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THE

# ORIGIN AND HISTORY

OF OUR

# ARDEN VEGETABLES

TO WHICH IS ADDED THEIR DIETETIC VALUES

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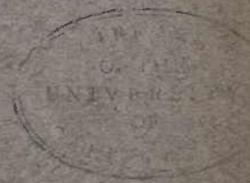


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BY THE

REV. PROF. G. HENSLOW, M.A., F.I.S.  
F.R.H.S., V.M.H., ETC.

REPRINTED FROM THE *Journal of the Royal Horticultural Society*



PUBLISHED FOR THE AUTHOR

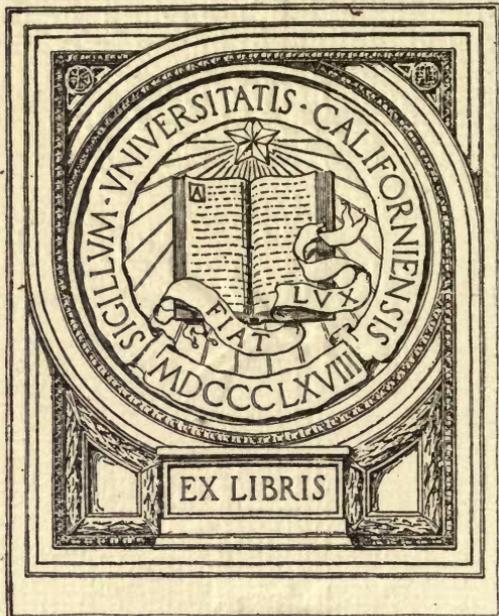
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REV. PROF. G. HENSLOW, M.A., F.L.S.  
F.R.H.S., V.M.H., ETC.

AUTHOR OF 'MEDICAL WORKS OF THE FOURTEENTH CENTURY'  
'HOW TO STUDY WILD FLOWERS' 'POISONOUS PLANTS OF FIELD AND GARDEN'  
'INTRODUCTION TO PLANT ECOLOGY' 'THE PLANTS OF THE BIBLE,' ETC. ETC.

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ORIGINAL HISTORY

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GARDEN VEGETABLES

TO WHICH IS ADDED THEIR DISEASES

BY

THE REV. J. H. BURTON, M.A.

REVISED BY

THE REV. J. H. BURTON, M.A.

LONDON: PUBLISHED BY J. H. BURTON, M.A., 1887.

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## PREFACE

THE objects of this book are, first, the scientific one of showing how plants have varied under cultivation. Thus, the forms of the members of the Cabbage group have all been acquired from the Wild Cabbage (*Brassica oleracea*, L.) of our chalk cliffs. These grow to some three feet in height when in flower, and take a form like the cultivated Kales—or, rather, one should say that the latter are the least altered from the original stock; while Brussels Sprouts and the huge Cauliflowers are very different from the wild type. These many forms are now hereditary, for it is the experience of all cultivators and experimenters that the change of soil, &c., from the wild state to that of a garden *acts directly* upon the seedlings, so that they *respond* to the new influences of the prepared and improved environmental conditions by growing in adaptation to them; and that if a plant thus altered be grown for several generations under the same conditions, the new variation tends to become *fixed*, and as a rule does actually become so when, subsequently, it is more or less independent of the conditions under which it originated, and is “true to seed.”

The second object is to trace the history of garden plants from antiquity downwards—from, say, Theophrastus, of the fourth century B.C., whose writings are embodied in those of Pliny and Dioscorides of the first century A.D.—then to continue the investigation through the Middle Ages to the sixteenth century, in which many “Herbals” were written.

Our existing plants will be compared with those described and figured by the authors of that date.

The “Herbals” were, strictly speaking, medical books, for all plants were supposed to have their special healing virtues. But in the “Herbals” of that century we find culinary uses of many plants *superadded* to their medicinal values, and it is pretty obvious that they passed from one to the other by the “drug” becoming an “edible” plant by usage. Thus some are described as medicines, but *also* as “salads,” showing how the change was made. E.g., the Green Celery was a drug with many virtues in the fourteenth century; but by blanching it became an edible plant, as well as by stewing the leaves—as is still done in Malta, where it is never blanched. All the so-called “kitchen herbs” used for flavouring were originally medicinal plants, and have undergone little or no change.

In the later centuries the innumerable drugs became reduced in number, and their supposed curative properties fell more or less into

disrepute. We still seem to see the original importance of getting the store of drugs well secured in the phrase "cut and dried," applied now to any well-prepared scheme. On the other hand, we can well understand how the expression, "It is a drug in the market," arose when they fell into disrepute!

With regard to the dietetic values of our kitchen vegetables, I follow Professor Church's little book entitled "Food."\* He divides them into—(1) those of the "salts or mineral matters contained in them"; (2) the "carbon compounds, or heat-producers"; and (3) the "nitrogenous compounds, or flesh-formers."

The value of saline ingredients lies in their connexion with the rendering solid constituents of food soluble for digestion. They enable the transference of organic matters from place to place, with the special and directive localization of the minerals themselves—as phosphorus and lime to the bones, soda to the blood, silica to the teeth and nails, &c.

With regard to the important element of *nitrogen*, the so-called nitrogenous albuminoids, or "plastic matters," are necessary for the formation of muscle or flesh, bones, brain, and nerve-tissue; but it is not an element especially utilized in doing *mechanical* work. The latter is the result accruing more from *carbohydrates*, such as starch, sugars, oils, and fats; these contain *no* nitrogen, but only *carbon* and *hydrogen*, with or without *oxygen*. These, by being "burnt"—*i.e.* united with oxygen—give out *heat*, coupled with *force*, which the living being utilizes in the many processes of life. It should be borne in mind that none of the last-named substances—and "starch" includes arrowroot, sago, tapioca, tous-les-mois, cornflour (from Indian corn or maize), potato-flour, &c.—can furnish the materials for the building up and repair of flesh, nerve, bone, or brain, which *must* have nitrogen. Consequently the *whiter* bread is, from the large amount of starch present, the *less nutritious* it is. In "milk puddings" it is the milk which supplies the deficiency of nitrogen in the sago, &c. "Starch," however, Professor Church writes, "next to oil and fat, is the most concentrated heat-giving and force-producing of all the nutrients."

