BOOKS FOR THE COUNTRY.

THE

KITCHEN GARDEN,

BY

E. S. DELAMER,

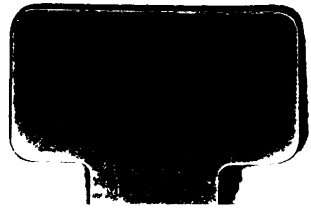
AUTHOR OF "FLAX AND HEMP," ETC.

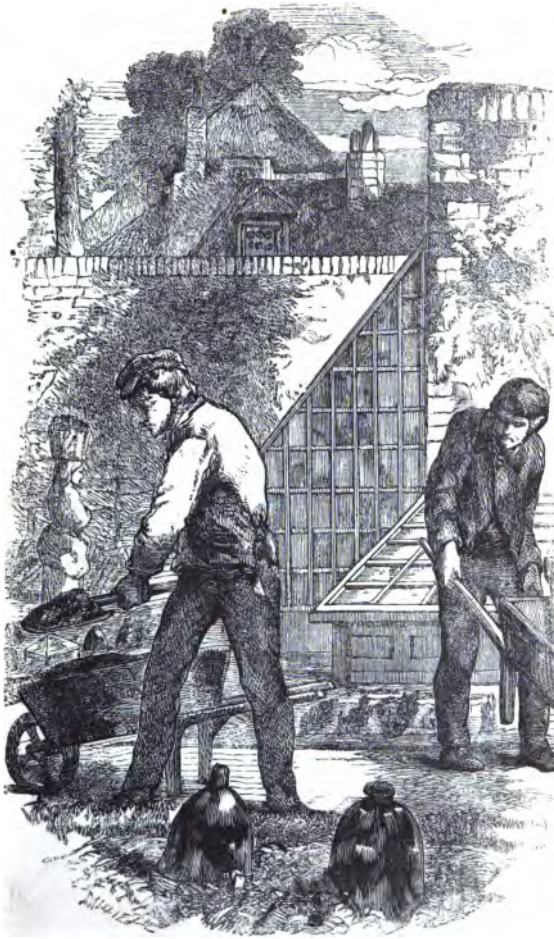
LONDON:

GEO. ROUTLEDGE & CO., FARRINGDON STREET.

NEW YORK:—18, BEEKMAN STREET.

PRICE ONE SHILLING.





THE KITCHEN GARDEN.

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KITCHEN GARDEN;

OR,

THE CULTURE IN THE OPEN GROUND

OF

Roots, Vegetables, Herbs, and Fruits.

BY

EUGENE SEBASTIAN DELAMER,

AUTHOR OF "PIGEONS AND RABBITS," "FLAX AND HEMP," ETC. ETC.

LONDON:

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1855.

PRELIMINARY.

ENGLISH literature, rich as it is in general, may specially boast its stores of wealth in the department undertaken by the present compendium, which merely professes to act as a truthful and serviceable guide to aid beginners on their horticultural journey. To continue it worthily, they must refer to, and study, the works of the Lindleys (father and son), the Hookers (father and son), Knight, Loudon, Paxton, Ingram, and others. The "Transactions of the London Horticultural Society" contain a mass of most valuable information; and as gardening is still a progressive art, a knowledge of its progress is best attained by reference to such periodicals as the "Gardeners' Chronicle," whose writers, both from their ability and the professional and official positions which they consequently occupy, are able to impart to the world each step of advancement as it is made from time to time by horticultural science.

The writer, therefore, of the present book, offers it to the public with all modesty and deference, conscious that he is speaking in the presence of the most accomplished masters and professors of the art. At the same time, he delivers it to their judgment with confidence, feeling assured that the novice in gardening, who will peruse it attentively and follow its directions, will learn much of which he was previously ignorant, and will be guided as nearly in the right path as it is possible to be by printed rules, unaided by the help of verbal instruction.

CONTENTS.

THE

KITCHEN GARDEN.

SITUATION, PLAN, AND MODE OF CROPPING.

It is not often that much freedom of choice is allowed with respect to the situation of the kitchen-garden attached to the residence of persons belonging to the middle class of society. In the suburbs of towns, at the parsonage, and even on the farm, land is either too dear, too anxiously coveted, or too jealously limited and appropriated, for preference to be practically made in the selection of one spot rather than another. Territorial possessions are too highly prized in England for men lightly to yield even a fraction of such property at a fair value, to oblige their dearest friend. Many an English nobleman and squire, even when not trammelled by the laws of entail, would almost as soon cut off his little finger as sell half an acre of his estate, for the purpose of increasing his neighbour's garden of herbs. In by far the great majority of cases, *there* is the house, where it *must* stand, and *there* is the garden, where it is, or where only it can be made. The place is to be accepted, or to be declined; you may take it, or leave it. You may create it, improve it, or refuse to have anything to do with it; but you cannot alter its whereabouts.

Since gardening is a science whose special object is a constant struggle with wild and undisciplined nature, a few slight difficulties in the gardener's way,—and they have not unfrequently been more than slight,—have served as a stimulus to increase his exertions. Thus, Scotch gardeners, as a body, are believed to owe their excellence to the ungenial climate they have to contend

with at home; and though the Flemings have, mostly, everything that can be wished for as to soil, some of their best gardeners, like those about Dunkerque, work wonders on a sandy desert. The market-gardens of Roscadaël, which is little more than a tract of blowing sand, scarcely screened from the sea-breeze by a row of dunes, produce, by the agency of liquid manure and other skilful appliances, such enormous crops of excellent vegetables, that the town of Dunkerque and all her shipping cannot consume them: they would have to be left to rot, or given to cattle, if the surplus were not sent off, by cart, boat, and railway, to spots where, on better land, inferior skill produces inferior and less abundant results. In truth, it is a happy fact that gardening is more independent of external circumstances than agriculture. A limited extent of ground can be changed in character, and ameliorated, to a degree that would be hopeless on a larger scale. Soils can be removed, intermingled, altered; aspects can be considerably improved by the shelter of a mass of building, or the planting of a screen of trees; the atmosphere may be rendered more genial, by tapping underground springs, by letting off stagnant water, and by admitting air and sunshine through overcrowded woods. A garden enjoys the immense advantage of being daily, and entirely, under the ready inspection of the master and mistress; it is the object of their morning and their evening cares; it is ready to receive and welcome any spare half-hour's labour, any needful donation from a passing friend, any small but frequent expenditure of spare pence and shillings, any surplus of manure from the house or the stable. The garden is both the family poor's-box, and its pet; widows' mites and rich men's offerings equally enrich it; it occupies the owner's thoughts and affections, often to the exclusion of graver interests and juster claimants; and, in short, few gardens are so hopelessly situated, and on such ungrateful soil, that something, nay much, may not be done to fertilize, embellish, and permanently improve them.

In the rare instances where a man enjoys the power of being the architect of his own house and grounds, and of fixing upon the site they are to occupy, he will probably select, in point of elevation, a slope to the south, not far from the line where it touches the plain. He will prefer a light rich loam to a wet stiff clay, with a subsoil, if not actually assisting the drainage, at least offering no impediment to it. Plenty of good water near at hand will be an absolute requisite; spring water for domestic uses, and running water for thirsty animals and plants. All good things come from above, and a brook or reservoir, at a level considerably higher than his own, will enable him to make that most useful garden decoration, a fountain. Water that has spouted from a *jet d'eau*, and been received in a basin, is, next to rain-water, the best for horticultural purposes. It is softened by being dashed through the air, and at the same time has acquired its temperature. Gold and silver fish in the basin will help to maintain its purity. He will endeavour to be screened by forests or hills from piercing north-east winds on one side, and the violence of south-western gales on the other. He will place his flower-garden in front, perhaps a little to the right or left, if there be a park or lawn full before him; the kitchen-garden behind, with a massive wood quite in the back-ground. If a semicircle of upland rises behind all, effectually screening the blasts of the north, the arrangement will be nearly perfect. A shrubbery, an orchard, a bleach, a nursery-ground, a home pasture, or a melon and cucumber ground, may be found room for on either side. Few persons with merely respectable means will want all of these appendages; most will require some of them. A gardener's or a coachman's cottage must be posted in some comfortable sunshiny nook, neither inconveniently distant nor troublesomely near, where they may have a patch of ground to themselves, wherein to hang out their linen, grow their vegetables, and keep their bees. A woodman's hut may be further removed, either standing sentinel, in the shape of a lodge, next the highroad in front, or keeping watch over the back settle-

ments and the outlying space of fields, as a rear-guard, on the skirts of the wood behind the kitchen-garden.

But as few of my readers will be so fortunate as to have no one but themselves to blame for the natural defects existing in their kitchen-gardens, it may be stated generally, that stiff and clayey soils will be found more difficult to manage than light and sandy ones; wet, than dry ones. Wet clays present the combination most to be avoided. By good drainage and laborious tilth, clays may be rendered extremely fertile, but scarcely ever early in their productions: and forwardness is a high point of merit in a garden, whether for pleasure or for profit. An amateur will be scarcely satisfied by his crop of green peas being the most abundant, if it is at the same time the latest, in the parish; and the difference of market-price between a week earlier or later, in fruits and vegetables, will, in the aggregate, make the difference between a market-gardener's paying his rent with ease and his not paying it at all; whereas light warm soils, even though naturally sterile and scalding, are at the same time precocious, and may be rendered fertile by a due admixture of supplementary material. The same of marsh-land and peaty soils; drainage, lowering the general level of the water only a few inches, and strata of various earths, raising the surface from half an inch to an inch and a half, consolidating and also lightening the whole, will have the effect of producing both fertile and early gardens, especially after the lapse of a few years, during which we suppose this system of amelioration to be steadily pursued. Many patches of promising soil will throw out magnificent crops of vegetables the first or second season they are cultivated; but it requires the pulverizing frosts of several winters, and the cleansing labours of several springs and summers, to make a piece of crude clay garden-ground even begin to do its best. There must be a constant and gradual admixture and working in of lighter and chemically different materials; such as sand, well-pulverized calcareous earth, spent tan from tanners' pits, bog-earth, heath-mould, anything, in short, which will help

to make vegetable-mould, and of course, when it can be had, vegetable-mould itself. A thick layer of litter or long manure, though so little used by animals as to be scarcely soiled, may be dug in deep with great advantage, to ease the tenacity of stiff clay soils. Worn-out reed-thatch from cottage-roofs will answer the same purpose. It is not the simultaneous application of any or all of these at once, which will work the remedy; it is their careful addition to the soil, and their blending with it from time to time, which will prove the judicious practice of the gardener, who must watch his opportunity between the removal and the planting of each successive crop, and who must be awake to every resource of marl-pit and sand-hole, of warren and heath, which his immediate neighbourhood has to offer. Frequently the opening of a new road, the cutting of a canal, or the making of a railway, present, temporarily, the means of permanently improving the soil of a garden, which are neglected, lost, and then ever afterwards regretted in vain. To give depth to garden soils that are naturally shallow, is of necessity a work demanding both time and the power of acquiring the materials wherewith to do it. Good garden-ground should be a mixture in just proportions, if possible, to the depth of a yard or more, of chalk, clay, sand, and what our learned men call *humus*, and French gardeners and vinegrowers *terreau*, but for which there is no better English name than vegetable-mould. All rich vegetable-mould is the result of its having been the graveyard of innumerable generations of vegetables, whose mouldering bodies supply the basis on which future production and reproduction are to take their stand. Soils, whether sandy or clayey, in which *humus* is deficient, must be liberally supplied with it, or its elements, before they can become the scene of any satisfactory horticultural action. Market-gardeners, who have their living to get by their trade, and to whom successful cultivation is a matter almost of life and death, load their land with such an abundance and variety of manure, that in a few years the most sterile soil is brought into a highly productive

state. In the offskirts of large towns, such as London and Paris, they are obliged to pay enormous rents; nevertheless, the facilities which they likewise enjoy of enriching their plots with fertilizing elements enable them to meet every difficulty, both pecuniary and horticultural. They make the soil just what they please; art and labour triumph over natural impediments, and families are maintained in respectability and comfort on a space of ground which, in its original state, scarcely bore sufficient herbage to maintain a cow.

Private persons possessed of gardens will do well to remember these facts and principles. In many country-houses, manure is absolutely grudged to the garden, because so to apply it would be considered as a robbery of the farm. In others, many valuable fertilizers are allowed to go away, in the shape of perquisites claimed by the servants. Bones, for instance, are mostly sold by the cook or kitchen-maid; but wherever there is a garden, not a bone ought to be allowed to leave the premises. Bone-dust, pounded bones, bones in almost any shape, are essential manures for turnips, asparagus, and most other culinary plants. Not only are plants grown with their aid finer to the eye, but, what is better, they are more nutritious to the human system. In other establishments, vast quantities of liquid manure are annually wasted. Hogsheads of chamber-slops, soap-suds, and other outscourings of a family, are thrown away and lost, or are even allowed to form offensive puddles for the generation of typhoid fevers, while things in the orchard and the garden are starving: while spinach runs up to seed before its time, because the soil is poor: while cabbages do the same, or form hearts no bigger than turkeys' eggs: while cherries, apricots, and other stone fruit, cannot form their kernels, but drop off yellow and immature for want of their peculiar nutriment. Market-gardeners by heaping on manure, will, in the course of seven years, convert sterility into fruitfulness. Private gardeners, simply keeping their gardens neat,—that is, carrying everything out of them which would feed the plants if

restored to the soil,—go on year after year without the expenditure of a spadeful of manure, in their flower-gardens especially, and then complain that their situation is bad and their land worthless. It is acknowledged by all, that turnips and wheat have need of manure; it seems to be supposed by some that fruit and flowers can do without it. As has been well observed in a leading article in the "Gardeners' Chronicle," "They,"—namely, the non-manuring class of gardeners,—"would seem not to know that trees and grass require to be fed as well as themselves. It would be as rational to trust to the action of a currycomb alone for keeping a horse in health." Therefore, instead of any further disquisition on the best soil and situation for a kitchen-garden, I shall simply offer this brief advice:—"Shelter sufficiently; drain well; and manure as well as you possibly can."

In laying out the ground-plan, which also involves the mode of cropping a kitchen-garden, the endeavour should be made to combine simplicity with economy. In this case, the height of art is to obtain the greatest possible amount of produce from a given piece of ground. It cannot furnish too much, as it should never be allowed to approach exhaustion. It is clear that the more rapidly one crop can be made to succeed another, and the less time is lost in waiting for any given portion of the ground to become vacant, the larger will be the sum total of all the crops at the end of a twelvemonth. This object is most easily secured by pursuing the system of cropping in rows.

To change the site of a kitchen-garden is mostly quite out of the question; to alter its arrangements will often be followed by great advantages. Suppose you have an irregular piece of ground, like that represented in *Fig.* 1. The letters **N, E, S, W**, indicate the cardinal points of the compass. The sketch is given, not as a model garden-plan, but to show the principle to be generally applied, varying the details according to circumstances. The first care will be to mark out a sufficiently large

square or oblong, on the most convenient slope or level, and on the best soil, and to inclose it, if possible, with a brick wall, WW, entirely round it; of greatest height, say twelve feet, on the north side; and of least elevation, say eight, at the south. At least two doors, D, D, must be left, wide enough to admit a wheelbarrow, or a small cart. A wide border, B B, will be carried entirely round the garden, at the foot of the wall. This will serve, according to aspect, to raise early vegetables, to receive small seed-beds of cabbages, lettuces, and other things which are transplanted afterwards, as well as those which require temporary pricking out, such as celery; and part of it may be permanently occupied by sweet herbs, medicinal plants, and other useful stock vegetables: part also may be devoted to horticultural experiments. It is convenient to have in a kitchen-garden a little plot wherein to put surplus seeds and roots of flowers that are not wanted, at the moment, in the flower-garden and the pleasure-ground. Not only is it convenient to have such a supply in reserve, to fall back upon in case of accident elsewhere; but, as bouquets and cut flowers are always in request, these can be gathered *ad libitum*, without fear of despoiling the parterre. This circumscribing border will be sure to afford room for one or two patches of flowers at the discretion of the family to pluck. A straight rectangular gravel-path, P P, will go round the whole. It may be edged with box, parsley, strawberry-plants, chamomile, or anything of that kind, if space is limited; but living plants are not the most convenient edging; they harbour slugs, and impede the cultivation of the border. Pebbles, tiles, or iron or wood, which may be had in various patterns for the purpose, are better. Cross-paths, *p p p p*, will lead to the centre, where there should be,—if not a fountain, F, with its basin to receive the water ejected, and always standing full, ready for watering,—at least a tank, or cistern, or shallow well, with a sufficient supply of water from some source or other. Inside the path is another border, *b b*, divided in the middle along its whole length by a wall of

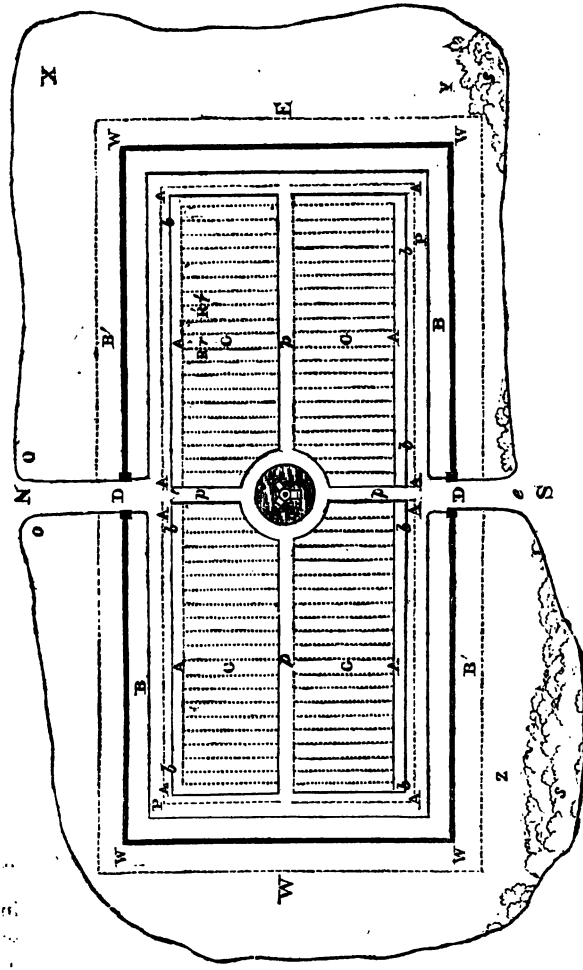

Fig. 1.

espalier apple-trees, A A A A. This border, which will serve as a supplement to the former, and will render nearly the same services, is cut up into several portions by the intersection of the paths. Another path, within the espaliers, goes round the whole; and there will remain in the middle, the four distinct open plots of ground, G, G, G, G, which constitute the main body of the garden for cropping for the supply of vegetables in quantities.

Each of these open plots, G, will be cultivated in rows, as at R *r*, R′ *r*′, each consisting of one special kind of vegetables or fruit, annual or perennial. The breadth of each row may be made to vary, according to the supply required of that particular plant or root; the only point insisted on is, that the row extend completely across the plot. It is better to make the rows run from north to south, as they do in our cut, instead of from east to west, or in any other direction; because tall-growing crops, such as peas, beans, raspberries, scarlet-runners, and even rows of gooseberry and currant bushes, have thus an equal share of sunshine on each side, supposing the sun to shine all day long, and the chances of morning and evening sunshine equal. In some few situations that are greatly exposed to south-west storms, it is absolutely necessary to plant rows of tall-growing peas, &c., in lines running from west to east, to avoid exposing their broadside to the gale, and incurring the risk of being dashed to the ground; but it is clear that the northern and the southern fronts of such a row will yield fruit very different in amount, and also differing somewhat in the time when it is ready. The plants will have to occupy the ground longer than they would have done, in order to allow the smaller and later portion of the crop to arrive at maturity. This evil is best avoided when it can; and therefore I repeat, when not compelled to do otherwise, crop the land in beds or rows running from north to south.

A garden so distributed need scarcely ever lie idle in any part of it; almost every strip may be kept in a productive or bearing state. Suppose the row R has consisted of late cauliflowers, the last of which has been

removed in November; for if half a dozen or so remain unconsumed, they may be drawn, and hung up by the heels, root and all, in a shed or cellar, to save them from early frosts, and to furnish a late supply. Instantly that the last cauliflower is gone, let the row be manured and dug; for the barrowing of which manure, the paths P, *p* will give easy access at either end; and one or more drills, according to the breadth of the row, of early peas may be sown immediately. When the peas are done with, in June or July, again manure this same row R; as soon as it is dug, sow on it, always in drills, garden turnips, or successions of salad, or plant on it broad-leaved endive for blanching in autumn, or Savoy cabbages. Remember that all seeds, except those of plants to be pricked out as soon as they have three or four leaves, are to be sown in drills along the rows; in all other cases, broadcast sowing is to be discarded. The land, too, is always to be occupied, as soon as any row is vacant. If it is absolutely compulsory to defer the planting of some crop, such as kidney-beans, which cannot be safely put into the ground till the season has advanced to a certain epoch, at least let the row be dug and prepared. It had better grow nothing, than grow weeds; and a slight pointing with the spade, or even a good raking, will restore its freshness when the time arrives. Thus there will be no difficulty making the said row furnish a constant succession of crops from the present moment till gardens shall be no more.

To exemplify the general applicability of the system, let us now suppose the row *r* to be planted with something that occupies the ground for a longer time than lettuces or peas. As a strawberry-bed, it will have to stand for three or four years undisturbed. Well, leave between it and the row R′, adjoining it, the narrowest possible strip of footpath to gather the fruit and cut the runners, and R and R′ can follow their course of cropping without in the least inconveniencing either *r*, or each other, or being inconvenienced by it. When the strawberry-bed is at last exhausted, and

another bed, say r', has been planted elsewhere with young runners from the worn-out bed, r can receive a coat of manure, be dug, and the plants buried deep in the ground, as the easiest way of getting rid of them, besides increasing the stock of *humus;* and something else, perhaps broccoli, may be planted thereon, which will have the advantage of growing upon land that has rested, and has enjoyed the absence of that exhausting crop for three whole years. A row, when done with, may be turned to similar account at once, without incommoding the others, whether it has been occupied by artichokes, sea-kale, asparagus, raspberry-canes, currant-bushes, or anything else, which is all the better for occasional change of spot. The only care is, not to place side by side two crops that would too much overshadow each other. No inconvenience is experienced from any bed, as asparagus, which by good management may be made almost everlasting. All that is required is to adapt the crops on the adjacent rows to its stature at certain times of the year.

The irregular remnants of land, X, Y, Z, &c., outside the garden-wall, may often be turned to profitable, and even to picturesque effect, especially if the whole be inclosed within a park paling or secure fence. In the first place, every garden, even the most utilitarian, ought to be provided with one or more out-of-the-way corners, as at O, o, which are never seen by visitors, and only by the master when he goes purposely to inspect them, and which receive heaps of decaying leaves, manure, broken potsherds, prunings of trees, last year's raspberry-canes, and the various other offal of a garden, which *must* be put somewhere, and are best out of sight. A tool-house, a mushroom-house, a root-shed, a propagating-pit, and several other *etcetera* which are more useful than ornamental, may thus be made to retire behind the scenes, to play their part when called upon, and not before. A border running completely round the outside of the garden wall, as B'B', will prove extremely serviceable. At its north exposure it can receive morel

cherries and Alpine strawberries; on the east and west, a few pear-trees, with currant and gooseberry bushes against the wall, to be netted over for autumnal desserts. The south wall, outside, will supply a welcome addition to the stock of peaches, apricots, grapes, and nectarines, within. The border may contain surplus flowers, for cutting, early salading, latest kidney-beans and peas, and the hundred things for which a south border is invaluable. The entrance, *e*, may be flanked right and left by a small shrubbery, *s s*, of hardy evergreens, such as box, holly, Portugal laurel, and yew. To save space within the garden, Z and Y may be filled with currant and gooseberry bushes, Jerusalem artichokes, or raspberries. On the eastern and western extra slips of land, may stand a row of cherry or pear trees. The tract marked X, supposing such to exist, will be a favourable spot for a small miscellaneous orchard (especially if the whole inclosure slopes to the south), consisting of a walnut-tree or two, a medlar or two, a few plum-trees of various kinds, and as many apple-trees as there is room for, without crowding or too much overshadowing. If the whole can be backed by a screen of Scotch firs, to rejoice the eye with green in the sunshine of winter, our kitchen-garden will be charmingly as well as comfortably situated. On the magnitude of its scale alone depends the addition of a gardener's cottage within some part of the general inclosure. A sheltered nook should be devoted to bees.

In cropping a garden according to this or any other system, it is desirable for the gardener to have some record of his operations to refer to. This is best effected by numbering the beds or rows, and entering their crops, as planted, in a memorandum-book. Few people will take so much trouble as such entry requires, or at least continue it with regularity. And yet they are annoyed and inconvenienced by finding some patch of seed which they had sown, of a kind which will not keep its vitality for more than a year or two, such as onion-seed or carrot-seed, not come up, while they have forgotten the date at

which they sowed it. They are afraid to dig up the bed and re-sow it with fresh seed, because they may thus destroy it just at the moment when it is going to start; and yet if they delay deciding upon something much longer, the advanced season may render the crop inferior. An easy mode of escaping from this awkward dilemma, is to write, at the time of sowing, the name of the seed and the date of the operation on a small square piece of writing-paper, thus:—In the case of transplantation, to know what you are about, and to gather experience from the result, the paper should bear inscribed the date of transplantation as well as of sowing, as thus, in Fig. 3. Double the scrap of paper twice at least, or into one-fourth of its size, or less, with the writing inside. Take any sound piece of stick that is nearest at hand, not too thick, and about six inches long; point it at one end, and make a slit at the other; insert the folded label into the cleft part of the stick, of course with the doubled edge upwards exposed to the weather; stick it into the seed-bed, and in ordinary seasons it will serve you for a record as long as you are likely to want it for that particular crop. Your memory must serve you for the succession of one crop after another on each strip of land.

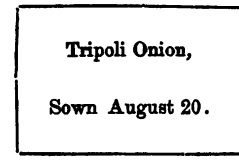

Fig. 2.

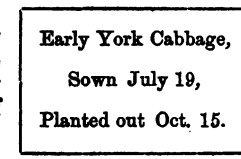

Fig. 3.

The reason why each crop that has grown on each strip or row should be remembered is, that a studied rotation of crops is advisable, though greater liberty is allowed in gardening than in farming; because the extra labour and manure bestowed upon the land make up for the evil resulting from any injudicious succession. It is the universal belief amongst vegetable physiologists, that each species of plant prefers, and extracts from the soil, a somewhat different kind of nourishment,—just as a

hundred guests sitting down to a banquet will vary considerably in their individual selection of dishes. Therefore, what one plant leaves, may prove the food exactly suitable to another: and instead of causing cabbages to be followed by cabbages, or other vegetables of the same family, as cauliflowers and Brussels sprouts, it is best to alternate them with leguminous or umbelliferous plants, such as peas and beans, or parsneps and carrots, with intermediate crops of salads and roots. It is sufficient to point out the principle, leaving the details to be worked out according to the practitioner's judgment and convenience.

GARDENING TOOLS.

It is not always the most complicated machinery which does its work the most perfectly. Some implements are necessary: and of those alone I proceed to speak briefly. There are gardening toys, as well as gardening tools. The object of the present book is to give instructions, not for pleasant play, but for serviceable work.

It may be observed, that as there are local tastes in the style of gardening, and local preferences of certain vegetables to be cultivated, so also there are local tools, some few of which deserve a place in every garden tool-house.

The English spade is a good implement, but it is too broad in the iron, and too short in the shaft for many soils and many workers. Women and boys can dig with greater ease, and even grown men can get over their work more quickly, digging at the same time to an equal or a greater depth, with the French spade, which somewhat resembles the implement used by the Lincolnshire marshmen to excavate their drains and ditches. The iron is ten or eleven inches long, and five or six broad at the most, being narrower at the bottom than at the top. The shaft is five or six and thirty inches long, including the handle at the top, which is simply a cross piece of five inches. The long leverage of handle and the narrowness of the blade allow it to be used with less resistance

from the soil, which at the same time is more finely divided than it would be by a spade with a broader iron. The English trowel is excellent for many purposes; but besides it, it will be found convenient to have one or two long, narrow ones, like the cut Fig. 4. The transplanter is a tool with handles at one end, and a couple of semicircular blades at the other, which, when closed, form a hollow cylinder. (See Fig. 5.) The two blades, open, are thrust into the ground on each side of a plant, the clod is compressed and removed by a side movement, and many roots can be thus removed, even at the time of flowering. A rake; a common hoe, to draw the earth and cut weeds by drawing it towards the operator; a Dutch hoe, to cut weeds by pushing it away from him; a line, or stout cord, fastened to a strong peg at each end (there is a good reel contrivance), to be shortened according to requirement, by being wound round one or both of them, and to serve for drawing seed-drills, and for planting rows of cabbages, lettuces, &c.; a wheelbarrow; a fork for taking up potatoes, &c., and spreading dung; a mattock, to stub up tough, deep roots; mats, either of bast (though those are getting scarce, since the war with Russia), or of rye-straw strung together, for shading, protecting from frost, warding off hail on the approach of a tempest, and sheltering from cutting winds; a set of hand-lights or bell-glasses, like Fig. 6; two or three sash-frames to cover hotbeds or cold-pits; watering-pots of various size and construction: some without roses,—for the pouring out of diluted liquid manure to newly-planted cauliflowers, cabbages, &c.,—some with roses of different degrees of fineness in the holes with which they are pierced, to distribute pure water, like a natural shower, over beds of seedlings; a hogshead or two for liquid manure; rain-water tubs in

Fig. 4.

Fig. 5.

Fig. 6.

abundance, if there is no cistern to receive the rain from the roofs; plenty of neat sticks, to support dahlias, standard roses, &c.; besides an abundant store, laid in beforehand, for peas and runner beans; a hammer, nails, and shreds of cloth (though I shall describe a better mode than that of fastening fruit-trees to walls); a good pruning-knife; a budding-knife; a small saw; a bill-hook; a roller, for gravel-walks and grass; a pair of shears, for clipping box-edging and quickset hedges; flower-pots and their pans; an iron-wire sieve or two, for sifting mould; baskets and punnits, to receive the produce of the garden when gathered; a dibble, for setting beans, &c.: all these are almost necessaries. Let each tool have its place of deposit, instead of being left about carelessly in corners. If expense is no great object, there may be added to the list a portable pump or garden-engine, for syringing wall-trees, standard shrubs, and beds in masses; a patent grass-mowing machine, for cutting lawns, bleaches, or bowling-greens, closely and expeditiously; a sundial, fixed on a pedestal; nets, for preserving the fruit on wall-trees and currant and gooseberry bushes, in autumn, and which will also shelter peach and apricot blossoms from slight frosts in early spring; in short, the many other forms of horticultural appliances, whose latest improvements may be learned by a glance at the advertising columns of the gardening journals.

The products of the kitchen-garden shall now be treated separately, under the heads given on the title-page; namely, Roots, Vegetables, Herbs, and Fruits. It is useless here to occupy our limited space either with definitions that are not absolutely required to explain the subject, or with discussing the classification of well-known objects, which may, without any violence, be equally referred to more classes than one.

ESCULENT ROOTS.

The Potato—Solanum tuberosum.—The plant which produces this well-known tuber is a native of South

America, and although introduced to England in the sixteenth century, cannot yet be said to be acclimatized. Evelyn's contemptuous direction, "plant potatoes in your worst ground," is what we are obliged to come to after all. But the truth is, they were not generally known and cultivated over the country before the middle of the eighteenth century.

Main crops of potatoes, for late autumnal and winter use, belong rather to the field than to the garden. Unless a garden is of the largest size, it is better for a family to buy all except the early potatoes, and devote the space they would occupy to more costly vegetables; such as seakale, asparagus, and green peas. As yet, no specific remedy for the potato disease has been discovered; those who put their faith in assertions to the contrary will be deceived. As a general rule, it may be stated, as to time of planting, that the later it is deferred, the greater is the danger of disease to which the crop is exposed; and as to soil, the more nearly it approaches to pure sea-sand (itself, however, a very variable and heterogeneous composition), the more healthy is the sample of potato produced. Autumnal planting, so much insisted upon of late, is excellent when the soil is thoroughly drained, the sets planted deep enough (about a foot), and the following winter not too severe. Covering with leaves or straw litter is a hazardous practice in the open ground, as it is apt to draw up the roots too early in spring. The early varieties of potatoes are also found to be less liable to disease than the late ones.

For the first garden crop, there is not a better variety, upon the whole, than the ash-leaved kidney. Though not an abundant bearer, it comes to hand quickly, and is of first-rate quality and flavour. Without resorting to hotbed-frames, a very early crop, to be consumed as a delicacy, may be obtained by planting in December a single row of sets, about four inches deep, in the border in front of a south wall, at the distance of six inches from the foot of the wall. If the space of eighteen inches be left clear in front of this row, unoccupied by any other

crop, the potato sets may be planted as close together as six inches in the row. If the wall be of any considerable length, the supply thus obtained will suffice till the next two successions of ash-leaved kidneys (the first from warm borders, the second from the central part of the garden) come into bearing. Good kinds to succeed these will be the Early Shaw, or the Early Champion. Chapman's Kidney is an excellent and handsome variety, which comes in early; as also are several of those advertised by the London and provincial nurserymen.

All potatoes intended for seed, or sets, should be laid and turned in the sunshine (sheltered from wet), till they have become quite green all over. The greening, besides giving them greater vigour, renders them unfit for table, and therefore insures their being respected late in the season, when potatoes are scarce. They are also less tempting to petty thieves. The selection of sets, and the process of greening them, is best performed at the time of taking up; all the trouble it gives, is simply to toss the seed potatoes aside into a separate basket by themselves. It is therefore better that every gardener should save his own sets; although the advice is worth attending to, that those who have only a small piece of ground should never save their own sets, but should buy what they want every year, as early as possible in October, before the eyes have grown. It is truly urged that the potato ought to have a change of ground; those who have large farms may save their sets from one kind of soil, and plant them out next year on a different one. When this cannot be done, friends and neighbours may still exchange sets with each other. If greened sets could be exchanged, every requirement would be fulfilled.

When the ash-leaved kidney sets are thoroughly greened, place them in a shallow drawer, or flat basket, in a single stratum, upright, or all leaning in one direction, with their noses, crowns, or bud ends upwards, and the string end, or part next the stalk, downwards. Whole potatoes, from two to three inches long, make good sets. Put the potatoes so packed in any light, airy, dry, cool

place, where they will be secure from frost, to pass the winter, as the main crop of this variety will not be planted before February or March. Each potato will then have starting from its nose a single stout green shoot about an inch long. In planting, take care to leave this bud uppermost. The sets, so prepared and packed, will occupy considerable room; but they will well repay the trouble they give. In spring, dig your border lengthwise, working backwards, to avoid trampling on the ground. In the first trench, by the aid of a line, set your potatoes nine inches apart from set to set. The depth will vary with the season (from 9 to 3 inches); the later the shallower. Dig on, and plant a second row in a trench eighteen inches from the first, shifting and using the line each time, to keep each row perfectly straight; and so on. The potato-bed will thus be left quite level, and will remain untouched till the weeds appear. Defer the first hoeing till the potato-shoots are up. When six or seven inches high, earth them up by drawing the mould towards each row from the middle of the space between the rows. This will suffice till the tubers are formed, and the crop gathered, to be replaced by something else.

Mr. Cuthill's mode of growing early potatoes is not quite so simple as the above; but it must be a successful one, if, as he says, until he published an account of his method of culture, he could undersell all growers of early potatoes in the London markets, but since he made it public, the price of early potatoes has diminished one-half.

"The sets, well greened, are laid out singly (with their heads all one way, to preserve order at taking-up time when planted out), under a stage in a cold green-house. All persons will not have such a convenience, but market-gardeners may fill their 'lights,' putting the glass on and covering up accordingly as the winter advances. If they cannot spare frames, trenches may be dug; one five feet broad and a hundred feet long, will hold enough potatoes to plant an acre of land. Farmers may find room in

lofts, sheds, trenches, or other places; for cottagers, a very small corner will be sufficient. Care is taken that no water fall upon them, and nothing more is done until about the middle of January, by which time the shoots have grown about an inch. The shoot is very strong and green, the young fibres striking out from the base of the shoot and very bold and strong. I now put on as much mould as will cover them, and one watering is given to mix the earth in between them. They are then left untouched till planting-out time; they are not even watered, because the less water given to them, the hardier and more wiry they become, sending out an immense number of roots to collect food; in fact, when taken up in the middle or end of February, they have produced a complete mass of strong, fine roots, with a powerful stem. The ground is prepared during the winter by trenching two spades deep, and laying it in ridges. The ridges ought to run north and south; this being of the greatest consequence, in order to allow of an equal action of the sun and air on the sides. Early potatoes should be planted in ridges from eighteen inches to two feet apart, and the sets be placed at intervals of nine inches; late potatoes ought never to be planted closer than two feet to two feet six inches from row to row, and one foot from set to set.

"As soon as the ground is trenched, I sow salt and soot, in the proportion of about two tons of salt and thirty bushels of soot to the acre. I have used no other manure than this for five years. The planting is commenced by taking up the sets carefully, and placing them at the bottom of the first furrow, the shoots being placed parallel with the ridges. The mould of the first ridge is then laid over them carefully, as the shoots are by this time three, four, or even five inches long; the next ridge is proceeded with in the same way, and so on, the ground being left at last in ridges lying directly over the sets. If all the side shoots are removed, leaving only the main shoot, the crop will be ripe or fit to dig

nearly a week before the tubers with all the shoots attached, although the crop will not be near so heavy.

