head is quite open from the leaves.

Propagation and culture.—The seed should be sown in April, and it will produce heads in November, and continue, in mild seasons, throughout the winter. If sown in June, it will produce abundance of heads and sprouts in March and April. It should be planted three feet apart every way.

Early White Brocoli.—The heads of this sort are a clear white, and of close texture: the leaves erect, concave, light green, and nearly entire.

Propagation and culture.—The seeds of this sort should be sown in February, or beginning of March, on a slight hot-bed, and when the plants are about three inches high, they must be planted out into beds of light earth, three or four inches apart, and defended by a mat covering from frost and cold nights. In April, they may be planted out in rows two and a half feet apart, and two feet distant in rows, and well supplied with water in dry weather; and they will produce fine large heads from the beginning of November to Christmas, if the weather proves mild.

Dwarf Brown close-headed Brocoli.—From its appearance it is thought to be a seedling from the Sulphur-coloured Brocoli, yet it differs from it by being fit for use earlier, as well as the shape and colour of the head.

the leaves are much shorter and broader than the Sulphur-coloured, not much waved, dark green, with white veins; they grow upright, and do not cover the head at all. When the crowns first appear they are green, and soon change to large handsome brown heads.

Propagation and culture.—This should be sown in the middle of April, and it will come into perfection the March and April following. The plants should be set two feet apart every way.

Tall Large-headed Purple Brocoli.—This sort grows three feet high, and produces large purple heads.

Propagation and culture.—This should be sown towards the end of March, and it will be found useful in the March or April following. These plants should be planted three feet asunder every way.

Cream-coloured Brocoli.—This sort exceeds all others in size: it is of a cream colour, and has a very firm and compact head; it has large broad leaves with white veins, they spread widely, but the small centre leaves cover the flower.

Propagation and culture.—The seeds of this sort should be sown in the middle of April, and the plants will come to perfection in the February and March following. It grows low, yet the plants should be two feet and a half or three feet asunder.

Sulphur-coloured Brocoli.—This is a valuable sort, and very hardy; it produces a fine compact, conical, sulphur-coloured head, some of which is slightly tinged with purple. The leaves are much indented, and of a bluish-grey colour, and has long foot stalks.

Propagation and culture.—This should be sown in April, and it will be in perfection that time twelve months. Two feet apart will be sufficient distance for the plant to grow well.

Spring White, or Cauliflower Brocoli.—This sort grows strong and robust; has large flat narrow leaves, with thick veins. The leaves encompass the head so close as nearly to render it invisible when fit to cut, which is a circumstance much in its favour in frosty nights, common in spring.

Propagation and culture.—The seed should be sown in March, and if finally planted on good ground, will produce fine large white heads the following year, in March and April.

Late Dwarf Close-headed Purple Brocoli.—This is the latest Purple Brocoli. The plants seldom rise above a foot high; the flower at first shows small and green, but soon changes and enlarges, and forms a close conical purple head. The leaves are short, small, and of a dark green colour, with white veins deeply indented, and forming a regular radius round the flower, which gives the whole plant a beautiful appearance.

Propagation and culture.—The seed should be sown in April, and they will be fit for use in April and May, in the following year. The plants must stand from one foot and a half to two feet distant every way.

Latest Green, or Siberian Brocoli.—This is the latest and most hardy of all the Brocolis, as the severest winter will not destroy it; the leaves are narrow, long, and indented, with a tinge of purple colour in the stems.

Propagation and general culture of all the varieties mentioned.—All the sorts are propagated by seed, and for a bed four feet wide by twenty long, one ounce of seed will be required.

The seed bed should be rich mould, well dug, and the seed sown immediately after, and before the soil becomes dry or any rain falls, as the seed never goes in so well after the ground has been dug any time. The seed should be sown thin, and the beds covered with mats, in order to keep them regularly moist until the plants are come up, when the covering must be removed, and the plants watered occasionally, as the season proves dry or moist. Should the weather prove moist at the time the plants are ready to plant out, they should be planted into their final situation at first, rather than into beds to be again removed, as that frequently causes them to produce their heads prematurely, in which case they would be inferior both in size and quality. This plant is subject to a disease called the club, which is caused by an insect insinuating itself into the roots. This insect is frequently found in old-tilled land, and the best method in order to clear the ground, is to trench it two spades deep, turning the top or old surface to the bottom, and the bottom spit to the top, so that the ground gains a new surface, and in all probability, the insect will be buried with the old one.

The Brocoli delights in a loamy soil, and in such it is generally found to come more true in kind, and is hardier if planted without dung.

Dry soap-ashes dug into the ground in large quantities, is said to be a good preservative against the club, as well as a good manure.