In order to show at a glance the values of any vegetable, the percentages of nitrogenous and of carbonaceous elements are expressed as N : C. This is the nutrient ratio, while N + C is the nutrient value.

With regard to the generation of force in the human body out of food, Professor Church tells us that, according to Dr. Frankland's and others' experiments, 1 lb. of starch or sugar would supply an average of 2,860 "foot-tons," while oils and fats would give 6,450.†

Of these amounts of force, according to Helmholtz, "the greatest amount of mechanical work *outside the body* which a man could be enabled to perform by the combustion within the body of 1 lb. of each would be about *one-fifth* of the above amounts."

To represent this in a form easily understood, we may say that, if

\* Chapman and Hall.

† *Op. cit.* p. 42.

a man consume 1 lb. of butter, he could utilize *one-fifth* of 6,450 tons in raising them *one foot* from the ground; or, supposing he lift a 25 lb. weight to the height of 1 foot, he might repeat it 116,000 times before the force was all expended.

Lastly, for the reader to carry in his mind some sort of standard, he may remember that Peas and Beans and other seeds of leguminous plants have the greatest amount of *nitrogenous albuminoids*, the Lentil having most of all, or 25 per cent.; whereas Potatos may be taken to illustrate a standard for *carbohydrates*—viz. 18 per cent.—the nitrogenous albuminoids being only  $1\frac{1}{2}$  per cent.



# CONTENTS

## CHAPTER I.

### ROOTS AND TUBERS

	PAGE
Artichoke, Chinese.—Artichoke, Jerusalem.—Beet.—Carrot.— Chervil.—Horse-radish.—Oyster-plant.—Parsnip . . . . .	1-12

## CHAPTER II.

### ROOTS AND TUBERS (*continued*)

Potato.—Radish.—Rampion.—Salsify.—Scorzonera.—Skirret.— Turnip and Rape . . . . .	13-25
--------------------------------------------------------------------------------------	-------

## CHAPTER III.

### GREEN VEGETABLES

Asparagus.—“French” Asparagus.—Aubergine or Egg-plant.— Broad Bean.—Kidney or French Bean.—Scarlet Runner Bean	26-28
-------------------------------------------------------------------------------------------------------------------	-------

## CHAPTER IV.

### GREEN VEGETABLES (*continued*)

The Cabbage Tribe . . . . .	29-43
-----------------------------	-------

## CHAPTER V.

### GREEN VEGETABLES (*continued*)

Cardoon and Globe Artichoke.—Celery and Celeriac.—Chard. —Onions and Leek.—Pea.—Rhubarb.—Sea-kale.—Spinach.— Vegetable Marrow . . . . .	44-53
-----------------------------------------------------------------------------------------------------------------------------------------------	-------

CHAPTER VI.

SALAD HERBS

Cress, Bitter.—Cress, Garden.—Cress, Water.—Corn Salad or Lamb's Lettuce.—Chicory and Endive.—Cucumber.—Dandelion.—Lettuce.—Mustard.—Purslane.—Sampshire.—Sorrel.—Tomato . . . . .	PAGE 54-61
------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	---------------

CHAPTER VII.

KITCHEN HERBS

Angelica.—Anise.—Balm.—Basil.—Borage.—Burnet.—Caraway.—Chamomile.—Clary and Sage.—Coriander.—Dill.—Fennel.—Horehound.—Hyssop.—Ice-plant.—Lavender.—Marjoram.—Mint.—Pennyroyal.—Parsley.—Rosemary.—Rue.—Savory.—Tarragon.—Thyme . . . . .	62-67
------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-------

# LIST OF ILLUSTRATIONS

FIG.	PAGE	
1. WILD BEET (perennial). Quarter natural size . . . . .	5	
2. WILD CARROT (annual). Quarter natural size . . . . .	6	
3. THE WILD PARSNIP (annual). One-fifth natural size . . . . .	10	
4. {	A.—Third generation of parsnip from seed of wild plant (1847) cultivated by Professor Buckman. The origin of "The Student" ( $\frac{1}{3}$ length).	
	B.—"The Student" parsnip, twenty-eighth generation (1903) from the wild plant ( $\frac{1}{3}$ length and width); still one of the most useful in the trade (1912) . . . . .	11
5. STEM AND FOLIAGE OF THE POTATO PLANT, AFTER CLUSIUS . . . . .	14	
6. ROOTS AND TUBERS OF THE POTATO PLANT, AFTER CLUSIUS . . . . .	15	
7. WILD RADISH ( <i>Raphanus Raphanistrum</i> ). (Quarter natural size) . . . . .	18	
8. LONG FORMS OF RADISH RAISED BY M. CARRIÈRE FROM THE WILD RADISH . . . . .	19	
9. TURNIP FORM OF RADISH RAISED BY M. CARRIÈRE FROM THE WILD RADISH . . . . .	20	
10. WILD TURNIP ( <i>Brassica campestris</i> ). (One-third natural height) . . . . .	24	
11. WILD CABBAGE AS GROWING ON CHALK CLIFFS, S.E. ENGLAND . . . . .	30	
12. WILD CABBAGE (GERARD, 1597) . . . . .	31	
13. BRASSICA RAPOSA, ORIGIN OF KOHL RABI ("HISTORIA PLANTARUM," 1586) . . . . .	32	
14. RAPE COLE ( <i>Caulorapum rotundum</i> ), AFTER GERARD, 1597 . . . . .	33	
15. EARLY FORM OF KALE, RESEMBLING THE WILD PLANT (GERARD, 1597) . . . . .	35	
16. EARLY FORM OF CAULIFLOWER (GERARD, 1597) . . . . .	36	
17. THE OPEN CABBAGE COLE ( <i>Brassica patula</i> ), AFTER GERARD, 1597 . . . . .	38	
18. EARLY FORM OF SAVOY CABBAGE, THE "CURLED SAUOIE COLE" (GERARD, 1597) . . . . .	39	
19. MONSTROUS FORM OF CABBAGE (DALECHAMP, 1586) . . . . .	41	

FIG.	PAGE
20. SWISS CHARD OR SPINACH BEET (BURPEE) . . . . .	46
21. WILD AND BULBOUS LEEKS OF MALTA, WITH CULTIVATED FORM FOR COMPARISON . . . . .	49
22. VEGETABLE MARROW, FROM GERARD'S "HERBAL" (MISCALLED CUCUMBER), 1597 . . . . .	53
23. WILD CHICORY. (One-eighth natural size) . . . . .	56
24. WILD ENDIVE (FROM A CORNFIELD IN RHODA ISLAND, IN THE NILE, CAIRO) . . . . .	57
25. COMMON CUCUMBER, FROM GERARD'S "HERBAL," 1597 . . . . .	58

Univ. of  
California

THE  
ORIGIN AND HISTORY  
OF OUR  
GARDEN VEGETABLES  
AND THEIR DIETETIC VALUES

CHAPTER I.