"When the plants come up, they grow so fast that they smother the weeds, if there be any. If May should be very dry, as in some seasons, I am obliged to water, and when I do, of course I continue it twice a week until rain comes; for if watering be not continued, you only bring up the fibres to be killed by the heat of the sun. The main points in the above mode of management are, that the potato is not allowed to shoot and waste its substance in growth to be thrown away; the first shoot or bud is allowed to proceed onward to its perfect development, while in the common method of proceeding, the tubers are allowed to sprout from all the eyes, to produce a quantity of weak shoots, which are broken off and wasted at planting-time, leaving the impoverished tuber in a condition which necessarily retards and weakens the future plants."

When seed potatoes are employed of larger size than a turkey's egg, they may be cut in two, leaving one or more strong eyes on each set. In this case, they ought not to be planted immediately after division, for fear of making them rot; they should be exposed to the air for two or three days, to allow the cut surface to dry and harden. But Mr. Cuthill justly observes, that "if the growers of the potato will continue to cut the tubers into sets, all the crown sets ought to be kept together, and all the bottom eyes planted by themselves; for the sap of all potatoes rises to the crown eyes first, and when cut and planted indiscriminately, after a mild season, the crop is alternately good and bad; *i. e.*, the sap is so much abstracted from the lower eyes, by the top ones, that the former either push weakly, or not at all."

In most situations, potatoes are best grown on the Irish lazy-bed system, though it would be better to avoid planting potatoes at all in such places. The ground is marked out in beds four or five feet wide, according to convenience, leaving between them alleys

two or more feet wide, in proportion to the depth of the soil. The beds are manured, slightly dug over, burying the manure shallow, and the seed potatoes are laid in rows on the surface, and then covered with earth thrown out of the alleys, which are thus converted into trenches or drains. As the growth of the plants advances, more earth is thrown on them, till the sets are about as deep as they would be in ridges. When the crop is taken, the mould is returned to the trenches, and the following year an alternation may be made, by causing theformer beds to serve as trenches to supply earth for covering potatoes planted on the surface of what were trenches the summer before. Necessity, the mother of invention, is the only excuse for this mode of culture. It is a sort of compromise, by which a piece of marsh or bog consents to become half dry land and half water; but it affords a useful hint in wet seasons. By sacrificing a few rows of potatoes, or merely by taking them up before their growth is completed, temporary drains may be made, which will either respite or save the rest of the crop. The lazy-bed system may be advantageously followed on stiff retentive clays, where effectual drainage is difficult.

A garden ought to contain a few rows of potatoes of choice, late, or curious kinds; such as the red potatoes, both kidney and round, which have the reputation of comparative freedom from disease; the Negro, which has a black skin, but is white within, and is much approved, and which makes a striking dish on the dinner-table when served with its jacket on, or, as the French say, *en robe de chambre.* The small Dutch round potato is another choice late potato, firm and well-flavoured in quality, and is useful to serve whole in made dishes which contain vegetable ingredients. Seed Dutch potatoes may be obtained from most of the seaports on our eastern coast; for instance, from Great Yarmouth, in Norfolk. Main and late potato crops should not be allowed to form the berries, the root being thereby robbed of a certain amount of nutriment. It is there-

fore a good plan to pick off the blossoms from potato plants, as soon as they open. As a general rule for early crops, potatoes may be planted in autumn, if they be but covered by a sufficient depth of earth to prevent the frost from reaching them; but it is more usual to plant in February and March for early crops, and from March to May for main and late crops.

There is a mode of obtaining make-believe early potatoes, which deserves recording solely for the sake of putting the inexperienced upon their guard. The trick, though stale, has been successfully played of late in several English provincial towns; but a quotation from Mr. Cuthill's excellent pamphlet will suffice to open the eyes of the amateur gardener. "Some twenty years ago, a gentleman whom I then lived with bought what were called *Dutch winter potatoes*. They were to be planted in the autumn, and to grow all the winter. The impostors charged a guinea a peck for them. It was a round potato; they were planted according to directions; but when the frost came, away the unfortunate tops went like all others. This very plan is now practised for Covent Garden Market; the old tubers are kept back until July, and then planted. They grow very fast, but are not near ripe by the approach of frost. As soon as the halm is cut down, large quantities of straw are put on the ground, and towards Christmas the tubers are dug up, and put into one and two-pound baskets, and are sold for new potatoes, at from sixpence to eighteen pence per pound; they are as full of water as a turnip, the leaves being all destroyed before the cells had time to become filled with starch. The Cornwall kidneys are the only ones used for this purpose. By taking one in your hand, you will find the skin firm on, which is not the case with a new potato, either grown in frames or in the natural ground." In short, they are not new potatoes at all, only abortive and very inferior old ones.

Besides the above-named early kinds, there is the Early Frame, a favourite for growing under glass; Fox's

Seedling, a good dwarf-growing kind; the Early Oxford, round, even earlier than the Ash-leaved Kidney, and mealy; the Ready Penny, also round, and very early, more productive than the Ash-leaved; the Yellow Golden, round, early, and productive; the Early Manley, excellent and prolific; and the Prizefighter, an excellent early kidney. One of the best foreign kinds is the *Belge Native*, or Early Belgian, known at Brussels by the name of *Neuf-Semaines*, or Nine-weeks potato. For later use, there is the York Regent, excellent and mealy; the Blush Kidney, excellent; the Lancashire Pink-eyed; and many others, all good in their kind; some being greater favourites in one locality, and some in another.

During summer, potatoes are best taken up from the ground as they are wanted. Those for winter use had better remain till the halm is entirely withered and brown, and severe weather is apprehended. A dry day, if possible, is best for taking them up, and they may be stored in any dark, dry, airy place, which is secure from frost. A well-drained cellar, through which currents of air can be admitted, fulfils every condition requisite for their preservation. Permanent potato-pits sunk in the ground, lined with brickwork and covered with thatch, are effectual, and may be turned to various account in summer; but the most common way is to pit them out of doors, either in simple round heaps, or in long ridges, on a dry sandy or gravelly spot. The potatoes, as dry as may be, are laid on a bed of straw, and covered first with more straw, and then with earth taken from a trench running round the edge of the heap or ridge, and which will thus serve as a drain to the whole. If the potatoes are moist, or there is apprehension of disease amongst them, it will be well to leave a wisp of straw sticking out at the top, which will thus serve as a gas and vapour-shaft, or ventilator. The more neatly and perfectly the outside of the ridge is smoothed with the back of the spade, the better it will fence the rains of winter.

The Carrot—Daucus Carota.—This and the parsnep belong to the natural family of umbelliferous plants,

which supplies such a large proportion of our aromatic herbs; and both these plants are penetrated, especially in the root, with decided aromatic qualities. They, like our other tap-rooted esculents, do not turn out so well on land which has been manured immediately before sowing them; as they are apt thereby to become forked and diseased, besides incurring a greater liability to the attacks of grubs and insects. It is best to make them follow some crop, such as Savoy cabbages, or early broccoli, which like a liberal supply of rank manure to be given them at the time of planting. The portion of fertilizing matter left unexhausted in the ground will be sufficient for the production of parsneps and carrots. Both roots require a deep soil; but carrots prefer a light sandy loam, while parsneps bear a stiffer, colder, and more clayey spot. The parsnep is the hardier plant of the two. A stony soil is prejudicial to both: they have this, too, in common, that their seeds do not retain their vitality long. Last year's seed should always be insisted on; but as even seedsmen and nurserymen cannot always be sure of the good faith of the small growers from whom they are obliged to purchase much of their seed, it is a good plan to grow one's own carrot and parsnep seed oneself, when the quantity used is not large. All that is required is to plant, in spring, a few roots of each, selected as the best of their kind, in good rich soil, in a sheltered and sunny corner. Stakes, to support the flower-stems, should at the same time be fixed in the ground. The carrot-seed will give the most trouble, being so light as to be blown away by the wind as soon as ripe; and must therefore be gathered from day to day. Every two or three days will be sufficient for parsnep-seed. The gardener will thus have seed on which he can depend, instead of having to submit to the tantalizing penance of watching his bed of carrots from day to day, and of being at last obliged to come to the conclusion that, of the seeds which he has sown, not one in five hundred will vegetate. Many a baffled horticulturist has

been thus kept in suspense, till the best time for carrot-sowing was over.

Of the garden carrot, the two leading varieties (which differ greatly in shape and size, but not much in flavour) are the Early Horn, for first use in spring and summer; and the Altringham, or Long Orange, for autumnal and winter store. The former is often grown in frames, to be drawn when two or three inches long. Intermediate between the two is the Long Red Horn, excellent for any purpose. The Belgian, or the white and yellow varieties of carrot, are more fitted for field culture, and for feeding horses and live stock, than for table use. They are coarser in quality, and inferior in flavour.

Carrot-seed is slow to germinate. In consequence, some good gardeners mix it with wet sand, and let it lie in a heap in a corner, for several days, to "chip" a little before it is put into the ground. In gardens, carrots should always be sown in drills from six to nine inches apart. The plants, as they grow, may be thinned, either at weeding-time with the hoe, or be drawn small as wanted for the kitchen, till they are left from six to eight inches apart. Weather permitting, the Early Horn may be sown, in a warm border, at the end of February or the beginning of March for a first crop. The Long Horn and the Altringham may follow from the middle of March till the end of April; after which a sowing will scarcely attain to its full bulk, though it may prove useful to furnish a succession of young carrots during summer. A mode of obtaining false early carrots, *i. e.*, small late ones for spring use, is to sow in August or September, in front of a south wall. Winter will overtake these seedlings at an early stage of their development; and will not kill them. They will increase in size, on the return of genial weather; and those which do not run up to seed, will remain serviceable till something better is ready. The Very Short Horn, or *grelot* of the French, is the best for frames; the Violet is a curious variety, sent from Spain by the Marquis de la Bendanna; the Transparent White is a sub-variety, obtained in 1849, by

M. Barthel, of Mulhausen, which professes to be better than the other white and yellow carrots, but as yet is but little known.

Carrots should be taken up with a fork, as little broken and bruised as possible. The decaying of their tops is the sign that they are ready. They are easily stored; they may be packed in sand, or they may be arranged in a heap, that will greatly economize space, by laying them head and tails alternately, against the wall of a dry cellar, till they themselves form a sort of internal wall. French market-gardeners, at the time of storing, cut off a thin slice of each root at the top, containing the central bud, not ill-naturedly, as some have supposed, to prevent others from obtaining seed of the same stock, but merely to keep the shoot from starting and exhausting the root. Carrots are thus preserved till high up in the summer; in fact, till their successors in the garden are ready to take their place in the soup-boiler.

The Parsnep—Pastinaca sativa.—The parsnep is but little known out of Great Britain and Ireland, and where known, is mostly but lightly esteemed. The peculiarity of its flavour does not please all palates: nevertheless, it is a useful and nutritious root. There are but few varieties of parsnep: the Hollow-crowned is the best for garden-culture; the Turnip-rooted is almost worthless, having merely the characters of a stunted root. The Channel Islands Jersey and Guernsey are famous for their field parsneps, which are largely consumed, both in soup by the inhabitants, and by milch cows and fatting cattle. Their excellence may be attributed rather to the soil and climate than to any peculiarity of the kind cultivated. Still, many gardeners prefer seed which is thence imported.

Parsneps bear earlier sowing than carrots; they might even be sown in autumn, had not such plants a tendency to run up to seed in the course of the summer. Unlike carrots, half-grown parsneps are of little or no value; indeed they do not attain their full flavour and sweet-

ness till they have ripened from the effects of time, which some think is hastened by exposure on the open ground to a few days' and nights' frost. They are not at their best before December or January, and are excellent during Lent as accompaniments to salt fish. It is consequently useless to leave the seedlings thicker than they are to remain eventually. They should be hoed out to much the same distance in their drills as is allowed to full-grown carrots, as soon as the young plants have got three or four leaves. All the subsequent care required is, to keep them free from weeds.

The failure of potato crops and the robust nature of the parsnep, has suggested the notion that the latter root would bear transplanting as well as the cabbage does: and the supposed fact has been disseminated in little books, written for distribution among the working classes. Now it makes some difference to a labouring man, whether the plant which occupies his little bit of ground from the beginning of May to the end of October, at shortest, be a real parsnep with a crown three inches across and a root tapering down to a proportionate length, or a mis-shapen root, on which, were it a newly-introduced species, horticulturists would doubt whether it was worth their while to try experiments or not. It may, therefore, be as well to state, that the result of experiments on the transplantation of parsneps has been to produce a few barrowfuls of very ill-shaped potatoes, with a few parsnep-leaves growing somewhere from a sort of crown, and an endless beard of innumerable fibres stretching downwards in search of the earth's centre of gravity. The effect of transplantation on the parsnep is, evidently, to form these fangs and fibres by the breaking of the original tap-root: and however worthless parsneps thus cultivated may be to eat, it is more than probable that they would be extremely valuable to produce seed, if permitted to remain where they had once been reset. But half a dozen shapely roots planted in the spring will produce a man seed enough for himself, besides a little to spare to his neighbours. The cottager will find him-

self sadly disappointed, if he transplants parsneps in the hope of obtaining roots for himself, not his pig, to eat. The agricultural labourer is generally too well experienced to adopt the system, but many other persons with small gardens might be induced to occupy their space unprofitably, if a word of caution were not whispered in their ears.

The Turnip—Brassica Rapa, or *Napus*.—Another root which modern agriculture has converted into a most valuable field crop, but whose excellence for the table has caused it to be raised in gardens for seasons when the larger supply is not to be had. It is remarkable that the very best turnips are those grown at no great distance from the sea. Soil containing a large proportion of sand and marine manures, such as fish-refuse and sea-weed, accompanied by the influence of saline mists, appear the agents best adapted to grow turnips to perfection.

In gardens, let the soil be rich and light. Sow in drills about a foot apart, and hoe out to about the same distance in the drill, at first. Turnips may stand a little thicker in the garden than in the field, both because some of the varieties are smaller, and also because many will be drawn as soon as a moderate-sized bulb is formed. If sowing takes place too early, most—sometimes all—the plants will run up to seed at once. Much will depend on the spring's being dry or showery. Something must unavoidably be risked in obtaining the earliest, or the second earliest, turnips; but nothing venture, nothing have. The end of March is quite soon enough to begin; afterwards, small successional sowings may be made once a month, or even once a fortnight, if there is room for them. A last speculative cast of seed may be made in the middle of August or the beginning of September. If the winter sets in early, and the plants have not time to bulb, they should still be suffered to stand, to furnish turnip-tops,—a delicious and wholesome vegetable,—in spring, when the garden has only a scant variety of greens to offer. But if the autumn is long, mild, and

fine, these late-sown turnips will be sure to produce some respectably-sized and valuable roots.

For general garden use, perhaps the best is the Early Stone or White Stone; the Yellow Malta is excellent; the American Stone, or Purple American, with a purple tinge on the part exposed to the air, though perfectly white within, is early and well-flavoured, but is tender, apt to rot in wet seasons, and does not stand the winter well; the Yellow Aberdeen, or Scotch, is hardy and well-flavoured; the Early Dutch is good; a new turnip,—the Orange Jelly,—raised by Mr. Chivas, of Chester, deserves to be more widely known. It is mostly looked upon as a mere field turnip, but is early and excellent for the table. The most delicate turnip-tops are those from Swede turnips: the gardener's requirements must dictate to him whether it is worth his while to plant in autumn a few bulbs for that purpose in some vacant corner. It is useless to give directions about storing turnips, as such are of little value for culinary purposes, except, perhaps, to flavour soups and sauces. For this object, the French prepare turnips by drying and baking them till they are dark-brown, or nearly black, to enrich their ragouts and made-dishes. The small upright radish-like turnips, known and esteemed abroad as the Teltow, the Freneuse, the Navet de Meaux, and the Long Yellow, are not likely to be appreciated here, even if they were generally introduced. Their appearance would prepossess but few gardeners in their favour. They require warm and sandy spots; on strong clays they become sticky and good for nothing.

The cotyledons, or seed-leaves, of young turnips, as they spring from the ground, are very attractive to slugs, snails, and several species of small insects. Early crops are often thus destroyed, especially in dry springs. The best remedy is to force the growth of the plants as much as possible, as they are safe when once they have made three or four leaves. Therefore, not only should a turnip-bed be in good heart, but the drills may be watered with liquid manure immediately before sowing

the seed: and as soon as it makes its appearance above ground, waterings with soft water should be frequently repeated, till rain falls.

Salsify, or *Goat's Beard—Tragopogon porrifolium.*—There are several pleasant roots, of which this is one, which are rarely cultivated in England, except in aristocratic gardens, but which are seen in abundance on the Continent, in the markets of every small town and village. The others are Scorzonera, Chicory, and Skirrets; the latter being the less common. They are served either separately, plain boiled, and then covered with white sauce, or they are made to enter largely into the composition of such dishes as beef *à la mode*, harricoed mutton, ragouts, &c., in the same way as carrots, asparagus-tops, or green peas. In either condition, they afford an agreeable and salutary variety to our list of winter vegetables; and they are all so easy of culture and so hardy, that they deserve to be brought forward out of their present state of neglect, especially as they were not always so much despised and forgotten in Great Britain. Skirrets, particularly, were formerly much esteemed in cookery. In the north of Scotland, they are cultivated under the name of "crummocks."

Sow in March and April, in drills eight or ten inches apart, in good deep-dug soil, which has been highly manured for the previous crop. Salsify does not bear transplanting with advantage. Thin them out in the drills to four inches from root to root. Take up in November, and preserve in sand, in a cellar, like carrots, as many as are likely to be wanted during the continuance of frost. Those left in the ground will send up in spring stout green shoots, which are boiled and eaten like asparagus.

Scorzonera, Viper's-Grass, or *Spanish Salsify—Scorzonera Hispanica.*—The name of this excellent root is derived from two Spanish words, *scorza*, root, and *nera*, black: and the uninviting colour of the outer rind greatly restricts its general use. Housekeepers do not like to waste their time in scraping it; but in the markets of most

large towns in France, scorzonera may be bought ready-cleaned for cooking.

Scorzonera differs from salsify in not being fit for use till the second year: and so far the progress of its vegetation is remarkable. Other esculent roots, after having flowered and ripened their seed, become tough, woody, and uneatable; but scorzonera, sown in spring in rich soil, quickly forms its long straight roots, without putting forth any ramifications. The majority of the plants display their yellow flowers, and subsequently bear seed. If those plants were taken up then, they would be found so stringy as to be useless for the table; but in the spring of the following year, the fibres have disappeared, the roots become fleshy, tender, and full of milky juice, exactly as they were before flowering; and they continue to increase in size without losing their good qualities. They may be sown exactly like salsify, but require double the room to grow in. As the germination of both these seeds is somewhat uncertain, watering in dry weather will be useful to aid their coming up. If possible, procure seed of the previous year.

The Skirret—Sium sisarum.—A native of China, with the root composed of fleshy tubers about the size of a man's thumb, growing together something like a dahlia root. Most gardening books recommend this esculent to be raised from seed; the present Book for the Country advises the contrary. If seed be used, it may be sown and treated exactly like salsify; but amateur horticulturists, long baffled in the attempt to raise a crop of skirrets from seed, have at last discovered in Evelyn's *Kalendarium Hortense*, or *Gardener's Almanack*, the wrinkle, which a host of gardeners had failed to supply:—"March.—Sow skirrets in rich, mellow, fresh earth, and moist: and when about a finger long, plant but one single *root* in a hole, at a foot distance." The skirret being a perennial plant, division of the root offers the surest and most ready mode of propagation.

Chicory, Succory, or *Wild Endive—Chicorium Intybus.*—Chicory roots are eaten on the Continent in the same

way as salsify and scorzonera. They are more bitter and less delicate in flavour, but they yield a larger crop, and afford a considerable supply of wholesome nutriment to palates that are once accustomed to the taste: on that account they are mentioned here. The cultivation of chicory roots as a substitute for coffee, belongs rather to farming than to gardening. For Blanched Chicory as a winter salad,—and it makes an excellent one,—see the section on Salads. For the roots, sow not too early in spring, for fear of the plants running up to seed, when they become useless, and should be drawn, to prevent their exhausting the land needlessly. Mr. Cuthill describes chicory thus:—"The wild or uncultivated chicory is to be seen all over Britain during the months of July and August,—the stems rising to two or three feet, branching out with long dandelion-like leaves,—the blossom is a splendid Prussian-like blue, forming a bright star-like flower, and flowering in clusters; but where the roots are cultivated, and planted in rich earth, the stems will rise to six feet high, and, forming a large, bushy, and splendid flowering plant, and keeping in flower a long time, would form no mean ornament in a border or a shrubbery.

"The heaviest root I ever grew was three-quarters of a pound, and the length fifteen inches,—in fact, as large as a fine stick of horse-radish. The seed of chicory is not unlike its relative—endive, and ought to be sown about the 1st of June, round London, if the soil is light and in a warm situation; but should the soil be strong and retentive, it ought to be sown in the middle of May. The ground being well dug, a drill is drawn a foot apart, the seed sown as parsley is, and about the same depth (less than an inch). When the plants are up, thin them out to one foot apart in the rows, leaving, if possible, the broadest-pointed leaved ones. Nothing more is necessary than to keep them clear of weeds."

Jerusalem Artichoke—Helianthus tuberosus; that is to say, Tuberous-rooted Sunflower.—The flowers of this plant, however, are a horticultural rarity but very seldom

seen in England. By the exercise of his great skill, Knight obtained and exhibited them. They are scarcely worth the trouble they cost, being small yellow blossoms, something like that of the common coltsfoot a little enlarged. The name "Jerusalem" is probably a corruption of the Italian *girasole*, or turn-sun, *i. e.* sunflower; the usurped name "artichoke" (to which it has no right whatever) has reference to its flavour. Hudibras's couplet may be applied to the Jerusalem artichoke:—

> "As Hebrew roots are always found,
> To flourish best in barren ground,"

so the allotted position of this plant is generally to grow year after year in some neglected corner of the garden. It may be propagated by planting, in February or March, any small or mis-shapen tubers which the cook would reject, and which it is best to put into the ground entire, not cutting them into sets like potatoes, in rows from two to three feet apart, at eighteen inches in the row, and three inches deep. A common practice is simply to leave, in the autumn, a few tubers in the ground for next year's crop; as, like horse-radish, it is a vivacious and hardy-rooted plant, not easy to eradicate from a spot of which it has once had possession. Sharp frosts do not kill it. Manure is seldom bestowed upon Jerusalem artichokes, the trenching and cleaning the ground being mostly considered sufficient culture. The tall stems sent up in summer, from six to eight, or even ten feet high or more, may be taken advantage of to form a temporary screen, or to shade beds of delicate seedlings, &c., from the scorching sun of July and August. Take up the roots in November, and store them either like potatoes, in out-door pits, or like carrots in a dry cellar. Under circumstances only tolerably favourable, the crop will afford a heavy return of tubers.

Jerusalem artichokes are largely grown by some landed proprietors as winter food for the pheasants in their preserves. As a table root, some persons dislike them much, while others are as fond of them. They are

eaten boiled, either mashed with butter, or whole, and covered with white sauce before serving them. Take care, while peeling them, to have a basin of pump water at hand, to throw the raw artichokes in, one by one, as soon as they are peeled. This keeps the cut surface from contact with the air, and prevents it from turning black, which it otherwise would do, exactly as a pared apple turns brown. Many people do not take the trouble to store the roots, but dig them up from the ground, as wanted.

For Beet and Radish, see the section on Salads.

ESCULENT BULBS.

The Onion—Allium Cepa.—Onions, though thriving better in warmer climates than that of Great Britain, may still be produced here of such excellence, and in such abundance, as to render them a most important item of the gardener's catalogue. The culture of onions is of inscrutable antiquity. The bulbs are (approximately) biennial, being sown one season, and producing seed the next, when they ought to die (theoretically speaking), but do not always.

Light sandy soils are suitable to the health of onions, because such are also warm and dry; to bear fine crops they must also be enriched by manures, of which ashes, cinders, and soot, besides night-soil, liquid manure, blood, and powdered bones, are amongst the best. By constant application of these, aided by careful tillage, onions may be grown for several successive years on the same plot of ground, though such practice is contrary to the general theory of horticulture. Crops of onions may be obtained in summer and in autumn, by sowing in autumn and spring respectively. For spring sowing, let the ground be well manured, and dug in February or the beginning of March. In adverse seasons, little is gained by sowing too early; yet something ought to be risked in this respect, as the object is to let the bulb enjoy as long a summer as possible. Mark out the

ground into beds with a narrow alley between them, to admit of thinning and weeding. Let each bed contain five rows of onions; the distance from row to row, and therefore the breadth of the bed, will be determined by the sample of bulb required; for very large sorts, as the Tripoli, a foot is not too much, for small onions for household purposes, four or five inches are quite sufficient. To obtain small pickling onions, sow late, *i. e.* at the end of April or the beginning of May, broad-cast and very thick, on a piece of land which has not been manured. The drills must be shallow, not more than half an inch deep; the seed, if possible, of the previous year. After sowing, cover gently with the rake, and sift over the top a thin layer of cinder-ashes or lime-rubbish, or both, to which a top-dressing of soot may be added. Weed carefully between the drills with the hoe in dry weather; and after a shower, draw such weeds as spring up in the drills themselves. The mere stirring of the earth does good. Spring onions being in great request to be eaten raw in salads, as well as for other culinary purposes, the superabundant plants may be drawn from the rows as wanted. But great care should be taken, in so doing, not to disturb the rest, nor should the completion of the thinning be too long delayed. The injury to the general crop would be greater than the value of the spring onions so obtained from time to time. If fine Spanish onions are desired, it is a good plan entirely to sacrifice the spring onions, and to thin out the plants in the drill *with the hoe*, cutting them clean away, when they are about the thickness of a goose-quill, and leaving them about six inches apart. No further care is required than to keep them free from weeds. In September, when the bulbs are well formed, those plants in which the green leaves do not wither and droop, may have them gently turned back without breaking them, by passing a walking-stick or rake-handle over them. It is better to repeat this operation twice or thrice, than to perform it roughly, and once only. The onions, when taken up, should be spread on the ground to dry in the sun for

several days, according to weather. There are various modes of plaiting them in strings, tying them in bunches, hanging them up in nets, fastening them with packthread along the length of a stick, &c.; but in all cases, great care should be taken not to let them sweat in heaps, nor to store them in any way within doors till they are thoroughly dry and matured. Otherwise, they will either rot, or sprout immaturely. With this caution, exposure to the air and security from moisture are the great points of keeping them sound during winter.

For autumn-sown onions, sow in the middle or towards the end of August, as before. In fine open weather, during either December, January, or February, remove carefully all the superabundant plants, taking pains not to injure their roots, and leaving the rest six or eight inches apart. Transplant the surplus onions into like drills on well-manured beds, planting them, not too deep, by means of a line and a small dibble. Take care not to bury the future bulb of the onion, and settle the earth about them by a watering afterwards. These will come nearly as fine and as early as those that stand where sown without transplantation. The Spanish, the Tripoli, and the Silver-skinned, are the kinds best adapted for autumnal sowing and transplantation; but the Globe onion may also be grown very fine in this way. Some leading horticulturists have recommended what may be called a modification of the transplanting mode. They reason that, as the onion, in the south of Europe, acquires a much larger size during the long, warm summers there, in one season, than they can in the colder climate of England, it would follow that *two* summers in England might produce nearly the effect of one in Spain or Portugal. Therefore, seeds of the Spanish or Portugal onion are sown at the usual period in the spring, very thickly, and in poor soil; generally under the shade of a fruit-tree; and in such situations the bulbs, in the autumn, do not much exceed the size of a large pea or hazel-nut. These are then taken from the ground, and kept till the following spring, when they are planted out

at wide and equal distances in rich light soil. If all goes well, they afford plants of superior strength and vigour to those raised immediately from seed, and often exceed five inches in diameter. But, unfortunately, many of them, instead of increasing to those dimensions, send up their flowering stems, and set theory at defiance. The system of autumnal sowing and transplantation is here recommended in preference.

The spring-sown crop, when gathered, will mostly contain a small proportion of plants which do not bulb, or of what are called "goose-necked" onions. The best way of disposing of these is to replant them at once in a row by themselves, just so close together as not to touch. They will be useful to draw during winter, for soups, ragouts, &c., as well as subsequently to supply scallions, or, what comes to the same thing, a substitute for scallions, whether the term is interpreted to mean the green tops of onions which do not bulb in the spring and the shoots from old bulbs of the preceding or former years, or the Welsh onion, or *Ciboule*, a plant to which some little mystery is attached, serving exactly the same culinary uses. The real Welsh onion (*A. fistulosum*), of which there are several varieties, is a perennial plant, which does not bulb, and which may be grown from seed, though best propagated by dividing the tufts of roots. We may look upon it as a larger kind of chives.

The leading varieties of onion grown from seed, are the White Spanish or Portugal, excellent for main crops, a good keeper, may be sown either in spring or autumn; the Globe or James's keeping, large, spherical, a very good keeper; the Deptford, brownish, moderate sized, good keeper, only sown in spring; the Blood-red, of some repute for its diuretic virtues, strong in flavour, not very large, excellent keeper, sown only in spring; the Tripoli, sown in August to have it fine (this and the following are the largest onions grown), light red, tinged with green and brown, not a good keeper, being watery and deficient in solidity, but mild, sweet, and delicious, while it lasts, admirably adapted for stewing whole; bulb

remains dormant a shorter time than most other onions, and recommences growing a few weeks after it is taken from the ground; the Madeira, large, mild, and pale, possessing nearly the same qualities as the above, a great favourite with French gardeners, sown in August; the Silver-skinned, a handsome onion with a milky-looking skin, veined with green, which most books and lists erroneously describe as "small;" whereas, sown in autumn, it attains a considerable size; but being mostly used for pickling, is therefore habitually sown late in spring on poor soil, in order to dwarf it. The Silver-skinned is not a good keeper, but is sweet and delicate, and when large, answers the same purposes as the Tripoli, especially for dishes served with white sauce: the Lisbon belongs to the Tripoli class; the Strasburg is a brown oval onion, a good keeper, and serviceable for general spring-sown crops.

Onion bulbs, for seed, may be planted in a row, in rich earth, about a foot apart, during the first open weather in January or February. Tripoli onions are safest in the ground at the end of November or early in December; they will run a greater risk of injury from rotting indoors than from frost without. Fix a strong stake at each end of the row, for the purpose of fastening strings to support the flower-stems, which would otherwise be liable to be broken by high winds and heavy showers.

The Potato-Onion differs essentially from the above-mentioned varieties, and might almost claim to be considered a separate species. It is of high antiquity, being supposed to be the kind that was worshipped, or held in reverence, by the ancient Egyptians. Not only does it come to maturity earlier than the rest, but it is remarkable for the peculiarity of never producing flowers or seed. So unexceptional is this habit of its growth, that few gardeners, if any, can say they have ever seen a potato-onion in flower. If they think they have, without closely examining the case, they were probably deceived by some stray shallot, that accidentally got mingled with the crop. This variety is therefore propagated *only* by

the root. Very small bulbs increase to large ones; large ones subdivide into a cluster of bulbs of various sizes.

An excellent, and easily remembered garden rule, is, to plant potato-onions on the shortest day in the year, and to take them up on the longest. This early maturity is taken advantage of by the stewards and cooks of vessels that are outward-bound for long voyages, when sailing at the end of June, or the beginning of July. By this means they are well provided with a stock of an almost necessary vegetable. With potato-onions, followed by autumn-sown varieties, and those by good keeping spring-sown sorts, a sufficient successional supply of onions may be kept up nearly the whole year round. And, not only is the potato-onion supplemental to the common sorts, in point of time, but also in constitutional resistance to adverse seasons: that is, when other onions,—especially those sown in spring,—fail, either from ungenial weather, the attacks of insects, or defective seed, the potato-onion will produce a heavy crop. On the other hand, it sometimes happens, though much more rarely, that the potato-onions do not turn out well in seasons when Spanish, Globe, Blood-red, and even Tripoli onions, are both abundant and of good quality.

For potato-onions, give the land a liberal dressing of well-rotted manure during the third week in December; dig it in, preparing the ground well, breaking all the clods, and picking out carefully all the roots of perennial weeds. As near as possible to St. Thomas's Day (*on* that day, if you can), after having raked the ground, prepare to plant the bulbs by marking out beds four feet in width, with a foot-wide alley between each bed. Fix your line along the bed, six inches within its outer edge, and along this line set your onions, nine inches apart, *on* the ground, gently pressing them into the soft earth, just deep enough to keep them upright. Set another row parallel to, and a foot apart from, the former; and then a couple more rows, which will complete the bed. You will thus have four rows, a foot apart from each other,

and six inches from the outside edge of the bed. The plants might be, and frequently are, planted at smaller intervals, both from row to row and along the rows; but nothing is gained by crowding the plants or stinting them for room. It may be laid down as a general rule, that all young gardeners plant too thickly. One of the last horticultural maxims learned is, that fine and well-grown specimens are obtained in proportion as they are allowed light, air, and an extended area of ground to feed on.

When the bulbs are thus placed in their position on the bed, it will be easy for the gardener, by walking up the side alleys, to draw the earth to the rows of onions from each side, till their crowns are fairly covered. In that state they will be left to stand the winter. If frost has already set in on St. Thomas's Day, plant your potato-onions as soon afterwards as the weather will allow, remembering always, that the sooner the better. It is a common fault to plant onions too deep; observe, therefore, that the bulb ought not to have more than half its depth below the level of the ground. Supposing it a terrestrial globe, the soil should just come up to its equator. In spring, when the bulbs are firmly rooted, and the leaves from the crown have shot three or four inches, with a hoe take advantage of a dry sunshiny day (that weeds may wither), to draw back the earth which was heaped up against the roots, reducing the soil to its original level, and leaving the bulbs half exposed to the air. Nothing more than occasional hoeings and weedings will be required. If grubs and maggots are apprehended, watering with lime-water will be a useful precaution; but if they have once eaten their way into the bulb, scarcely anything will touch them.

At the end of the first fortnight in June, symptoms of ripeness will be visible, in the flagging and withering of the leaves. When the original bulb has divided into a large cluster, the central knot will be ripe several days before those next the ground. It may be removed by simply lifting it out, which will expose those which remain to a greater share of sunshine. Potato-onions,

like the seeding sorts, should be well weathered before storing, which will be sufficiently effected, when they are dry, by hanging them in bunches in any dry airy shed, or even in the open air, under the projecting eaves of a cottage. Monsieur Mauduit, of Quimperlé, who has long been a successful grower of this variety, advises, as a mode of preserving them, to cut off the stem about an inch and a half above the neck of the onion, to split the end which remains into four pieces, quite down, but without wounding the bulb itself, and to leave it to dry in this state. It will be seen that directions to earth-up potato-onions during their growth are directly the reverse of what ought to be done. The potato-onion is well-flavoured, and is applicable to all the culinary uses for which onions in general are employed.

The Shallot—Allium Ascalonicum.—A near relative of the above, and best cultivated on the same system, only that it may be planted at distances one-third less each way, supposing the mode of propagation by bulbs (which is the common one) to be followed. Some defer planting till the spring: but the nearer the date of the operation can be made to coincide with that of potato-onions, the more satisfactory will be the result. In fine summers, however, shallots bear abundance of seed, and ripen it well. This seed, sown either in autumn or spring, will produce a sound and plentiful crop, with which the only fault a gardener could find is, that the sample is not even, neither all of a size nor all of a colour, in consequence of variation amongst the seedlings. But, in fact, the varieties of shallot are not very distinct: and a tolerably-sized bed sown with the seed, will pretty nearly furnish specimens of them all. In planting, subdivide the clusters of roots as much as possible, without injuring them. Store like other onions. Shallots are mostly used as mere condiments, in consequence of their small size; but they make a delicious dish stewed whole in gravy, as soon as they become mature in July.

The Leek—Allium Porrum.—A so-called biennial, which is grown in France to an enormous extent, and

which, though largely cultivated in England, is still not so widely spread as its hardiness and its merits deserve. With the French, it is an absolutely necessary ingredient of the soup on which the great body of the nation lives; but it also makes an excellent table-vegetable, boiled in salt in water, and served with white sauce, exactly like asparagus. It is at its best, too, in the most difficult time of the year; namely, from the middle of March to the middle of May. At the same time that it possesses many of the qualities of the onion, it has also the advantage of thriving well in colder, wetter, and more ungenial climates, like those of Wales, Ireland, and Scotland, as compared with England, besides doing well on damp, cold soils. It is, therefore, a root which deserves the patronage of the philanthropist and the legislator. The London Flag and the Musselburgh are improved varieties of the common leek.