It is evident the Brocoli grows larger and finer on the ground where they are first planted, than when they are taken up and replanted; notwithstanding all this, it is better to have less than trust too much, and get none at all; therefore take up some of the latter sort in the beginning of November, with as much soil to their roots as possible, and lay them in the ground sloping towards the north, with their heads a few inches above ground, and about eighteen inches distant. The crown of the plant, by being thus laid low, will soon be covered with snow and protected thereby from severe frosts; it also becomes tougher in fibre, and hardier, by the check received in its last removal.

In the operation of cutting Brocoli, five or six inches must be retained along with the head. After cutting, several of the sorts produce fine sprouts from the stems, which should be gathered when ready, and are when boiled, but little inferior to Asparagus.

To save Seed.—In order to save seed, some of the largest, best formed, and finest heads of each sort should be selected, and the under leaves taken off, and then planted with their heads close to the ground. The Sulphur Brocoli is found the most particular to procure good seed from.

COLEWORTS.

Are sometimes in particular request for several of the autumn, winter, and spring months; and to have a regular supply of these, three sowings should be made; the first in the middle of June, the second in the first week in July, and a third in the last. The process of sowing should be conducted upon the same principles as for the others, and when they are three or four inches high, they must be transplanted where they are finally to stand, into rows twelve inches asunder, and the same distance in the row. Water must be given immediately after planting, and be continu-

ed frequently, until they get hold of the ground; after which, they must be treated as the others, until gathered.

Gathering the crop—In taking the crop, as soon as the head is cut, the shoots should be immediately pulled up, and taken to the refuse heap, in order to clear the ground of a slovenly appearance, as well as an incumbrance. It must be understood, that it is the stumps of the Coleworts that are here directed to be taken away, and not of main spring crop, as those must always be left, only taking their injured leaves close off. After the whole crop is gathered, all decayed leaves, weeds, &c. must be cleared off, and the ground between the rows forked over, throwing the earth well up to the stems, and if a little manure were dug in at the same time, it would be of great advantage. By these means the stems will push out in autumn, and produce very fine sprouts, but little inferior to young Cabbages, in January, February, and March. It is sometimes thought necessary to preserve Cabbages all a winter; this may be done by taking up the plants and laying them down on their sides with their heads towards the north, and as low in the soil as possible; thus they will soon be covered by the snow, which will preserve them in severe frost. They may be taken up with their roots entire, and as much soil as will adhere thereto, and placed in a dry room or shed, where they will keep several weeks with but the least injury.

To save Seed.—The raising of seed of the different sorts is a difficult point, as it is well known to every person acquainted with gardening, that no plant is more liable to be spoiled by cross breeds than the Cabbage tribe. Not more than one sort should be saved the same year in the same garden, and as the seed will keep good several years, a sufficient quantity should be raised of each sort once in seven, eight, or ten years. Early in autumn, some of the handsomest Cabbages should be dug up and sunk in the ground to the head, and in the next spring, they will throw up a flower stem, which will produce abundance of seed. A few of the soundest and healthiest of the stalks from which the Cabbages have been cut, and that have got good sprouts, will do equally well. To have spring Cabbages earlier than usual of any particular kind, select the middle flower-stem from amongst the rest, and keep the seed by itself, which will produce Cabbages a fortnight sooner than seed from the lateral flower-stems, although sown at the same time or even later.

RED CABBAGE.

This differeth from the common Cabbage in nothing but colour, which is a purplish or brownish red.

The red Cabbage is used chiefly for pickling, and in my opinion the dwarf red sort makes one of the most beautiful pickles that can be presented at table. All the sorts are sometimes shredded down in winter salads, like red Beet-root.

There are three varieties of red Cabbage chiefly grown, viz. the Large Red, the Dwarf Red, and the Aberdeen Red.

The Propagation, Sowing, and Subsequent Culture, are, in all respects, exactly the same as for the white Cabbage, excepting that the

heads are not used in an open form like Coleworts, but are allowed to stand till they have formed close firm heads. The seed should be sown in August, for a crop to stand the winter, and come in at the end of the following summer and till autumn.

BRASSICA RAPUS.

Rape, or Coleseed.

Vast quantities of this plant is now cultivated for feeding sheep, and for the oil which is expressed from the seeds, called Rape oil. The residue left after the oil is expressed, called oil cake, is also much used for feeding cattle; and, by some gentlemen who keep game, as a manure, because, in this case, it answers as food for the birds, and as an excellent though expensive manure to the land; but to those who keep game expence is not much.