ROOTS AND TUBERS.

THE CHINESE ARTICHOKE.

*Stachys Sieboldii* has nothing to do with artichokes of any sort. It belongs to the Labiate family, and has six allies or species of the same genus wild in Great Britain. The present species occurs wild, and is cultivated in North China, its native name being *Tsanyungtzu*, while in Japan it is called *Chorogi*. It was introduced as a culinary vegetable by the late Dr. M. T. Masters, F.R.S., in 1888.

The dietetic value\* resides especially in a carbonaceous substance, which reaches 16·6 per cent. ; the albuminoids, 1·5 ; amides, 1·7 ; and water, 78·3 per cent.

JERUSALEM ARTICHOKE.

“ The early history of *Helianthus tuberosus* may be regarded under three divisions—a traditional, an early botanical, and a medieval and modern. Of these the traditional resolves itself into the fact of its having been cultivated as an article of food by the Indians of North America before the settlement in that country of Europeans. The earliest evidence of this cited by Mr. Trumbull is that derived from Champlain, who, in 1605-06, observed that the Almonchiquois Indians (of New England) had ‘ force des racines qu’ils cultivent, lesquelles ont le goût d’Artichaut.’ To this Mr. Trumbull adds that it is to these roots that Lescardot alludes (‘ Hist. de la Nouv. France,’ 1612), when, speaking of the same Indians and their country, he says that the latter contains a kind of roots, ‘ grosses comme naveaux, très excellent

\* The dietetic values are taken from Professor Sir A. H. Church’s book on “ Foods.” The *nitrogenous* ingredients (albuminoids and amides) are the only ones which make brain, muscle, nerves, bones, etc. ; the *carbonaceous*, e.g., sugars, starch, and oils, contain no nitrogen, but supply energy and heat and make fat.

à manger, ayant un goût retirant aux cardes, mais plus agréable, lesquelles plantées multiplient en telle façon que c'est merveille.' Following these is Sagard Theodat, who, in his 'Histoire de Canada' (1636), mentions the roots which the French called 'Canadiennes, or Pommes de Canada.'

"Proceeding now to the medieval history, or that of the cultivation of this plant in Europe, it seems to have been introduced into England very shortly after, if not before, it had attracted the attention of travellers as being propagated by the Indians in America as a food product, for in the year 1617 Mr. John Goodyer, of Mapledurham, Hampshire, received two small roots of it from Mr. Franqueville, of London, which, being planted, enabled him before 1621 'to store Hampshire.' In October of the same year Mr. Goodyer wrote an account of it for T. Johnson, who printed it in his edition of Gerard's 'Herball,' which appeared in 1636, where it is called *Jerusalem Artichoke*. Previous to which, in 1629, it had been figured and described under that name by Parkinson in his 'Paradisus,' and he also mentions it in his 'Theatrum' in 1640.

"From the last-given date to the present time the Jerusalem Artichoke has been extensively cultivated in Europe, but rather as a garden vegetable than a field crop, and has extended into India, where it is making its way amongst the natives under Hindoo, Bengali, and other native names.

"It is very curious that the native country of a plant so well known in gardens, and in a wild state throughout the length of the Central United States, and in Canada, should have for upwards of two hundred and fifty years been considered doubtful. In 1855 Asa Gray's attention was drawn to the subject from having received some long, narrow tubers, which he considered to be *Helianthus doronicoides*, Lamk., with the statement that they had been found to be good food for hogs. These were planted in the Cambridge (U.S.) Botanical Gardens, and were found to produce, after two or three years, thicker and shorter tubers, which, when cooked, resembled Jerusalem Artichokes in flavour, though coarser. This led Dr. Gray to conclude that *H. doronicoides* was most probably the original of *H. tuberosus*, an opinion which was strengthened by subsequent observations published in the second edition of his 'Manual of the Botany of the N. United States' (1865). Matters, however, did not end here, for it was discovered that the *H. doronicoides*, Lamk., as described by American botanists, included two species, that so called, and the true *H. tuberosus*, Linn., and it was not till the publication in 1884 of the Order of the Compositæ in Gray's 'Synoptical Flora of N. America' that *H. tuberosus*, Linn., was definitely restored to its rank as a substantive species, and the origin of the Jerusalem Artichoke. I may add that *H. doronicoides* differs from *tuberosus* in the leaves being all, or nearly all, opposite, sessile, elliptic, never cordate, obscurely crenate, the rays much broader, and the ovary and achene glabrous.

"It remains to add that *H. tuberosus* is indigenous in the lake

region of Canada as far west as the Saskatchewan, and from thence southward to Arkansas and the middle parts of Georgia."\*

The tubers, instead of containing starch, like the potato, have an allied substance *inulin*. The chief ingredients are: Water, 80 per cent.; albuminoids, 2 per cent.; gum (known as *levulin*), 9.1 per cent.; sugar, 4.2 per cent.; inulin, 1.1 per cent. The nutrient ratio is 1.8, the nutrient value being 16.†

This plant does not often blossom in England, but I have a specimen in flower from Hitcham, Suffolk, about the middle of the last century. It flowers regularly near Cape Town.

#### BEEF.

It is generally conceded that beetroot is the cultivated form of the maritime species, *Beta maritima*, L., or a variety of *Beta vulgaris*, L., as well as probably the species itself, under which Linnæus groups the red, yellow, and pale green sorts. He considers the white or pale beet *Beta Cicla*, L. The wild slender-rooted plant grows along the coasts of the Mediterranean to Persia and Babylon, as well as in West India. It is also wild round the coasts of England and from Denmark southwards.