Leeks are almost always sown on a seed-bed and transplanted afterwards. The reason is, not only convenience, but because, as leeks bear deep planting, which onions do not, they are, therefore, purposely planted deep, to have a greater length of blanched stem. The earlier the sowing and transplantation take place, the finer the specimens. In our climate, late-planted leeks, though useful in their way, remain poor and diminutive. Sow, therefore, at the end of February, or as soon after as may be, a patch broadcast and tolerably thick, in good light soil, well manured. It is convenient to make their transplantation follow the removal of some early crop,—for instance, of autumn-planted lettuces, or Early York cabbages. As soon in June as possible, transplant the leeks in rows into beds four feet wide. The distance of a foot from row to row will give four rows in a bed, with an outer margin of six inches to spare on each side. The young plants should be not less in size than a large goose-quill; if even larger, it will do no harm. Take them up carefully from the seed-bed, without breaking the fibres of the roots. Cut off a few inches of the tops of the leaves, to prevent them from being top-heavy and

swaying over, but do not cut the roots. The bed will have been well dug and manured. Plant the leeks, by line, six inches apart in the row, with a long, stout dibble; *i. e.*, make a perpendicular hole some six or eight inches deep, according to the strength of the plants, and drop a plant into each hole; push into the hole, with the end of the dibble, just a little earth to cover the fibres of the root, and leave the leek standing loose in the hollow tube of earth, like a candle in a candlestick that is much too deep and too large for it. When the bed is completed, give the whole a good watering, which repeat daily, if the weather continues dry, till you see that the plants have retaken root. Drought is the greatest enemy to a fresh-planted crop of leeks. Afterwards, as weeds start, cut them up with the hoe in dry weather. Although your leeks may be fine and tempting in November and December, resist the inducement to make use of them then, unless you are absolutely obliged to do so. Later, in March, and subsequently, not only will they have greatly increased in size, but they will have matured their sugary and mucilaginous juices, and have become better flavoured, tenderer, and more nutritious. A very little management will enable you to hold this crop in reserve till the last.

Extra-sized leeks may be obtained by planting, the last week in May, a single row instead of a bed, of plants from nine inches to a foot apart, leaving the ground unoccupied for eighteen inches on either side of the row. During fine open Christmas weather, the leeks may be earthed up, like celery, halfway to the tops, which will much increase the length of the portion blanched. It is worth while to save a few fine leeks, of a good sort, to stand for seed. A stake should be planted close to each, to support the flower-stems. Cut the heads as soon as the capsules of seed begin to open, and dry them well in the sun, spread out on a piece of canvas. Some gardeners prefer to keep their leek-seed in the husk and head. Seeds retain their vitality better in that state, if they are kept perfectly dry, and free from all mouldi-

ness; but in such cases, to prevent loss by shelling out, the heads should be inclosed in linen or paper bags, with a few holes torn near the top, to allow of ventilation.

Chives or *Cives*—*Allium schœnoprasum*.—A small species, which does not bulb, being more like a cluster of miniature leeks than a tuft of onions, and which is mostly, and properly, spoken of in the plural number. It is one of the "fine herbs" of which, chopped very small and mixed with parsley, &c., such an enormous consumption is made in Paris, for sprinkling over chops, steaks, salads, cold fish, and many other dishes, besides entering into the composition of *omelettes aux fines herbes*. In England, chives are useful to throw into broths and stews. In early spring, the dwarf stems separated, and with their outer skin peeled off, serve excellently as spring onions, to eat raw. A few tufts taken up in mid-winter, planted in flower-pots, or a mignonnette-box, and set in some snug warm corner in the kitchen or bakehouse, will afford a welcome and early supply before spring onions are to be had. The roots so treated may afterwards be planted in the open garden.

The bright green of their delicate leaves, and the thickness with which they rise from the ground, render chives quite an ornament to the plot of sweet herbs. They may be planted either as an edging, instead of box, in neat parallel rows, or they may be made to form any fanciful device, such as a true-lover's-knot, or the ciphers 1855, the date of the year of their establishment on the spot. Chives may be cut (with a *sharp* knife or scissors, and to the level of the ground) several times in the course of the season. Indeed, successive portions *must* be cut down in this way, if a succession of young shoots are wanted. Chives flower freely; but they are best propagated by dividing the roots into separate stems, and planting them in rows, or ornamental curves, half an inch from stem to stem. They will soon furnish thickly, and form a continuous line of verdure. They

may remain for a long period without renewal or removal.

Garlic—Allium sativum.—A member of the onion family, which, though consumed in great quantities, and cultivated on a large scale in the kitchen-gardens of the south of France, and throughout southern Europe generally, is better known in England by name than by sight. Many people express their horror of garlic who have never tasted it, and who would not recognise the plant if laid before them; but who also relish samples of London and Parisian cookery, which they would refuse if aware of the ingredient that serves to heighten the flavour of the sauce. Prejudices in eating and drinking are exceedingly difficult to eradicate; and untried articles of diet are the objects of the strongest prejudice. But garlic, besides being in great repute as a tonic and stomachic antidote to the debility caused by long-continued hot weather, is also recommended as affording relief to nervous, hysterical, and convulsive affections.

Garlic differs from the above-described species of onion, in having linear or flat, instead of hollow or fistular, leaves. The mature bulb, too, separates naturally into ten or a dozen small ones, each of which is what the cooking-books call "a clove of garlic." The whole are inclosed in an outer skin, which turns whitey-grey when dry. For increase, these cloves are planted at potato-onion time, or even earlier in autumn, so soon as October. Some replant them directly the clusters are ripe, though planting *may* be deferred till February or March. Set the cloves an inch deep, by means of the dibble, six inches apart, in rows that are nine inches or more asunder. Warm rich soils suit them best. Weed and hoe as the plants advance. One crop of garlic is enough for most English gardeners; but on the Continent, the autumnal and the spring plantings give two successive crops, both which are welcomed. Garlic has the habit of sending up a stem which bears at the top, instead of flowers, a bunch of small bulbs inclosed in a conical sheath. To arrest the growth of these, and

to throw the strength of the plant into the ground bulb, it is a good plan to tie the leaves and stem into a knot as they advance towards maturity. When the leaves are withered, the bulbs are taken up, left to dry in the sun, tied in bunches, and then hung up in any dry airy place.

Rocambole—Allium Scorodoprasum.—A few roots may be allowed standing-room as a curiosity, and as examples of viviparous plants; *i. e.* those which habitually, instead of flowers and seeds, throw off buds, or bulbs, which are only a peculiar modification of buds. Its mature root is a compound bulb, like that of garlic, and will answer the same purposes. Rocambole produces bulbs on the top of its stem, and in the axillæ of its leaves. These bulbs will serve to propagate the plant.

Tree-onion, Bulb-bearing Onion; Oignon à tête, and Oignon d'Egypte, of the French.—*Allium Cepa,* var. *viviparum,* regarded as a viviparous variety of the common onion, which is supposed to have acquired in Canada (where the climate is too cold for onions to flower and seed) the habit of bearing bulbs instead, which habit it retains in England and France, and even, as one of its names implies, in Egypt. However, these supposed changes of constitution are suppositious, and nothing more. The tree-onion has found favour with many growers, although it is rather strong and coarse, and easily rots in winter, if exposed to damp. But it unites the advantage of a *certain* crop with economical culture. The little seed-bulbs, planted in early spring, grow to the size of an ordinary good-sized onion; while the large onions, planted out, furnish plenty of seed-bulbs for the following season, besides producing at the root two or three middle-sized offset-bulbs, which are found when the original roots are taken up. The bulb-bearing stalks require to be supported by sticks, to prevent their being broken by the weight of their heads. The little onions may be planted in beds; the large ones are better in a single row.

The Subjects of Horticultural Experiment.

The Oca—Oxalis crenata.—Persons enjoying means and leisure may laudably amuse themselves by testing the value of new alimentary plants. They must be content to draw a good many blanks before they light on a single prize; but they will not be discouraged when they remember the tardiness with which the public discovered and acknowledged the merits of two such culinary treasures as seakale and rhubarb have proved themselves to be. If the amateur fail, he will have failed in a good cause, and the failure even will be honourable. If he succeed, he will have the glory and the satisfaction of rendering a service to the community at large.

The *Oxalis crenata*, or Notched Wood-sorrel, a tuberous-rooted esculent, cultivated in Peru under the name of Oca, was introduced into England from Lima in 1829, and was rapidly spread over the continent. It grows freely during summer in the open air, but is destroyed by frost. In autumn, it forms numerous yellow underground tubers, from the bigness of a marble to a large hen's egg, which last size they rarely attain. They are edible, contain a good deal of saccharine matter, and their number makes up for the deficiency of their volume. It has been proposed to use these tubers as potatoes, the foliage in salad, or to be cooked in the same way as sorrel, and the stems in tarts. This abundant crop of tubers is obtained by the process of earthing up, or rather by the continual layering of the stems. Oca is of easy cultivation. The tubercles can be forwarded on a hotbed in March, to be planted out in May; or they may be planted where they are to remain in the middle of April. Oca may also be propagated by cuttings, which readily take root. Light rich earth suits it best. The distance between the plants should be about a yard. A single row down the middle of a bed four feet wide will suffice to cover the ground by the end of the season. Earthing must be commenced when the shoots are from

two to three inches long. The earth is first thrown over the centre of the stools, spreading them separately to make them take a horizontal direction. As they increase in length, a moderate quantity of fresh mould is drawn over them, and the same operation is continued regularly till September, the season when the tubercles begin to form, which are taken up as late as possible, even after the stems are destroyed by frost. The dead foliage may then be cut close to the ground, and the bed covered with a layer of dry leaves, under which it has been found that the tubers will keep and improve. When taken up, they keep well during winter buried in quite dry sand, in-doors; but they must be protected from mice, which are greedy of them. The tubers, when cooked, have a pleasant flavour, with a slight acidity common to the genus; which may be removed, for those who dislike it, by changing the water in which they are boiled.

The Oca has flowered, but does not produce seed, in Europe, which it would be desirable to make it do, in order to originate varieties that might prove hardier, and produce larger tubers, than the parent. Oca-beds spontaneously produce a white variety; certain stools bear white tubercles exclusively, although yellow ones were planted; and the change of colour is perpetuated in the offspring. The Red Oca, sent to Paris in 1850 from M. Bourcier, the French consul at Quito, is also a variety of the *Oxalis crenata*, from which it differs in the colour of its tubercles, whose skin is of a bright-carmine red, and, in its more slender stems, tinged with reddish violet, and remarkable for their extreme flexibility. In France, its tubercles have not proved either larger or more abundant than those of the old yellow variety, although, according to M. Bourcier's statement, the Red Oca is considered in Peru as much preferable to the Yellow Oca as an alimentary plant. The above details are borrowed from the *Bon Jardinier* for 1855.

The Chinese Potato or *Yam—Dioscorea Batatâs.*—During the spring of the present year, the gardening periodicals have contained frequent advertisements from

the leading nurserymen of London and the provinces, announcing tubers of this plant for sale, and recommending its trial as an esculent root. The *Gardener's Chronicle* of December 23rd, 1854, gave a lucid account of the experiments hitherto made in France. Speculative gardeners may like to continue the investigation; and they may be encouraged by the circumstance that the chances of success, in the climate of Great Britain, are greater, with new vegetable introductions from China and Japan, than from almost any other country on the face of the globe, California alone, perhaps, excepted.

The Dioscorea Batatas, wrongly named *Dioscorea Japonica* (in French, *Igname de la Chine*), was sent to France, some five years since, by M. de Montigny, the French consul at Shanghai, a gentleman who has rendered great and honourable service to his native country, by the transmission to it of objects of natural history unknown before. The plant has annual stems and perennial roots, or, more accurately speaking, rhizomes, which are full of starch and are slightly milky; they are true subterranean stems, which, instead of rising or creeping along the ground, descend perpendicularly to the depth of a yard or more, according as the soil is more or less permeable. The stems proper attain the length of from three to six feet; they are cylindrical, of the thickness of a stout goose-quill, twisting as they climb, from left to right; of a violet tinge, speckled with small white spots. When left to themselves, they creep along the ground and take root very freely. The leaves are in general opposite, triangularly-heartshaped; their length and breadth much alike, varying from one and a quarter to two and a half inches; their surface is smooth, shining, and of a deep green. The flowers are dioecious,—that is, the male and female flowers are distinct, and also grow on separate plants: they appear in small pale-yellow bunches, from the axillæ of the leaves. The rhizomata, or roots in popular language, vary in thickness and length, according to the vigour of the plants, and probably also accord-

ing to the nature of the soil. In general, these roots are club-shaped, of the bigness of a man's wrist at their thickest part, tapering upwards gradually till they are hardly so stout as one's finger. They are covered externally with a light-brown skin, through which numerous radicles shoot forth. The same plant is capable of producing several rhizomes, although in general it has but one. In France, roots have attained more than two pounds, but their average weight there is considerably less.

The Chinese, it appears, cultivate this species on a large scale, although the depth to which it penetrates would appear to offer difficulties. It produces abundantly, and the country people feed on it, exactly as the peasants of the north of Europe live on potatoes. To propagate the plant, they lay aside the little roots, preserving them from the frost in heaps covered with straw and mould. In spring, the roots are planted by laying them in furrows, in a horizontal position. The plant also grows readily from cuttings. Full details of its native culture are still wanting.

M. J. Decaisne, in this year's *Bon Jardinier*, expresses strong hopes that the Chinese yam will turn out useful: and he has not formed his expectations hastily; the plant, therefore, as yet unseen by the great majority of growers, has nevertheless become everywhere an object of attention to the horticultural public. Certainly, among the plants proposed to replace the potato, none appear to have so good a chance of success as this. The mode of culture which has as yet answered the best in France, consists in cutting the roots into moderate-sized fragments (preferring the heads, or noses, of the roots), and starting them on a hotbed, in little pots, in the month of April, planting them out where they are to remain, in light rich soil, as soon as all fear of frost is over. The plant has a tendency to plunge its roots perpendicularly into the ground: consequently, it does not suffer from the short confinement in a pot, to which it is subjected. It seems to like being watered; at least if a judgment

can be formed from the stationary condition of its vegetation during drought. The produce should be taken up as soon as possible.

It would be out of place here to enter into fuller particulars. Enough has been said to indicate to the experimental gardener the useful field of investigation that lies open before him. The pursuit of such a desirable object will prove a pleasure in its very exercise.

ESCULENT VEGETABLES—THE CABBAGE TRIBE.

The Garden Cabbage—Brassica oleracea, in many varieties; but the varieties are more numerous in name than in reality.—Many professional gardeners have sought to immortalize themselves, or to gain exclusive custom, by advertising new cabbages, which, admitting them to be of undoubted excellence in their way, bear so strong a family likeness to some of the old-established types, that nothing but extreme good-nature can admit them to be either improvements or new. Consequently, only a few sorts of acknowledged merit will be specified here. It is advisable to buy the seed of this tribe of plants from respectable nurserymen, in preference to growing it oneself: as, to insure its trueness, the seed-bearing plants ought to be placed together in as large numbers, and in as isolated a position, as possible, to prevent insects, or even the wind, from crossing the race with pollen borne from flowers of some other variety. Cruciferous vegetables in general have a tendency to be thus bastardized; and the inconvenience is only to be avoided by taking great precautions, which are not always possible to small gardeners. A neighbour's bees, or a row of run-up neglected winter-greens, may spoil what would otherwise be a valuable sample of seed.

The Early York has hardly its superior for a private garden. Its flavour is of extreme delicacy, while its moderate size renders it both convenient and attractive, though market-gardeners would undoubtedly prefer it, if

larger and heavier. But even as it is, they are far from neglecting it, as is proved by the waggon-loads of "summer cabbages" which reach Covent Garden Market at the beginning of June. To this family belong the Early Dwarf York, the Bullock's Heart, and others. The Early Battersea, a larger, and a somewhat later, cabbage, is excellent for summer and autumn supply. The Sugar-loaf, of which there are later, earlier, longer, and shorter varieties, is a favourite with many, though not so with the writer of these pages. It is a good-looking cabbage, presentable at market, with a large portion of tolerably-solid well-blanched heart; but on cooking it, it is apt to turn out tough, and only of second-rate flavour. Persons who are choice, and difficult about the cabbages that are served on their tables, will find varieties that will please them better than the Sugar-loaf. It is a useful sort, nevertheless, being hardy, and affording abundant supplies. The Paignton is a good cabbage, not generally known. The Vanack, ditto ditto; Atkin's Matchless, dwarf, early, highly approved; the Fulham, good; the Schulford or Paradise, large, early, excellent; the Early Brompton, good; Tiley's New Early Marrow, very tender, much approved; Shilling's Queen, very dwarf, early, excellent; Wheeler's Imperial, large, early, good; Early Nonpareil, large veins, early, excellent; Preston's Victoria, large, early, highly recommended; besides a host of rivals, with none of which a reasonable cook ought to be dissatisfied, when the gardener presents them; all these merit trial. Peculiar soil, situation, or culture, may develop the excellences of some more than of others, and it is probable that they will not give equal satisfaction under the same invariable circumstances; but the amateur, after having gone the round of these, as well as of the newer and the very newest novelties, will, perhaps, return at last to his old love,—the Early York,—whose name should be printed in letters of gold, if our printer had but golden ink to do it with.

The Field Cabbage, Drumhead Cabbage, Cattle Cabbage, called in Cornwall the Flatpoll, is a most excellent

variety, of great distinctness. It is so capital, that no kitchen-garden ought to be without a few score plants for autumnal and winter use, if it is not grown largely in the fields close by, and to be had without troublesome forms and difficulties. Though attaining enormous weights, it is not coarse, when well grown, but delicate and sweet. It is hardy, too; and may be depended on, like a faithful wife, when storms arise and other friends fail. Its quality and flavour being entirely different to those of the admirable Savoy cabbage, the two varieties ought not to be looked upon as competitors, but each should be received and fostered with equal favour, which can scarcely be too great. The Red cabbage, or Red Dutch, is little used in England except for pickling. On the Continent it is generally eaten in the shape of a stew or fricassee (especially during Lent, when it forms an excellent meagre dish), at all times of the year when it is to be had. For pickling, cabbages are best fit in August; because then, owing to the dryness of the season, they are less watery, and absorb the vinegar and spices more readily. Therefore, for red cabbages to pickle, sow in the middle of August, to stand the winter and be ready at the close of summer till the end of autumn. For red cabbage to fricassee during winter and Lent, sow early in the previous spring. These latter plants, of great convenience for Roman Catholic families, will not turn out so fine, and often not so solid, as those sown in autumn.

The cabbage tribe in general are notorious as gross feeders. They like fresh, rank manure, and plenty of it. Hence, they prove excellent precursors of crops which do not thrive after its recent application. They are all likewise subjected to transplantation. Sow in separate seed-beds, noting the name and date of each variety. Sow Early Yorks at least twice a year; in early spring and towards the close of July. The nineteenth is a mystic day with certain gardeners; but the truth is, that the latitude of the spot has a great deal to do with it. Others restrict the principal sowing for the early and

main summer crops, from the 5th to the 12th of August; and again it is the truth that much depends upon the time of pricking out, or first transplantation, and of final planting out, as well as on the date of sowing. A prudent gardener will make *several* successive prickings-out and plantings, in order not to have all his cabbages of the same sort come on at once. In neighbourhoods, as about London, where coleworts (or cabbage-plants half-grown, before they have formed their hearts) are in great request, on or about Midsummer-day a little Early York seed may be sown for a first crop. To sell, coleworts are a profitable crop, as they occupy the ground for so short a space of time; but the demand for them is not universal. In some parts of England they are little used, although so wholesome and delicate a vegetable. In all cases, it is understood that after pricking out and planting, which will always be in highly-enriched soil, the ground is constantly hoed and kept free from weeds. The distances must entirely depend upon the kinds, and upon the time of year also. The gardener will be guided by his own common sense, never forgetting the golden rule, "Better a little too far apart, than a little too crowded." A few of the earliest Early Yorks may have their hearting assisted by tying up their leaves, towards the close of May. Where coleworts are used, summer cabbages may be planted out twice as thick as they are to stand for hearting. By drawing at the proper time, every other row, and every other plant in each remaining row, the crop of coleworts is exactly so much gained. Remember only to manure well beforehand, and to hoe well, and to earth up neatly, afterwards. In cutting a hearted cabbage, *never* leave the stump standing, to make sprouts by-and-by. It is an idle and slovenly practice, infinitely more honoured in the breach than in the observance, and a detestable piece of bad gardening. The gardener who cannot furnish delicate greens and sprouts, without slitting his cabbage-stumps crosswise, and leaving them three or four months to disfigure the place they occupy, is at best a mere ground-scratcher,

who has yet to learn the refinements of his elegant art. Excuse this sentence, as a word to the wise.

Of Savoys, there are the Large Green and the Dwarf Green. Sow in April or May; to have fine specimens, plant out not later than June. July and August will furnish middle-sized and small heads, that will prove very acceptable in winter and spring. Quite late plants will not heart at all, but will only run up on the return of fine weather. It is not usual to sow Savoys in autumn. There is a vulgar idea, which is nothing but an idea, that Savoy cabbages are improved by exposure to frost.

Brussels Sprouts.—A vegetable delicacy of easy culture. Treat like Savoys, only sowing them a little earlier, and planting them at once in the rows where they are to stand. The plants will run up from two to three feet high, forming a little Savoy-like cabbage at the top. As summer advances, the side-leaves will drop off (they may be aided, not too soon, by stripping), and from the bud at the root of the footstalk of each, will appear a miniature cabbage, which is the Brussels sprout. The small cabbages from the crown of the stems are best cooked separately. The seed is usually imported from Belgium; as false Brussels sprouts are unfortunately common, and are mostly good for little but to throw to the pigs.

The Choux de Milan, or Milan cabbages, only require mention here, to state that they are subvarieties (and some very inferior ones) of Savoy, which have no right to ask for admission into gardens where good Savoys and Brussels sprouts will grow. Some Choux de Milan *are* Savoys.

Couve Tronchuda, or *Portugal Cabbage;* in French, *Chou à grosse côte.*—An excellent cabbage, when taken at the right time, but hard and tough when cut in certain states. It (or rather the seasons which influence it) is somewhat capricious; hence, different people look upon it with different degrees of favour. Portugal kale is best after a continuance of mild, cloudy, showery

weather; for instance, in spring, after a mild winter. This cabbage does not form a heart; but, in recompense, the veins and footstalks of the leaves are of extraordinary thickness, being swollen more than is seen in any other variety of the tribe. This general succulence of habit, added to its delicate glaucous-green colour, which often becomes yellow in the centre of the plant, as if it were blanched, gives it a very prepossessing appearance. It is usually directed to strip off the green part of the leaves, and to eat the ribs and footstalks, boiling and serving them like seakale. But when they are sufficiently full-grown to be so treated, they are mostly tough and hard. Couve Tronchuda has thus been brought into disfavour. The middle part of the plant, which ought to be the heart, is excellent for table use; it is fleshy, delicate, sweet, tempting to the eye as well as agreeable to the palate, tasting something between cauliflower and sea-kale, and therefore possesses all the good qualities of cabbage without the strong flavour and smell with which that vegetable is sometimes chargeable. In cooking, take care to throw the heads into a *large* vessel of *boiling* water. Sow from the end of May to the end of June. A single sowing will suffice, as from the same seed-bed three or four transplantations may be made during the summer, some of which will turn out better than others, according to the chances of the season, but very frequently the latest the best. The plant is not particularly tender in ordinary winters; but if a small space on a south border can be spared for a late setting of Portugal kale, with a few handlights to cover them, the gardener will find himself repaid in spring by some excellent dishes of delicate greens.

Borecole, Scotch Kale, &c. &c.—Coarse hardy greens, but whose hardiness has been much overstated, admissible into gardens rather as specimens than as crops, except in situations where nothing better can be grown; and better things will grow almost everywhere that kale will. The group is in favour with cottagers in sequestered

maritime situations, because it furnishes sprouts for themselves and leaves for their cow or pig. It would be a real kindness to such persons, were their clergyman or their landlord to present them occasionally with a few score young plants of Drumhead, Savoy, and Battersea cabbage.

Cow Cabbages, Thousand-headed Cabbages, Tree Cabbages, Choux Cavaliers, and others of the kind, that run up like palm-trees,—one of them is called the Chou Palmier,—beneath the shade of a plantation of which a man may sit in his arm-chair and smoke his after-dinner pipe,—this is no exaggeration,—these have no place in the garden proper. They belong to the field, or to the cottager's plot, where he may strip off a barrowful of leaves for the daily use of his cow. They have as little relation to horticulture as that botanical curiosity the Wild Cabbage, which has grown for ages self-sown and unimproved in the chinks of the perpendicular chalk-cliffs of Dover, in England, and of its opposite neighbour, Cape Blanez, in France.

Cabbage Soup; an excellent, wholesome, and nutritious article of diet.

Wash thoroughly, and shred very fine (as if for making pickled cabbage), the hearts of one, two, or more (according to size), summer cabbages, or of a delicate Savoy. A good Drumhead answers admirably. Slice and mince some carrot, turnip, and two or three leeks, all very fine, and mix well in a bowl together all these shred and chopped vegetables.

Have ready a good broth; pork or beef boilings will do, when not too salt; but the French prefer a broth, or *bouillon*, made of *a variety* of meats boiled together; for instance, a piece of lean beef, a knuckle of veal, a *small* piece of fat salt pork, and a bit of the neck or shoulder of mutton. These meats need not be cooked so much as to render them uneatable either cold or warmed up in a stew, or even served hot at the same dinner at which the soup appears. For these purposes they are invariably used in France, instead of being

thrown away, as broth meat too frequently is in England.

When the meat is enough done according to your judgment, take it out, make the broth boil galloping, and throw into it your bowlful of well-drained chopped vegetables. Let them boil away, without the lid on, till the cabbage, &c., is *quite tender*, but not cooked to a mash.

While the vegetables are boiling, slice and chop one or two large onions (if more convenient, they may be prepared beforehand); fry them *in butter* to a rich brown. Add them to the soup, and mix them up with it.

Cabbage soup-maigre, for abstinence days, is made in the same way as above, using water instead of broth, and often adding to the cabbage a large handful of chopped sorrel,—an excellent purifier of the blood. A larger quantity of fried onions is used; and, at the time of adding them to the soup, a small basinful of grated crumb of bread is also incorporated with it, to make the whole more substantial and nourishing.

Kohl-Rabi, or *Turnip-rooted Cabbage.*—A coarse vegetable, a favourite in German kitchens, which are more liberal than discriminating in the abundance of dishes they send to table. Sliced cooked Kohl-Rabi is there served in the centre of a dish, with the boiled leaves around it, as coleworts or spinach. In England, the green part mostly finds its way to the rabbit-hutch, while the false bulb is boiled and served whole, and sliced and eaten with butter by those who partake of it. The flavour is only agreeable to those who do not dislike a strong taste of cabbage. Kohl-Rabi was known to Dodonæus. At p. 552 of his Herball, we find: "The fourth kinde (of colewurtes) hath grayish or white greene leaues, as the other white colewurtes haue, but they remayne still without closing or gathering to a rounde head or croppe; yet it beareth a great rounde knoppe like a turnep, the which groweth right under the leaues, euen hard upon the ground, and is white within lyke

a turnep, and is euen so drest and prepared to be eaten."

There are several varieties of kohl-rabi, some purple and some green. A row of each may be allowed admission in a well-stocked garden, as the curious appearance of a coloured turnip on a short stem, quite out of the earth, and surmounted by a tuft of leaves, renders them both striking and singular. Kohl-rabi bears frost well. The best thing it produces is the shoot which rises from the centre of the bulb in spring, when the plant would run up to flower. These, cut and boiled like sprouts, are really palatable. Of course, this shoot exhausts the bulb so as to make it nearly worthless. Sow at the end of May or the beginning of June, and plant out, at one or two doings, in July and August.

The Cauliflower—Brassica botrytis.—Many people confound cauliflowers with broccoli. They resemble each other greatly, especially when only the head, or flower, is seen; but an important difference is, that cauliflowers are tender, injured, and even destroyed, by slight frosts, while broccoli are hardy (more or less), and bear our ordinary winters, though not our severe ones; consequently, cauliflowers come to hand in summer and autumn, while broccoli furnish an early-winter, spring, and early-summer supply. Of cauliflowers, there are only two varieties (*if* there are two),—the Early and the Late; of broccoli, the varieties are numerous. The Walcheren Cauliflower, or Broccoli, which is large and excellent, but tender, is intermediate between the two. Gardeners take great pains to get forward cauliflower-plants through the winter, by sheltering with hand-lights, in frames, &c.: but it is hardly worth the trouble; disappointment often follows from deaths by frost, or, more provoking, by the cauliflowers in spring forming miniature heads, from the size of a shilling to a half-crown. Besides, broccoli perfectly supply the place of *very* early cauliflowers. For those who will speculate in such uncertainties, the best mode is to sow the seed the last

week in August, and not to transplant them till the middle, or near the end, of November, before the hard weather sets in. No sort of covering is necessary, nor any other protection than that afforded by a wall having a south aspect. In this way, young cauliflower-plants will stand ordinary winters, and will prove better and sounder for final planting-out in spring, than such as have had additional shelter. Seedlings, protected under glass frames, become tender, and suffer afterwards from exposure to the open air. Late-raised seedlings, which spend the winter in the open border, mostly prove the finest cauliflowers during summer, although they do not come in quite so early. Cauliflower-plants, there is no doubt, are often killed with too much care. Seedlings raised late in autumn seem to be very tenacious of life.

For main crops, make two successive sowings; the first at the end of February or beginning of March, in the warmest and most sheltered spot you have, in light rich soil. Quite at the foot of a south wall is a good place. Do not sow too thick. Plant the seedlings out as soon as they have made three or four leaves. Make the second sowing in the middle of May. Transplant at three or four intervals of ten days or a fortnight, in heavily-manured ground. These will give you crops which will come ready at times between September and November; after which, cauliflowers are no longer safe in the open ground, but are better hung up, root and all, in an airy shed. Liquid manure, diluted chamber-slops, soap-suds after a family washing, sewerage-water, and such-like gross fertilizers, may be used with advantage for watering cauliflowers during the early stages of their growth. Few vegetables are so liable to the attacks of snails and slugs, which must therefore be watched and destroyed. These vermin prefer weltered and flagging leaves to those that are quite fresh. A few leaves from cauliflowers that have been cut, laid close to the other plants, will attract the depredators, which may be picked off then, and killed early every morning.

Broccoli—Brassica cymosa.—The Brassica Pompeiana, aut Cypria, was a cauliflower or broccoli, according to Dodonæus, p. 552: "The third kind of white colewurtes is very strange, and is named Flowrie or Cypresse Colewurtes. It hath grayishe leaues at the beginning lyke to the White Colewurtes, and afterwarde in the middle of the same leaues, in the steede of ye thicke cabbaged, or lofed leaues, it putteth forth many smal white stemmes, grosse and gentle, with many short branches, growing for the most part al of one height, thicke set and fast throng togither. These little stemmes so growing togither, are named the flower of these Colewurtes." There are white, green, and purple broccoli; of the former, the varieties are numerous, and every year brings forth a new one. The leaves of broccoli are of a deeper green, and the heads of a less pure white, than those of cauliflowers. Good sorts are the White Cape, Knight's Protecting, Grange's Cauliflower, the Late Dwarf Tarton, Chappel's Cream, Early White Malta, Early Sulphur or Portsmouth, Wilcove's Late White, Miller's Dwarf, Dwarf Siberian or Danish, New Mammoth, &c. &c.

Sow these in May, for spring use. Autumnal broccoli are not wanted, if cauliflowers are grown. Make successive transplantations in July and August. The exact date of these must be often guided by the clearing of other crops (such as peas, beans, and lettuces) from the ground. In planting out, take care to give plenty of room. Four feet square is not too much space to allot to a fine broccoli-plant. At first, they may be planted out twice as thick as they are to stand in the row. By removing elsewhere every other plant at a later period, a check will be given to their growth, and they *may*, perhaps, come in considerably later than those that remain. A great difficulty is, to have a succession in spring; in spite of every pains taken, they often will show their faces almost all at once. Hence the expedience of growing a few plants of a good many sorts, instead of a large number all of one sort, and of transplanting and replanting at different periods of the summer.

Broccoli-plants stand average English winters, but unusually hard frosts will kill every plant in a garden. It is known that the transplantation of vegetables immediately before severe weather, renders them less liable to its attacks, as the flagging of the foliage, from the smaller amount of sap contained, leaves the frost less matter to work upon. It is therefore a good precautionary measure to take up part of the crop (even if they are replanted on the very same spot) in the middle of November, disturbing the roots as little as possible, and laying them in a slanting position, with their heads towards the north, only a few inches above the ground, and about eighteen inches or two feet asunder. An objection is, that the heads produced from them the succeeding spring are comparatively small. Broccoli come larger and finer on the spot where they are planted; but it sometimes comes to a choice between having inferior-sized broccoli, or none at all. Knight, however, states that, to obviate this, he tried the plan of trenching, or laying them in, in the month of September, and placing them so low as that the centre of the stem at the top of each plant was level with the surface of the ground. The plants were watered, roots were properly emitted, and the earth was drawn round each plant before snow was apprehended. The consequence of this treatment was, that the plants were fresh and vigorous in the spring, and produced large heads.

When the plants begin to show flower, it is a protection to them to break with the finger and thumb the mid-rib of four or five of the innermost large leaves, so that they droop inwards, and form a sort of sheltering umbrella over the growing bud. Broccoli may often be saved in this way from being completely spoiled by sharp spring frosts. A natural substitute for this easy operation constitutes the leading merit of Knight's Protecting Broccoli, a variety raised by the late illustrious president of the Horticultural Society. The inner leaves have a tendency to close together. "It is said to produce a bracteal leaf on one side of the flower, which rises up and

folds over it, thus protecting it from the sun or rain." The plan of turning in a few leaves should also be adopted with cauliflowers that show fruit; it screens them from hailstorms and scorching sunshine; it also indicates at a glance where a head is fit to cut, or likely to be so soon. Breaking in the leaves is better than tying them together at top, because tying prevents examination to ascertain their state of forwardness.

Early Purple Broccoli, Dwarf Late Purple Broccoli, Tall-headed Purple, and Green Broccoli, may be sown earlier than the White,—at the end of February,—because they come ready for use in autumn or early winter. They are a distinct, well-flavoured, and valuable group, which supply a most useful variety in the list of winter greens. When of first-rate quality, they are even more luscious and delicate than White Broccoli. Dr. Darwin, in his *Phytologia*, invokes on his friend "Poetic Tighe" the privilege "to dish *green* broccoli with savoury chine." Note, that purple broccoli boil green. To have them come to table a good colour, dash them into boiling soft water, in a saucepan without a lid.

Asparagus-broccoli is a large spreading sort, with a finer name than it has any right to, whose sprouting shoots are eaten in spring, but which takes up too much room, unless with families who have a good many rabbits or goats to feed, when it may be made to serve as food for man and beast at once. There is no fault to be found with the shoots themselves, except that you only get a good dish from a mass of vegetation that will dine a cow. They are in all respects better than cabbage-stump sprouts.

The Pé-tsai—Brassica Chinensis—and the *Pak-choï*, a strongly-marked variety of the former, are Chinese cabbages lately introduced to Europe, in high esteem in China, though but little has been done with them here, the great difficulty being their tendency to run up to seed. The former ought to attain great weights,—fourteen pounds and more; the latter is of remarkable appear-

ance and delicate flavour. They are merely mentioned here to bring them under the notice of experimental gardeners. The seed, doubtless, can be obtained from nurserymen who have correspondents at Paris, if not through persons who have interest at Kew or Chiswick.

VEGETABLES SUBJECTED TO GROUND-BLANCHING.

Asparagus—Asparagus officinalis.—A hardy, maritime, perennial plant, cultivated in gardens since the days of Cato, and always propagated by seed. It is a general idea, that there is only one variety of asparagus; Dr. Lindley expresses his belief that there are several, and the learned professor's opinion is no doubt correct. Without mentioning the Giant Asparagus grown at Great Yarmouth, the White Asparagus, from Rosendaël, near Dunkerque, has peculiar and permanent characters, besides the Common Green, the Large Purple, or Dutch, and the Ulm Asparagus, an early and deeply tinged variety. It would be an exceptional case, if a cultivated vegetable, raised from seed for so long a period, did not vary; it is remarkable that the variations have been so slight.

Asparagus likes a deep, rich, sandy soil. At most of the spots famous for asparagus, water is reached by digging to the depth of three or four feet. Irrigation, and even flooding, agree with it. The presence of brackish water and saline manures does not injure it, but the contrary. Asparagus-beds are usually formed by means of ready-raised seedlings. Young plants, one or two years old, may be bought of almost every nurseryman. As asparagus ought not to be cut till the third year after planting, this mode shortens the delay between the sowing of the seed and the first gathering a crop; but not so much as is commonly believed, in consequence of the injury the plants sustain by removal. If seed be sown on the spot where it is eventually to remain,

the bed will yield very nearly as soon as one composed of transplanted seedlings, and its after-progress will be more satisfactory.

The best time for *planting* is March and April, though it may be performed so late as May, or even at the beginning of June. It is of great importance to lift the roots very carefully, and to expose them to the air as short a time as possible. No plant feels a hurt in the root more keenly than asparagus; the fibres are very brittle, and if broken, do not readily shoot again. Instead of raising asparagus-beds, as usual, above the level of the earth, it is better to remove the earth from the intended beds, to the depth of two or three inches, laying it aside to be mixed subsequently with a large proportion of sea-sand and well-rotted manure. Trench and manure well the bed thus hollowed out, and plant the asparagus in rows nine inches apart and the same distance from plant to plant. Small drills are made, to the line, and the roots are carefully spread out, right and left, and covered with mould with the hand. The width of each bed ought not to exceed what is convenient for weeding and cutting. Careful weeding during the first summer is an absolute condition. The young plants are soon choked; and if the bed gets foul, it will not be easy to clean it afterwards. It is a bad plan to *steal*, as it is called, a small mixed crop of radishes, lettuces, and onions, from an asparagus-bed the first summer. The stolen vegetables commit equal injury with weeds, except the leaving noxious seeds and roots. Let *nothing* but asparagus grow on the bed. During the first winter, a *slight* top-dressing of the mixed earth, sand, and manure, may be returned to the bed; the second winter a heavier layer; the third, it may be brought to its former level, and, subsequently, it may be raised a little higher, if desired, in obedience to custom and prejudice. Salting asparagus-beds is a modern fashion; it serves to kill weeds and grubs, but as far as the plant itself goes, a good dose of liquid manure is more beneficial, and the risk is avoided of killing any

neighbouring plants whose roots may reach within the influence of the salt.