"Rape, or Coleseed, has been cultivated from time immemorial. It may be grown by sowing broad-cast, or in rows, like the common turnip, or transplanted like the Swedish turnip. The culture of Rape for seed has been much objected to by some, on account of the great degree of exhaustion of the land that it is supposed to produce. But where it is grown on a suitable soil and preparation, with proper attention in the after-culture, and the straw and offal, instead of being burnt, as is the common practice, converted to the purpose of feeding or littering cattle, it may in many instances be as proper and advantageous a crop as can be employed by the farmer. The soils best suited for the culture of Rape are the deep, rich, dry and kindly soils. Young says that on open fen and peat soils, and bogs, it thrives well, and especially on pared and burned land, which is the best preparation for it; but it may be grown with success on fenny, marshy, and other coarse waste lands, that have been brought long under grass, after being broken, and reduced into a proper state of preparation. As a first crop, on such description of land, it is often the best that can be employed. The author of the *New Farmer's Calendar* thinks that this plant is not perhaps worth attention on any but rich and deep soils; for instance, those luxuriant slips that are found by the sea-side, fens, or newly broken up grounds, where vast crops of it may be raised.' The land on which the Rape is to be sown needs nothing more than a deep ploughing, and sufficient harrowing to bring the surface to a fine mould, in February or March, immediately before sowing, or in July, or after the hay-crop if the sowing is deferred to that season. When sown on old tillage-land, the method of preparation is the same as that which is usually given for the common turnip. Wheat is considered the best crop to follow Rape: by its being taken off early there is sufficient time allowed for getting the land in order for sowing wheat. The time of sowing Rape is the same as that for the turnip, and the manner, either broad-cast or in rows. Where the object is the keep of sheep in autumn or winter, by eating it down, the broad-cast method, and thick sowing, is evidently the best, and is that generally resorted to in Lincolnshire and the fenny districts. The quantity of seed, when sown thick, may be a peck an acre; but when drilled, or sown thin, two or three pounds will suffice. Vacancies may always be filled up by transplanting. The season for transplanting is soon after harvest. One deep

ploughing is sufficient, and a sufficient degree of harrowing: the plants are then dibbled in rows a foot apart, and the plants six inches asunder. These will not be so strong as those sown in June or July, where they are to run to seed. The seed-beds where the plants are to be obtained for transplanting, should be sown in June or July. The after-culture is the same as that for the turnip, which consists in hoeing and thinning. In poor soils they may be left at six or eight inches apart, but in rich soil twelve or fifteen inches. When Rape is grown purposely for feeding sheep, no hoeing nor thinning is necessary. The seeds begin to ripen about the last week of June, and must then be protected from birds. In harvesting Rape great care is necessary not to lose the seed by shaking, or by exposing it to high winds or rain. It is reaped with the hook, and the principal point is to make good use of fine weather, for it must be threshed as fast as reaped, or at least without being stacked like other crops."—*Don's Gardener's Dictionary*, vol. 1, p. 245.

The great drawback upon the cultivation of all the crops of the Brassica tribes is the various sorts of "fly," which infests, and too frequently destroys the plants in their young state. Sir Humphrey Davy suggested that lime slaked with urine, and mixed with a treble quantity of soot, should be sprinkled with the seed at the time of sowing. This, he said, would protect the young plants from the fly. This plan was tried by Mr. Knight, and found to answer; but it cannot be used unless the seed be sown in drills. Another remedy has been practised by Mr. Mear, which is said to succeed; that is, to steep the seeds in sulphur water. One ounce of sulphur powdered, is put into a pint of water, and this considered sufficient for three pounds of seed. Others have tried quick lime. As soon as the plants make their appearance above the ground, the plan is to go over the ground and *sow* the quick lime over the young plants, and if the dust remains on the leaves till the secondary leaves appear, the plants are then safe. Radish seed is sometimes mixed with turnip seed, and as the fly prefers the former to the latter, they stick to the young radishes, until such times as the turnips are out of danger. When a crop is attacked by the fly, there is no other remedy but digging up and sowing again.

We have now completed this class; which, taken altogether, we may venture to assert, that whether considered as medicinal plants or as food, they are not to be surpassed by any other class in the twenty-four. Some of the plants in this class also show the great advantages which follow the investigation and study of the capabilities of the vegetable creation. Without such study and investigation, our apples would have been in no way superior to crabs; our best strawberry would have been nothing but the wild strawberry of the woods; and all the varieties of plums, apricots, &c. would never have been improved from the sloe. It is this study which has transformed a wild sea-side plant, apparently of no use, into Cabbages, Cauliflowers, Turnips, Brocoli, with all their endless varieties. Go on then, Brother Botanists, in your studies; there is encouragement for you, much yet remains to be done. There is, at any rate, the pleasure which always attends the study of this delightful science, and if there was nothing more, it will amply repay you for all your trouble.