The ancient Greek name was *Teutlon*, and the Latin *Beta*. Pliny says the Greeks distinguished two sorts, the black and white, referring to the dark and pale foliage, as they did not eat the root. "Beet is mostly eaten with lentils and beans; it is prepared also in the same way as cabbage, with mustard more particularly." He adds that "when wine in the vat has been deteriorated by assuming a flavour like that of cabbage, its original flavour is restored, it is said, by plunging beet leaves into it."

In the Middle Ages beet is often mentioned under the names *Beta Bleta*, *Sicla*, *Atriplex agrestis* and *A. domestica*; in French, *Arache blanc*. The juice of the black beet was used on the temples for headache.

Dodoens (1559) figures the white and black beets, adding a third figure, "another kind of black beet," for the sake of the root, which is "thick and large, like the rape, the taste being between that of the turnip and parsnip. It is eaten with vinegar, pepper, oil and salt."

That the beetroot was still little known in 1578 appears from Dodoens' "History of Plants," for he thus writes: "There be two sorts of Beetes, the white and the red, and of the red sort there are two kinds, the one having leaves and root like to the White Beete; the other hath a great thicke roote, and is a stranger among us. . . . It is very well like to a Rape or Turnep, but very red within and sweeter in taste than any of the other two sorts. . . . The roote of the Romane or strange red Beete is boyled and eaten with oyle and vinegar before

\* Sir J. D. Hooker, in *Bot. Mag.* July 1897. See also *Notes on the History of Helianthus tuberosus*, by J. H. Trumbull and A. Gray (*Am. Jour. Sci. and Arts*, 3rd Dec., vol. xix. 1877).

† The "nutrient ratio" is the proportion of *nitrogenous* to *carbonaceous* ingredients. The "nutrient value" is their sum.

other meates, and sometimes with pepper, as they vse the common pارسenep."

Lobel (1576) also distinguished the turnip-rooted as another kind besides the white- and black-leaved sorts. He describes the root as "within and without wholly red, suffused with bloody gore, sweeter to the taste." Lobel gives the following names:—White Betis (English); Weissert Mangolt (German); Redde Betis (English); Rote Mangolt (German); Roode Beete (Belgium).

Gerard (1597) says he received from Master Lete, a merchant, "from beyonde the seas a bete with leaves very great and red of colour, as well as the roote, full of a perfect purple juice tending to rednesse; the middle ribbe of which leaves are for the most part verie broad and thicke. It grew with me 1596 to the height of viii cubites, and did bring forth his rough and vneueu seede very plentifully; with which plant nature doth seeme to plaie and sport hirselfe; for the seedes taken from that plant which was altogether of one colour and sowed, doth bring forth plants of many and variable colours. This great and beautifull Beete may be vsed in winter for a sallade herbe with vinegar, oile and salt, and is not only pleasant to the taste, but also delightfull to the eie."

That the root was not generally eaten as well as the foliage appears from the following from Gerard's "Herball" (1597): "What might be made of the red and beautifull roote (which is to be preferred before the leaves, as well in beautie as in goodnesse), I referre vnto the curious and cunning cooke, who no doubt when he hath had the view therof, and is assured that it is both good and holsome, will make thereof many and diuers dishes both faire and good" (see *Chard*).

Of modern varieties in cultivation, one is the White or Sicilian Beet, *B. Cicla*, L. It is a native of Sicily, Spain, and Portugal, and was introduced in 1570. The large White or Swiss Chard Beet, a variety of the last, is peculiar for its thick ribs. It is stewed like sea-kale or asparagus.

Professor James Buckman regarded both the garden beet and mangold wurzel as derived from the maritime variety—*B. maritima*, L. The various colours intensified in cultivated, ornamental forms may be detected in the wild plants. The sugar beet is also a selected form of the ordinary red-rooted beet.

Wild beet is a perennial (fig. 1), but both it and mangold wurzel have become biennials by cultivation. Mr. D. Macdonald tells us in his "Some Farm Crops" that beet "does not appear to have been brought into general use as an agricultural crop in England until the end of the eighteenth century," being introduced from Germany as mangold, and first raised from seed by Dr. Lettsom in 1786. Mr. L. Phillips, an experimentalist at Vauxhall, received a gold medal from the Society for the Encouragement of Arts "for his successful exertions in extending the culture of the variety of beet known as mangold wurzel, &c." Numerous varieties appeared subsequently. The three principal varieties now grown as the garden and sugar beets and the mangold wurzel are all very wholesome on account of the sugar which

they contain. Dr. Lyon Playfair suggested that a good brown bread could be made by rasping down beet-roots with an equal quantity of flour, observing that the average quality of flour contains about 12 per cent. of nitrogenous matter and the average quality of beet only 2 per cent. The garden beet and the variety of sugar beet of France are about equal in value in sugar, containing 10 per cent., the water in the root being upwards of 82 per cent. Some sugar beets, however, contain a much higher percentage of sugar. The albuminoids or nitrogenous matters being only 0.4 per cent., the nutrient ratio is 1 : 29, the nutrient value 12.

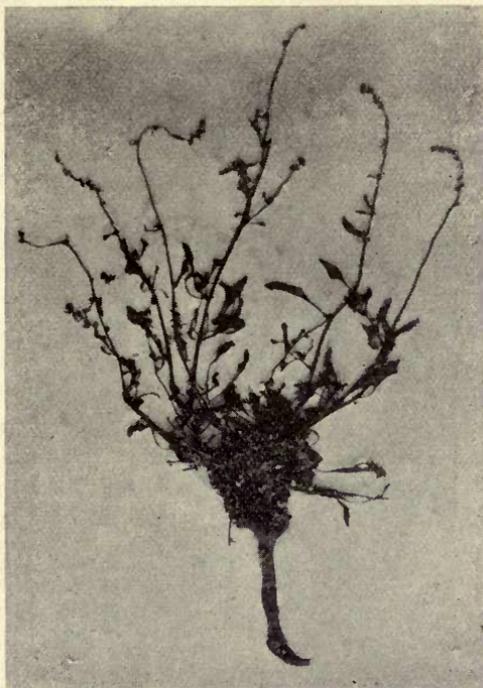


FIG. 1.—WILD BEET (perennial). Quarter natural size.