Asparagus-beds are often elaborately prepared by burying an enormous substratum of bones, horns, and other substantial manure; these do no harm, if they are not intended to save future trouble and encourage future laziness. But an asparagus-bed is best kept in heart by moderation in the cutting, and by the frequent application of fertilizers that are easily absorbed. Thus, as soon as the withered stems are cut, a thick coating of stable manure may be spread over the beds, to lie there all the winter. The rains will wash its essences to within the reach of the asparagus roots. In February, it may be raked off again, barrowed away, and be dug into the ground for other crops. But the asparagus-grower should never forget the benefit the plant derives from liquid manure.

To make a bed *by sowing*, prepare as before, sow the seeds (dried berries, if you can get them) in drills nine inches apart. The following spring, the plants should be thinned out to nine inches apart in the row, with great care not to injure those that remain. The surplus plants will serve either to make another bed, to plant out temporarily for forcing by-and-by, or to give away or exchange with a friend. Forced asparagus is not good for much; but the long green shoots, of the thickness of a swan's quill, are much sought after by French cooks, to chop into very short lengths, in imitation of green peas, and which they use to garnish and accompany steaks, cutlets, and made dishes.

The beds should be allowed to luxuriate, and run up to stalks untouched, for two years at least. The third year, a small cutting may be made. Afterwards, the bed ought to be fully established. Do not cut later than the middle of June at latest; if you go on longer, you may damage the bed; and, besides, the asparagus will have already lost its flavour. One motive for having green peas ready as early as possible, is that the asparagus-bed may be sooner forborne from. Use a

sharp knife for cutting. Slip it down the side of the stalk, close to the shoot, and then cut it firmly and boldly, so as not to wound the stool. Unless the flat side of the knife is thus pressed close against the side of each separate head of asparagus, you will probably destroy as many young shoots as you gather. The length to which asparagus is allowed to rise above ground before cutting must depend on taste; but the green part is that which is most edible. One-third of the length white, and two-thirds green, is a good proportion. A dish of white boiled Drumsticks may be pretty to look at; but if you can only eat half an inch, or less, of the tip of each, to cut such is a wasteful plan. The duration of an asparagus-bed entirely depends on the amount of common sense with which it is managed; it is easy to destroy it in a year or two, and it is not difficult to make it last a man's lifetime. *N.B.*—Never allow the green asparagus-branches to be cut during summer, to form a background to large bouquets intended to be put in chimney-grates or on entrance-hall tables, although they are so pretty, light, and feathery. The decoration will cost you, in the end, more than you think of at the time. Never dig or crop the alleys between asparagus-beds; merely keep them clear of weeds, which you may do if you like, by a sprinkling of salt. Never cut down the stems in autumn till they have turned quite sear and yellow. If the owner of the garden is blessed with abundance of room, and self-denial also, it is an admirable plan to have twice as many asparagus-beds as he wants, and to cut from each half on alternate years. Respected thus, and fairly manured and weeded, the beds will last for an indefinite period, and the asparagus will prove a first-rate sample.

Seakale—Crambe maritima.—This delicious vegetable, which furnishes a truly British dish, being as yet scarcely known on the Continent, is quite a modern upstart in the garden, according to the present mode of producing it. On many parts of the south coast, the inhabitants, from time immemorial, have been in the

habit of searching for it in spring, on spots where it grows spontaneously, and cutting off the young and tender leaves and stalks, as yet unexpanded and in a blanched state, close to the crown of the root. Evelyn, confounding it with "the broccoli from Naples, perhaps the *halmerida* of Pliny" [or Athenæus rather]—"*capitata marina et florida*," mentions that "our sea-keele, the ancient *crambe*, and growing on our coast, are very delicate." But its cultivation is a recent practice. Mr. Curtis, in his *Directions for Cultivating the Crambe maritima or Seakale* (1799), tells us, "Mr. William Jones, of Chelsea, saw bundles of it, in a cultivated state, exposed for sale in Chichester market, in the year 1753. I learn from different persons that attempts have been made at various times to introduce it to the London markets, *but ineffectually*. A few years since, I renewed the attempt myself; and though *it was not attended with all the success I could have wished*, I flatter myself it has been the means of making the plant so generally known, that in future the markets of the first city in the world will be duly supplied with this most desirable article." Mr. Curtis's efforts have proved successful; and, even in this little volume, it is fit to mention with honour the name of the person to whom we are indebted for the introduction of a new and valuable vegetable.

Seakale is nearly allied to the cabbage tribe, but belongs to a distinct genus, differing from them in bearing only a single seed in each pod. It is also perennial, and hardy in our climate. Rich people who like to make a display of forced vegetables upon their table, contrive to have a cutting ready by Christmas; but the persons for whose use this "Book for the Country" is intended, are advised to consider as an improvident extravagance the consumption of seakale so early in the season, while there is such an abundance and variety of other vegetables still remaining in the garden; one in particular (celery, if stewed) quite supplying its place. The time when seakale comes in most acceptably is during April and May, when we are tired of winter

greens (if there are any still left), and have forgotten the taste of cauliflowers. By growing it on the following plan, it may then be had at less expense and trouble, and of far finer quality, than that produced by any method of forcing; and no one who gives it a fair trial will afterwards relinquish it for main crops, although he may still choose to force a certain small quantity for earlier supplies.

Plants from one to two years old, or more, may be had of most nurserymen. The seakale-bed is to be planted either in November or March, in straight rows five feet asunder, the plants in each row to be eighteen inches apart. A light, rich, well-drained soil is preferable. It is of course understood that the ground be thoroughly trenched, manured, and cleaned in the way required to receive a permanent crop. Something, but not much, is gained by obtaining year-old plants from the nursery, instead of sowing the seeds in the rows, there to remain. Planting had better take place in autumn; sowing, in spring. By the first method, you have a larger cutting the ensuing spring; but you may also cut from your seedling plants, which will have suffered no check by removal, and will therefore grow with corresponding vigour. In sowing, drop the seeds, singly, three, four, or five times as thick as the plants are to be allowed to stand eventually. It will be a safe precaution against failure of the tender seedlings; and the superabundant plants, when removed, will prove useful for many purposes. Everything must be done, during the summer, to encourage the luxuriant growth of the plants.

Some time in December, not too soon, when the footstalks of the leaves have fairly separated themselves from the crown of the plants, heap over each about a quarter of a peck of sea-sand, or wood ashes, or those from turf; if not to be had, any light unmanured soil will do. Then earth up the plants from a trench dug along the space between the rows, deep, and not too near them, to avoid approaching the roots, exactly as if you were earthing up celery, only that no leaves appear above

the top of the ridge. The earth should be heaped up till it is eighteen inches or two feet above the crowns of the plants, and then regularly rounded at the top like a donkey's back, flatted down at the sides with the back of the spade, and the whole made very smooth and neat. The long trench between the rows of seakale will act as a drain during the dead time of winter. In the spring, when the shoots begin to push, large cracks will be seen in the bank of mould, and a trial may be made with a trowel, as soon as they are supposed to be sufficiently advanced for cutting, that is, from three to six inches long. Cut with a sharp knife just *below* the point where the shoot starts from, removing thereby a very small portion of the crown of the plant. The stool will receive no injury, seakale being one of those robust plants which are not easy to kill. Remember, too, that these blanched shoots are exceedingly brittle; much more so than those of seakale grown in any other way. Be careful, therefore, how you remove the earth from above and around them. The fall of a heavy clod, or an indiscreet roughness of manipulation, will often spoil your handsomest specimens. A flat basket should be at hand to receive the shoots; or better, a bucket half filled with spring water. The seakale thus obtained is larger, more succulent, and more delicately flavoured than that blanched under pots. In one case, the growing shoot is constantly in contact with the damp mould, and absorbs moisture instead of parting with it. In the other, the kale is subject to all the influences of air, though excluded from those of light, from which, however, it is only protected by a porous, imperfectly-closed vessel. All the expense of pots and manure for forcing is saved; and the only objection to the adoption of this plan in all cases is, that the crop comes in too much at once. But by having rows of kale in different exposures, a difference of at least ten days may be made; and a few plants at the foot of a south wall, earthed up from the border, and merely so covered with mould that it slopes against the wall, will afford a very early gathering.

No second cutting should be attempted; not so much for fear of weakening the plants, as because the weak shoots thus obtained are comparatively worthless. The earth should be levelled into the trenches, exposing the crowns of the plants; and by introducing some rank manure, there will be plenty of time for a crop of cauliflowers (in single line) before the increasing leaves of the seakale demand their removal.

A caution should be given to avoid a mode of culture highly approved by many who grow to sell, but do not themselves eat, seakale. Instead of protecting and blanching the shoots by a covering of sweet earth, they overwhelm their beds with barrowfuls of leaves collected in autumn (oak-leaves are most in vogue), and just shovel them on one side when the crop is fit for the knife. This plan has not a single advantage over the earthing system, except indulging the laziness of the cultivator; for any decrepit old woman could sprinkle a few apronfuls of leaves over her garden; but the other mode requires an able-bodied man to execute it properly. The plants beneath the leaves are not one day forwarder than those covered with earth, unless the leaves heat very much; and then the faulty characteristic of the method is fully evidenced. If the oak-leaves were collected in a perfectly dry state, and remained so during the whole winter, if no grass or weeds were ever intermingled with them, all might be well. For blanching seakale indoors, under cover, in pots or pits, a stratum of dry leaves does not answer badly. But autumnal leaves are mostly damp; there is some green rubbish amongst them; and consequently, a slight fermentation takes place, slight putrefaction follows, and the produce grown beneath, which delights the eye like a beautiful branch carved in ivory, disgusts the palate by a flavour as nauseous as it is undoubtedly unwholesome. I have seen seakale of this kind produced at table that was quite uneatable. No wonder we now and then meet with people who, having tasted it only once, do not like it.

This valuable esculent, so easy of culture, requiring no

peculiar advantages of soil, climate, or situation, well deserves to be more extensively propagated than it is. Those who form their judgment from the estimation in which it is now held in and about London, are little aware how far it is from being general in the remoter districts of Great Britain and Ireland. It is admirably adapted, by its hardiness, to such countries as Canada, Norway and Sweden, Northern Russia, &c., where, if earthed up before the frost came, it would lie dormant and safe under the thick snow, and be ready, on the return of spring, to put forth its delicate shoots. It is also fitted for those extreme northern and southern insular situations where the temperature never rises above a moderate degree, and where the rains of summer and the constant damps of winter would cause our more tender vegetables to rot. The introduction of a bed of seakale into a colony or island where it had hitherto been unknown, would be a worthy sequel to the first grand step taken in England by Curtis.

After the cutting is over, there is nothing to be done but to level the soil, and allow the plants to grow freely. Seakale may be propagated, and the beds renewed, if they have stood too long on the same ground, by dividing the roots of old stools, and planting them separately elsewhere: immediately after cutting is a good time to do so. Although seakale is a maritime plant, to which sea-sand and saline manures, such as sea-weeds, are agreeable in moderation, the application of crude crystallized salt in quantities does it more harm than good, for a time at least. To vary the time of cutting, a few stools, say from a dozen to eighteen, may be forced, by covering them with earthen seakale-pots, which may be had of most dealers in coarse earthenware. Large flower-pots, with the hole well stopped, would do; but the regular seakale-pots, which have a close-fitting lid at the top, are far more convenient, as they allow you to look from time to time, and watch the progress the shoots are making. Six or seven weeks before you want to cut, according to the severity of the weather, cover the plants, and the

pots over them, with fresh long stable manure, that is just ready to commence fermenting. You will thus have a solid hotbed, except the hollow spaces occupied by the pots. Use trial-sticks to ascertain the temperature. About 55° is a sufficient heat; and it is far better to begin early, and to force slowly rather than quickly. Too violent heat, even if it do not injure the plants, may wire-draw the shoots and spoil the sample. Seakale may also be blanched successfully, by being planted in pots, and placed in any dark warm place, such as a cellar at the back of an underground kitchen, or a quite dark closet behind the flue of a vinery. Plants so treated may be afterwards used for planting out permanently, without having suffered injury. And one great merit of this vegetable is, that whereas forced asparagus, rhubarb, &c., are but insipid watery productions at best, forced seakale presents the same good qualities as are offered by the produce of the natural season.

To cook seakale:—After washing it well to clear out any grit or sand that may have dropped between the tips of each shoot, tie it in small bundles of two or three shoots each, for the convenience of taking up, and drop it into a saucepan of boiling water, in which a little salt, according to taste, has been dissolved. Keep it boiling galloping. In twenty minutes, more or less, according to age and freshness, it will be done enough, which may be known by trying it with a fork. Sir Humphrey Davy tells us that the reason why vegetables and fish should be cooked by plunging them in boiling salt-and-water is, that this solution boils at a higher temperature than plain water, and that the sudden scalding fixes the albumen, mucilage, and other nutritive parts of the viand, instead of their being macerated and sodden, and so partly lost in lukewarm water. The flavour of seakale is a happy combination of the flavours of asparagus and cauliflower. If it is allowed to get a little too forward, or if light has been admitted to it before cutting, it is apt to contract a slight bitterness, which, however, is not disagreeable to every taste. For those who dislike it, it

may be considerably diminished, if not entirely remedied, by transferring the kale, when half-cooked, from one saucepan of boiling salt-and-water to another. The most economical way of serving seakale is, to lay it in a vegetable-dish with a strainer at the bottom, and to send up with it, in a small tureen, any sauce that may be desired at the same time. The usual mode is to pile it on sippets of toasted bread previously soaked in the kale-water, and to pour over it some white sauce, or melted butter made with milk instead of water. But if the toast is not intended to be eaten, but only to serve as a draining-cushion to the vegetable and then cast out to the pigs, in the country, or in a town probably to the kennel or the dust-hole, such a wasteful proceeding is, to say the least, culpable, while so many of our fellow-creatures are suffering for the want of a like morsel.

The Cardoon—Cynara cardunculus,—in England, is hardly worth the great space it occupies. Our temperature is so low, that it grows slowly, and is consequently tough; and our autumns are so damp, that when it ought to blanch, it rots instead. In the south of Europe it is cultivated on a large scale. The inner leaves and central bud of the plant, which form something like a coarse gigantic head of celery, are halved or quartered and boiled, stewed, or fried in oil. The flavour is that of artichokes. The flowers have the property of coagulating milk.

The most suitable soil for cardoons is a light rich loam inclining to be sandy. Either sow the seeds separately in pots in April, to be forwarded on a hotbed, or (the more usual plan), sow at the end of May two or three seeds in a hole or small hollow, at four feet distance in the row, and in rows six feet apart. When there are several rows, the plants should be ranged in quincunx order. Thin the seedlings to one in each hollow, leaving the strongest. Water and hoe frequently during their growth. In August and afterwards, when the plants are a yard or more high, tie up the leaves together, confining them with straw bands or osiers; then apply to

them a side-covering of long dry rye-straw, which must also be tied; and lastly, earth them up, as high up the straw as you conveniently can. In about three weeks, the cardoons will be blanched and fit for the kitchen; if they are left thus covered up much longer, they are almost sure to rot; and therefore it is best to blanch a few at a time successively, according to the demand for them. On the approach of frosty weather they must be taken up, with as much earth about their roots as may be, and set upright side by side in an airy cellar or reserve shed. If they are tied up a week or ten days before their removal, they will complete their blanching under cover. One of the best varieties is the Tours Cardoon, but it is inconveniently thorny; while the thornless Spanish Cardoon, besides being less succulent, is more apt to run up to seed. The Red Cardoon unites the merits of both. Cardoon seed is best procured from seedsmen who have frequent dealings with the Continent. A group of cardoon plants in flower make a striking object in the shrubbery. The surplus plants from the patches where they were sown may be advantageously so applied.

Celery—Apium graveolens.—The two leading varieties are the Manchester Red, or Solid Red, and the Solid White. The former is the hardier, the larger, and also the coarser of the two. Nurserymen have raised several subvarieties of considerable merit; but to have good celery, it is of more importance to cultivate skilfully than to lay out money in the purchase of this or that gardener's newest kind. Celery is a native of moist spots, by the sides of brooks and ditches, and delights in deep black mould. In the wild state it has exactly the same foliage and peculiar smell as it exhibits when cultivated, only it is smaller in stature. At times of the year when no celery is to be had, cooks make use of the bruised seeds to flavour soups and sauces. The substitute is somewhat expensive; the seed of wild celery would answer equally well.

To have early celery, you must sow in good time,—say at the end of February, in a pot or mignonnette-box, to

be placed in a hotbed or vinery, to start the seeds. Or they may be put in a warm corner of the kitchen, till germination has commenced. The seed is very small; the earth should be fine, and the seeds merely sprinkled over it, not covered with earth, and gently pressed down with the hand or the back of a trowel. Water from time to time, and as soon as the plants appear expose them to the light, and set them out in the sunshine, if only for an hour or two, every fine mild day, to prevent their being drawn up weak and thin.

At the end of March a sowing may be made in the open air, in the warmest and sunniest nook you have,—for instance, at the foot of a south-east wall. If you can spare a handlight or bell-glass, so much the better. Water regularly, unless the weather is wet. A sowing for main late crops may be made in April, always in a warm spot and on light rich soil, which may consist of one-half well-rotted manure, with advantage. From first to last, celery must be liberally supplied with manure and moisture. It is usual to prick out celery-plants into a very rich intermediate bed, before their final planting in trenches. The February-sown must have some protection, such as a canvas cover or mats, to be thrown over them at night by means of hoops; but a frame is the most convenient place wherein to prick out the earliest celery-plants. The second sowing will scarcely be ready to transplant before the worst of the season is over. Plants from the last sowing may be removed at once from the seed-bed to the trenches where they are to stand, if they can be so taken before their growth is too far advanced; if it is necessary to delay the operation, the plants must be pricked out as usual. Except for exhibition, or to comply with the requirements of a large gentleman's establishment, it is not much worth while to grow the very earliest celery. It has a greater tendency to "pipe," or run up to seed, which can only be checked by constant waterings, and not always then. The March sowing at the foot of the south wall, under the handlight, will furnish all that middle-class families require.

And, another thing, celery does not begin to grow in earnest spontaneously till the nights begin to lengthen, when July is past, and the dews fall heavier. You may then watch the improvement of your celery, and daily see it increase in luxuriance.

Sir Joseph Paxton, in his *Cottager's Calendar*, gives the following clear directions for the treatment of celery-plants in their intermediate state:—"Early in May the first plants will probably be sufficiently advanced to prick out in a warm sheltered situation, to strengthen. The best plan is to choose a perfectly hard surface, and upon this spread a layer of rotten dung, about three inches thick, beating it tolerably firm with the head of a rake. Upon this spread a thin coating of soil,—say half an inch thick,—and into this prick the plants three inches apart. The advantages of this method are, that the plants root better in dung than soil, and are much easier kept moist, which is essential to them: and by having a hard surface beneath, they are prevented from forming tap-roots, and rendered less likely to run to seed prematurely; and on removing them to plant in the trenches, they may be cut out with balls of matted fibres, and being then well watered, will scarcely flag at all. Shade them for a few days after they are pricked out, and guard them from slugs. As soon as the earliest plants have become pretty strong, in June, prepare a bed for them as follows:—Take out the earth from a deeply-dug piece of ground, where the soil is rich and light, about six inches deep and four feet wide, laying it in a ridge along the side of the opening; then add to the surface of the bed a layer of well-rotted dung, three inches thick. Turn this in carefully, bringing about two inches of soil to the top. Then plant in rows, crosswise, fifteen inches apart and six inches from plant to plant, reducing the tops slightly. By this method a great number of plants are raised upon a small piece of ground, and it answers equally well for single rows for early use. In earthing up, two pieces of board are used of the same length as the width of the bed, placing one

along each row, and filling between them, lifting the boards out carefully, and proceeding with the next row, always taking care not to add too much soil at a time. Do not allow the plants to want water at any time, nor earth too soon, as the object of earthing is merely to blanch for use, and a fortnight or three weeks will accomplish this. After the plants are earthed, they cease to grow fast."

For main crops of handsome celery, the surest mode, though not the most economical of space, is to plant in single rows, in trenches, some time in July, the sooner after a shower the better. Remember that, to have good celery, you must give it room. Show celery is mostly produced in separate holes, where single plants are set and fed continually with manure and water. These really cost more attention and space than they are worth; but for fine celery, without aiming at anything extraordinary, open a trench about a foot or fifteen inches wide and three inches deep; lay all the earth taken out on *one* side of the trench; on the north side, if the rows run from east to west; on the east side, if from north to south. Break up the bottom of the trench with a fork; throw in well-rotted manure, and over that a slight stratum of mould. In this compost plant the celery-plants, by line, exactly in the middle of the trench, in a single row, at least six inches from plant to plant. Water daily till the plants are well established and begin growing. If the trenches are made much deeper, the celery is apt to be stunted in its growth; and if the earth crumbles and caves in upon them too soon, they suffer a check from which they never recover. That is why so shallow a depth as three inches is advised. The plants can always be earthed up sufficiently, provided the interval from trench to trench is sufficient: four feet is a good distance; five feet, better. The ground may be economized by pricking out cabbage-plants on the top of the thrown-out earth, and in the spaces between the trenches, to be removed at earthing-up time. When the celery has attained its full size, and

not before, the process of earthing up may take place. It grows very little when once it is earthed. A small portion only, therefore, should be earthed for early use, about three weeks before wanted: the main winter crop may remain as it is till the beginning of November, when frosty nights are apprehended.

Instead of gradually earthing up and filling the trench from time to time (by which, if the plants are drawn up a little longer, they are also prevented from getting stouter), the operation is better performed once for all. It takes two persons to earth up celery properly. Choose a fine dry day, after the dews have disappeared, and let one person go on the side of the trench where the thrown-out earth does *not* lie; the other, with a spade, on the side where it does. Then let the assistant grasp with both hands each separate head of celery, holding the leaves close together, to prevent the mould from entering its heart, while the gardener carefully shovels in the earth around it. Proceed along the trench thus till it is filled up to the level of the ground. It may be necessary to go over the ground twice to do this neatly; but a little extra trouble will be well bestowed. The spreading leaf-stalks *might* be tied together; but so, they would incur greater risk of rotting. Earth is now to be heaped up against the celery-plants, from the space between the trenches, till only the foliage of the leaves is uncovered. Two men working together on opposite sides will be able to do it better than if they were alone. The pressure against the plants will be equal, and equally applied; and one of them can still hold the celery-head together, if required. The higher the celery can be earthed, the better it will be protected from frost; and the more mature are the outer leaves, the less liable they will be to decay. The ridges of earth should be beaten smooth on each side with the back of the spade.

Some gardeners make their trenches a little wider, and so contrive to plant two rows of celery six or seven inches apart, instead of a single row, in each trench. The plan answers where quantity of produce is of much

greater importance than quality, or for families who consume an unusually large quantity of small and late celery in soups and stews; but the difficulty of earthing up properly is much increased, and double rows of celery in a single trench are almost always of inferior merit. Some kitchens require a protracted supply of little celery, even if each head be not thicker than the little finger. Such celery is pretty to look at, and not bad to eat in a spring salad. It may be had abundantly, by planting in wide trenches not more than two inches deep, during the last fortnight of September or the first of October, and earthing them up, according to the method quoted from Sir Joseph Paxton.

If the gardener is satisfied with the kind of celery he has, and does not think that he can change for the better, he will be wise to set out in spring a few plants to produce seed. Support the flowering stems with stakes; gather from time to time as the seed ripens. It will preserve its vitality for several years; and, moreover, a pinch will be acceptable to the cook to flavour broth, when celery itself is over. Amongst the middle classes in England, celery is mostly eaten raw. All stomachs cannot digest it in that state. Boiled in salt and water, and served either with white sauce or brown gravy, it forms an excellent dish of hot vegetable, and a favourite accompaniment to roast turkey or poultry in general.

Celeriac, or *Turnip-rooted Celery;* in French, *Céleri-rave*, is sown and transplanted like common celery. It is sometimes not earthed up at all; but it is the better for being so treated for a short time in a slight degree. The root forms a rough irregular knob, of the size of an ordinary garden turnip. It is not much known in England, and not generally grown in France, but is increasing in favour there. It requires even more watering than celery. In Germany, where it is largely consumed, the beds of celeriac are surrounded with a raised rim of earth to retain all the waterings given them, so that the plants during the whole period of their growth stand in a constant foot-bath. Celeriac is easier and less expensive

of culture than celery, since it requires no trenches, but may be finally planted in open beds in June, after having been previously pricked out, exactly as directed for celery. It has the advantage of keeping well in a cellar, and may be used in the kitchen for seven or eight months in the year. Epicures praise the delicacy of its flavour.

LEGUMINOUS VEGETABLES.

The Pea—Pisum sativum.—Green peas, as we call them, "little peas" according to the French, are of many varieties, which may be classed under three general heads: 1st, very early peas, of moderate height, but moderate bearers, and of second-rate flavour; 2ndly, summer peas, main crops, of various heights, good bearers, of full flavour; and 3rdly, autumnal peas, very tall, from six to eight feet or more, abundant bearers of large peas, of sweet, luscious flavour, mostly square and wrinkled when dry. The two former may be made autumnal by management, but the third cannot be early, and is always best for late crops. Nurserymen have raised many varieties of each, and of course naturally endeavour to introduce their own special *protégés*. Those mentioned on the following lists as examples, are not intended to exclude the culture of others that are necessarily omitted for want of space.

Very Early Peas.—Early Frame single-blossomed. Early Frame double-blossomed. [Note that the term double-blossomed is a misnomer. It should be one-blossomed and two-blossomed, denoting that the kind produces either one or two blossoms on each footstalk. True double blossoms, *flores pleni*, are mostly barren.] Early Warwick, said to be ten days earlier than the Early Frame; Early Conqueror; Prince Albert, early, fashionable; Sangster's, No. 1; Early Paradise; Bivort de Belgique; Nain hâtif de Hollande; Michaux de Hollande; Early Emperor; Flanagan's Early; Early Charlton, or Nimble Tailor; Bishop's Early Dwarf; Early Eclipse, &c., &c.

Summer Peas—First Crops.—Auvergne; Blue Scimitar; Dwarf Blue Prussian; Thurston's Reliance; Fairbeard's Champion of England; Woodford's Green Marrow, &c., &c. *Second Crops.*—Milford Marrow; Knight's Dwarf Green Marrowfat; Hairs's Mammoth Marrow, &c., &c. [Whatever bears the name of Knight is almost sure to be good.]

Autumnal Peas.—Knight's Tall Marrow; Green's Tall late Marrow; Victoria Tall Marrow; Oxford Tom. The differences of these sorts are not great. All are good, the last especially. The peas are so sweet, that it is not easy to keep them from the birds.

Besides the above, there are a few peculiar sorts which merit notice; such as the Dwarfs, which do not require sticks. Some of these are very pretty, having the effect of a row of snowdrops when out in full bloom, and they are not to be despised as bearers. Bishop's Dwarf, Groom's Dwarf, Queen of Dwarfs, and Valparaiso, or American Dwarf, grow no higher than from a foot to fifteen inches. *The Sugar Pea—Pois sans parchemin*, or *Zuckererbse*—has a succulent peascod, which is cooked entire, like French beans.

The English mode of sowing peas is in drills, an inch or an inch and a half deep. Two parallel drills may be sown a foot apart, and then a wide interval must follow before the next two drills. The Flemish market-gardeners, amongst the most skilful in the world, make the intervening space from five to six feet, and down the middle of it they plant early potatoes. They stick the peas very early in spring; and it is found that the shelter of the sticks greatly aids both the peas and the potatoes. The French usually sow peas in beds a yard wide, with a foot or eighteen inches alley between each bed, which contains four rows of peas dibbled in, in tufts six inches apart in the row, each dibble-hole containing five or six seed-peas. After the beds are well hoed in spring, the sticks are stuck in bower-wise, so that each bed forms a sort of thicket of peas. The fruit is gathered by cutting the stalks with scissors, instead of pulling off

the pods by finger and thumb, as we do: by our mode the plants are often seriously injured.

For early peas, both of the first and second sorts, sow in November. With these crops a certain amount of risk must always be run. If the ground is covered with snow before they are up, they will make their appearance as soon as the thaw comes, and thrive admirably. If a mild winter is followed by a sharp spring, you may lose the greater part of them. Protection by mats, straw, or thick bushes, in general does more harm than good, by causing them to spindle up weakly. Mice are great destroyers of winter-sown peas. Successive sowings may be made in December, January, and February, weather permitting. Main crops of the second and third sorts will be sown in March. The earliest sowings should be sown the thickest; but with peas in general it is false economy to be too sparing of seed. Crowding is avoided by drawing a broad drill, the whole breadth of the hoe, and scattering the seed over that breadth, instead of letting it lie close-packed in a single line at the bottom of a narrow drill. When the plants are three inches high, or before, draw a little earth towards them, give the soil nearest them a good hoeing, inspect the rows of peas carefully, to see that no weeds are left, and stick as soon as you conveniently can. Early sticking is of great importance. Plant the sticks on each side of the row of peas, inclining them a little on one side each way, so that they cross each other as seen in a direction across the row. It is worth while fastening them together by means of horizontal sticks tied along their top. This will often save the full-grown row from being capsised by south-west storms. Throughout April and May you may sow the Scimitar, the Prussian Blue, and Marrowfats for succession. In June, the pea-sowing season will be drawing to a close. Between Midsummer and the first of July, some of the very early or fast kinds may be sown as a speculation. If the weather is dry, water the drills well before sowing, and steep the seed from six to twelve hours in milk-warm water. Watering

and manuring the drills for late-sown peas saves them from the attacks of mildew. The Marrowfats will sometimes yield crops so late as the beginning of October, or later. It is better to buy seed-peas than to save them yourself; the few that remain after gathering are not worth the time the haulm must stand on the ground to ripen them; and few heads of families will allow a full-bearing crop of peas to hang on for seed only, as the seed-growers do. Early peas may be made still earlier, though a sacrifice is made in the quantity of the produce, by pinching off the tops of the plants as soon as the first few pods are formed. A clever Parisian gardener, the late M. Tamponet, had observed that transplanted peas showed blossom earlier than those sown where they were to remain. He consequently used to sow in the beginning of January, under bell-glasses or an awning, to plant out in February in sheltered spots, and sometimes even in the open garden. He used to employ this method even with his second early crop. Peas like a mellow loam, and to be sown on ground not previously occupied by leguminous plants.

The Garden Bean—Faba major.—Beans thrive in stiffer and more clayey soils than peas, and are altogether hardier plants. They require no support of sticks; on the contrary, they are sometimes themselves made to support peas, which cling to them by means of their tendrils. Good varieties of the bean, in which there is little attempt at novelty on the part of gardeners, are the Early Mazagan, the Early Longpod, the Green Longpod, the Windsor Bean, the Toker Bean, and Johnson's Wonderful, which is certainly a most abundant bearer. The Dwarf Fan Bean is very distinct from the above, and is a pretty object in the kitchen garden. It may be planted more closely than any of the others, and its small beans are excellent for table, especially if gathered before quite full grown.

Garden beans should all be sown early; that is, in the autumn, in November or December, to stand the winter. Few people care to have a long succession of this vege-

table; and therefore the first come are the most sought after, besides being the most delicate in flavour. Late beans are apt to be coarse, strong, and bitter; they are also extremely liable to the attacks of aphides, or plant-lice. It is consequently needless to give directions for their production, either by late sowings, or by breaking down the half-grown stem, as some have advised. Two sowings, one in November, the second in February, or as soon after as the weather permits, will afford a sufficient succession for most families.

Set beans in rows, with the line and dibble, three inches apart in the row, and an inch and a half deep. Drop no more than a single bean into each dibble-hole. Two parallel rows of beans may stand side by side, nine inches apart; and then there ought to be an interval of three or four feet at least, cropped with low-growing plants, such as lettuces or onions, before the two next rows are set, in order to admit light and air. When the beans are up, let them have continued hoeings in fine dry weather. Dwarf Fan Beans may be planted in beds four feet wide, in rows nine inches apart, and six inches from bean to bean in the row, with a foot-wide alley between each bed. Hoe them well in the early stages of their growth, as they will afterwards spread and pretty well cover the ground from sight.

When the beans are well in flower and show as many blossoms as will form a sufficient crop, the produce may be hastened by "topping" them. This is done by going carefully along each row, and stopping every leading shoot by breaking out the central bud by a sideways twist of the finger and thumb. It only requires a little patience. The row should be gone over a week afterwards, to see that none of the stems have been passed over. Little or no amount of produce is lost by this means; as, if the beans were suffered to mount unchecked, many of the lower pods would prove abortive, which they do not when the tops are stopped. Fan beans are not subjected to this treatment.

For early beans, Paxton recommends to sow thick in

a small bed, in light rich earth, in a sheltered situation, some time in November, covering them with about two inches of mould, and protecting them as they rise with fern or litter in severe weather. These are intended to be transplanted in March. The transplantation may increase their precocity, as we have seen it stated in the case of peas. His sorts are the Early Lisbon, and the Hangdown, a synonyme of the Long-pod. If late summer beans *must* be had, soak the seed for twelve hours before setting it in May or June. The sweet smell of bean-blossoms and their attractiveness to bees, are some excuse for their continuance in the garden, even after the demand for their fruit has ceased.

The French Bean, Kidney Bean, or *Haricot—Phaseolus vulgaris*.—French beans may be divided into two classes; the Runners, which mount high, require tall sticks, and come in late, and the Dwarfs, which require no sticks, and afford a comparatively early but much less abundant crop. Good dwarf sorts are the Robin's Egg (one of the best), the Red-speckled Dwarf, the Black-speckled Dwarf, the Negro, the Cream-coloured Dwarf, the Dun Dwarf, Fulmer's Early, Wilmot's New Early Forcing, the Mohawk Six Weeks, or Chinese Speckled Dwarf, the Early Prince Albert, the Newington Wonder, the Canterbury White, &c., &c. The varieties of the Runners are much less numerous. There is the Case-knife, an excellent sort, producing long tender pods in abundance, which contain, when ripe, flat white seeds. It is not easy to distinguish this from the famous Haricot de Soissons of the French. There are Runners that produce small white round seeds, as well as Buff Runner Beans. Both are good, but still inferior to the Soissons, or Case-knife.

It should be remembered that French beans are tender annuals from India, and that the least touch of frost kills them. Nothing therefore is gained by too early setting; the middle of May is quite time enough to put the seeds into the ground; and even this sowing will often perish or come to nothing. Afterwards, successions may be

sown every fortnight, if there is a great demand for them, to the end of June, or a little later, as a speculation. Kidney beans may be forwarded by sowing them thickly in pots, in a hotbed or vinery, to be transplanted into the open ground when they have made the first two leaves after the seed-leaves. But they often suffer severely from the change from the damp atmosphere of a frame to the keen dry air of May and June. Runners bear the transition better than Dwarfs. The latter, when so treated, are best planted in a single row, close to the foot of a south wall. Covering them with bell-glasses till a shower falls, is the best mode of insuring success.

French beans like a warm light soil, which has not been manured for some time previous. Plant Dwarfs not too deep, by dibble and line, in narrow beds, which will just hold three rows. Nine inches apart each way, from plant to plant, will allow of arrangement in quincunx order. If the seeds are dropped too deep, and cold wet weather follows, they will rot instead of coming up. Hoe between them carefully from time to time, to loosen the earth and destroy every weed.

Runner Beans should be sticked at the time the seeds are planted. Space they must have from row to row. If crowded, the produce will be almost nothing, and that nothing will be difficult to get at. The sticking of Runner Beans admits of many tasty and ingenious devices, such as bowers, covered walks, arches, crosses, &c. &c. The two great points are to admit sunshine and air, and to stand firm against the buffetings of tempests. Dwarf Beans planted in single rows, or in two parallel rows a foot apart, may stand considerably thicker in the row than when grown in beds. In both Dwarfs and Runners the green pods must be gathered as soon as fit, whether they are wanted or not: for if they are allowed to hang and form their seeds, it will check the production of a succession of young Kidney Beans. The strength of the plant will be directed to the ripening grain. For sowing during summer droughts, water the drills, and steep the seed twelve hours in water.

The consumption of Kidney Beans is much more considerable on the Continent than in Great Britain. Whole fields are planted with them. Not only are the immature pods eaten boiled, as with us, but the entire pod, with the seeds nearly ripe, stewed in butter, makes a nourishing article of diet: and the ripe seeds, or haricots proper, are largely cultivated for winter use. The forcing of Dwarf Kidney Beans, to supply the tables of the wealthy, forms a course of instructive practice for young gardeners, since it leads them to study the principles and theory of horticulture.

The Scarlet Runner—Phaseolus coccineus.—This bean has two varieties:—the White Runner, with entirely white blossoms, and the Painted Lady, with scarlet and white blossoms. The last of these is very pretty, but in respect to their produce, there is little or nothing to choose between them. The main crop of Scarlet Runners may be sown in the middle of May, though they may be forwarded by growing them in-doors, in small pots, two in each, and turning them out with the balls entire, during the first week in June. They will be the better for a little out-door protection for a day or two. Their sticks must not be less than six feet high. Scarlet Runners bear an abundance of pods, which constitute a wholesome and agreeable vegetable, if not suffered to hang too long; they then become coarse, tough, and stringy, and the membrane which lines the seed-vessel renders them almost uneatable. Scarlet Runners are favourites with the cottager, both for their productiveness and for the decoration they bestow on his porch or his paling, and for the convenient screen their rapid growth affords to his pigstye or washhouse, in the corner of his garden.

The Scarlet Runner differs from the Kidney Bean in not being an annual plant. If the roots are taken up, preserved from the frost, either in a cellar, or by being buried in sand, and replanted at the end of the following May, they will produce stems that are equally vigorous and flower earlier than those which spring from seed. Like other tall runners, they must be planted at considerable distances.

Mr. Cuthill's statement is noteworthy:—"In November of the year 1830, I saved a number of roots of Scarlet Runners, and stored them in moderately damp mould, away from frost. These same roots were planted out in single rows, one foot asunder, some time in March or early in April, the crowns being half an inch below the surface. Beans (Scarlet Runners) were sown in rows at the same time. The transplanted roots came into bearing just one month before the sown seed. This afforded me a lesson which I did not forget; I have had several roots three years old, but one in particular I grew for seven years, and this one I exhibited at the May show at Chiswick in 1834. Many were surprised to see a Scarlet Runner ten feet high, full of flowers and beans, the produce of a plant forced in a vinery. From this little experiment I would infer, that if cottagers would save their roots in autumn and put them carefully by, they would have this valuable vegetable a month earlier on their tables than they now do. Another way of saving the roots is to leave them in the ground all winter: but this plan is not to be recommended; the plants will have exhausted the ground very much during the summer; therefore they should be replanted in fresh ground. I should mention here that if fine roots are wished for in autumn, care should be taken not to allow many seed-pods to ripen, as the ripening process robs the plants of much of the returning and elaborated sap. Care must be taken that these roots are not eaten. They are poisonous."

SPINACEOUS VEGETABLES.

Spinach—Spinacia oleracea.—This class of esculents holds only a nominal place in such English gardens as do not supply tables that are aristocratic in point either of wealth or rank. On the Continent they constitute a very important item of kitchen requirement. It is no exaggeration to say that, in proportion to their respective populations, there is a thousand times as much sorrel used

in France as there is in England. The increasing friendship which is happily growing up between the two nations, and the more intimate intercourse in which it may result, will probably have the effect of increasing the estimation in which spinaceous plants are held.

Spinach is an annual, whose tendency to run to seed in dry weather makes it the plague of the gardener who is compelled to furnish a summer succession. He can only do this by sowing once a fortnight, or oftener, and not always then. The best spinach is the autumn-sown, which stands the winter, and is consumed in spring. The varieties are,—the Round-leaved, Smooth-seeded, the Oblong Triangular-leaved—which has prickly seeds—and the Flanders, or Large-leaved, with smooth seeds. This last is by far the best, and may be made to supersede the others for general, and especially for winter, culture. Spinach does best with abundance of manure: and as it occupies the ground only for a brief period, it is a convenient precursor for summer crops, such as kidney beans. Sow quite at the end of August, or beginning of September, in four-foot beds, in rows from nine inches to a foot apart. The drills must be shallow; a simple raking will cover the seed, which may be sown thicker in the drills than it will have to stand eventually. Flanders Spinach becomes serviceable when not more than one-third grown, and the plants may be thinned by cutting their tap-root with a sharp knife, taking great care not to disturb those which remain. Successive sowings may be made in October, January or February, March, and April. From May till August again, spinach-sowing is a lottery, in which you are more likely to gain blanks than prizes. Constant waterings must be administered the instant a course of dry weather sets in. It is best to purchase spinach-seed; if you save it yourself, remember that the plant is dicœcious, that is, the male and female flowers grow on separate plants, and that it is necessary to let both stand, in order to have fertile seed.

Many persons believe spinach so wholesome a vege-

table, that they regard it as actually medicinal. A relish for it is an acquired taste, which increases by repeated indulgence. A mixture of sorrel corrects the peculiar flatness of its flavour: and in cooking, a larger proportion of salt may be added than to most other vegetables. Spinach-juice furnishes an innocuous colouring-matter, when it is wanted to give a green tinge to creams, jellies, and ornamental confectionary.

Sorrel—Rumex acetosa.—It will hardly be credited in England, that sorrel is one of the staffs of life to the French peasantry, without an abundance of which throughout the year, they would consider themselves reduced to wretched misery. For the winter supply, the leaves are boiled down and salted during spring and summer. The Round-leaved sorrel, with trailing stems from a foot to a foot and a half high, is not the kind to cultivate, except for variety. The best, most productive, and delicate, is the Broad-leaved sorrel, of which a marked subvariety, the Golden Sorrel, is almost exclusively cultivated in the environs of Dunkirk. Those who wish to be choice in their kinds will do well to procure seed from some large town of either French or Belgian Flanders. Sorrel may be propagated either by seed or by division of the root, which latter, like that of rhubarb, it takes a great deal of hard usage to kill. Plant or sow in drills nine inches apart in beds four feet wide. The seed is very small, and must only be slightly covered with earth. The plants may be thinned to from three to six inches; but if they are left crowded, no great harm will be done. Sorrel should not occupy the same ground too long, unless it is well manured and hoed. When transplanted, the spare roots will be useful to give to a neighbour. Spring-sown sorrel may be cut the following autumn. Afterwards it will afford several cuttings during the summer. It is used like spinach, and for sauces, in salads, chopped small with fine herbs, but principally for sorrel-soup, which is an excellent anti-scorbutic regimen.

Orache, or *Mountain Spinach—Atriplex hortensis.*—

Of this handsome plant there are two principal varieties; the first, and by far the best, the Green Orache, with broad, irregularly-oblong leaves, thick, pale-green, and glaucous, with a slightly acid flavour; and the Purple-leaved, whose colour is against it for the purposes of spinach. The leaves may be plucked off during summer, to supply the place of spinach which has run to seed; in France and Belgium, it is principally used, when quite young, with not more than three or four leaves, to put into their popular vegetable soups, under the name of Bonne Dame, or Good Lady, sometimes Belle Dame, or Pretty Lady, and possessing certain virtuous qualities which are not very accurately defined. If Orache be allowed to run to seed in a garden, it will spring up of itself for several years afterwards. Sow in drills a yard apart, and thin out the plants to a foot in each row. This is the best plan for summer use. But young Orache plants in April and May will prove very acceptable when other greens run short. Therefore, follow Miller's wise advice, to sow *at Michaelmas*. In that case, the drills may be a foot apart, and the plants will require scarcely any thinning till they make their grand start in the course of May. Orache is useful to mix with sorrel for those who do not like the extreme acidity of the latter plant.

Wild Spinach, or *Good King Henry—Chenopodium Bonus Henricus.*—A neglected native perennial plant, long used as an esculent by the humbler classes of this country, and which merits renewed attention and experiment on the part both of the gardener and the cook. The plant manifests its hankering after the pleasures of domesticity by growing naturally in places which receive the outcast rubbish of human dwellings. If as much pains were bestowed on it as have been on rhubarb, perhaps the result might be something really good. The young shoots are eaten in spring as a sort of rustic asparagus, but the best mode of developing their good qualities, yet remains to be tried and published. Such men as Curtis, Myatt, and Cuthill, ought to have

imitators. The first-mentioned horticulturist says that, in his time, Good King Henry was cultivated in Lincolnshire in preference to garden spinach. It is easily propagated by dividing the roots in autumn, to be planted a foot or fifteen inches apart; and a bed will last for several years.

White Beet—Beta cicla.—This plant is much grown in France, under the name of Poirée, but more for ornament than use. It is occasionally seen in English gardens, as a curiosity. There are three varieties, distinguished by having white, yellow, and scarlet footstalks and veins on the leaves, which are of a bright glossy green. They would render good service as garnishing for large dishes, or to receive slices of cold meat, pats of butter, lobsters, pickled salmon, &c., &c. Sow in spring, not too soon. The seed had better be procured from Paris. The leaves in spring furnish an abundance of beet-spinach. The root is too coarse for table use.

Patience, Herb Patience, or *Patience-dock—Rumex patientia.*—Easy of culture, like other docks. Long known for the medicinal virtues of its root, whence it obtains its French name of Monk's Rhubarb, but also useful for its precocity as a spring spinach. In many parts of France its leaves are so employed; in Dauphiny it is called Everlasting Spinach; and in old times was generally cultivated in England, as it still is in Sweden. Its flavour is milder than that of the other esculent Rumices or Sorrels; but its great merit is, that it is fit to cut eight or ten days before they are. On the other hand, the vigour of its growth and the space it occupies, make it an unwieldy plant for small gardens. Patience is only too easily propagated by seed, as well as by division of the root, and is not nice as to the soil it grows in.

New Zealand Spinach—Tetragonia expansa.—A plant of historic interest, having been discovered and given to his sailors as an antiscorbutic by Captain Cook, and introduced to this country by Sir Joseph Banks. It has had a great run as a substitute for spinach during the

summer months. It has succulent leaves and shoots, which creep over the ground, covering it for several feet around the root. By watering during hot weather, an inexhaustible supply may be had; but the dish will not suit every palate, though the sailors were glad to get it, boiled, every day at breakfast and dinner. It is most useful for garnishing; being one of the Ficoïdeæ, it does not easily flag and droop. Sow in pots in a hotbed in March, and plant out a yard apart every way, in June. The flowers are green and inconspicuous. At the end of ordinary summers there is a sufficiency of seed for reproduction.

ESCULENT FLOWERS.

The Artichoke—Cynara Scolymus.—Several species of flowers have made their way into the Briton's bill of fare. Cowslips and cream are a country delicacy. The flower-buds of nasturtiums make an excellent pickle. The buds of the *Caltha palustris*, or Marsh Marigold, serve also as an inferior substitute for capers (themselves flower-buds), of which there is an enormous importation. But the caper bush, though it grows so luxuriantly wild, in the south of France and Italy, submits to cultivation with a very bad grace, partly in consequence of the whim it has of growing from a perpendicular, not a horizontal, surface, such as a chink in a ruined wall or a cleft in the face of a rock. Full-blown nasturtium and borage flowers enter into the composition of salads, to which, therefore, they must be referred, together with the above-named buds for pickling. Artichoke-heads are the only flowers comprised in the list of cooked vegetables; though they, too, might be referred to salads according to Continental practice. The bottom, or receptacle, is cut into thin slices, to each of which a flower-scale remains attached to serve as a handle; it is seasoned with pepper, oil, and vinegar, and so eaten raw in immense quantities, *à la poivrade*, as it is called.

Scarcely more than two sorts of artichoke are known

in England; the Globe, the best and largest, and the Conical, or French, which, however, is most in esteem in Paris. The Provence Artichoke, and the Red and Purple Artichokes, are too tender to get through any but our mildest winters.

An artichoke-plantation ought not to occupy the same ground more than four years; in its third year, therefore, a new bed should be made to replace the old one. So luxuriant and deep-rooted a plant as the artichoke requires a deep, rich, mellow soil. As seedlings are apt to vary considerably from their parent, the plant is commonly propagated by offsets. About the middle or end of April, when the leaves on the old stools are from eight inches to a foot in length, clear the earth away from them, so as to uncover the offsets and the part of the root from which they spring. There are generally from six to twelve offsets on each stool. Two or three of the finest are left standing to bear the crop of the season. Separate all the others as near the root as possible by pressure with the thumb, by a blunt knife, or a wooden chisel, bringing away a portion of the stump attached to each. Shorten the leaves, trim the root, and plant the offsets in deep-dug well-manured land. They may remain out of the ground a little while to dry the wound of the root, but the leaves must not flag too much. Artichokes should be planted in quincunx order, a yard apart every way. Two offsets, five or six inches apart, may be planted together to form one stool. A watering should be immediately given, to settle the earth about them; which must be repeated every other day, as long as dry weather lasts, till the plants have taken firm hold of the ground. Hoe continually as fast as weeds appear and the surface of the bed gets hard. The majority of plants so treated will bear fruit the same autumn. When the heads are all gathered, cut down the flower-stems as close to the roots as possible.

It is hard to decide which is the most advisable plan of treating artichokes during winter. Perhaps the best way is to do nothing at all, but to leave them to them-

selves. In severe winters, like that of 1854–5, every plant in the garden will perish, however you protect them. A whole neighbourhood may not have a single artichoke-stool left. A partial remedy against this accident is to take up, a little before Christmas, a certain number of stools, and to set them, not too thickly crowded, in the corner of some cellar or shed, where the frost does not enter. It has been found that plants so preserved, when replanted in spring, showed fruit earlier than in ordinary cases. The plan is worth adopting partially, if only as a prudential measure. The seed affords another means of supplying the place of plants which the winter has killed. Sow in gentle heat, under a frame, in February or March, to plant out when genial weather arrives; or the seeds may be sown where they are to remain, exactly as directed for cardoons. Some gardeners take up the seedlings to cut their tap-root, and replant them immediately on the same spot, in the belief that the operation causes the production of better and earlier fruit. Amongst the seedlings so obtained, some will have to be rejected. They will be thorny, and with fruit not much better than overgrown thistle-heads, while others will turn out excellent.

Wintering may be done by cutting down the leaves within a foot of the ground, and earthing up the plants without covering their heart. When frost actually arrives, dry leaves or litter may be thrown over each stool, to be removed on the return of mild weather, to avoid rotting. If the frost returns, the covering must be replaced. An objection is, that the cutting of the rank foliage overcharges the stool with sap, and thereby makes it more susceptible of frost; and that the earthing up, while it shelters the crowns, exposes the roots.

At the beginning of April, when severe frost is no longer to be feared, manure and dig over the artichoke-bed, and remove the superabundant offsets, leaving only two or three of the strongest on each stool. This disbudding process is too often neglected in English gardens. The roots are exhausted by innumerable shoots, which

produce leaves only, instead of flowers. Sea-weed manure agrees with artichokes.

ESCULENT FUNGI.

Mushrooms—Agaricus campestris, or *edulis*.—Although various cryptogamic or invisibly-flowering plants are employed as articles of human food, the mushroom is the only one belonging to the class which has as yet been subjected to culture. Amongst the fungi, the species most commonly eaten are the mushroom, the morel, *Phallus esculentus*, and the truffle, *Tuber cibarium*. The two latter are sought for wild by persons who make a trade of the employment, and are always sold at high prices. In some countries of Europe, the list of edible fungi is greatly extended. Thus, in Italy, the orange mushroom, *A. aurantiacus*, is brought to market in large quantities; while the French, on the contrary, have in general such a horror of the dangerous species, that they will eat none but cultivated mushrooms. Their cultivation, consequently, is practised on an extensive scale in localities which possess the requisite conveniences; worn-out quarries, catacombs, and subterranean vaults and passages, being employed for the purpose. The prejudice is so strong, that abundant crops of excellent wild mushrooms are suffered to rot neglected on the spots where they have sprung up. There are, therefore, mushroom-growers,—for instance Monsieur Puy, of Lezennes, near Lille,—who carry on a wholesale exportation of this vegetable, besides largely supplying the hotels and restaurants of the neighbourhood.

Most botanists recognise two varieties of the edible or common mushroom; but they may fairly be considered as decided species. Another species, *A. pratensis*, or meadow mushroom, the Champignon of West-end cooks, sometimes finds its way into the first-class kitchens of the metropolis, but only occasionally, not being cultivated. Of the common mushroom, one kind is larger, whiter on the upper surface, affects meadow-land and moist open

situations, is composed of a greater amount of pithy substance, a smaller depth of the gills, with a flavour which is more insipid in respect to strength, and less aromatic to the taste. The great point of distinction, however, is that its milk-white skin and its stalk, especially before its growth is completed, if slightly rubbed or bruised, assume a light yellow or primrose tint a few minutes afterwards. This kind is perfectly wholesome, though its property of turning yellow, on abrasure of the cuticle and pithy substance, is shared in common with several dangerous species. It is doubtful whether this larger variety is reproduced by the process of mushroom culture. I believe that it is not. The true mushroom has the cuticle more whitely brown, with brownish-gray patches when about three-quarters grown; the pithy part is more fleshy, and slightly nutty in substance; the gills, varying according to age from dull pink to chocolate-brown, are more abundant and succulent, producing at last the dark juice of which the sauce known as ketchup is made; and above all, the fungus does not turn yellow when crushed. This species is cultivated without difficulty; and directions for its cultivation are all the more desirable, not only because danger from poisonous kinds is thus avoided, but because the sample so produced is really better than those found wild in point of quality, besides the convenience of being attainable at many times of the year when the others are not to be had.

In the gardens of the wealthy, there are houses heated by flues for the growth of mushrooms; but the object can be attained in any dry shed, empty stable, or out-house, or cellar (light not being necessary), where the temperature does not fall below 45°, nor rise above 70° of Fahrenheit. Various kinds of materials are recommended for making mushroom-beds; but the best is fresh manure from horses that are highly fed, mixed with light soil in a small quantity. An idea is prevalent with very many gardeners, that by far the most efficient manure for the purpose is that which is dropped by entire horses.

Mushroom-beds may be made of any size. Suppose one side of an empty building or a cellar is at command. Make an upright boarding, *b b*, of any rough planks, about 30 inches high from the floor, and about three or four feet in front of the wall. A wider bed would be inconvenient to reach over to gather the crop. If a succession of crops is preferred to having one large crop at once, divide the bed into three or four compartments, something like shallow wine-bins, by wooden partitions of the same height, and reaching to the floor, as at *d d d*. To make the bed or beds (and it is better to begin to work at once two contiguous compartments, as *A a*, because, even if made on the same day, there will often be a difference in the date of their becoming productive), take a quantity of the manure, and spread it so as to lie about four inches deep. Beat it down firmly with a mallet. After a few days repeat the same, and again at intervals, till the bed of beaten manure is from fourteen to eighteen inches thick. Being fresh dung, of course it will heat; but too much heat is fatal to the germs of mushrooms: to ascertain, therefore, the degree of heat, put two or three sharp-pointed hard wood sticks into the bed, and leave them there. When, upon being drawn out, they feel about milk-warm to the touch, it is time to inoculate the bed with mushroom spawn; but the heat must be rather on the decline than otherwise.

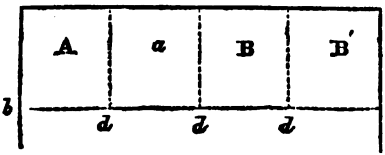

Fig. 7.

Bricks of mushroom spawn may be had of any respectable nurseryman, and of most gentlemen's gardeners where the horticultural establishment is maintained on a large scale. If kept in a dry and cool place, they may be preserved for an indefinite length of time, as the filaments of mycelium, which constitute the spawn, have the property of lying dormant even for years, and then of

reviving under circumstances favourable to their growth. If once excited by combined heat and moisture, they are apt to perish, and lose their reproductive powers. Hence, an airy garret is often the best store-room for mushroom spawn, which may be made at home, by cutting up an inoculated bed into bricks, and drying them, at the moment when the veins of spawn have run through the mass, before the growth of mushrooms has actually begun. It is worth while devoting a bed to the production of spawn only, which will render you independent, by supplying a stock for some time forward, and by giving you an opportunity of obliging a brother gardener from whose stores you may be glad of something in return.

Break the spawn into pieces about the size of a hen's egg. Place them all about the bed, at distances of from fifteen inches to a foot from each other, and a couple of inches below the surface: beat the whole hard down. Be careful not to let the heat increase above the degree before mentioned, otherwise the spawn will be destroyed, and the bed must be restocked with fresh spawn. Indeed, for security's sake, it is always best to repeat this when the heat is on the decline. The spawn soon spreads itself through the mass of the bed, in the form of irregular filmy threads, much in the same way as a mouldy Stilton cheese increases in ripeness from day to day. The progress, however, of the spawn is very uncertain; sometimes it will lie dormant for weeks. Too much watering destroys the bed, while a certain degree of humidity is absolutely necessary. After all danger of increased heat is past, cover the bed with light soil two or three inches deep: then beat it down hard. Mushrooms always do best in a firm hard soil; however hard, they will find their way through it. They have even been known to raise the pavement of a cellar-floor, and the flag-stones of a courtyard. Cover the coating of beaten earth with a light stratum of straw,—or better, of fine hay. Examine the test-sticks which were originally placed in the bed. If they are lukewarm, all is right; but if the heat is too much increased by the covering of

hay, remove it for a time. If the place is warm and dry, this covering may be dispensed with altogether, though it is far better to retain it, for the sake of maintaining an equal temperature and humidity. Symptoms at last become apparent that the capricious crop is about to burst forth. In five or six weeks after the spawning, more or less, the mushrooms ought to appear. The uncertainty of the date of the crop is one source of its interest in an amateur's eyes. As the time approaches, the first mushroom is looked for with as much anxiety as a poultry-fancier feels when a valuable pullet is likely to lay her first egg. As a warning of what is coming, the whole surface of the bed breaks out with a violent eruption of little white pimples, at first not bigger than pins' heads. It is actually seized with the mushroom-pox, which has been communicated to it by the leaven of spawn introduced. The pimples daily grow bigger and bigger. As you watch them, you see they are coming to a head. They grow into buttons, which spread into mushrooms.

A mushroom-bed continues productive for a month or six weeks; therefore, if a continued succession be required, the compartments *B*, *B'*, should be filled with manure, to be treated as directed, a month or so after the bins *A*, *a*, have been set going. A gentle watering now and then with tepid water hastens the growth: but too much causes the spawn to rot, and then, of course, the bed remains unproductive. With every care, a mushroom-bed bears when it pleases; and it does not always please it to bear. Rough and injudicious modes of gathering will also give a serious check to a bed, even when it is in full bearing. Each separate mushroom should be cut at the stalk with a sharp knife, taking care not to disturb the root in the least. On a prolific bed, the mushrooms sprout in groups. If the first-formed button is rudely torn up, the common root is disturbed in the earth, and the whole cluster which remains comes to nothing.

Mushroom-beds, prepared exactly like the above, may

also be arranged one above the other, on shelves, with an eighteen-inch or two-foot board in front, giving them the appearance of deep drawers. Sufficient space must be left between each shelf for the gardener to thrust in his head and shoulders, to examine the progress of the bed, and to gather the crop. Though less convenient than the open bins, it is a good plan for economizing space. In the vast caverns, or worn-out quarries, tenanted by the French *champignonnistes*, or professional mushroom-growers on a large scale, the mushrooms are grown on ridges of quite an indeterminate length, sometimes several hundred feet, following the windings of the cavern, about a couple of feet high, and a yard in breadth at the base, containing manure, and covered with sifted earth, flattened close by the back of the spade, like miniature ridges for the preservation of beet-root. No straw is used to cover them, nor is needful in such an invariable condition of moisture, atmosphere, and darkness. The ridges thus run along the course of the intricate caves, which form quite a subterranean labyrinth, and which are made to contain one, two, or three ridges, according to their breadth of floor, leaving a convenient pathway between each ridge, for the labourers to walk and gather the produce. The ridges, when exhausted, are removed through openings fitted with gratings, to the upper air, through which the necessary materials are let down and taken up, and which also serve as ventilators, without which the men employed could not continue their labours. The spent substance is thus replaced by fresh manure, for the generation of fungi.

By an easy adaptation, the ridge system of mushroom-growing may be practised in the open garden; but only during summer, or at least mild weather. R R, is a section of the ridge, of any convenient length and height. At each end is an upright post, P, supporting a horizontal beam, B,

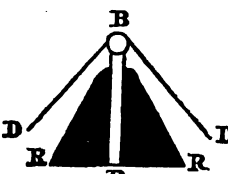

Fig. 8.

to which are attached, by hinges, facings of boards to cover each side of the ridge. Suppose them to be a couple of old doors, D, D, to serve as a temporary make-shift. The bed is made, heated, and spawned as before; a sufficient covering of straw is then laid between the faces of the ridge and the moveable roof of boards, which protect it from rain, sunshine, and wind, and which can be lifted at pleasure, whenever the gardener wants to examine his crop.

Mushrooms may even be grown in beds in the open ground, without any covering of straw or substratum of dung exclusively, though with much less certainty as to the time of their appearance than by any of the above methods. In spring, prepare a richly-manured bed, which will serve for the purpose of sowing cauliflowers, cabbages, or any other plants to be transplanted at an early period of their growth, scattering over the whole a tolerably liberal sprinkling of carrot-seed, and inserting lumps of mushroom-spawn at short intervals. When the cauliflowers, &c., are removed, the carrot-leaves will serve to shade the bed and retain the moisture: and they may be drawn young, if they grow too thick. At some time during the season, quite dependent on atmospheric chances, a crop of mushrooms will make its appearance,—or perhaps it will not. But if a promising knot of buttons show themselves on any part of the bed, it will be as well to encourage the whole by a covering of straw or by a few light mats thrown over it. The same object may often be obtained by forming such a seed-bed in a sheltered corner with the materials from a worn-out mushroom-bed. An unexpected supply will occasionally present itself long after the original bed has been forgotten.

SALAD PLANTS.

Lettuce—Lactuca sativa.—The acetarious vegetables now cultivated are a limited list to what they were of old. Evelyn, in his "Acetaria; or, Discourse of Sallets," proves that a more varied and artistical *sallet* could be

served two hundred years back than now, and that our only mode of advancement in this way is to revive old fashions. It is true that pickles were included in the term. Thus, he says:—"The abortive and after-fruit of melons, being pickled as cucumber, make an excellent sallet. The small green fruit of the potato (when about the size of the wild cherry), being pickled, is an agreeable sallet." But still, where is *our* list of "sallet-plants reduced to a competent number, not exceeding *thirty-five?*"—even although we may be inclined to refuse the sowthistle, so "exceedingly welcome to the late Morocco ambassador."

At the head of modern salads stands the lettuce, divisible into two classes; namely, Cabbage Lettuces, and Cos or Upright Lettuces. Of these there are very many varieties, and new ones are constantly being raised or imported. One of the newest,—May's Magnum Bonum,—is advertised as "the largest, sweetest, and crispest lettuce known. It may be sown all the summer, and will stand the winter." Other seedsellers will claim the same merits for their favourite kinds. The truth is, that there are so many good sorts, that the amateur can hardly go wrong in making his selection. The main point is to cultivate them well.

Cabbage Lettuces.—The Hardy Hammersmith; the Brown Dutch; the White Dutch; the Tennis-ball; the Drumhead, Malta, or Silesian; the Grand Admiral; the Texter; the Brown Spotted Roman; the Cabbage Victoria.

Cos Lettuces.—The Brown Cos, or Bath Cos; the Black-seeded Green Cos, or Egyptian; the London White; the Florence; Ady's White; the Paris Cos; the Spotted Aleppo; and lastly, the Artichoke-leaved Lettuce, a plant with curious and handsome foliage, which supplies excellent salad when tied to blanch. As a general rule, it is best to tie Cos lettuces as soon as they have formed their hearts; a few may be done at a time, to insure a succession. Persons who are curious to have the newest and choicest kinds of lettuce, should

procure their seed from Paris, though our own nurserymen will furnish all that can be reasonably desired.

The best lettuces are those which stand the winter, and attain their full size and bulk in May and June. Sow, for seedling plants, a small bed broadcast the last week in August, on rich soil. At the end of October plant them out where they are finally to remain, on highly-manured beds. Each cabbage lettuce should have eventually a space not less than a foot square; Cos lettuces will take up somewhat less room. Both kinds may be planted twice as thick as they are intended to remain, in order to use the surplus when half-grown. It is safer to make *two* autumnal sowings, one a fortnight after the other. One will be found to succeed better than the other, but that success will depend on the chances of the season. Hand-lights are well bestowed on the protection of early lettuces. Waterings must be given during any long-continued drought. Light soil is better than clayey soil. It is needless to say that lettuces to stand the winter must be placed in a sheltered and sunny spot.

Spring-sown lettuces may be sown in pots or boxes indoors in February, to be planted out as soon as fine weather comes. In March, they may be sown in the open ground, and continually, for successions, during the months of April, May, June, and July. But in proportion as summer advances, the less will the plants bear transplanting, in consequence of the tendency to run up to seed. It is best, then, to sow in drills, thinly; and when the plants have three or four leaves, to thin them out with the hoe to a foot apart.; or the superabundant plants may be cut away with a sharp knife, to be used as *Laitue à couper*, hereafter to be mentioned. But after midsummer, lettuces are really not so good as before. Besides the deterioration of their quality towards the close of the season, they are particularly liable to the attacks of slugs, snails, worms, and insects. The most approved autumnal salads are those mainly composed of endive, though extreme horticultural skill will produce good lettuces even then.

A very delicate salad in early spring may be obtained from the *Laitues à couper*, or the lettuces to cut, which are sown thickly, like mustard and cress, in frames, on hotbeds, and under bell-glasses, and when they have three or four leaves, are cut with a sharp knife, dividing their tap-root just *below* the surface of the earth. Any kind of lettuce-seed will serve for *laitues à couper*, but green kinds are preferred to brown, and cabbage to Cos. The Parisian gardeners make use of early dwarf kinds, which would scarcely form a heart if suffered to stand. Favourite varieties are *La petite crêpe*, *la gotte*, the *laitue chicorée*, and the *laitue épinard*. These, as well as every other salad plant, must never be stinted in their supply of water, if they are to retain their crispness. Salads that are starved, and allowed to grow slowly, are sure to turn out tough and ill-flavoured. By successive sowings, and the employment of hotbeds, *laitue à couper* may be had all the year round. Lettuces, as an article of diet, are said to have a slightly anodyne or tranquillizing effect on the system.

Endive—Chicorcium endivia.—There are two distinct sorts of endive, of which there are several sub-varieties; but amongst these latter, the differences are unimportant. The Curled Endive—the *Chicorée frisée* of the French—is the prettiest to look at; the Broad-leaved, or Batavian Endive, is the most useful, and the best to eat. This is highly esteemed in France under the name of *Scarole*. The gardener will probably find room for a little of each.

For main crops, sow broadcast, not too thick, on a well-manured seed-bed, about the middle of June. Sown before that time, the plants are apt to run to seed at Michaelmas. During July and August, make successive transplantations, either in single rows at distances from eighteen inches to two feet, or in beds, at eighteen inches apart each way at least, and in quincunx order. Unblanched endive is scarcely edible as salad, though cooked it makes a very palatable dish of vegetables. When the plants are full-grown, or nearly so, blanching

is performed in two ways: rudely, by covering the plant with tiles or bricks (which will harbour slugs and worms), or with an inverted flower-pot having a cork in its hole, or with a seakale-pot;—much better and more effectually, by tying up the plants with bast, or any other ligature that does not cut the leaves. Only a certain number should be so tied up at once, in order to have a constant succession. If a course of wet weather sets in, the tied-up plants are apt to rot, which will not be the case with those whose hearts are open and free. In November, the whole crop must be tied up; at the first approach of frost, take them all up with the spade, and set them upright in an airy cellar or shed, with the earth still hanging about their roots, and they will keep and furnish useful supplies of excellent salad till late in the winter, or even till spring. Dry weather should always be chosen for tying up the plants. On light soils, endive may be blanched by covering it with earth instead of tying it; but the practice is slovenly, and is almost sure to cause rotting, in damp seasons.

Chicory.—For an account of this excellent winter salad, Mr. Cuthill's own characteristic expressions shall be quoted. "When the plants have done growing, some time in November, the crop of roots are all dug up and stored by, like beet-root. In cutting off the leaves, you must not injure the centre; for out of the centre comes all the salad. In 1836, I had a quantity of mould put into a cellar, and planted a bed of Chicory roots as soon as they were taken from where they had grown during the summer. I planted three hundred roots in the bed, keeping them four inches apart, light and air entirely excluded. They soon began to grow, producing long, fine cream-coloured leaves, and when about six inches long, I sent them in as salad, cutting off the leaves carefully; for if you cut into the quick, it would stop a second, third, and fourth crop of leaves, which a root produces, until the cells of a root are as empty as a honeycomb, or until entirely exhausted. From the number of plants in the cellar, I could have supplied ten

such families as that I lived with; but it was not until the severe winter of 1838 that I sufficiently appreciated the use of chicory as a salad. The frost and snow were severe: all endive, lettuce, celery, &c., was gone rotten. Our salads were the very best in London. Every one that dined inquired what it was, and every one ordered it to be grown afterwards. In consequence of a letter that Loudon published in his Magazine from me, some fourteen years ago, it was soon grown in the fields for mixing with coffee.

"Ten years ago, when I came here (to Camberwell), I grew the roots with the view of introducing it as a salad into Covent Garden market. I had it planted into a pit where there was a flue, and covered the glass with mats to exclude the light. I also had five or six roots put into a large-sized pot, and turned the next smaller size reversed over the heads, stopping the hole in the bottom of the top pot to exclude air. This is very easy, and it answers well for a small family, just putting in a few pots in heat anywhere. In the winter of 1839, or early in 1840, I carried in a basket of this fine salad, tied up in sixpenny bundles, at a price which I thought would pay well. No one had ever seen it,—no one had ever heard of it,—and no one would buy it. An old herbalist (a Mr. Steptoe) came along; he was a buyer of pure dandelion leaves, and all sorts of things for foreigners. He bought all the chicory leaves, and paid nine shillings for it. Thinks I, 'my fortune 's made.' Next market morning, I carried a still larger quantity in; but when Mr. Steptoe came past, he merely shook his head, and passed on. 'Then,' thinks I, 'is my first-born child to fall to the ground like this, and in the first market in the world?' When he returned, 'Here, I have plenty more for you,' said I. ''Tis of no use,' said he; 'I have only sold a few bunches to foreigners.' Then I said, 'Take the lot this time for nothing.' He did so a third time, with no better success; then I gave it up. 'Poor John Bull,' thinks I, 'you despise the finest of all salads, the finest of all tonic bitters, and that too at a fair price;

but you do not mind being cheated by paying three and four times more than you ought to do for your chicory, misnamed coffee.' But I am in hopes even now to see it largely brought into public markets. It sometimes takes many years' hard fighting to persuade people to their own benefit.

"In the various places I had lived in previous to my finding out chicory, I had been continually annoyed, by ladies and gentlemen who had travelled abroad, telling me how much superior their salads were to the English salads. A Scotchman, like me, did not believe them; for we gardeners think no place like our own for good things. Since then, and since free trade has been introduced, I am of a very different opinion, seeing so many fruits and vegetables coming over; such as pears, plums, apples, grapes, peaches, nectarines, apricots, peas, potatoes, beans, green gooseberries, onions, and many other things."

Barbe de Capucin, or *Capuchin's Beard*, is consumed in large quantities in Paris during winter and early spring. It is the same thing as the foregoing chicory; only the object of the French gardeners is to get it as small, instead of as fine as possible, like Mr. Cuthill. For this purpose, chicory seed is sown in spring, broadcast and very thick, on poor meagre soil. The result is, that the chicory is starved, and a quantity of long, straight, slender roots are produced. At the commencement of winter, these roots are taken up and tied in bunches after all their leaves are removed, care being taken not to injure the central bud. This task is a work of patience. The bundles of chicory roots are then removed to a perfectly dark cellar, where a bed of garden-mould mingled with leaves has been prepared. The bundles are planted in the bed, the roots begin to vegetate, and send forth long, narrow, yellowish-white leaves, which constitute the salad. The bunches are simply taken up and brought to market, roots and all, just as they are; and the sample so offered really has a slight resemblance to the hoary beard of some venerable monk.

Capuchin's beard is a most wholesome salad, though somewhat hard and with a tinge of bitterness. NOTE.—This and chicory are admirably adapted for furnishing salads on shipboard, when a vessel is far away from land. Roots planted inside barrels half-filled with mould, would afford a welcome supply. The barrel-head would be sufficient covering to blanch it; and on board ocean steamers, there would be no difficulty in forcing a succession of salads at pleasure.

Dandelion—Leontodon taraxicum.—Dandelion is largely sold for salads in Paris. The country people eat the shoots that are blanched by the earth of molehills. An imitation of Barbe de Capucin may be obtained from it, by taking up the roots and treating them in the same way, in a warm cellar or any other dark place. This, and one or two other salad plants, are mentioned here, principally for the purpose of reminding the reader of the resources open to our soldiers and sailors, when marching across country, encamped, out at sea, or landed on a wild shore. Many plants that would be scorned by the gentlemen of England who sit at home at ease, would be thankfully received both as pleasant and healthful, by the working members of our army and navy.

Corn-salad, or *Lamb-lettuce;* in French, *Mâche, Coquille, Boursette, Doucette, Blanchette — Valeriana locusta.*—Of this there are several varieties. Italian corn-salad, is a distinct species, *V. coronata,* with broader and light-green leaves, and held in most esteem.

The value of corn-salad is its earliness. It grows wild in cornfields throughout Europe. Another of its French names is *Salade de blé,* or Wheat salad. Sow in shallow drills six inches apart, in August and September, to obtain successions for winter and spring. It may often be had from beneath the snow. The leaves are green and tender, but have somewhat of a physicky taste. "The French," says Evelyn, "call them *salade de prêtre,* priest's salad, from their being generally eaten

in Lent." They certainly deserve a place amongst the penitential herbs; the stomach that has admitted them is apt to cry *peccavi*.

Garden Cress—Lepidium sativum.—Sown in shallow drills, to be cut for small salading, while still in the seed-leaf, or soon afterwards. Best grown under a hand-light, or in a frame. In the open ground it is apt to be tough.