#### CARROT.

This is a native wild plant, *Daucus Carota*, L., of botanists, and common everywhere. It is known as "bird's nests" in the country from the peculiar way in which the umbel bearing the fruit curls inwards into a cup-like form (fig. 2).

The carrot and parsnip, as well as the skirret, are not easily distinguished in the writings of the ancients. The Greeks had three words—*Sisaron*, first occurring in the writings of Epicharmus, a comic poet (500 B.C.); *Staphylinos* is used by Hippocrates (430 B.C.); and *Elaphoboscum* by Dioscorides (1st century A.D.). The Latin writer Pliny (1st century A.D.) has the words *Pastinaca*, *Daucus*, and *Sicer* or *Siserum*. He thus writes: "There is one kind of wild *pastinaca*,

which grows spontaneously; by the Greeks it is known as *staphylinos*. Another kind is grown either from the root transplanted or else from seed, the ground being dug to a very considerable depth for the purpose. It begins to be fit for eating at the end of the year, but it is still better at the end of two; even then, however, it preserves its strong pungent flavour, which it is found impossible to get rid of." In speaking of the supposed medical virtues, he adds, "the cultivated has the same as the wild kind, though the latter is more powerful, especially when growing in stony places."

Turning to Matthioli's "Commentary on Dioscorides" (16th cen-



FIG. 2.—WILD CARROT (annual). Quarter natural size.

tury A.D.), under *Staphylinos* he figures three plants — *Pastinaca domestica* (our parsnip), *P. sylvestris* (the wild carrot, *Daucus Carota*, L.), and *Carota* (the cultivated carrot). This word is found first in the writings of Athenæus (200 A.D.), and in a book on Cookery by Apicius Cœlius (230 A.D.).

With regard to the word *Elaphoboscum* used by both Dioscorides and Pliny, it means "stag's food," for it was supposed to be eaten by them as an antidote to snake-bites. It is difficult to determine what Pliny meant by it, but he compared the foliage to that of *Olusatrum*, our "Alexanders," which somewhat resembles that of the parsnip; moreover, the supposed medical virtues were more or less like those

of the parsnip. Dioscorides says the root is "white, sweet, and edible." Matthiolus, in his Commentary on Dioscorides, figures it as the wild parsnip, called *Pastinaca erratica*. It was called "Baucia" by the herbalists of the sixteenth century.

There are several vocabularies of plants recorded in the Middle Ages,\* in which the plants under consideration occur. Thus, *Pastinaca* was called "Feldmora," and *Cariota* was "Waldmora" in the tenth century. These Anglo-Saxon words mean "plain or field root." In the fourteenth century *Daucus* referred to *D. creticus*, but it was also a synonym for *Pastinaca*: Anglice, skirwhite (15th century). W. Turner, in his book called "The Names of Herbes" (1548), thus writes: "*Pastinaca* is called in Greek *Staphilinos*, in englishe a Carot, in duche, pasteney, in frenche, cariottes. Carettes growe in al countries in plentie."

Under the name *Sisaron*, he writes, "*Sisaron* suie *siser*, is called in Englishe a Persnepe. . . . Fuchsius rekoneth that our skyrwort or skywrit is a kind of *siser*. *Persenepes* and *skyrwortes* are commune in Englande."

*Daucus* he regards as "*Pastinaca sylvestris*, in english wild carot."

With regard to *Daucus*, it occurs as *Daucos* (Greek) in Theophrastus (4th century B.C.) and *Daucus* in Pliny. Both he and Dioscorides refer to a medicinal plant in Crete, but not the true carrot. Theophrastus, however, has *D. niger*, which has been recognized as the carrot by sixteenth-century writers, and known to herbalists as *D. officinarum* or *Carotta*. Several writers identify it as having white flowers with a central purple one in the umbel, as is almost always the case, while the flowers of the parsnip are yellow.

Dodoens, in his "History of Plants," consisting of plates (1559), figures *Staphylinus sylvestris*, the wild carrot, *Elaphoboscum* and *E. sylvestre* as the wild parsnip, called *Baucia* or *skirwit* in the shops.

By the end of the sixteenth century these plants became quite distinct, for Gerard, in his "Herball" (1597), describes them as *Pastinaca latifolia*, *sativa*, *et sylvestris*, the garden and wild parsnip. *Pastinaca tenuifolia*, *sativa et sylvestris*, the yellow carrot, cultivated and wild.

It appears to have been the physician Galen (2nd century A.D.) who added the name *Daucus* to distinguish the carrot, *Daucus Pastinaca*. Hence *Daucus* came to be the officinal name of herbalists in the sixteenth century, and finally was adopted with *Carota* by Linnæus in the eighteenth century, by which name it is now known. As stated above, the word *Carota* appears to have been first used by Apicius Cælius, a writer on cookery, about 230 A.D.

Experiments have been made by M. Vilmorin in 1832, M. Languet de Sivry in 1840, and Professor Jas. Buckman in 1848, proving that the culinary carrot is easily obtainable from the wild species by cultivation and selection. The following was the procedure: In 1833 M. Vilmorin noticed that some seedlings were later than others in coming into

\* *English Plant Names*, by T. Earle.

blossom. He saved seed from these in 1834 (all having been annuals) and sowed them in 1835. A large proportion now yielded thick roots. He continued the process of selecting from the *best roots* and *latest in flowering*, till at least nine-tenths were satisfactory carrots. They varied in colour from yellow, lilac, to red. He thus converted a wild annual into a biennial, the advantage being that the foliage had a much longer time for developing starch and sugar, while the root responded in growing so as to store it up.\*

M. Languet de Sivry, in 1846, observed that seeds of short-rooted carrots, when sown in a particular soil, in the alluvial deposits formed by a small river in France, yielded immediately, during the first generation, a number of long-rooted plants, either white or yellow, whose roots were very much larger than those of the parent plants. The seeds of the best were selected and sown in the same soil. The result was that in the second generation hardly any roots were found of the short type.† The quality of the different soils is not mentioned, but the one in which the long-rooted forms appeared, being *alluvial*, shows that it was a *light* soil. We shall see that similar results occurred with rape and turnip, as well as with the radish.

With regard to the nutriment in carrots, they contain 89 per cent. of water, 0·5 of albuminoids, 4·5 of sugar, and 1·0 per cent. of mineral matter, the nutrient ratio being 1 : 14, and the nutrient value 7·5.

#### CHERVIL.

Though chiefly used for its foliage, the root of chervil is also eaten, boiled. It was known to the ancients as *Scandix* as a wild plant and *Anthriscum* seems to have been the cultivated form, according to Pliny, who only alludes to them for their medicinal virtues. He adds that it was "this plant that furnished Aristophanes with his joke against the poet Euripides, that his mother [said to have been a greengrocer] used to sell, not real vegetables, but only *scandix*!"

At the present day the botanical name is *Chaerophyllum sativum*, Bank., or *Anthriscus Cerefolium*, though Linnæus named it *Scandix Cerefolium*. It appears to be indigenous in the south-east of Russia and west temperate Asia.

Besides the preceding, the Parsnip Chervil, *A. bulbosus*, is also cultivated for its roots as a vegetable. Chervil was cultivated by Gerard in Holborn in 1590. The leaves impart an aromatic flavour to soups and stews. They are also eaten like mustard and cress on the Continent. The parsnip chervil is a native of France, and was introduced into England in 1726. The root is white within, and the flavour is said to be between those of the chestnut and potato.

\* *Notice sur l'Amélioration de la Carotte Sauvage* in *Notices sur l'Amélioration de Plantes par la Culture*, Paris, 1836. See also *Trans. Hort. Soc.*, 1840, 2nd Series, vol. ii., p. 348.

† Cf. *Société Royale et Centrale d'Agriculture*, 2nd Series, vol. ii., 1846-7, p. 539. The above is quoted from H. de Varigny's *Experimental Evolution*, p. 203.

## HORSE-RADISH.

Though the edible part of this is sometimes regarded as the "root-stock" or the base of the stem, it is really the ascending root-branches which bear a bud at the top; and was so figured by Lobel in the sixteenth century. The Greek name was *Raphanos agrios*, and in Latin, *Raphanus sylvestris* or *Armoracia*. Hence, Linnæus called it *Cochlearia Armoracia*. Gerard (1597), under the name *Raphanus rusticanus*, says it occurred wild in several places in England; but Sir J. D. Hooker says that the origin is unknown, being "possibly a cultivated form of *C. macrocarpa*, a native of Hungary." Gerard mentions this plant as an illustration of the old idea of "Antipathies." He says "Diuers thinke that this Horse Radish is an enimie to Vines, and that the hatred between them is so great, that if the rootes heereof be planted neere to the vine it bendeth backward from it as not willing to haue fellowship with it."

The horse-radish in the sixteenth century was regarded as a medicinal plant, but does not appear to have been used in any other way in England, for Gerard says: "The Horse Radish stamped with a little vinegar put thereto is commonly vsed among the Germanes for sauce to eate fish with, and such like meates, as we do mustarde." It thus passed from a drug to a condiment.

Parkinson, writing in 1640, also says it was used as above "with country people, and strong labouring men in some countries of Germany, &c." He then adds, "and in our owne land also, but as I said, it is too strong for tender and gentle stomackes."

## SPANISH OYSTER-PLANT.

This plant is better known in France, and on the Continent, as *Cardillo*. It belongs to the Compositæ, and is botanically *Scolymus hispanicus*, L. It has a white tap-root and somewhat spiny leaves and bright yellow flowers, being a native of Italy and Sicily. It is described as having great delicacy of flavour. A long account of the best method of cultivation is given in "Bulletin de la Société d'Horticulture de l'Aube," vol. i., p. 217. It is mentioned in some of our seed catalogues, Mr. Dickinson thus describing it: "This excellent vegetable is more productive and better flavoured than salsify. . . . The roots are cooked and served like salsify."

## PARSNIP.

We have seen that the parsnip has been cultivated from antiquity to the present day;\* but Pliny tells us that it was "grown, either from the root transplanted or else from seed; but that it was impossible to get rid of the pungent flavour." It appears, therefore, that the Roman horticulturists knew nothing of the advantages of selecting, as is done at the present day, by means of which the best existing variety was

\* See pp. 5-6.

obtained from the wild plant between 1848 and 1850, by selecting the seed from the best-rooted plants of each generation raised from the seed of the wild plant.

This was done by the late Professor James Buckman in the garden of the Royal Agricultural College, Cirencester. He collected the seed from wild plants of the neighbourhood in 1847 (fig. 3). "In 1848 they were sown, and in the spring of 1849 the reserved roots were dug up and the best put aside for transplanting. Late in the summer of 1849 the seed was collected, and sown in 1850. The result of the second sowing was that the leaves in all indicated an advance to the cultivated form. Some specimens were much finer than others, of good size and tolerably smooth outline"\* (fig. 4, A).



FIG. 3.—THE WILD PARSNIP (annual). One-fifth natural size.

Professor Buckman called the best "The Student," and sent the seed to Messrs. Sutton & Sons, of Reading. It was sent out by them, and greatly improved subsequently. It gained many prizes—as one writer observes, "This is the twelfth year in succession we have been awarded first honours for 'Student.'" Another writer says: "I had a fine crop of parsnips from the 'Student,' half a yard long and four or five inches round" (fig. 4, B). The following are some conspicuous differences between the wild parsnip and the "Student":—

The root of a wild plant grown by the roadside in Dorset had a tough, wiry root, tapering somewhat from the crown. The leaves had

\* *Journ. of the Royal Agr. Soc. of Eng.* xv. pt. 1, p. 125 (1854).

petioles nine inches long, the leaflets being from one to two inches; the larger one three-quarters of an inch broad, and all pubescent or softly hairy. The sheath at the base of the petiole was one and a half inch long, the first pair of leaflets being four inches above it.

The leaf of the "Student" is two feet long; the first pair of leaflets several inches above the sheath. They are oblong, about two inches across at the basal part, and four and a half inches in length, and smooth.