Mustard—Sinapis alba.—Cultivated the same as above, and usually eaten together with it; but as it grows quicker than cresses, to come in at the same time, must be sown a few days later.

Rape—Brassica napus.—Eaten in the seed-leaf, like the two foregoing.

American Cress—Barbarea præcox.—Grows wild in watery places; is strong, pungent, and not worth cultivation.

Garden Rocket—Brassica eruca.—Of no greater value than the above; though both are useful antiscorbutics for persons who can only procure *wild* salads. Not unusually eaten in France, where it comes up in gardens like a weed, and is looked upon as a sort of half-savage plant, which it would be cruel to treat as an utter outcast.

Brook-lime—Veronica beccabunga.—A common brook-plant, with blue flowers and shining dark-green leaves, which may be eaten when no better salad is to be had.

Water-Cress—Nasturtium officinale.—An excellent plant, which, in its wild state, is sufficient to furnish nearly the whole of the vast amount consumed. It is probable that the railways have greatly diminished its cultivation about London. Grow, or gather, only in *running* water. Otherwise you will often find frog spawn and other intrusive matters adhering to the roots and stems.

Wood-sorrel or *Shamrock—Oxalis acetosella.*—The leaves and flowers make a delicate wild salad in spring.

Red Beet—Beta vulgaris.—The root boiled and

sliced when cold (it is better baked in a slow oven), is a favourite and ornamental addition to salad. Its colour contrasts well with celery. Sow in shallow drills a foot apart, dropping two or three seeds at intervals of nine inches. When the plants have three or four leaves, thin them to one, sparing the plant which is the deepest in tint. During summer, hoe frequently, and store them indoors before frost arrives.

The Radish—Raphanus sativus.—Radishes in the seed-leaf make an excellent salad, but they are principally cultivated for the root. There are long radishes and turnip radishes of various colours; white, pink, purple, scarlet. The Early Scarlet Short-top is a great favourite. The great point is to grow radishes quickly, and never to let them want for water. Spring radishes are seldom good for much, unless grown in frames, or with some sort of covering. Market gardeners economize both space and time by sowing radishes on the south border on which they have planted their very earliest potatoes. The radishes are covered with mats every night; and they are hurried on in their growth, and disposed of quickly, by the time the potatoes make their appearance above ground. The first sowings may be made in January or February; afterwards, as often as you are likely to want them young and fresh. To save the trouble of frequent waterings, damp spots may be chosen as the spring advances. In summer, a north border is to be preferred.

The Spanish Radishes are a group little known in England. They, however, are consumed in large quantities on the Continent, and rank high in popular esteem. They are large, coarse, and strong-flavoured, often reaching the size of a turnip; but they are also drawn at earlier stages of their growth. They have the great merit of being hardy, as well as of increasing in size, instead of running up to seed or growing woody, like common radishes; and if they are not delicate enough for fastidious persons, they are of extreme utility to the body of a nation, to the labourer and the artisan. In

camps, and on shipboard, they are a most acceptable variety of the ordinary diet; because their bulk, when full grown, renders them quite a cut-and-come-again vegetable. The principal varieties are the White Spanish, the Yellow Spanish, and the Black Spanish; but there are also Purple, Brown, and Grey subvarieties. For crops to stand the winter, sow in drills nine or ten inches apart; when the roots are of the size of an ordinary Turnip Radish, they may be drawn for use till the plants stand far enough asunder to avoid the danger of spindling up. For summer consumption, sow in April or May. Spanish Radishes are often thrown into soup, to remedy the absence of turnips in spring.

Rampion—Campanula rapunculus.—A native Bluebell, whose root is scraped and eaten like a radish. If it once gets into your garden, you will never get it out again; and therefore it is not worth while sowing the seed of so troublesome an inmate. Still, the traveller who has no radish-bed to go to, may be glad to recognise it in the course of his journey.

CUCUMBERS AND GOURDS.

The Cucumber—Cucumis sativus, in many varieties.—The choice must be made according to circumstances. Paxton recommends the Southgate, or Long Green Prickly, as easier to manage than other kinds. Mr. Cuthill says:—"I have bought all the new cucumbers advertised, but I may without fear of contradiction say, that I have never found one so early and so productive as my Black Spine." The Long Prickly, adapted for ridge culture; the Short Prickly, for pickling, productive; the Cluster Gherkin, for pickling, an immense bearer; the Stockwood, a handsome variety for forcing or ridge culture,—may all be depended upon.

Out-door or natural cucumbers may be sown on small hillocks, under hand-lights, in May. Even hoops covered with oiled paper will do. As the summer comes on, the

plants will dispense with this protection, but the result must entirely depend on the season. Frame cucumbers are more delicate, and also more digestible, than those grown in the open air in England. Very tolerable fruit may be had by planting cucumbers at the foot of a south wall, and allowing them to run over the face of it like vines. If a trellis is fixed to the wall, the plants will only want a little guidance.

For humble gardeners and small establishments, there can hardly be a more economical mode of cucumber-growing than that recommended in Paxton's *Cottager's Calendar*:—"To form a pit, mark out, in some dry sheltered corner of the garden facing the south, a suitable spot six feet wide, of any required length, and drive down stout stakes at the corners. Then procure a quantity of grass sods cut square, about three inches thick, and build with them a back-wall two feet three inches high, and a front one fifteen inches. The walls may be a foot or fifteen inches thick, to resist frost in winter. The stakes should be driven to the exact height of the walls on the inside, and when finished, a strip of wood may be nailed along their tops to make a level surface for the lights to rest upon. These must be formed by nailing four light pieces of wood together, the side pieces six feet six inches long, and the end ones three feet six inches. These frames should be crossed with twine, to support a covering of oiled calico or paper, as a substitute for glass. If turves cannot be readily obtained, a number of stakes may be driven down, and wattled with rods, or lined inside with slabs, and a wall of earth, as above, built against these. This simple erection may be speedily made by any person, and will prove of great use. The surface surrounding the pit should be somewhat lower than the interior, to preserve it dry. In this homely pit any kind of cucumber may be grown during summer. If a plant or two can be obtained of a size fit to plant out early in May, it will save some trouble; otherwise, about the middle of April, throw into one corner of the pit two or three barrow-loads of dung, which will communicate a

little warmth. Then sow in a pot, half-filled with light rich soil, the required number of seeds, covering them lightly, and place over the mouth of the pot a piece of flat glass, setting the pot upon the dung. When the plants are developing the first rough leaf, they may be potted off two or three in a pot, replacing them on the dung, and keeping the lights close for a day or two. As soon as they have perfected the first rough leaf, stop them,—that is, pinch off the top close to that leaf; and prepare for planting them out in a few days after, by laying some long litter or turfy soil, about three inches thick, as drainage; then along the centre of the pit form a ridge of rich light soil, one foot thick, and plant a pot of plants under each light. The reason for forming a ridge of soil along the centre is, to allow frequent earthings to the plants as their roots appear on the surface; by which means they grow faster than when planted at first in a great body of soil. All that will be required after, besides these earthings, is a regular supply of air, removing the lights wholly the greater part of the day, after the end of May; the stopping and training a certain number of bearing shoots, removing all that are weak or seem crowded, and pegging out the remainder without confusion."

More ambitious apparatus, in immense variety, may be had of the makers of horticultural articles; but those, being the means of forcing cucumbers and other garden produce, are beyond the scope of the Book now in hand. Leading points in growing frame cucumbers are, to pinch off the shoot a joint or two above the fruit, or even at the fruit itself, to keep the frame clear of useless vine; to remove superabundant male blossoms; to administer diluted liquid manure so long as the plants continue in full bearing; to bear in mind that cucumbers delight in a combination of heat and moisture, and therefore never to water with *cold* water in hot weather; for to the application of this many of the diseases of cucumbers are attributed; to regulate carefully the admission of air, maintaining a circulation without hot dry currents; and to

destroy wood-lice and other insect vermin by keeping four or five toads in each pit, or by admitting the frequent visits of quite young Bantam chickens.

Nations vary greatly in the esteem in which the cucumber is held. In England the first cucumbers fetch high prices; in France, except for pickling, they are in but slight request; in Russia, salted cucumbers form a popular mess. A well-known recipé to dress cucumber is, to slice it as thin as possible, to add salt, oil, vinegar, and pepper, and then to throw it out of the window; but for those who are afraid of the crude article, cucumber either stewed whole or fried in slices, constitutes a palatable and digestible dish. In either case, the sauce for it should contain a decided dash of vinegar. There are one or two varieties which, instead of being green, have the outer skin entirely white, or light cream-colour, giving the fruit a very remarkable appearance. Cucumber-seeds preserve their vitality for many years. Old seeds are believed to produce plants that are more fruitful and less luxuriant in growth than those from new seeds. When old seeds are not to be had, gardeners give them an artificial age by wearing them in their pocket. The seeds of these, and of other tender plants that are raised in hotbeds to be subsequently planted out, are best sown in shallow pans, filled with a mixture of well-rotted manure and light *loose* earth: leaf mould is excellent for the purpose. The reason is the same as for pricking out celery-plants on a stratum of earth on a *hard* surface; *i. e.* the tap-root soon gets checked, and then lateral fibres are shot out, which makes the roots generally more fibrous and bunchy, and therefore better adapted for transplanting, than if sown in a deep pot.

The Melon—Cucumis melo—has no right to make its appearance here, except for the sake of mentioning that a pretty little old-fashioned variety,—Queen Anne's Pocket Melon,—which produces green-fleshed well-flavoured fruit, the size of a large orange, may, in very fine English summers, be grown on a trellis against a

south wall, in the same way as indicated for cucumbers. It also answers well in a cucumber-frame.

Gourds and Pumpkins—Cucurbita of many species and varieties.—Pumpkin-pie is a favourite with many of our peasantry: but its real merit, like that of stone or flint-soup, lies in the ingredients that are added to it. Vegetable Marrow (*Coucourzelle à la moelle*, of the French) is the most relished of its class as an esculent, in England, and that only in its green or half-grown state. In vain will Mr. Cuthill recommend it ripe; people's palates are even harder to convert than their hearts and minds. "After two years' trial," he says, "of ripe Vegetable Marrow as food, having used it with all sorts of meat, I can confidently recommend it as a first-rate winter vegetable. Many object to eat it in a ripe state, and it may be many years before it receives universal acceptance as a winter vegetable; but in this it only shares the fate of many other things now common on our dinner-tables. The potato passed through the same ordeal; many a weary day did this valuable tuber struggle for a place. When ripe, vegetable marrows must be stored in a dry place, from which frost is excluded. The under-ripened ones should be used first. In boiling ripe marrows, cut them up into pieces of four or five inches in length; take out the pith and seeds, but do not remove the skin before boiling. Then boil in plenty of water with a little salt. After three-quarters of an hour's sharp boiling (this depends upon its ripeness), let the pulp be scraped out into a dish, and press out all the water that it has imbibed during the process of boiling. Add pepper and salt, and mash as with turnips; and no one who has not tried it, can have any idea what a fine winter dish it makes. To captains going long voyages, it would prove most valuable. Vegetable marrow, in its young state, makes a famous pickle. Cut it into two or three inches in length, as cucumbers are served." In Italy, young marrows and other immature gourds, are split or sliced, and fried with the skin on, when about three or four inches in length. The skin thus becomes crisp, and the

flesh really acquires a marrow-like consistency. Throughout the same part of Europe, gourd-seeds are used in cakes and confectionary, as we should almonds. At Naples, the Portmanteau Gourd, or Naples Gourd, a large cylindrical fruit, more than half a yard long, is simply cut in halves, baked in an oven, and then eaten cold in slices.

But, with the exception of the Vegetable Marrow, Pumpkins and Gourds may be regarded in England as plants rather of ornament than of use. They require an inconvenient extent of space; but their luxuriant vines, their bold foliage, and their noble-looking fruit, afford powerful elements of decoration in the hands of those who know how to use them. The Potiron Jaune, or Mammoth Gourd, attains an enormous size. (If monsters are wanted, only one fruit should be allowed to each plant.) The writer had one presented to him which filled a donkey-cart. The Orange Gourd, both Smooth and Warty, make pleasing chimney ornaments; as also does the Pear-fruited Gourd, with its shining green and yellow skin. The Snake Cucumber is an extraordinary plant, producing green vegetable serpents from three to six feet in length. The Club Gourd, a favourite with the Venetians, bears bludgeons a yard or more in length; while our American relations delight to cultivate a variety of vegetable marrow called the Crookneck, which has small yellow slightly warty fruit, bent in two almost at right angles at one-third of its length. The Bottle Gourd actually supplies drinking-vessels. The Turk's Cap is a faithful imitation of a turban, besides being one of the best to eat.

Gourds are safest sown, each seed in a separate small pot, in a frame or hotbed, some time in March. The plants must be gradually hardened by giving them air as often as genial weather permits. At the beginning of June, they may be turned out with the balls entire, and protected by a hand-light, or oil-paper cap, till the summer heats cause them to luxuriate in rampant growth. Windy exposures are most unsuitable, on account of

the breadth and tenderness of the leaves. Abundant supplies of tepid water may be given. Some gardeners throw earth over the principal stems after they have grown to any considerable length. Roots shoot forth at the joints so buried, and the fruit derives benefit from the additional nourishment. When gourds are made to climb over walls and arbours, the same object may be attained by passing the leading shoot through a concealed pot of rich earth.

HERBS, ROOTS, FLOWERS, AND FRUITS,

Employed for Confectionary, Garnishing, Medicine, Pickling, Preserving, and other Domestic purposes; arranged alphabetically.

Alecost, or Costmary—Tanacetum balsamita.—A pleasant aromatic hardy perennial, with a creeping root, which delights in a warm dry situation. It was much used by our ancestors, to throw a few sprigs into their favourite tankards of ale, wine, and cider; whence its name. Like the blessed thistle, tradition connects it with the history of the Virgin Mary. It is easily propagated by division of the roots. The tender shoots may be added to salads.

Angelica—Angelica Archangelica.—A tall-growing plant of indefinite duration, though really one of the biennials, thriving best in damp and shady situations, of a peculiar and agreeable aromatic flavour. Candied angelica-stalks are so easily procured from confectioners, and their consumption even in large families is so small, that a root or two would be cultivated rather as specimens than for home preparation. A few stools might be appropriately placed in some moist corner of the shrubbery where rank vegetation is ornamental. Propagate by seed sown as soon as it is ripe, to be afterwards transplanted to the desired spots. Cutting down the flowering stems as they appear, causes the plants to last longer; but then their luxuriant character is destroyed.

Anise—Pimpinella anisum.—A delicate annual, native of Egypt, whose seeds are much used by distillers to give flavour to cordial liqueurs. It is cultivated for this purpose in the south of Europe, whence its seeds are imported. In England, its leaves are employed for garnish and seasoning, in the same way as chervil. Sow in a warm border after all danger of frost is past, thinning out the plants if they rise too thick. It will not transplant.

Balm—Melissa officinalis.—A robust-growing hardy perennial, whose light green leaves, on being rubbed, give out a delicate citron smell. Balm-tea is a sudorific and febrifuge in high repute amongst village doctresses. Balm-twigs are also a useful tonic and stimulant to give to the smaller domestic animals when ailing; such as rabbits, guinea-pigs, kids, and lambs. Propagate by dividing the root in autumn. Balm grows so vigorously, that it may be used to screen an unseemly corner, dilapidated wall, or heap of dry rubbish.

Basil—Ocymum basilicum.—Sweet basil, as it is generally called, is, as its name imports, one of the royalties amongst sweet herbs. Cooks say that it, together with knotted marjorum, is a grand secret in the composition of good mock-turtle soup. Dried basil, however, does not retain its flavour so well as dried marjorum, but is best used green, and is therefore not easily attainable in winter. It is a tender annual, exquisitely aromatic, and is usually raised in pots in a hotbed, to be pricked in the open ground at the end of June; the seed, however, may be sown at once before a full south wall in a very warm dry border. Another species, the Least, or Bush Basil, *O. minimum*, is a great favourite in France as an ornamental pot-plant for the decoration of window-sills and shop-fronts during summer. It is equally aromatic with the former, with abundant miniature leaves and dwarf close-growing habit. Both are natives of India. Seed may be had of nurserymen, who import it from warmer climates than our own. There are several varieties of these two species.

Borage—Borago officinalis.—"I, Borage, give courage," says the old rhyme; though we should rather take it to be a cooling plant, from the smell of cucumber it gives out when bruised, and the quantity of nitre it contains. There are two varieties of this ought-to-be annual, one with sky-blue, the other with snow-white flowers, the foliage being similar in both. It is scarcely used now for any other purpose than to decorate with its flowers, combined with those of nasturtium, a salad of lettuce, together with which they are mingled and eaten. They are thus grateful to both sight, smell, and taste; but it is not easy to have them fresh on a London sideboard. Faded, they are as worthless as the flowers out of a lady's last summer's bonnet. Borage once sown in a garden will take care of itself ever afterwards, because its numerous seeds drop to the ground the moment they are ripe, and come up abundantly the following season. Bees are fond of borage; and its long succession of flowers claims for it a place in every bee-garden.

Burnet—Poterium sanguisorba.—Such a thing as a good salad is now never dished in England, if there be truth in the Italian proverb, "L' insalata non è buona ne bella, ove non è la pimpinella;" or, "The salad is neither good nor good-looking where there is no pimpernel." This pimpernel is our common burnet; "but," says Evelyn, "a fresh sprig in wine recommends it to us as its most genuine element," which may well account for its being "of so cheering and exhilarating a quality." It is now little used except for tankards and garnishing. The simplest mode of propagation is by dividing the roots, which are perennial, early in spring. It likes a dry and chalky soil. Its pinnated foliage is peculiarly light and elegant. It is supposed to be medicinal for rabbits and sheep.

Capsicum—Capsicum annuum, cerasiforme, grossum, three species, with several varieties.—These plants belong to the *Solanaceæ*, or potato family, and furnish the well-known Cayenne pepper. They all require to be raised in heat, but will do tolerably in a warm sheltered

border during the summer months, when we *have* a summer. Hot-house culture is best suited to them; still, they may be made to render good service as ornamental pot-plants, when their red or yellow pods are ripe. The pods, either green or ripe, are used in pickling; sometimes also in stews, when high seasoning is required. Capsicums may be raised under a hand-light, care being taken to protect them from the least touch of frost.

Caraway—Carum carui.—An umbelliferous biennial, whose seeds are extensively used in cakes, thence called "seed-cakes;" and also to flavour distilled waters and liquors. Caraway is the object of field culture in Essex, and on other stiff soils. For a garden sample, sow in autumn as soon as the seed is ripe, and thin the plants afterwards to a foot distance.

Chamomile—Anthemis nobilis.—The flowers are used to make a bitter tonic tea, and are also employed in fomentation. The whole plant, which is a low creeping hardy perennial, is bitter and aromatic. The double-flowered variety is preferred on account of its beauty, as well as because its flowers, when dried, occupy a larger bulk of space; but the single flower contains, in the central yellow florets, a greater proportion of the aromatic principle. Propagate by parting the roots, and plant in any well-drained soil. It is believed that chamomile thrives the better for being trampled on. The flowers are slowly dried in the shade as they are gathered from time to time.

Chervil—Scandix cerefolium.—A highly aromatic umbelliferous annual, of low growth, with delicate foliage, and one of those known amongst French cooks as "fine herbs." It is largely used, though in small quantities, chopped fine, in salads, stuffings, sauces, and omelettes. It is also employed for garnishing. Inexperienced persons might mistake fool's-parsley, which is poisonous, for chervil. To have a succession of young leaves, sow in early spring, at midsummer, and in autumn. Transplantation is best avoided.

Clary—Salvia sclarea.—A hardy biennial of the sage

family, to which rather indefinite medicinal virtues are attributed. Clary wine, made from the flowers, was the favourite mode of administering it. Raise from seed sown at the beginning of April, or from divided roots. The plant is rather curious than useful.

Coriander—Coriandrum sativum.—An umbelliferous annual, of easy culture, whose small round seeds are used to sprinkle on cakes before baking, and which also aids the druggist and the distiller. It is grown as a field crop on light rich loams in Essex. In gardens, sow during the first fortnight in March. Cumin is another umbelliferous plant, whose seeds are employed by spirit-rectifiers. Being mentioned in Scripture, it may be an interesting object in the herb-bed. It is biennial. The seeds may be sown as soon as ripe.

Dill—Anethum graveolens.—A hardy biennial, powerfully aromatic, which would be usefully and largely employed in cookery, if we had not several superior herbs of the same class. Sow in spring; in autumn also, if a succession be required.

Egg-plant, Aubergine, or Melongene—Solanum melongena.—A tender African annual of the potato family. There is the purple-fruited egg-plant, and the white-fruited egg-plant. In France, the fruit, before attaining its full size, is largely consumed as a vegetable, fried. It is cultivated profitably in the neighbourhood of Paris, but the principal supply comes from the departments of the South. The violet kind is most esteemed for the table, and makes a delicate dish. In England, the white-fruited egg-plant serves for little else than as a decorative pot-plant on a dessert-table, or in a shop-window, where its snowy eggs render it a curious object. There are varieties of both kinds, with elongated and globular fruit. Sow early in a hotbed in light rich earth, and plant out in fruiting-pots, which may be forwarded in a cucumber-frame, or under a large hand-light or bell-glass. The egg-plant scarcely bears the open air in the climate of Great Britain.

Elecampane—Inula helenium.—A plant whose noble

presence alone ought to procure it admission to the medicinal plot. The root is tonic and aromatic. Propagate by division of the root.

Fennel—Anethum fœniculum.—A tall, feathery, aromatic, perennial, umbelliferous plant, with yellow flowers, which grows wild in England, especially on chalky spots, but which is so useful in sauces, and as garnishing, that its presence in the kitchen garden is indispensable. Dividing a stool, is the quickest way of propagation; but once established, it rapidly multiplies from self-sown seeds. An Italian variety—*finocchio*—swells at the root into a sort of bulb (after the fashion of celeriac), and is blanched and eaten raw, as we use celery. It is considered healthy in spring, being purgative. The flavour of fennel is not agreeable to every one; it ought not therefore to be indiscriminately used. A succession of young shoots is obtained by cutting down to the ground a portion of the plants as soon as they have attained the height of a couple of feet. *Very* severe frost will kill fennel; it will therefore be prudent to throw a little litter over one or two stools at Christmas.

Gherkins—Cucumis sativus, with innumerable varieties. —Gherkins, or young cucumbers for pickling, are mostly, in England, the half-grown, late-produced fruit, whose further growth is checked by the approach of autumn. The French, however, who are great eaters, as well as exporters of gherkins, cultivate several varieties of cucumber, called *cornichons*, especially for the purpose of gathering while small, not allowing any of the fruit to attain its full size, except such as is required for seed. Those who are choice in the article of pickles, would do well to procure this variety, which may be had of any nurseryman who has a French correspondent. The usual way is, to sow the seeds in the open ground, under a bell-glass. They may be treated exactly like any other open-air cucumbers grown in England.

The Hop—Humulus lupulus.—Englishmen who have not travelled, and who can always get beer and porter, cannot imagine the craving for bitters felt by persons

who have long been deprived of them. Wormwood is often made to supply the want. In the south of Italy, the young shoots of the hop-plant are sold in the market, to be boiled and eaten like asparagus. They form a tough and bitter dish of vegetables; and the relish with which they are eaten arises, no doubt, from their supplying to the constitution the elements of which it stood in need.

Horehound—Marrubium vulgare.—Horehound lozenges are sold by most dispensing chemists, as expectorant medicine. Village doctresses make a strong decoction of the leaves and stems, and administer it as tea, or in syrups, to persons afflicted with colds, coughs, and consumptions. The plant is easily recognised by its whity-green cottony look. Propagate by seeds and cuttings.

Horseradish—Cochlearia Armorica.—A favourite accompaniment to roast beef, which is almost peculiar to the British islands. In France, it is known by the name of *raifort*, is little esteemed, and is procured with difficulty, except in towns where large colonies of English are established. It is a perennial root which is difficult to kill, becoming almost a nuisance in neglected gardens. It likes a damp deep soil, and is best grown in a bed quite apart by itself, from which its mass of tongue-like leaves will emit their powerful and agreeable odour. If possible, two or three beds should be prepared, to be drawn upon in successive years. In March empty your intended horseradish-bed of earth, to the depth of a foot, or more. Break up the bottom well with a fork; lay therein regularly pieces of horseradish about an inch and a half long, crowns, or not, it is all the same; return the earth, and use the surface of the bed for the sowing of any small vegetables, which will be removed by the time the radish-shoots appear. At the end of the second summer, you will have really fine sticks of horseradish.

Hyssop—Hyssopus officinalis.—"The hyssop on the wall" need only be mentioned to claim our interest and assert its right to a place in our gardens. It is a low-

growing aromatic under-shrub, with blue flowers, though there are white and red varieties. Its use is to enter into those dococtions of herbs which, if they were over-rated by our forefathers as sovereign medicines, are, perhaps, too much undervalued at the present day. Propagate most safely and readily by dividing the root, and plant in any dry, warm, sheltered spot.

Iceplant—Mesembrianthemum crystallinum.—An annual succulent spreading plant, every part of which, except the flowers and roots, is covered with clear transparent vesicles, as bright as frozen dewdrops. Single specimens in pots are old-fashioned favourites with many gardeners; but the ice-plant well deserves cultivation on a larger scale, for the garnishing of dishes of fruit on a dessert or supper table, especially as it bears so well the atmosphere of heated and crowded rooms. Sow the seeds on a hotbed early in spring, and prick them out in the open border, where there is full exposure to the noontide sun, about the middle of June. In fine summers, they will produce abundance of their bright crystalline shoots. The surest plan is, to devote a small cucumber-frame, in a sunny corner, to the growth of a bed of ice-plant, the seed being sown on the bed itself, and covered as slightly as possible with earth.

Lavender—Lavandula spica.—Lavender-flowers, and lavender-water distilled from them, are universally approved perfumes, the produce of a tolerably hardy low shrub, which grows wild by the shores of the Mediterranean. It likes a dry soil, where it offers the best resistance to severe winters, and an open sunny aspect. A lavender hedge, where nothing formidable or troublesome has to be fenced out, forms a delightful boundary between garden and field. Propagate the plant by cuttings, or slips, in spring, covering them with a hand-light till they are well rooted and begin to shoot. In the autumn they may be planted where they are to remain. The consumption of lavender flowers in London is very considerable; the shrub is therefore subjected to field culture in favourable spots of Berkshire and Surrey.

Liquorice—Glycyrrhiza glabra.—Liquorice, in ordinary gardens, can only be looked upon as a botanical and economical curiosity. It is easily grown on a deep rich soil, and being perennial, requires no renewing. It takes three or four years to bring the roots to a marketable size, while cuttings of the roots are the best means of propagation.

Marsh Mallow—Althæa officinalis—is an emollient mucilaginous plant, in even higher repute amongst veterinary practitioners than it is with human herbalists. It likes a damp situation, and thrives best in the vicinity of the sea. All the mallows are sought after, more or less, on account of the same qualities. Several handsome species are cultivated in masses, chiefly as cattle-medicine. *The Tree Mallow—Malva arborea*—is a particularly striking plant, from six to eight feet high, and decidedly ornamental. It is best raised from seed, but the young seedlings bear transplantation well. Fine specimens are seldom seen inland. Though a native plant, any severity of frost destroys it, and therefore, like the cork-tree and the fig, it hugs the sea-shore. It is worth the pains of a little protection. Numerous seedlings will be sure to come up where the tree mallow has once flowered.

Marigold—Calendula officinalis.—A decoction of marigold-flowers is believed to have the effect of bringing out latent eruptions or inflammations of the skin, in such cases as scarlet fever, measles, &c., *the patient being kept warm meanwhile.* Supposing their virtue questionable, it is a good thing, both for sick person and nurse, to have access to simples in which they have faith. Marigolds increase abundantly from seed. The semi-double are preferable to the quite double varieties. The plant continues in bloom the greater part of the year. For winter provision, the flowers may be dried and kept in bags.

Marjorum — Origanum, of several species.—Sweet Marjorum, or Knotted Marjorum, *O. Majorana*, is so much better than the others of its genus, that it may fairly exclude them. It is perhaps the most delicious

sweet herb there is. It is a slender under-shrub, which may be preserved for several years at the foot of a south wall. It may be raised from seed, procured from a warmer climate than that of England; but may be propagated by parting the root, or by replanting the trailing branches which have taken root in the ground. Damp is probably as destructive to it as cold. A few plants in pots well deserve winter nursing indoors. It is an incomparable ingredient in soups, sauces, and stuffings, or to sprinkle the dried and powdered leaves over a joint of roast pork just before serving.

Mint—Mentha, of several species.—Spearmint, *M. viridis*, is the most useful garden mint, to be put, dried and powdered, into pea-soup, to boil with green peas, and to be coldly infused in vinegar, in a finely-divided state, to form mint-sauce with the addition of sugar. Common peppermint answers equally well; few connoisseurs would be able to taste the difference, with their eyes shut. Mint is included in the list of antispasmodics. A few roots stuck in the ground, in any damp shady corner, will soon spread so as to become troublesome.

Nasturtium, or *Indian Cress—Tropæolum majus*, and *minus*.—In England tender annuals, although in South America, whence they come, the former is perennial, and attains considerable altitude. A double-flowered variety of *T. minus* is propagated by cuttings, and must be kept in a greenhouse in winter. The flower-buds and green half-grown seeds are pickled to represent French capers; the full-blown flowers are eaten in salads. The immature seeds, as well as the buds, must be gathered from day to day. [Note, that there is a species of *Euphorbia*, or Spurge, vulgarly called the Caper plant, which, like the rest of its genus, exudes a milky juice, *and is poisonous*. Though rather ornamental, from the bold uprightness of its growth, it is best eradicated, for fear of accidents arising from its trivial name.] There are orange, brown, and variously-marked varieties, all propagated from seed; but since the introduction of the

brown-flowered sort, the species has been more given to sporting than before. Mr. John Cattel, of Westerham, Kent, advertises, as new and useful, two Dwarf Nasturtiums,—the Dwarf Crimson, and the Dwarf Scarlet. A distinct species,—the Potato Nasturtium, *T. tuberosum*,—is an ornamental climber, which flowers either very late or not at all, unless the root is more or less starved. It is mainly increased by tubers, which form at the root in tolerable abundance, and are of the size of small apples. The circumstance of their being eaten in South America has attracted attention to them; but their peculiar and disagreeable flavour forbids their acceptance by Old World stomachs.

Parsley—Apium petroselinum.—The consumption of this potherb in London, as a garnishing merely, amounts to something enormous annually. In Paris, besides answering the same purpose, it enters into dishes *à la maître d'hôtel*, and mincings of fine herbs, to an extent which defies calculation. Chopped parsley alone, with no admixture, is one of the best stuffings for salt pork or beef; while parsley and butter, or minced parsley thrown into *boiling melted butter*, to make it a good green, forms a pleasing overcoat to throw upon, and sometimes cloak the bad complexion of, boiled fowls, either hot or cold. Fried parsley, *i. e.*, the leaves thrown into boiling butter or oil, to come out sear, crisp, and dry, is a nice test of a cook's proficiency: so that in every garden, however humble, a parsley-bed is a welcome resource. Few plants have been more mixed up with popular sayings. There is a long-standing connection between parsley and the moon, with reference to the times both of gathering and sowing. From the long time it lies in the ground without germinating, it has been said that it goes nine times to the devil and back again before it comes up. From thirty-five to forty days is the period usually employed in making those journeys. In the north of France and Belgium, country people do not like sowing parsley with their own hands, because they believe it an unlucky act. They therefore

get the task performed by some wretched itinerant beggar, who, provided he receives a sufficient dole, raises no insuperable difficulty, under the persuasion that he already is as badly off as he well can be.

Curled-leaved parsley is much the handsomest, if not the best. Always, therefore, leave or transplant the earliest plants to stand for seed. Being a biennial, if successions are wanted, at least three sowings in the year must be made; say at the beginning of February, June, and September, respectively. In December, a few plants may be removed into a frame-light, to guard against possible failure during frost. Parsley roots, boiled, are no despicable substitute for carrots and parsnips. One variety, the Hamburg, is especially cultivated for this purpose, being sown in April, in drills nine inches apart. Parsley is believed remedial to the gravel in man, and the rot in sheep. Naples parsley is a coarse variety, which is sometimes blanched to be used like celery.

Pennyroyal—Mentha pulegium.—One of the mints, easily propagated by division of its creeping roots. Pennyroyal water was formerly much distilled as an antidote to spasmodic, nervous, and hysterical affections.

Purslane—Portulaca oleracea.—In proportion as the traveller approaches the German frontier, the more purslane-leaves will he find in his vegetable soups. They are occasionally eaten in salads, and were formerly in great request for that purpose. The whole foliage, as well as the trailing stems, have a peculiar cool and refreshing look. Procure purslane seed from Belgium or Flanders, where several varieties are known. Sow in May, in rows a foot apart. The seed is small, and only requires a very slight raking in. Purslane may be freely cut; a slight frost destroys it.

Radish-pods, green, and before the seeds have hardened, make an excellent pickle. Instead of leaving a few of the most crooked and ugliest roots to encumber the original radish-bed till Michaelmas, select a few of the handsomest, and transplant them into a single row,

eighteen inches apart, with a post at each end, supporting a rail, or tight rope, to which the flowering stems may be tied before they become heavy-laden with pods.

Rhubarb—Rheum, of several species and varieties, whose botanical distinction is not without difficulty.—Some of our garden esculents are of high antiquity; asparagus was a favourite vegetable with Cato; while rhubarb affords the latest instance of the intrusion and establishment of strange herbage in our kitchen gardens. The prospects of this plant are marvellously different from what they were fifty years ago. In speaking of rhubarb, it is impossible to avoid quoting the record Mr. Cuthill has given with such a praiseworthy feeling of respect for a senior brother of the craft.

"Mr. Joseph Myatt, of Deptford, a kind and most benevolent man, now (1850) upwards of seventy years of age [he has since departed this life], was the first to cultivate rhubarb on a large scale. It is now nearly forty years since he sent his two sons to the Borough Market with *five bunches, of which they could only sell three*, so little was the value of this excellent vegetable then known. The other two bunches they brought home with them. The next time they went to market, they took ten bunches with them, all of which were sold. *Coming events cast their shadow before*, and, from the small but increased sale, Mr. Myatt judged, and rightly, that rhubarb would become a favourite. He therefore determined to increase its cultivation, and year after year added to his stock. The demand for it was augmented in an equal ratio. For his first dozen roots he was indebted to his friend Mr. Oldacre, who was then gardener to Sir Joseph Banks. They consisted of a kind imported from Russia, finer and much earlier than the puny variety cultivated by the Brentford growers for Covent Garden.

"It is reported of Mr. Rivers, that when he first began to speculate largely in rose-growing, his old foreman, long since gone to his last resting-place, came one

day with a very grave face, and said, 'Master Tom, you are *surely* out of your mind. What *are* you going to do with all those brambles? It is a shame to plant them on land that would grow standard apples!' So it was with Mr. Myatt and his extensive rhubarb-planting. When one of his sons said in market one day that his father intended to plant an acre next year, they said, 'Your father, poor man, is fast taking leave of his senses.' Like Mr. Rivers and others of a go-ahead turn of mind, Mr. Myatt had to contend against many prejudices; but time, that universal leveller, overcame and broke down every barrier, and rhubarb is now no longer called *physic*, as it was then. In our own day it forms most delicious and wholesome tarts and puddings, as well as an excellent preserve: and as we have sugar and flour so cheap [those, alas, were the good old times!], any system of growing this useful *vegetable fruit-stalk*, as it may be called, earlier and more plentiful during the winter than it is at present, must prove a benefit.

"In the first place, let me premise that there is a wonderful difference in the sorts as to earliness and quality. Myatt's Linnæus and Mitchell's Royal Albert are the earliest and the best flavoured [the Elford, Hybrid, and Victoria are also good]; and wherever any of the rougher sorts exist, they ought to be done away with at once; for there is as much difference between the flavours of rhubarb as between a Ribstone Pippin and a Codling apple. Besides, we want everything early: and as rhubarb is so easy of carriage, what reason can there be why Cornwall and Devon should not furnish it in large quantities, as they now do the London markets with their far-famed white winter broccoli. In these days rhubarb would find a ready market in every town in the kingdom, and there would be no fear of producing too much, provided it could be sold cheap enough. As manure is a principal item in its culture, the supply of this must be duly considered, before the locality is fixed on where it is to be grown (on a large scale), which should be fields contiguous to some line of railway.

Being one of the grossest feeders of any vegetable we have, rhubarb should have plenty of manure; and just in proportion as the latter is well or ill supplied, will the crop be abundant or scanty. The very strongest manures, as cow-dung, night-soil, horse-dung, or sewerage-water, suit it perfectly.

"I mentioned to a London market-gardener one day, that I was of opinion that Cornwall and Devon would ultimately be found to be the great marts for our early rhubarb. His reply was, 'We can beat them hollow.' 'That's well,' said I; 'for the whole of the north of England and Scotland too are ready to receive not only early rhubarb, but everything else. At the present time (April 25th, 1850), there are many tons being sent northwards daily. There is no fear, therefore, of glutting the market.' The Cornwall and Devonshire growers might easily have forced rhubarb all the winter by making trenches five feet broad and one or two hundred yards long, taking up the roots and packing them in the trench, and putting mould upon them. Hurdles covered with straw might be placed over all. Nothing more would be needed; but of course it would require immense quantities of roots to replace those that were forced, which should not be thrown away, but cut into eyes and planted again."