There are considerable differences between the above and the leaf of the old type of parsnip grown in the middle of the last century. The

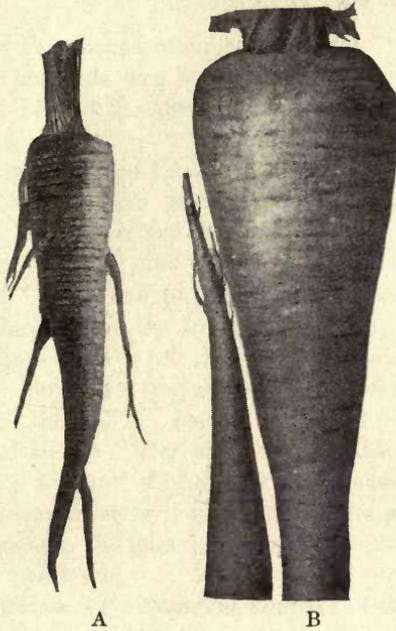


FIG. 4.

- A.—Third generation of parsnip from seed of wild plant (1847) cultivated by Professor Buckman. The origin of "The Student" ( $\frac{1}{3}$  length).  
 B.—"The Student" parsnip, twenty-eighth generation (1903) from the wild plant ( $\frac{1}{3}$  length and width); still one of the most useful in the trade (1912).

sheath of the leaf of this was very large, and reached up to the first pair of leaflets. These are much broader at the base, making them more oval, the lower ones being five inches long, the whole length of the petiole being about sixteen inches. Lastly, the serrations are coarser than those of the "Student," which imitates the wild plant more closely.

As a vegetable in the sixteenth century, Gerard observes: "The Parsneps nourish more than do the Turneps or the Carrots, and the nourishment is somewhat thicker, but not faultie nor bad. . . . There is a good and pleasant foode or bread made of the rootes of Parsneps,

as my friend Master Plat hath set foorth in his booke of experiments, which I have made no triall of, nor meane to do."

In 1730 Tournefort tells us that in his day "they are commonly boiled and eaten with butter in the time of *Lent*; for that they are the sweetest, by reason the juice has been concocted during the winter, and are desired at that season especially, both for their agreeable Taste and their wholesomeness. For they are not so good in any respect, till they have been first nipt with Cold. It is likewise pretty common of late to eat them with Salt-Fish mixed with hard-boiled Eggs and Butter . . . and much the wholesomer if you eat it with Mustard."

CHAPTER II.  
ROOTS AND TUBERS.

POTATO.

THE history of the Potato has often been written, but perhaps one of the most complete accounts was by "W. S. M." in the "Gardeners' Chronicle" (April 17 and ff., 1886), from which the following items are partly extracted.

The first to write about and figure the potato in England was Gerard in his "Herbal," 1597. He describes the "Potatoes of Virginia, *Battata virginiana siue virginianorum, et Papus.*" He says that he received roots from Virginia, and compares them with the former or "common potatos," by which he means the sweet potato.

The portrait which forms the frontispiece of the "Herbal" represents Gerard holding a spray of the potato, having leaves, flowers, and fruit, in his hand, so that it was evidently at that time a remarkable plant. Indeed, he seems to have first received it only about ten years before the "Herbal" was published. "W. S. M." gives an interesting account of the various voyages to America, and shows that Gerard was in error if he supposed the potato to have been a native of Virginia—*i.e.* the island of Roanoke,\* not the present State of Virginia on the mainland.

Before Gerard's time the potato was known to Continental botanists. Clusius in 1588 had received two tubers at Vienna, sent from Belgium. Earlier still, by at least one year, it had been received at Breslau, and was growing in the garden of Dr. Scholtz. Bauhin, in 1596, alludes to an "*iconem suis coloribus delineatum*" of the date 1590.

As to the origin of the name *Papus*, Gerard says: "It groweth naturally in America, as reporteth C. Clusius." If we have no record of its actual first discovery, we at least have records going as far back as sixty years earlier than the date of Gerard's writing, and these records take our attention to South America. Pedro Cieza de Leon, in a work published at Seville in 1553, speaking of the fields and crops of the villages of the Collao district of Peru, says: "Their principal food is *papas*, which are like earth-nuts." Tracing the use of this word in the writings of Bauhin (1596 and 1620) and of Clusius (1601), it cannot be doubted, though there is no Spanish authority, that the potato is really meant, its name being an Anglicized form of *Battata*.

\* So Bauhin writes: "They were first brought from the Island Virginia into England and thence to France and elsewhere."

For special details as to verification of names, &c., the reader is referred to the articles themselves.

*Solanum tuberosum* is the name Linnæus fixed for the cultivated potato, but much discussion has taken place as to the correct botanical species. One called *Solanum Maglia* (figured in the "Hort. Trans.," vol. v. Pl. 11, p. 240) and described as *S. tuberosum* (wild potato), is the same as that found by Darwin in the Chonos Archipelago. Mr.

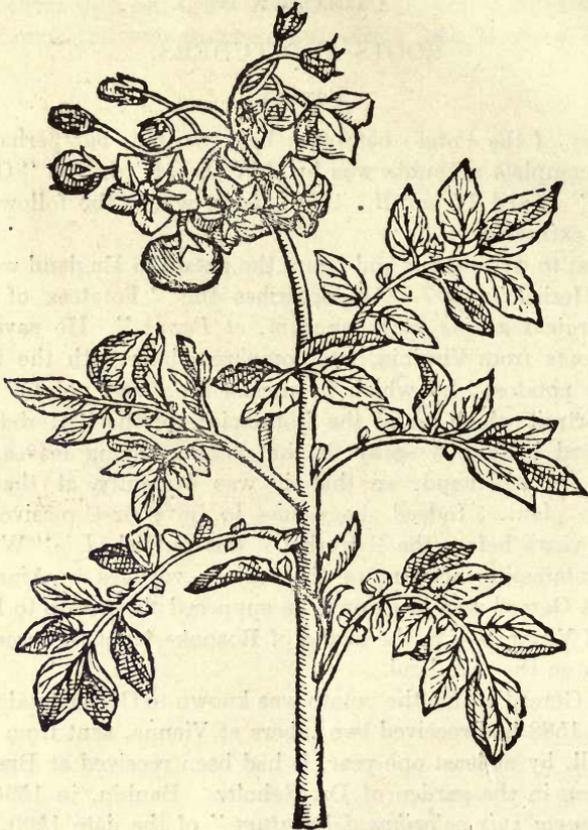


FIG. 5.—STEM AND FOLIAGE OF THE POTATO PLANT, AFTER CLUSIUS.  
(*Gard. Chron.*)

Baker, however, does not regard this as the real origin of the potato, which is a native of Chile and Peru.