Rhubarb may be grown from seed by those who like to amuse themselves by raising varieties, and have patience to wait for the produce. But for quick returns, roots must be bought of the nurseryman in autumn. Trench deep a rich mellow plot of ground. Soil too stiff, clayey, or wet, must be avoided, unless a *late* crop be the object desired. Plant in rows four feet apart, and four feet from root to root, in quincunx, or alternate, order. Those distances are not one inch too much, if you wish for magnificent specimens. Make a deep hole where each plant is to stand, and into it put a barrowful of rank manure; shovel in a little earth, and on the earth plant the rhubarb, with its crown exactly level with the ground. In the course of next

May you will get stalks worth looking at. It will not be quite so early the first spring after planting as subsequently.

In forcing or forwarding rhubarb, expose it to light and air as much as possible, unless you wish to draw it particularly mild and flavourless. Hence, a coarse osier hamper, bottom upwards, or a chimney-pot open at the top, will produce rhubarb of better quality than more costly expedients. Never *cut* the leaves from the stool; pull them boldly, with a slight twist upwards and inwards, towards the heart of the plant, and they will come away quite naturally. Do not *peel* rhubarb; it should be grown so quickly as not to be tough, and by rejecting the skin you throw away part of the goodness. Rhubarb is but little known in continental gardens. Still, where known, it holds its place.

Rosemary—Rosmarinus officinalis, with gold-striped and silver-striped varieties.—The early season at which it flowers, and its old-established connection with the last rites due to humanity, render this modest aromatic shrub suggestive of touching remembrances. It will not bear severe frost. Cuttings in spring will take root under a hand-light, if properly shaded and watered.

Rue—Ruta graveolens.—An intensely bitter plant, of dull glaucous aspect, long valued as a vermifuge for children, and a domestic medicine for poultry and other small live stock. Typical of sorrow, affliction, and self-abasement. Propagate by cuttings.

Sage—Salvia officinalis—at present seldom answers any higher purpose than to enter into roast ducks, geese, and legs of pork, combined with chopped onions, pepper, salt, and crumbs of bread, in the shape of stuffing. Dried and powdered, it forms an excellent external condiment to the above-mentioned savoury joints. There are the Common Green Sage, the Red Sage, the Variegated Sage (white, red, and green, and very pretty), and the Gold-striped Sage. But the Narrow-leaved Sage, or Sage of Virtue, maintained its high repute for many centuries.

" Cur moriatur homo, cui salvia crescit in horto?"
Why dies the man, whose garden gives him sage?

Herb teas, of various aromatics, are pretty well forgotten; that from the Narrow-leaved Sage must indeed be the "virtuousest, best" panacea on earth. "*All* these infusions," Dr. Darwin dryly observes in his *Phytologia*, "become nutritive, when drunk with cream and sugar, and have certainly contributed to the health of the inhabitants of this island by decreasing the potation of fermented or spirituous liquors; and to their morality, by more frequently mixing the ladies and gentlemen in the same society." Propagate sage by cuttings, under shade and glass; or by layers; or by division of the roots, or the naturally rooted branches.

Samphire—Crithmum maritimum.—Unfortunately a rare plant in modern gardens. Wild, it mostly grows on spots that are not accessible without fearful risk of life. Every Englishman is acquainted with "one that gathers samphire" half-way down the face of Dover cliff; but how many of our readers know the taste of the produce of that "dreadful trade?" The samphire business nowadays must be a small concern. One or two species of Glasswort are sold and pickled in Norfolk and elsewhere, both in England and on the Continent, by the style and title of Samphire or Passe-pierre (which some will have Perce-pierre), but are as false a substitution as was the fair maid who listed "under the name of Richard Carr." The pickled *Salicornias* taste of nothing but the vinegar and the spices, and altogether differ from that classic umbellifer the *Crithmum maritimum*. "Not only pickled," says Evelyn, "but crude and cold, when young and tender (and such as we may cultivate and have in our kitchen-gardens almost the year round), it is, in my opinion, for its aromatic and other excellent vertues and effects against the spleen, cleansing the passages, sharp'ning appetite, &c., so far preferable to most of our hotter herbs and sallet ingredients, that I have often wondered it has not been long since propagated in the potagere, as it is in France, from

whence I have frequently receiv'd the seeds, which have prosper'd better and more kindly with me than what comes from our own coasts. It does not indeed pickle so well, as being of a more tender stalk and leaf, but, in all other respects, for composing sallets it has nothing like it." True samphire is not of easy culture. Chalk and salt are the elements which it seems most to affect. The only wild *habitat* the writer knows, which can be got at without almost certainty of breaking one's neck, is at the foot of a cliff near the ruins of Tankerville Castle, on the banks of the Seine.

Savory—Saturcia montana.—Winter savory is a hardy, low-growing under-shrub, with dark-green narrow leaves and white flowers, pleasantly though feebly aromatic. It is a good bee-plant, and serves well for an edging or miniature hedge in warm aspects. Propagate by seeds, cuttings, or division of the root. Summer savory, *S. hortensis*, is an annual plant, and must therefore always be raised from seed.

Stramonium—Datura stramonium.—An annual white-flowered species of a very handsome genus: seeds freely. The leaves of stramonium are dried and smoked as tobacco, for the relief of asthma. But it is a dangerous plant; taken into the stomach, it causes long-continued madness, and sometimes death.

Tansy—Tanacetum vulgare.—Tansy-pudding retains its place in old cookery-books. Few persons will regret its remaining therein instead of appearing in proper person on the table, if the dish partakes strongly of the peculiar and powerful odour of the plant. It may be of more value as a vermifuge than as a dainty. Spreads at the root so rapidly, as soon to become a weed and a nuisance.

Tarragon—Artemisia dracunculus.—Tarragon vinegar, pickled tarragon leaves, and sometimes the fresh green leaves in salad, are ingredients of so decided a character as to be powerful agents in the hands of a skilful and judicious cook. The plant, of somewhat slender and elegant habits, is perennial; and though a native of

Siberia, requires protection during sharp weather. Like other plants that may be regarded as "alpine," whether in respect to latitude or elevation, it is somewhat tender when not protected in winter by its native covering of deep snow. Propagate by cuttings or division of the root. Requires light, dry, warm soil.

Thyme—Thymus, vulgaris and *citriodorus*, common or Garden Thyme and Lemon Thyme, are the two species usually cultivated as sweet herbs, although the whole genus are available as pleasant and useful aromatics. Some of them are exceedingly pretty rock plants. The tender leaves minced, or dried and powdered, serve to flavour stuffings and ragouts. The supply required for market is considerable. Thyme is supposed to partake, in a less degree, of the medicinal virtues attributed to sage. It may be made to serve as an edging, or border-plant. Is most readily propagated by division of the stools in spring; but may also be raised both from cuttings and seed.

The Tomato, or *Love-Apple—Solanum lycopersicum.*—In the south of Europe, tomatoes are subjected to field culture, and are brought to market by cart-loads. Here the plant must be treated as a tender annual, raised from seed in a hotbed, like cucumbers and egg-plants, pricked out in pots, gradually hardened by exposure to air and sunshine, and planted, at the end of May, at the foot of a south wall, against which it must be trained like a peach or apricot tree. The shortness of our summer causes the great difficulty in tomato-growing; fruit is more easily formed than ripened. The best plan, therefore, is to prevent its undue formation, and to throw the whole strength of the plant into a few of the first bunches of blossoms which open, by removing all unnecessary laterals, and stopping the leading shoots a joint or two above a cluster of fruit. Without careful attention to this, the tomato crop will be scanty or null. A slight touch of frost injures the fruit as well as the foliage; it must therefore be gathered and stored indoors in good time. But even if quite green when removed

from the plant, it will often ripen and assume its perfect colour, if exposed to the sun and laid in a warm place, though the flavour will be slightly inferior to those ripened in the open air. Thus, the tomato season may be considerably prolonged. Green unripe tomatoes make a good pickle, though of too watery a nature to keep long. Various receipts are current for making tomato sauce; but the ripe fruit simply boiled in good stock gravy five or six minutes, and dished up whole, makes a handsome and palatable addition to a dinner, when such a supplement is suddenly required. There are several varieties of tomato, with large, small, round, red, yellow, and wrinkled or swollen fruit. There is scarcely any, if any, difference in the flavour. The large red is the kind to prefer. In autumn, remove those leaves which hang so as to shade the fruit. In France, tomatoes are forced on a large scale, and grown under bell-glasses, till the weather admits of their exposure to the open air. During the early stages of growth, administer plenty of water and liquid manure. As soon as there is a sufficiency of full-grown fruit, starve the plant to assist the ripening process.

Woodruff—*Asperula odorata.*—The sweet-scented woodruff, whose faded leaves give out a scent like new-mown hay, is a charming little white-flowered sylvan plant, which grows well in the shade or northern aspects. The perennial roots bear division well. In France, bunches of woodruff are used, like lavender, to perfume drawers of linen. On the Rhine, the young spring shoots are thrown into tankards of wine.

Wormwood—*Artemisia absynthium.*—A perennial, bitter, aromatic plant, a noted tonic and vermifuge. The green shoots put in beds are said to drive away fleas. In Italy, the plant is mixed with the grapes, to make the bitter wine thence called *vermute*. *Absinthe* is a liqueur obtained from it by distillation. Wormwood gives its flavour to the "purl" of the English workman. Propagate best by dividing the root.

The Apple—Pyrus malus, of very numerous varieties.—A well-grown apple-tree is a beautiful object. Twice a year, in blossom and in fruit, it attracts the eye to admire its elegant and rich display. Apple-trees are grown under three conditions; as standards, as espaliers, and as dwarfs. As standards, they occupy too much room, except in the largest kitchen garden, and therefore take their place in the orchard by themselves. Espaliers have many advantages; they are low, convenient to gather, the fruit is not so liable to be blown off by high winds, but ripens well from its larger share of shelter and heat, and the crop is usually large in proportion to the space occupied. Dwarf apple-trees are little known in England; but, like the pyramidal pear-trees, they will make their way, and maintain it. On the continent, dwarfs (many so small that they bear fruit in pots) are in high esteem. They are trained either as pyramids, like the pear-trees, or the branches are made to form a sort of bowl, being held in their places by osier-hoops until the tree is perfectly formed. Both espaliers and dwarfs require considerably more attention than standards, which are pretty nearly left to themselves; they must be pruned and looked over twice at least during the season. In private gardens, the small space they occupy allows the great advantage of cultivating a numerous variety of apples. A family does not want an immense crop of one kind only, which lasts its time during the season, and then is over; it is much better to have a constant succession of crops which, though small in quantity, come conveniently one after the other. Both apples and pears like a hypercarbonated atmosphere; they stand the smoke of cities better than most other trees; in fact, it suits them. In many provincial towns in England, the pear-trees, especially within the walls or limits, are finer than those in the suburbs and the neighbouring open country. Dwarf apple and pear trees are therefore particularly adapted for town

gardens. The apple is not nice about the soil in which it grows; a light mellow well-drained loam is the best; but it thrives fairly in any soil which, without being absolutely sterile, is poor, and also on stiff heavy lands, if they are not poisoned by subsoil water. The roots of the apple are more inclined to run along the surface than those of the pear, which likes to send down a tap-root; the apple is also less greedy of manure.

Apples may be propagated by cuttings, although there is a considerable difference in the facility with which they take root. The codlings strike most readily. Apples may be raised from seed or pips; but the produce is so uncertain, and the pips from a good apple so frequently produce a bad one, that seedling apple-trees are only grown for the sake either of experiment or for grafting upon. What are called Paradise stocks, are suckers planted out in the nursery for grafting. All nurserymen keep collections of young ready-grafted or *worked* trees; the readiest way, therefore, to furnish a garden, is to plant in autumn trees from the nursery that have been selected during the previous summer. Prefer plants from a nursery whose soil is similar to that of your garden or orchard. Open the holes where the trees are to stand several months before planting, especially if you are making a new garden on unbroken ground. Let the holes be made broad rather than deep; for, as a general rule, it is better that the roots of fruit-trees should keep near the surface than plunge into the subsoil. Take great care not to plant too deep. The young tree of course will be supported by one or more stakes. It is not a bad plan to plant fruit-trees on the level of the earth, and to cover the roots with a little hillock of mould four or five inches high. Transplanted trees should have the same bearings, with regard to the points of the compass, in their new as in their old site. Therefore, when selecting them, mark the side exposed to the north by a dab of paint or whitewash on the bark. The sooner a tree, once out of the ground, gets into it again, the better. Avoid all tearing of the roots, bruising the

bark, and crushing the twigs. It is time well bestowed to go to the nursery and superintend the taking up of the trees *yourself*. Damp weather is better than dry; sharp frosts and cutting spring winds are fatal. Remember the proverb, "Plant trees in autumn, and *command* them to grow; plant in spring, and *beg* them to grow." And in planting, as much as anything, "Well begun, is half-done."

Though ready-worked fruit-trees of almost every variety may easily be had of the best Scotch and English nurserymen, the amateur, as well as the professional gardener, ought to be able to perform himself the operations of budding and grafting. It is a useful and amusing accomplishment, which no active-minded person will ever regret having acquired, but whose advantage will often prove itself in various unexpected and agreeable ways. Grafting is less easily taught by written directions, than budding; clear details are given in Paxton's "Cottager's Gardener," p. 10. Budding we propose to describe in our forthcoming book, "The Flower Garden." Both are best learned by seeing the operation performed, and then attempting it immediately afterwards. The reader is strongly advised to take lessons in grafting and budding.

Good Standard Apples.—Applejohn and Geniting, among the earliest; Hawthornden, handsome, comes into early bearing, abundant; French Codling; Keswick Codling; Early Margaret; Kentish Fill-basket; White Colville; Peach Apple; Dr. Harvey; Aromatic Russet; Golden Lustre; Yorkshire Greening; London Pippin; Hollow-crowned Pippin; Canterbury Pippin; White or Stone Pippin; Wheeler's Russet; Norfolk Biffin; Striped Biffin; Manks Codlin; Reinette de Canada, French Apple, keeps till May; Queen's Codling, delicate and beautiful as if modelled in wax; King of the Pippins; Kerry Pippin; Adams's Pearmain; Dutch Mignonne.

Good apples for Espaliers.—Court of Wick Pippin; Cat's Head, very large; Ribstone Pippin; Brandy Apple;

Paradise Pippin; Wormsley Pippin, one of Knight's raising; Newtown Pippin, famous American apple; Emperor Alexander; Margil; Scarlet Nonpareil; Golden Pippin; Golden Russet.

For dwarf apples, send to France. They are cheap pretty little plants, to bear as soon as their roots are established; may be had from tenpence each upwards. The amateur who can afford the time and money will derive instruction from a horticultural tour in the north of France and Belgium.

Dessert apples and kitchen apples can hardly be distinguished; in the first place, because *Knife Apples*, as the French call them, are equally good in puddings and tarts; and secondly, because, as the season advances, many hard kitchen apples, such as the London Pippin, and even the Norfolk Biffin, become sweet, mellow, and presentable at dessert. In fact, all late-keeping dessert apples are only kitchen apples at the beginning of winter. Paxton's directions for keeping such are excellent. "Get some fine pit-sand and heat it hot, to dry it and destroy any vegetable remains it may contain. Then procure some large jars or garden-pots, put a little sand when cool in the bottom, and then a layer of fruit, barely touching each other, filling up between them with the sand, until the vessels are full, when they may be placed in the bottom of a cupboard, or any other place where they will be safe from frost and kept dry. The best and most perfect fruit should be selected for this purpose, which may be ascertained after they have been gathered a short time. Any choice or late-keeping kind for exhibition should be preserved in this manner."

Apricot—Prunus Armeniaca.—Apricot-trees in England are almost invariably trained against a wall. In a few favoured southern localities, standard apricots are a possibility; but the collective number of such in all Great Britain and Ireland does not amount to a high figure. The early blossoming of the tree, before the leaves have expanded to afford a little protection, exposes

the embryo fruit to the attacks of spring frost. Various modes of sheltering have been devised, by nets of twine or woollen yarn, screens of fir-branches or planks, cucumber-lights set leaning against them, &c., &c.; but many gardeners, after having tried these expedients one after the other, have arrived at the conclusion that as good a plan as any is to leave the trees uncovered to take their chance.

Good kinds are, the Anson, or Moorpark, of which there are said to be several sub-varieties, but it may be suspected that they differ mainly in name; at least, the old sort is not beaten yet. The Turkey Apricot, a good, hardy, strong-growing sort. The Orange, the best for preserving. The Breda, a great bearer, but somewhat dry and mealy in quality; in very sheltered southern nooks, this is the kind to try as a standard, producing, if it succeeds in that way, a crop of fruit which is valuable from coming in after the wall-fruit is done. The Algiers apricot is an old sort, but seems only to be the Brussels under another name. Rivers's (of Sawbridgeworth) *small* list of fruits, comprises some new varieties of apricots.

The apricot may be propagated by planting the kernel, which, if it come from a good fruit itself, is likely to produce good fruit also. The plan is worth adopting, partially, at least, by those who are not impatient to reap the produce; and if the seedling does not turn out satisfactorily, it can always be budded afterwards. Apricot-trees are liable to die off; and both young and old ones are apt, at times, to lose whole limbs or branches without any obvious cause, or any real decay in the trees. Much has been said and written on this subject—by Knight amongst the rest—without any great result having been attained. The evil, unfortunately, still continues, even under the best treatment. Stone-fruit-trees are almost always budded instead of being grafted, the larger wound inflicted by grafting often causing the trees to exude gum for some time afterwards, and to weaken them permanently. Apricots are mostly

budded on plum-stocks; but Knight advised budding them on seedling apricot-stocks instead, as forming a a more natural union; and he found that it prevented his Moorpark trees from becoming diseased, debilitated, and short-lived, which they so frequently do on plum-stocks. Seedling apricots, when their fruit turns out good, are therefore particularly valuable, as they are exempt from at least one cause of failure. Perhaps our severe winters may have something to do with the death of entire branches; without completely explaining the phenomenon, we may believe them to be frost-bitten in a climate so much less genial than their native home: and, unfortunately, apricots do not thrive well or force under glass. The thinnings of the young green fruit, before the kernels are formed, make delicious tarts.

Disbudding, summer pruning both with the knife and the finger and thumb, and winter pruning, are operations which must be learned practically. Lessons must be taken from experienced and judicious practitioners; for not a few gardeners prune so injudiciously that you would say they were trying to do the tree as much injury as they can. A pruning-knife is no more disgrace to a gentleman's hand than a gun, a dog-whip, a fishing-rod, or a duelling-pistol. In some of the French fruit-growing departments there are public courses of pruning and grafting, at which pupils may follow the horticultural professor, during the season, through nurseries which serve as lecture-rooms of gardening science.

Later-flowering and hardier varieties of apricot are still a desideratum in this country. It is a pity that any seedling should be budded before the quality of its fruit has been tested: no doubt, many valuable sorts have thus been lost to the world; and it is very desirable that those whose opportunities and means allow, should sow more apricot-stones than is usual now. It is very possible that we might thus arrive at a standard apricot suited to the climate of Great Britain; and be it remembered that the ripened fruit of standard apricots and peaches, though smaller, is more finely-flavoured than wall-fruit.

The Cherry—Cerasus—of several species and many varieties.—A tree of handsome stature, when not stunted in its growth by budding, and which furnishes a useful wood which is largely employed in the making of furniture. The double-blossomed cherry (of several varieties), which bears no fruit, is in some request as an ornamental flowering tree. All cherry-trees have gummy sap; the epidermis of their bark stretches horizontally and circularly round the trunk, and is very strong and tough. In some species, the red colour of the leaves in autumn suggests their employment in landscape-gardening, while the *Cerisier de la Toussaint*, a small tree with weeping boughs, flowers for three or four months during the summer, and ripens its fruit in autumn, till the frost puts an end to it.

Cherries do well as standards, dwarfs, and wall-trees. The May Duke is the best common sort for all purposes. The Black Heart is good for a dwarf or standard; the White Heart the same. The Black Eagle, the Elton, Harrison's Heart, and Waterloo, are suitable for an east or west wall. The Black Tartarian, one of the best late cherries, keeps well, possesses all the good qualities of the other black sorts, combined with large size, and will do on an east or west wall. In the southern counties this, and perhaps all the others, may answer as dwarf standards. The Bigarreaux constitute a class of cherries in which formerly only those were included which were two-coloured, *i. e.* of a pale waxy yellow or white on one side, and red on the other; but at present, all the heart-shaped cherries in which the flesh is firm and crisp are ranged under the head of Bigarreaux: they are excellent in quality, but not abundant bearers. The Morello (mostly used for preserving in brandy, though it is very acceptable at dessert, if netted and suffered to hang as long as possible) does well against a north wall, and also makes an elegant dwarf standard. French gardeners say, that the best of all known cherries is the Reine-Hortense, a remarkable variety, raised or brought into notice in 1838 by M. Larosè, nurseryman, of Neuilly. The fruit

is very large, bright-red, and excellent in quality, ripening there at the beginning of July. The Black Guigne, common in Scotland, though of French origin (the old connection between France and Scotland is matter of history), is well worth attention; it is hardy, good, and as large as most of the Black Hearts. Some of the small, wild cherries, or *Mérises* (whence, probably, the Merry cherry of Cheshire), are sufficiently sweet and well-flavoured to be acceptable on a hot summer's afternoon: from them are prepared the famous cordials known as kirschwasser and maraschino.

Cherry-trees may be budded at the end of June or beginning of July, according to the state of the buds. In pruning, do not cut short, but thin out the superabundant branches their whole length. The stones of all fruits intended to be sown should be put into damp sand or mould as soon as they are taken out of the fruit. In autumn they can be set where intended to remain.

The Chestnut—Castanea vesca.—One year in ten, or thereabouts, tolerable chestnuts are ripened in England; the tree therefore, which is exceedingly handsome, may be allowed a corner in a spacious orchard. The nuts, sown in autumn, will produce young trees, which may be raised in a nursery till their final planting out. In the south of Europe, chestnuts are grown in large woods on an extensive scale. Wild-boar, self-fattened on chestnuts, makes a dainty variety of game. There are several varieties of the chestnut-tree, in different esteem in different localities. Their study is of little importance to us, who can so seldom reap the produce. The finest trees are produced from the finest nuts, sown where they are to remain, to avoid injuring the tap-root by transplantation; but as chestnuts are a tempting prey to rats and mice, they may be kept sprouting in mould during winter, to be carefully planted out in spring.

The Currant—Ribes album, rubrum, and *nigrum.*—White, red, and black currants, as well as our numerous gooseberries, are fruits whose excellence is owing to our northern position in the temperate zone. In hot dry

climates they do not succeed. Two species of *Ribes*,—the red-blossomed and the yellow-blossomed,—are cultivated as ornamental flowering shrubs. The dried "currants" sold by grocers, and which come from the Levant, are not currants at all, but small grapes, known as *raisins de Corinthe*, and would therefore be more properly called *Corinths*. The white currant is said to be only a variety of the red, the black currant being a distinct species. A pink variety, between the red and the white, is grown rather for curiosity than use. The good varieties of currant are not numerous; the best are,—the White Dutch, the Red Dutch, and the Black Dutch. Seedling currants and gooseberries are mostly of very inferior quality. Knight raised several which are worth growing. Currants are easily propagated by cuttings, which are usually planted in autumn or spring; but by shading and watering they will succeed in summer. They may be bought of nurserymen at such reasonable prices, that it is much better to apply to them,—at least for one's original stock. The most common mode of growth is as standard bushes; trained against a north, west, or east wall, they are conveniently placed for being covered with nets to preserve the fruit late in the season, when they become acceptable additions to the dessert. Currants and gooseberries also make a pretty arbour or covered walk; the ripe fruit, of various colours, hanging down beneath the leaves, has a pleasing effect. Trained to run up with a single stem, they are convenient for ripening the fruit well, for gathering it, and for growing a good many kinds in a small space.

Currants and gooseberries require cultivation like other plants; to have the ground about them hoed, well-cleaned, and manured. Too frequently it seems to be believed that bushes and trees require nothing of the kind. As to pruning, gardeners differ; some think they produce as well and abundantly if suffered to run wild at will. But they make at least a more respectable appearance, if redundant shoots are thinned out from their middle, and all suckers are removed from their root; there can be no

doubt either that the fruit is made finer by stopping the watery shoots at the end of the bearing twigs. Cutting out all unnecessary wood will give air and assist to ripen. As a general rule, in winter-pruning gooseberries and currants, thin out rather than shorten the branches. It will do no harm to transplant young bushes early in December; the removal will tend to throw them into bearing, and give a good opportunity for the removal of suckers clear away from the points whence they threaten to spring. Currants and gooseberries are both called by the same name,—*groseilles*, in French, gooseberries being distinguished as *grosses groseilles*, big currants, or *groseilles à maquereau*, mackarel currants.

The Fig—Ficus carica.—A tree endowed with great tenacity of life, which, after being maimed, ill-treated, frost-bitten, or burnt, will spring up again from the crown of the root even years after it has been supposed quite dead. And yet, owing to the tenderness of its terminal shoots, and its peculiar mode of bearing, a good crop of figs in England requires some management to obtain. For the same reason, the fig does best near the sea, where frost is never so severe as inland. The fig bears a certain amount of shade, produces in quite an early stage of growth, and consequently in a dwarf state. Hence, persons who are fond of the fresh ripe fruit may cultivate fig-bushes in the pit of a vinery, in pots, or even in a glass-passage which enjoys a moderate amount of sunshine in summer and shelter in winter, as well as their ordinary fig-trees trained against a south wall. In the south of Europe the fig-tree bears two crops of fruit during the summer: the first, growing on the midsummer shoots of the previous year, and which is the only crop that ripens out-doors in England, in consequence of the shortness of our summers; and the second, on the spring shoots of the same year, which constitute the numerous little figs which we see pinched and destroyed by the autumnal frosts in almost every English garden. To have figs, therefore, it is necessary to protect effectually the tips of the twigs of the current year, the difficulty of

which is increased by their being mostly but imperfectly ripened. One way is, to unfasten the branches from their wall, and tie them together in convenient bundles, wrapping straw or hay-bands round them. When danger of frost is over in spring, the branches will be uncovered, and replaced in their former positions; if, however, the winter is open and mild, it will be well to open them from time to time, to see that there is no mould or rottenness, leaving them exposed to the sun and air, and carefully repacking them in their straw-bands before nightfall.

In the southern counties the fig will do as a bushy standard, and also as an espalier, in which latter position a winter covering may be applied to it with little difficulty. In the kitchen garden of the Palace of Versailles, figs are grown on bushes from a yard to seven feet high. In autumn, the branches are all bent to the ground, tied up in bundles, and held down with strong hooks fixed in the ground. Litter is then thrown over them, and increased in quantity as the frost becomes more severe. This is an excellent mode of protection; the only difficulty belonging to it is that the branches must not be too stiff and thick, nor exceeding the length above mentioned. But those conditions are easily attainable. At Argenteuil, a village near Paris famous for its fig-grounds, to save the expense and trouble of straw and litter, the branches are bent down, laid into furrows, kept there with hooks, and covered with earth. In this position they remain all the winter; at the end of March they are again allowed to receive the influence of light and air. The fig deserves a little extra winter care, as our summers are mostly warm enough to ripen it.

Fig-trees bleed when cut, and are considered to do best without pruning. A system, however, has been recommended which increases the proportion which the midsummer shoots (the only ones that produce fruit which ripens in this country) bear to the spring shoots, both in number and length. For this purpose, the

spring shoots are broken off as they nearly attain their full growth, and just as the spring sap in each begins to abate something of its full vigour. They must be broken at moderate distances (from six to fifteen inches, according to the strength of each shoot) from the place where they severally spring, taking care that enough of the shoot be left to admit of its being bent back and nailed close to the wall, and that one eye at least be left uninjured by the fracture, and always preserving a quantity unbroken sufficient to keep up a future supply of branches and wood. The shoot may be either broken short off, or left suspended by a few ragged fragments, which may afterwards be separated with a knife, when the spring sap has ceased to flow. The former mode is less unsightly, and will therefore be generally preferred by the gardener; but the latter has been found more successful in practice.

The best figs for the English climate are the Brunswick, the Brown Turkey, the Large Purple, and the Brown Ischia. The Marseilles and Nerii, delicious varieties, require more heat than usually falls to their lot with us. In the south, the varieties of good figs are very numerous. Best propagated by layers and suckers.

The Filbert—Corylus Avellana.—Hazel-nuts, in their varieties, resemble cucumbers and gourds in being monœcious plants; that is, the male and female organs of fructification are produced in distinct and separate flowers, although growing on the same plant. In hazels, the former are the pendant tail-like flowers which appear in early spring, before the leaves are open; the latter are much smaller, consisting of a pencil of bright crimson filaments. The use of the knowledge of this fact is, that when the male blossoms are unduly scanty, little or no fruit will be produced on filbert-bushes; but the deficiency may be remedied by hanging amongst them branches of the wild hazel abounding in catkins. For convenience, filberts may be pruned to form low bushes, with open bowl-shaped heads; but they are

handsomer suffered to grow at will. The best and most fruit will be produced at the top, and will be out of the reach of boyish depredators. The White Filbert and the Great Cob-nut are the choicest varieties. For late use, filberts may be preserved fresh by packing in dry sand. Propagate by suckers or layers to make sure of the kind you wish for; sow nuts, if you are fond of experiment. The Variegated and the Purple Hazels are ornamental shrubs in some esteem.

The Gooseberry—Ribes grossularia.—An excellent and popular fruit, whose varieties have been greatly increased by the Lancashire gooseberry shows, where the berries are exhibited for prizes, *size* and *weight* being the leading elements of success. It must be confessed that many of the new sorts are inferior in flavour, when ripe, to the old ones, however well they may serve in a green state in tarts or as sauce for mackarel. There are green, yellow, and red gooseberries, in smooth and rough varieties. Their propagation, by cuttings, is the same as that of currants; but as they are even more apt to throw up suckers, it is a good plan, as a preventive, to cut out the lowest buds of the cutting. In gathering unripe gooseberries for tarts, do not take all you want from one bush, but thin the fruit from several bushes. The Lancashire exhibitors (whose rules, practices, and records would fill a small volume that would not be uninteresting) leave but very few on each bush, and increase the size of those by mulching with manure, and also by a process called "suckling," *i. e.*, placing a pan of water under each berry, that it may swell from the vapour given out. The greatest enemy of the gooseberry is the black and white moth, whose caterpillars sometimes strip a bush entirely of its leaves, and consequently ruin the fruit of that season, besides weakening the plant for the next. Every moth should be caught and destroyed; the same of the chrysalids. Whenever the caterpillars appear, they must be handpicked and thrown into boiling water, to prevent the spread of the mischief. Those who wish for enormous gooseberries should pro-

cure their plants from the best Lancashire growers; new sorts are sent out almost every year. Good varieties in point of flavour are the Rough Red, the Red Champagne, the Yellow Champagne, Pitmason's Green Gage, the Warrington Red, Miller's Crown-bob, the Yellow Rumbullion, and the Late Green.

The Grape-vine—Vitis vinifera.—Unfortunately there are but few varieties of this noble plant which ripen well, out-doors, in England; and they are often grown as if the object of the gardener was the leaves for salad, rather than fruit for dessert. Here, vines scarcely succeed as epaliers or low bushes; perhaps something might be done if out-door horticulturists would study the practice of the French growers who cultivate the vine both for wine-making and for table use. Still, in the greater part of England, the vine must have a south wall. Eligible kinds are, the White Muscadine, Miller's Burgundy, the Black Cluster, the Black Sweetwater, Esperione, the Grove End Sweetwater, the White Sweetwater. The Cut-leaved or Parsley-leaved Muscadine is grown rather for its singular foliage than for the grapes obtained from it.

As general rules to be observed with out-door grapes, prune as soon as possible after the severe frosts of January, if it has not been done in autumn; otherwise, your vine will be apt to bleed; if through accident or idleness you have neglected it till April or May, let it remain as it is till the bunches of flowers appear and the shoots are starting vigorously; then remedy the evil by pinching with finger and thumb, without using the knife. Before the blossoms open, stop the shoot on which they grow at the second joint above the future bunch of grapes; this will hasten their formation and ripening by several days, an important point at the approach of October. Grow very little on the border where the vine-roots spread; not for fear of exhausting it, but of shading it. Vine-roots like to be kept warm; therefore, pave the bed at the depth of two feet, if you have a cold sour subsoil. Light shingly soil, permeable to the warm

air, and easily drained, is most suitable. Endeavour to bring your vines into a dwarf stunted habit, after the manner of *properly-managed* pyramidal pears, even by root pruning if necessary. Use no rank manures; dressings of leaf mould, mellow loam from pastures, and calcareous earths will be sufficient. In our humid climate, the vine absorbs a great deal of nutriment from the atmosphere; each of its leaves acts as a sucker. The more luxuriant a vine is, the slower it will ripen what fruit it bears; and ripening slowly often results in not ripening at all. Garden vines are mostly over-fed; it is hardly possible to be otherwise. During summer, look carefully over your vines at least once a week, and use all your art to throw the vigour of the plant into the fruit, of course taking care to leave as much foliage as is necessary for the due performance of the functions proper to the leaf. Tying grapes in muslin bags assists their ripening, saves them from wasps and flies, and protects them from slight early frosts; the pity is, that the taking them off spoils the bloom. Give the young wood every opportunity to ripen before winter. Keep always as close to the wall as you can.

The stones of grapes, if sown, give very uncertain produce; and you have to wait eight or ten years before you can ascertain whether it is bad or good. Nurserymen mostly propagate vines from cuttings; if you have the opportunity, get a friend to layer you a branch any time during the winter. It may be removed the following autumn, and will, perhaps, bear fruit the next summer. The best mode of training is to lead the permanent branches along the wall in a horizontal direction right and left. Thinning the berries, when about the size of peas, with a pair of sharp-pointed scissors, not only makes those which are left finer, but assists their ripening by the admission of warm air and reflected heat and light. Out-door vine-growers should study the mode pursued, to obtain dessert-fruit, at Thomery, near Fontainbleau. There is no room even to give a sketch of it here.

The Medlar—Mespilus Germanica.—A tree of remarkable, and even ornamental aspect, from its tendency to an umbrella form, its large white flowers, and its handsome lanceolate foliage. There can hardly be said to be more than two kinds in cultivation; the Dutch Medlar, handsome to look at, indifferent to eat, the largest variety; and the Common or Small Medlar, by far the best on the table. Medlars are, in general, propagated by grafting on a hawthorn stock; but the union between the scion and the stem, even after many years' growth, is so imperfect, that the head of a medlar-tree is not unfrequently entirely carried away by a high gale. A sheltered situation is therefore indispensable to security. But Miller observes, that if the stones are taken out of the fruit *as soon as it is ripe*, and *immediately* planted, they will come up next spring, and make good plants in two years. He prefers raising from seed to grafting on the hawthorn. The seeds, however, ordinarily lie two years in the ground before they come up. Certainly, it would be a good thing if seedling medlars, instead of grafted ones, were more readily obtained at nurseries than they are, even if a higher price were asked for them: the probable smallness of the fruit would be counterbalanced by its superior quality, besides the advantage of having no fears that the first south-west storm would decapitate your tree. Ripe medlars are in old esteem as a harmless nursery medicine. Pruning does more harm than good.

The Garden Mulberry.—This and the walnut are the most prudent of our fruit-trees, as they do not put forth their leaves till all danger of frost is over. They might almost serve as gardening guides. The tree grows slowly, is mostly propagated by layers, and it is better to purchase it of a nurseryman. It is not every summer that the fruit ripens with us. Immediately it is ripe, it drops to the ground. On this account it is usual to plant mulberry-trees on, or to surround them with, a patch of close-shorn grass, at least as far as the branches reach. From this the fallen fruit may be gathered clean

and uninjured, and it is said that that which drops is the best. For families with whom mulberries are a favourite dessert, a tree may be grown against a wall to insure early ripening, and also a succession, if the standards ripen too. In this way it will occupy considerable space; the branches should be trained horizontally. Some manure will be well bestowed upon it. Do not give away *too many* leaves to your neighbours' children who amuse themselves by rearing silkworms. Silkworm mulberry-trees in Italy are with great difficulty kept alive. Standards will require no pruning; wall-trees only so much as will retain them in shape, and at the same time keep up a succession of new wood.

The Nectarine is only a smooth-skinned variety of peach; the natural history and culture of both are the same. There are instances on record of both fruits growing on the same tree, and even on the same branch. Although the peach is so common in France, the nectarine, there called *brugnon*, is rarer even than in England: the chances and caprices of popular taste can be the only cause of this circumstance. Good Nectarines are—Elruge, a good old sort; Red Roman, a well-known fruit; New White, excellent; the Violette Hâtive; and Newington Early. Temple's Nectarine is highly-flavoured.

The Peach—Amygdalus Persica.—Good sorts for England, all meriting and most requiring a full south wall: the Early Anne, small, but amongst the first to ripen; Chancellor; Red Magdalen, good, but tender, and liable to mildew; Vanguard, excellent; Late Admirable, the best late sort, vigorous tree, with very large round fruit of a light yellow, mixed with a little bright red on the sunny side, grown in France as a standard under the name of Belle de Vitry; Grimwood's Royal George; Royal Kingston; Royal George; Old Newington; Galande, or Bellegarde, an excellent old sort, vigorous and productive tree, resists frost better and is injured by rain much less than other sorts, with middle-sized fruit, so highly coloured as to be almost black when perfectly ripe; Grosse Mignonne, with large round fruit, flattened

and even hollow at the top, with yellow skin, dark red on the sunny side, flesh melting, and easily parts from the stone; Noblesse, one of our best sorts, being rather hardy, and doing well on a south-east or west wall. Among peach curiosities, there is the white-flowered peach, introduced from America about 1834, the fruit of which is also white and of tolerable quality; and the semi-double-blossomed peach, worth cultivation for the size and beauty of its flowers, which are succeeded by excellent and abundant fruit.

Many more good peaches might be added to the above list, though it would be difficult to guarantee that they should not be, in great part, the same sorts under different names. The truth is, that nurserymen, and many amateurs even, feel proud of claiming a good variety as their "seedling," raised by themselves. Now, seedling peaches in general produce very good fruit, especially if care is taken to sow only the kernels of first-rate specimens of the best kinds, such as the Red Magdalen, the Late Admirable, and the Grosse Mignonne. When, therefore, people can wait for the produce a year or two later, and are not bound to named sorts warranted exactly true to their kind, it is worth while raising peach-trees from stones. It is a pity to bud seedling peaches till they have been first permitted to bear fruit. Nurserymen are obliged to bud, to insure the kinds their customers ask for. The hard-shelled sweet almond is the best stock for peaches in general; but in shallow or wet soils it is better to bud on plum stocks, such as damsons, St. Juliens, &c., whose roots, keeping near the surface, remain permanently in a stratum of earth, which offers fewer difficulties to drain and manure. Mulching, or throwing a coat of manure over the roots of peaches and apricots, and even pears, at the approach of winter, saves them from the effect of severe black frosts. To raise peaches from stones, immediately the fruit is eaten put the stones into a flower-pot, with a stratum of garden mould at the bottom; lay a bed of peach-stones and mould alternately, till the pot is full; keep them thus

through the winter; in March or April plant them out carefully in the nursery. Stone-fruit trees in general, and the peach in particular, do not thrive well in soils that are deficient in calcareous elements, particularly sulphate of lime, or gypsum; it should therefore be added where it does not abound. The village of Montreuil-aux-Pêches, near Paris, so justly renowned for the excellence of its peaches and the skill with which they are cultivated, is in some degree indebted for its reputation to the strong dose of sulphate of lime which its soil contains,—so much that numerous quarries of plaster-of-Paris are worked there.

The grand principle of pruning peach-trees is to make them throw out a succession of young wood, and to keep the lower part of the tree from becoming naked. Although there is but slight analogy between the fruits borne by the vine and the peach-trees, their mode of bearing is remarkably similar. Both, left to themselves, direct the whole force of their sap to the extremity of their boughs; each twig bears fruit only once, and therefore the object of pruning both is to compel them to put forth a continued annual succession of fruit-bearing shoots. The peach-tree in full vigour always shoots, on its one or two-year old branches, a number of buds which are unnecessary, whatever mode of training be adopted. These must be suppressed at an early stage by the important but simple operation of disbudding. Horticulturalists contrive to class peaches by the absence or presence of several characteristics; thus, there are Melters and Cling Stones, large-flowered and small-flowered varieties; and the leaves are either glandless, with globose glands, or with kidney-shaped glands.

The Pear Tree—Pyrus communis.—The pear is grown as a standard, an espalier, a wall-tree, and a dwarf or pyramidal. In the first state, it attains great age, forms a handsome tree, and furnishes a useful wood. In the last form, it is exceedingly convenient in small gardens; a collection of pyramidal pears may be made to occupy no more room than so many gooseberry-bushes. These

are mostly grafted on quince stocks; they are comparatively new to this country, having been introduced from France. Mr. Rivers has written an excellent treatise on their peculiar management, root-pruning, &c., which the reader will do well to consult. Pyramidal pear-trees in England are almost always spoiled by being allowed to become too luxuriant. The produce of pear-pips is at least as uncertain as that of apple-pips; good kinds are insured by grafting.

Standard Pears: Catillac, Green Chisel, Swan's Egg, Knight's Monarch, Williams's Bon Chrétien, Beurré Capriomont, Knight's Belmont, Aston Town, Muirford Egg, Dutch Bergamot, Swarmer, Van Mons's Leon le Clerk, Winter Crassanne, Hacon's Incomparable.

Pears for Espaliers: Seckel, Beurré d'Amanlis, Beurré Rose, Marie Louise, Suffolk Thorn, Duchesse d'Angoulême, Beurré Diel, Citron des Carmes, Gansel's Bergamot, Passe Colmar, Glout Morceau, largely grown in France as Beurré d'Hardempont; Easter Beurré, Forelle, Grey Doyenné.

Wall Pears: Napoleon, Beurré Rance, Chaumontelle, Winter Nelis, Louise Bonne, of Jersey; Jargonelle, Beurré Spence, Ne Plus Meuris, Brown Beurré, Uvedale St. Germains.

Pyramidal Pears: Roi d'Eté, Bellissime d'Hiver, Belle de Bruxelles, Frangipane; Doyenné Blanc, or Saint-Michel; Bon Chrétien d'Eté; and many others. New varieties are constantly appearing in the market, whose distinctness it is impossible to guarantee. The Belgian pears raised by Van Mons are mostly excellent. Good stewing-pears are the Catillac, Black Worcester, and Uvedale St. Germains.

Standard pears are in general allowed to run as they please; they do run, forming wood instead of fruit-buds. Hence the saying, "Plant pears, plant for your heirs." But wall-trees, and pyramidal dwarfs especially, come into early bearing if judiciously pruned both root and branch. The Winter Nelis is excellent in this respect, independent of the beauty of its shining foliage. Trained

pears should have both summer and winter pruning; at the former, all unnecessary spring growth, not required to be railed in, should be cut back to two or three eyes, to help the formation of fruiting spurs. Winter pruning should be principally directed to the maintenance of due equilibrium between the roots and the branches. On this depend the two great points, the healthiness of the tree and its fruitfulness.

The Plum-tree—Prunus domestica, in many varieties. —The best kinds are insured by budding; while the commoner sorts, such as the bullace, damson, and the coarse harvest plums, are propagated by suckers. All plums will do as standards, in sheltered situations, in England; but several well deserve a wall. The same kinds may also be grown as standards for the sake of a succession. Good Wall Plums are—the Green Gage; the early Orleans; the Washington, fine handsome fruit, not sufficiently known; Coe's Golden Drop; Reine Claude Violette, or Purple Gage; Red Magnum Bonum; White Magnum Bonum; and the Blue Impératrice, which should be allowed to hang on the tree till it shrivels. Besides these, the orchard may contain the Jaune Hâtive, for its earliness; the Blue Perdrigon; Kirke's Plum; and the little Mirabelle, one of the best for preserving either in sugar or in brandy. [Note: The justly celebrated Orleans Plum varies greatly in quality. If possible, taste the fruit of the tree from which the plants you purchase are budded. The same of the Green Gage.] A simple and effectual way of protecting plums, apricots, and peaches from wasps and flies, is to wrap each fruit separately in coarse tow, or wool if to be had. With the finer kinds of wall-fruit, it is well worth the trouble, in situations (near water, for instance) that are much infested by those insect pests. Beer and sugar, in open-mouthed bottles, is a more attractive trap than mere sugar and water. A spoonful of gin increases its efficacy.

The Quince—Pyrus Cydonia.—An ornamental, low-growing tree, of spreading habit, with large pinky-white

flowers, thriving best in damp situations, generally propagated by layers. The Portugal Quince is the best of the few varieties. Quince marmalade is scarcely appreciated so highly as it ought. The fruit abounds in mucilage, and in that respect is a nutritious emollient. The boiled pips make the glutinous preparation called *bandoline*, for dressing ladies' hair. The addition of preserved quince to apple tart improves the flavour.

To make quince marmalade:—Let the fruit hang on the tree till one falls to the ground; then gather the crop. Pare, quarter, and core them; but scrupulously save every pip. The glutinous properties of quince-pips may be perceived by taking one into the mouth and chewing it, when it will make the lips stick together, as a piece of gum-arabic would. Put the quinces with the pips into a stew-pan; add to them a strong ready-boiled syrup of sugar and water, the sugar being equal in weight to the quinces. Continue stirring the whole mess while it boils. When the fruit becomes tender, break and mash it well with a spoon. In about an hour from the commencement of the operation, it will be enough. It may then be turned out into preserve-jars; a portion should be put into shapes, to be used at dessert in the same way as bullace and damson cheese. The next morning it ought to be perfectly stiff and gelatinous, from the strong mucilage of the pips having been thoroughly incorporated with the whole mass. If tied down the usual way, it will keep good for a long time.

The Raspberry—Rubus idæus.—The best sorts are, the Red Antwerp, the Fastolf, the Yellow Antwerp, and the Double-bearing or Siberian. The Raspberry likes a damp situation. Its growth is somewhat peculiar; every year it shoots up stems, called *canes*, which bear fruit the succeeding summer only. It does not like to remain too long on the same ground, as is evinced by its tendency to run to a distance, mole-like, by means of underground stems. It is by means of these sucker-shoots that the raspberry is propagated. They are best planted in rows, close together; *i. e.*, the stools need not

be more than a foot distant; but the rows ought to be not less than six feet apart if possible. Low crops may thus be grown between them; and the ground close to them can be dug, and manure applied to their roots, as long as they stand. Every summer, as soon as the last dish of fruit has been gathered, cut down, close to the stool, every cane on which it has grown. This operation is mostly deferred till winter or even till spring; but it is best performed at once, as it encourages the growth and ripening of the canes that are to bear fruit next year.

Many persons tie them together, bend them down, and so form arches from stool to stool. It is, however, better to open the raspberry-canes fan-wise, and tie them to the length of a horizontal stake, which is supported by a stout post at each end of the row, or even, if very light, by the canes themselves. Gather very gently, or you will be apt to tear off whole bunches of fruit. If early raspberries are desired, they may be obtained by planting a few stools at the foot of a south wall, and training the canes against it. Very late fruit may be had by cutting down stools entirely to the ground in winter, instead of shortening them to the usual length. The new canes thrown up will bear fruit late in the same summer.

The Strawberry—Fragraria vesca.—Within the last half-century, the varieties of this admirable fruit have been greatly increased in number, mainly by the skill of the late Mr. Myatt; others, however, as Mr. Keens, deserve honourable record; and worthy successors are still continuing their efforts by means of scientific hybridization. For new varieties, the strawberry is raised from seed, and that mode is followed only by experimental horticulturists; established sorts are propagated by runners, which the plants send forth in abundance. Select the *first* runners for planting, and mark them by pegging them down. *They* will produce fruit next season; those which come from them, probably not. It has been supposed that the runners exhaust the plant; and it has been advised to cut them off; but the result of experiment is, that the produce is the same, whether the runners are

left or removed. The varieties called Alpine strawberries, bear cooler, damper, and more shady situations, and lighter soil than the others, which prefer a good mellow loam, even inclined to be clayey, such as would be suitable for wheat. The Alpines bear late, their fruit is conical in shape, and has a peculiar aromatic flavour, which is brought out by preserving in sugar. Of the old sorts, the best are, the Bath Scarlet, early, abundant bearer, much sought after for preserving; the Chili, large, round, white, and a very useful strawberry, though many find fault with it as not being sufficiently high-flavoured (from the Chili has been produced Wilmot's superb, a very large handsome strawberry, with the parental defect of insipid flavour); the old Caroline, an excellent strawberry, later than the foregoing, firmer in flesh and finer in flavour, capital for main crops; the Hautbois, of peculiar flavour, much esteemed by some, but not generally cultivated; many of the plants are sterile males, and as they increase by runners even faster than the prolific or hermaphrodite plants, they must be carefully uprooted as soon as discovered, otherwise the bed at the end of a short time will be overrun with unproductive vegetation. The White Alpine and Red Alpine are useful for their late successions of fruit.

Amongst the celebrated modern kinds, the Elton, raised by Knight, stands high; it is a late variety, large, cockscomb-shaped, abundant bearer, and should be suffered to ripen thoroughly before gathering; Keens's seedling, very abundant bearer, early, well adapted for forcing, grown in immense quantities for the London market, and excellent for *first* main crops; it is tender-fleshed, however, and does not bear carriage so well as many others; in spite of which, it is a universal favourite with the market-gardeners. The British Queen is probably the best late strawberry.

"The Black Prince," says Mr. Cuthill, "is one of the most prolific kinds, and is very early. I have had it in my possession for three years, and have exhibited plants with two hundred fruit upon them: these plants were

three years old. It is a fruit of medium size, very dark, full-flavoured, and a first-rate sort for preserving. I think it will become a general favourite. By accident, I discovered an excellent plan for producing a late crop. I turned out about three hundred pot-plants, in full flower, during the very hot weather in April; a severe frost about the 1st of May destroyed all the bloom, and now, at the end of June, the plants are showing abundance of blossom, which no doubt will give a good crop by-and-by. They are planted in the open ground.

"Soils make a wonderful difference in strawberries: the very best is a sandy loam. In this they will not grow more to root and top than is necessary for the formation of good buds for the next year; while in a rich light mould, if the autumn prove wet, they will produce a large watery mass of tops, growing on to the middle of October, and producing no buds in the centre. I have practised the following plans on light soils. Where the strawberries were planted out in poor sandy soil, I have obtained a famous crop by giving plenty of liquid manure in the spring. A similar result followed when, before planting out the runners, I have taken out a spitful of mould, and put in its place a spitful of loam, and then planted the runners in this. I have also planted the runners in small pots filled with loam, and about the 1st of November planted them out for the next year's crop. I may state here, that I never put more than one plant in a pot eight inches deep; and in planting out of these for the next year's crop, they are put a foot apart in the row, the rows being two feet asunder.

"Where persons do not force, it is a good plan to trench the ground, and plant the runners a foot apart each way. By this means, a good crop will be insured for the first year; and after this has been gathered, every second row should be cut away with the spade, leaving the others for the second year. After this they should be destroyed as soon as they have produced enough runners for a new plantation. For many years I have

mulched between the rows with fresh stable manure, about an inch thick all over the ground, just as the strawberries were coming into flower. If the weather be dry, water should be given several times; this carries the strength of the manure down among the roots; and by the time the fruit begins to ripen, the straw will be quite clean and free from smell. It then forms an excellent safeguard against heavy rain dashing grit over the fruit, a thing above all to be guarded against. I have found this plan much better than that of using clean straw or short grass; but if plenty of liquid manure can be had, the case would be altered. The runners from pot-plants always bear a week earlier than those that have never been in pots. Cutting the roots or tops at planting-time is injurious to the young plants.

"I have tried various plans of hastening the ripening of the fruit out of doors; such as slates, tiles, stones, &c. These have their faults; they afford harbour for insects to breed below them. I have generally found that the hot sun, acting upon these materials, ripens the fruit prematurely, and it is consequently acid. This may do for the market, but not for private use. In dry seasons, the strawberry requires an immense deal of water, avoiding dashing the water over the blossoms; and if dry till the end of the crop, continue watering twice a week."

The Walnut-tree—Juglans regia—supplies excellent wood for furniture and gunstocks, as well as nuts for dessert. The green fruit, before the kernels are formed, makes a favourite pickle; a useful sauce,—walnut ketchup, is obtained from the outer husk of the ripe fruit, which is also employed by false gipsies to stain themselves brown. The leaves of the tree are odoriferous; and it is said that, if you sit in its shade, flies will not sting you. The oil expressed from walnuts is used by painters. Propagate by sowing nuts of approved kinds: when grafted, it is apt to bleed injuriously.

THE CALENDAR;

A REMEMBRANCER OF KITCHEN-GARDEN OPERATIONS.

OCTOBER.

The gardening year may be considered as commencing with this month; both because gardens are mostly taken possession of at new or old Michaelmas, and because now is the time to lay a foundation for the coming year. The character of the work done is *preparatory*. Look forward; lay out your plans. Make ready for planting fruit-trees and bushes. Clear away all weeds and unnecessary remains of preceding crops; they would only harbour vermin, and exhaust the ground. Those which you cannot dig in at once, will be converted into useful manure by the aid of your pig's stomach and hoofs. Sweep away the withered leaves as fast as they fall, and barrow them to the compost-heap. Now, and during the next two months, is the time to show whether you are a *neat* gardener or not. Look out for, and destroy pitilessly, snails and the large black-and-orange slugs on their way to their winter retreats. Killing the parents in autumn, saves you from feeding their young in summer. Inspect your onions, seeds, and whatever else you have already in store, and take the hint which the least mould or rottenness gives you. Make fresh strawberry-beds, if not done before. Plant out coleworts, early summer cabbages, and onions sown in August and September; also lettuces to come on in spring. Most carefully weed and hoe young crops intended to stand the winter; such as spinach, carrots, &c. Sow corn-salad, winter spinach, and a speculative crop of cauliflowers to remain as seedlings in the open ground. Gather tomatoes to ripen

indoors. Store apples and pears. Earth up celery, cardoons, and leeks. Plant handsome roots, to bear seed next spring, of carrot, parsnip, turnip, and celery. Complete your stock of seeds and pickles that have been previously forgotten. Remember that the days are getting shorter and shorter, and make the most of every minute of daylight. Clear your sweet herbs and garnishings from dead leaves and rampant growth. Secure in pots a few roots of those which are apt to perish from severe frost, such as sweet or knotted marjoram, and tarragon. Make the most of your mushroom-bed; when exhausted, let it remain till spring. It will then help you to make an outdoor bed, often very productive. See that your winter greens and turnips are in handsome order.

NOVEMBER.

One of the busiest months in the year; besides which, you ought to work as hard as if you were sure that, during December and January, the ground would be hard bound with frost and snow. Generally, prune, plant, and transplant all you can. Divide the roots of such perennials as require it. Store carrots, parsnips, beet, salsify, scorzonera, skirrets, and Jerusalem artichokes; also winter apples and pears. Make a last storing of potatoes; of which you may make a winter planting at the end of the month. Lift and replant *a portion* of your broccoli, to help them to stand the winter, as directed in the body of the work. Sow early peas, and long-pod, Windsor, and fan beans for a first crop. Protect fig-tree branches. Prick out anything neglected last month, or for which there was not yet room; as lettuce, red cabbage, summer cabbage, Tripoli onions. If the weather continues open, you may still sow orache, spinach, saladings, parsley, onions, radishes, and cauliflowers, with more or less certainty of success. Continue to make an unrelenting clearance of all sorts of rubbish, and also to inspect your stores within doors. Make layers of vines, and whatever woody plants you

propagate in that way. Place in a warm shed a few artichoke-stools as a precaution. Hang up, secure from frost, a supply of blanched endive and late cauliflowers. Pick the berries (for seed) from asparagus. Cut down the stalks when *quite* sear; weed the beds by hand, and mulch them well with stable-dung. Clear the dead leaves from the seakale-stools; earth them up, or cover them with pots for forcing, according as the supply is wanted. Strong roots planted in large pots, and kept in a warm dark cellar or closet, will furnish a few early dishes. After cutting, the plants may be returned to the open ground. Dig in manure around your artichokes, rhubarb, currant-bushes, and raspberries. Cut away the canes of raspberries which have fruited during the current season, if the operation was not performed, as it ought, as soon as the crop was gathered. Plant cuttings of gooseberries and currants. Clear away the yellow and rotting leaves from the lower part of the stems of broccoli, savoys, and other winter greens. Dig in sprouting weeds as much as possible: cleanliness and the destruction of vermin are even more necessary than during the previous month. Plant garlic and tree-onions, if not done before. Look to your earthed-up celery, and finish off whatever remains. Cut off carefully the *dead withered* leaves, and remove unnecessary runners from old-established strawberry-beds; but by no means make a general mowing of the foliage. Tidiness will prevent many of your crops from damping off and rotting, if the winter prove mild and wet. Do not forget your quinces and medlars. As far as present crops permit, prepare ground for planting or sowing in early spring such things as carrots, onions, parsnips, asparagus, seakale, or rhubarb. When you can, lay the earth in ridges, to expose it to the action of frost. Increase your store of treasure in compost-heaps. Care in this respect makes all the difference between suffering from nuisances and being provided with fertilizers. If you grow your own cabbage-seed, plant out your handsomest specimens in situations where they are not likely

to be hybridized; but it is better to buy. Look to the plants pricked out or planted in autumn, to see that the worms have not drawn them in, or the rains washed them out of the ground. Staking fresh-planted trees and shrubs (standards), helps them to lay hold of the ground as they form fresh root-fibres.

DECEMBER.

CONTINUE to plant, transplant, and propagate by division of the root. So long as open weather permits, get forward with the work you would have to do in spring. Complete the pruning of all the hardier trees and shrubs; those likely to be affected by the frost, may be left till February. A great point is, to settle everything in its place at your earliest convenience. They will be establishing themselves while you are sleeping or warming yourself over a good seacoal-fire. Plants are never *entirely* at rest or stationary, not even during the hardest frost, as weeds will tell you; so long as they continue alive, the processes of vegetable life are going on, with more or less rapidity. Even in bulbs taken out of the ground, internal changes are taking place. Hence plants removed in November or December will have almost made themselves at home by March or April; whereas, if transplanted in March, they would have *that* root-work still to do, besides the spring and summer functions required of them. No wonder many perish in the attempt. Dig up a few sticks of horse-radish, in case of frost at Christmas. If your first-sown peas are fairly out of the ground, sow a succession; if not, wait till they are, in January or February. If hard weather comes on, employ yourself in *taking stock*. See what seeds you have and require; make neighbourly exchanges; ascertain the condition of your roots in store; secure a supply of pea-sticks for early spring; attend to the repair of tools, fruit-tree-nets, &c.; stop out Jack Frost from places where you do not want his presence. Contrive if your garden outhouses cannot comprise an

icehouse amongst their number; consider that recommended in Cobbett's "Cottage Economy." During hard frost, cart or barrow manure and heavy materials to the spots where they are wanted. Make war on rats and mice. Drain where required. Think of your salads of chicory and barbe de capucin. Mulch around the roots of pear, peach, and apricot trees. Give a heavy mulching to your beds of rhubarb. Scare away birds from the buds of your currants, gooseberries, and cherries. Sprinklings of soot and lime will preserve many seedlings from the attacks of slugs, which are awakened by a mild day and a gleam of sunshine. Drought is now less to be feared than too much moisture. Hoeing the surface when you can, and keeping it loose and open, prevents the frost from penetrating deep. Plant shallots and potato-onions on St. Thomas's Day. Look over your fruit stores once a week.

JANUARY.

YOUR prospects on New Year's Day will depend somewhat on the weather, but mainly on the industry and forethought you have exercised during the past quarter. Too often June and July teach the lesson that procrastination is the thief of garden produce. Put not your faith in a mild winter. April is sometimes more cruel than January. If your peas and beans are up and luxuriant, if your lettuces and small salads spread, sow more, in case of their being cut off prematurely. Keep up a reserve successional stock of such things *in* and under the ground. They will be safer there than their more venturesome fellows, and will be growing at root while covered with snow. Set out successions of early York cabbages and coleworts. Tie your woollen comforter round your neck, walk leisurely about your garden, and consider well your arrangements for the coming season. As soon as any winter crop,—as celery, savoys, &c., is removed, level, manure, and dig the ground, weather permitting; remembering that nothing is gained

by burying ice and snow. You only put it underground, in a sort of natural temporary icehouse, to chill the soil on the return of spring. Leave the bearing wood of peach, nectarine, and apricot trees unnailed, to keep the blossoms as backward as may be. Draw a little earth to the north or north-east side of such rows of peas and beans as are above ground. Note in your mind the position of last year's crops, in order to fill the same spots with plants of a different character, and insure a wise rotation.

FEBRUARY.

This and the next are two busy months. Seize Time firmly by the forelock; hold him fast, and do not give him breathing-time till he has dragged you to the middle of May, when you may set your arms akimbo on each side of your apron, and look round for an hour or two, to contemplate the result of your prowess. You may now venture on sowings of many things *with a chance* of success, in proper situations,—Early Horn carrots, scarlet short-top radishes, Spanish radishes, Bath Cos lettuces, celery, parsnips, leeks, chervil, parsley, &c. &c. Do not be disheartened if they fail, but at them again. A stout-hearted gardener will never say die. Pass in review all your autumn-planted troops; remove the dead men, and fill up their places with fresh recruits from your own or your neighbour's stock in reserve. Sow dwarf marrow-fat peas, plant horse-radish. See to your forced seakale, taking care not to burn it. Plant out onions and leeks for seed. Thin out and use your forwardest winter spinach. Make a final planting of August-sown cabbages, refraining, however, from that kind of work when the ground is in a sloppy state. Sow a succession of beans, which will be sufficient, if the former sown promise well. Cover the crowns of your rhubarb-plants with wicker baskets or loose straw. Arrange this-year's-bearing raspberry-canes as directed. Plant strawberries, if you could not do so before. Look to your potato-onions and shallots, which ought to be sprouting. Plant

early potatoes, ash-leaf kidneys, and Poor Man's Ready Pennies. Plant a tuft or two of chives, mint, &c., in a mignonnette-box, to force in a warm kitchen or bake-house, for salads and sauce. Sow mustard, cress, and radishes on a hotbed, under handlights or a frame. Observe whether your hazel-bushes have a sufficient proportion of male blossoms; if not, supply the deficiency as directed. Give your strawberry-beds a dressing of well-rotted dung. Cut off scions for grafting, and stick them in the ground "in graft."

MARCH

And Main Crops both begin with an M. Remember that they are even more closely connected than that. Plant and sow all sorts of things. Look over your garden, to see what room you have to spare; look through the nurseryman's and seedsman's list, and the advertisements in the "Gardener's Chronicle," to discover what you most require. Make new asparagus-beds and plantations of seakale, by means of seeds or seedling plants. Gently rake off the coat of manure from the top of bearing asparagus-beds. Shelter your rhubarb, giving it all the light and air you can. Sow Altringham carrots, parsnips, onions, leeks, radishes, spinach, lettuce, purple broccoli, savoys, Brussels sprouts, celery, cauliflowers, marrow-fat peas, red cabbage, Battersea cabbage, for late summer use, drum-head cabbages, for autumn and winter, beans, —if you *must* have more, aromatics and small herbs. Plant Jerusalem artichokes, stick forward peas, nail in the shoots of peaches and apricots as soon as the blossoms begin to peep forth. Do everything now which you ought to have done before, and have not. Sow, on hotbeds, all sorts of tender annuals for planting out in May and June; such as cucumbers, gourds, tomatoes, ice-plants, New Zealand spinach, capsicums, sweet basil, &c. &c. In the more moderate temperature of a green-house, or cold frame, you may forward in the same way scarlet runners and kidney beans, to be trans-

planted. Plant in highly-manured ground, where they are finally to remain, a portion of your autumn-sown cauliflowers, which have survived the winter. Unbind and expose to the sunshine the branches of your fig-trees, taking care to cover them again with their hay-bands before night-fall. Never mind the trouble, if you have figs when others have not. Attend to general neatness, and examine your stores of fruit, seeds, and roots. Iron is cheap; therefore, don't be afraid of wearing up your hoe and rake. Plant main crops of potatoes. Graft apple and pear trees. Plant cuttings of curious ragged-jack kale.

APRIL.

You now ought to be mainly employed in watching the results of last month's labours, and in replacing immediately any decided failures. See that the seeds you have sown vegetate, and the roots you have planted are doing well. You can mark with sticks any blanks you may observe as you are hoeing and weeding the drills and beds. You may speculate on a crop of early turnips; but perhaps they will all run up to seed, if they are not eaten off by insects. Clip box edgings. Make successional sowings of Oxford Tom peas, radishes, lettuce, cauliflower, white broccoli, savoys, and Brussels sprouts. Sow couve tronchuda and kohl-rabi at the end of this month or the beginning of next; also nasturtiums, salsify, and scorzonera. Plant skirret roots. A sowing of sweet basil and knotted marjoram will sometimes thrive well in a south border. Propagate by slips, cuttings, and offsets, perennial culinary plants and aromatics. Sow spinach, purslain, and orache. Water strawberries during drought; but if you begin watering, you will have to go on with it till rain falls. Sow garden beet, for salads; also the main crop of celery. Attend to your cucumber-plants, and other tender annuals under glass. Keep your eye on the seakale, earthed up in the open ground. That growing at the foot of a south wall may perhaps be fit to cut before the month is out.

Water turnips as they come up, till they have two or three rough leaves. Water, too, is often well bestowed at this time on things which have been transplanted during the previous winter. Prepare beds of well-rotted manure for pricking out celery. Protect fruit-tree blossoms, or leave protection alone, according as your own judgment or experience shall advise; for doctors differ. Try a second sowing of turnips at the end of the month; and if you are very far south, or sheltered, you may venture on a few Robin's-egg kidney beans. If they rot before coming up, or turn yellow afterwards, you will not be greatly surprised. Nail figtree branches in their places on the wall.

MAY

Forms a new epoch in the gardener's year. Summer is coming, sometimes *is* come. Still, look forward to autumn and winter, by sowing and pricking out the earliest broccoli and endive. The close of the month is the moment for sowing and planting out main crops of such things as kidney beans, scarlet runners, tomatoes, cucumbers, gherkins, and other tender annuals; but it is best not to be in too great a hurry, and to observe the signs of the times. With cutting north winds and frosty nights, it is easy to make more haste than good speed. In the absence of showers, water strawberries and fresh-planted vegetables liberally. Hoe and earth up potatoes as they advance. Do not be afraid of the weeds, but cut away. They must either be your master, or you theirs. Prick out the earliest celery. Sow marrow-fat peas, late endive, and successions of broccoli and Brussels sprouts. Hoe and thin onions, carrots, and parsnips. Sow successions of Scotch kale and Battersea cabbage; the latter will come exquisitely tender and delicate; sow also late cauliflower, which liberally supply with liquid manure. Turnips sown now will have really a good chance; the same of tender sweet herbs, such as knotted marjoram. Catch and kill queen wasps: every queen killed now is a nest destroyed. Pinch, break, or

rub off all unpromising shoots from your vines. Level and manure the ground from which seakale has been cut, exposing the crowns to sun and air: the more vigorous the growth of the plant during the current summer, the finer will be the kale the following spring. Sow successions of lettuces, if you like; but *scarole*, or broad-leaved endive, is the real salad for autumn. Draw *away* the earth from the bulbs of shallots and potato-onions. Twist the stems of garlic, to check their fruiting *at top*. *Don't* sow spinach, but water what you have previously sown. Give liquid manure to orache; the same to asparagus; the same to sorrel, which cut from time to time, whether you want it or not, to encourage a successive growth of young leaves. Wage indiscriminate war on caterpillars. Remove unnecessary shoots from artichokes, and stir the ground well about their roots. Thin seedling cardoons, and also beet-root, as soon as each has attained the thickness of a crow-quill. Get ready your trenches for celery. Gradually disbud apricots and peaches, and destroy the caterpillars which roll their leaves, and those of other wall fruit, as pears. Plant out cauliflowers and broccoli, taking advantage of showery weather.

JUNE.

THIN the crowded fruit of apricots, for tarts; also thin peaches and nectarines. Make the most of your asparagus-beds while the season lasts. Hoe potatoes, onions, carrots, and other summer crops. Stop the vine-shoots which show fruit. Shorten the watery shoots of currants and gooseberries. Sow peas, turnips, and kidney beans. Plant out cabbages, broccoli, Brussels sprouts, and savoys; also leeks and endive. Prick out celery. Plant very early celery where it is to be blanched. At the end of the month, take up the shallots and potato-onions planted in December; if they were set later, they will be ripe later, and not so fine. Do all you can to encourage the growth of tomatoes, gourds, and cucumbers. Make good use of the hoe, and remove the remains of every

crop the moment it is done with. Cabbage-stumps and the haulm of gathered peas, ought not to encumber the ground a single hour. Top beans as soon as they show a sufficiency of blossom. Water late-sown peas. Look over the summer shoots of your wall and espalier trees. Throw straw in the alleys of your strawberry-beds, to prevent the fruit from being splashed by rain. Attention to all sorts of winter greens. Clip quick-set hedges.

JULY.

Cease cutting asparagus; weed the beds, and dose them with liquid manure. Sow no more peas; celery and turnips will occupy the ground with more certainty and profit. Green (by exposure to light) early seed-potatoes, for next spring's planting. Gather sweet and aromatic herbs, and dry them in the shade; a good way of preserving them, is to reduce them to powder, and keep them in well-stopped bottles. Bud cherries, plums, and peaches. At the end of four or five days' warm dry weather, think of your empty pickle, preserve, and jam jars. Look over tomatoes, and suppress all useless laterals, keeping the branches which remain well nailed against the wall. Shorten unnecessary growth in cucumbers and gourds. The August-sown onions will now be coming into use, though not sufficiently ripe to be taken up for store. Plant cauliflowers, kohl-rabi, and couve tronchuda for autumn. Plant out great breadths of celery, cauliflowers, savoys, broccoli, and other autumnal and winter greens of the cut-and-come-again class. Sow a few dwarf kidney beans as a spec. Cover with nets any cherries or currants that you may desire to keep late from the birds. Collect such seeds as are ripe. Remove the superabundant wood from vines. Cut away the old canes from raspberries as soon as the last fruit is gathered, to let the young ones attain vigour and ripen their wood. Sow early York cabbage at the end of the month. Plant out May-sown cabbages. Pick off the blossoms from potatoes, and keep them clear from weeds.

Sow a very few turnip radishes. Earth up your forwardest celery. Look over your vines and currants and gooseberries. Attend to the earthing-up and sticking of late-sown peas. Regulate the growth of espalier and pyramidal trees.

AUGUST.

THE great difficulty of this month is want of room. The end of one season and the beginning of another do more than touch—they lap over each other. Therefore, make all the clearance you can by completing your stock of pickles, preserves, and dried herbs. Sow Tripoli onions, and others, to stand the winter; also parsley, spinach, York and Battersea cabbages, and small saladings. Remember, that to have fine winter greens, this is almost the last time of asking. Remove broccoli, savoys, Brussels sprouts, to the places where they are to stand, and pay great attention to hoeing those already established. Do not neglect your tomatoes; remove superfluous leaves and shoots, and suffer no further onward growth. Earth up any full-grown celery, and supply that coming on in the trenches with abundant waterings during drought. You may top late-sown peas, to hasten their productiveness. Every fortnight, from this time forward, blanch, by tying up, as many plants of endive as your family require during that period. You may also think of blanching your forwardest cardoons. Bend back the stems of your spring-sown onions, to promote their bulbing. Do it gently, repeating the operation several times, rather than roughly at once. Cut off, close to the ground, the flowering-stems of such artichokes as have borne. Promote the luxuriance of seakale, asparagus, rhubarb, and sorrel, by copious waterings with weak liquid manure. Make new strawberry-beds, selecting the *first* runners. Sow red cabbage; also early Horn carrots, to come in spring. Drought, whether natural or artificial, is now conducive to the health of cucumbers, gourds, and tomatoes.

Leeks may still be planted out, but they will not prove so fine as those which have already taken firm hold of the ground. Encourage the ripening of the wood of your fruit-trees by removing useless twigs and leaves. You may now sow lettuce to stand the winter. Make an autumnal mushroom-bed. Exercise your wits to economize space, and to make winter crops tread on summer crops' heels as closely as possible. You may often sow or plant between rows of vegetables which are themselves to be removed in a week or two. Sow your stock of winter turnips as early in the month as possible; hoe and thin those already coming forward. Look to your salsify, scorzonera, and skirrets.

SEPTEMBER.

When you hear the first gun pop at the unhappy partridges, remember, if you have forgotten, or been unable to do anything which ought to have been done in August, and remedy the omission before the sun goes down. You *may* still sow onions and lettuces to stand the winter. You will be sure to be successful with your sowings of spinach, radishes, parsley, chervil, corn-salad, and mustard and cress. At the end of the month, prick out August-sown onions and lettuces. Continue to blanch endive. Gather ripe tomatoes, and help green ones to sunshine. Harvest ripe onions, and plant goose-necked ones in rows for winter use. Slip muslin bags over your grapes, if you do not mind losing the bloom. Protect peaches and nectarines from wasps by wrapping tow round them. Help the summer shoots of your fig-trees to ripen. Wheel out barrowfuls of strawberry runners, cabbage-stumps, kidney-bean stalks, and weeds, to ferment and rot on the compost-heap;—they had better rot there than *in* the garden; in short, make a general clearance of used-up things. Attend, however, to your seeds, and to cuttings, runners, layers, offsets, &c., of *what you want* for yourself and friends, especially if you are going to remove at Michaelmas.

Take up garlic and late-planted shalots. You may now replant cloves of garlic. Cut down early-sown, over-luxuriant parsley close to the ground. You will now see your celery really grow, if you have used it well. Earth up a portion, leaving the rest till next month. Broccoli and winter greens will repay every care bestowed on them now. Blanch cardoons. Let artichokes run wild, merely hoeing them and keeping them free from weeds. See that the slugs do not spoil your cauliflowers and couve tronchuda; break inwards a few central leaves of the former, to save them from early chance frosts. Pluck up rank sow-thistles and shepherd's-purses from out your leeks and other standing crops. Suspend wide-mouthed bottles, half-full of sugar, water, and gin, amongst the branches of your wall-fruit trees. Sow turnips, to produce green turnip-tops in spring. Take up such potatoes as are really ripe, greening those you reserve for seed.

Enjoy the summer innocently while it lasts. Treat your master well, if you happen to be a servant; treat your servant well, if Providence has made you a master. Be thankful to Heaven for the blessings of health, strength, and freedom; and remember that a gardener's work is never done.

INDEX.

THE END.

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