With regard to the nutritive value of potatoes, they are very deficient in nitrogenous ingredients or flesh-formers, and can therefore be used only as a farinaceous addition to meat. There is 75 per cent. of water, the rest being mainly starch (18 per cent.), the albuminoids only amounting to 1.2 per cent. The nutritive ratio is 1 : 17, and the nutrient value 22. Sir A. H. Church adds that, according to Frankland, 1 lb. of potatoes will supply force in doing external work to the amount of raising 124 tons one foot.

## RADISH.

The Radish was known to the Greeks as *Raphanos*, and to the Romans as *Raphanus* and *Radicola*, "little root." The herb has been cultivated from time immemorial. Perhaps the earliest allusion occurs in Herodotus' \* account of the building of the Great Pyramid of Egypt.

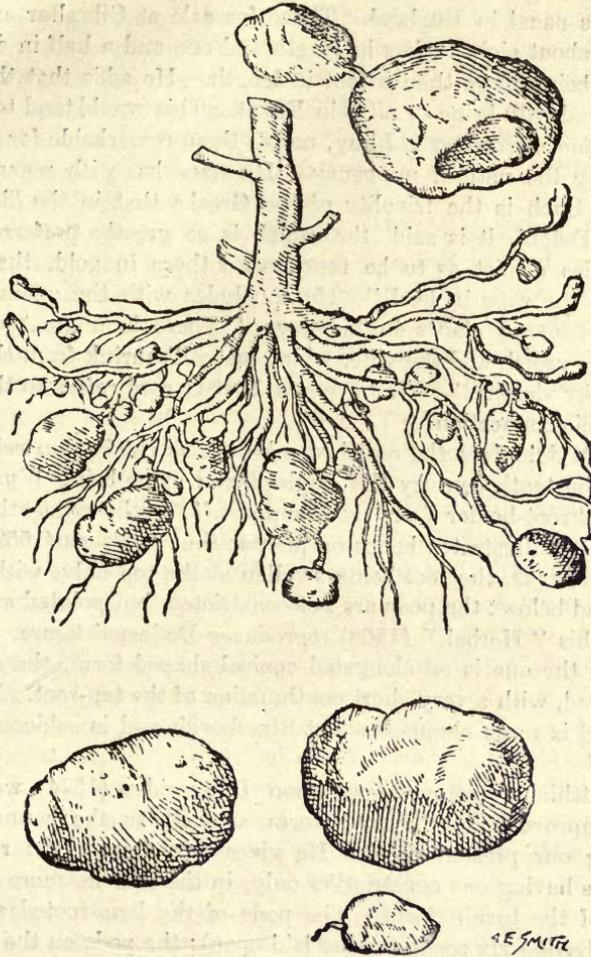


FIG. 6.—ROOTS AND TUBERS OF THE POTATO PLANT, AFTER CLUSIUS.  
(*Gard. Chron.*)

He says: "On the pyramid is shown an inscription in Egyptian characters stating how much was expended in radishes, onions, and garlic for the workmen, which amounted to one thousand six hundred talents of silver."

Pliny speaks of several varieties, but one, the "wild," clearly refers to the horse-radish. "The Syrian is pretty nearly the mildest and the

\* Herodotus was born 484 B.C.

most tender of all, and is well able to bear the winter." He describes the radish as "requiring a loose, humid soil. . . . Some authors have mentioned a plan of making a hole with a dibble, and covering it at the bottom with a layer of chaff six fingers in depth; upon this layer the seed is put, and then covered over with manure and earth; the result of which is that radishes are obtained full as large as the hole is made." From this one gathers that the radish in Italy grew to a much larger size than is usual in England. Those for sale at Gibraltar and Cairo to-day are about eight inches in length and one and a half in diameter, the leaves being more than a foot in length. He adds that they were often watered with brine or nitre in Egypt. This would tend to enlarge the roots, and, according to Pliny, makes them remarkable for mildness by subduing the natural pungency. He remarks, with regard to the Greeks: "Such is the frivolity of the Greeks that in the Temple of Apollo at Delphi, it is said, the radish is so greatly preferred to all other articles of diet as to be represented there in gold, the beet in silver, and the rape in lead." He concludes with the quaint idea of antipathies among plants in his day: "There is a great antipathy between the radish and the vine, which last will shrink from the radish if sown in its vicinity." We have seen that Gerard refers to the horse-radish in this connection.

In the Middle Ages the radish was known as *Raphanum vel radix* or *radic*, in the tenth century the Anglo-Saxon name being *Wyrtruma*, signifying "root-holder" or "root-support." In the sixteenth century we have many illustrated books on plants; thus Dodoens (1559) figures *Raphanus sativus*, the root being swollen at the top only, with a small tapering end below; the pods are not constricted, but pointed and ovate. Turner in his "Herbal" (1568) reproduces Dodoens' figure, and adds two more; the one is an elongated conical-shaped form, the other the turnip-rooted, with a very short continuation of the tap-root. He says: "This kind is more common about Strasburgh and is seldome seen in England."

In Matthiolus' commentary upon Dioscorides (1574) we have a decided improvement, the long form as well as the round closely resembling our present roots. He gives two figures and represents the pods as having *one* constriction only, in the middle, more decidedly in those of the turnip form. The pods of the long-rooted are represented as having six seeds (in one laid open); the pods on the plant are barely constricted at all.

Lobel, in his "History of Plants," has two figures of elongated roots, one being more swollen at the summit, but not a true turnip-formed root. The pods on both have a decided, single constriction. Gerard (1597) illustrates four varieties. The *Raphanus sativus*, or "garden radish," is not elongated, but a short sub-truncated oblong form; *Radicula sativa minor*, "small garden radish," is like a very small one of to-day; *Raphanus orbiculatus*, or "round radish," is a large one, nearly two inches in diameter; while the last is called *R. pyriformis*, "the peare fashion radish."

Judging, therefore, from the figures given, we do not seem to have improved or "ennobled" the radish since the sixteenth century.

The question now arises, What wild species was the origin of the cultivated forms? Let us continue the research through later writers, and it will appear that the radish was not derived from China, as some writers have asserted, but from South Europe.

Parkinson in his "Theatre of Plants" (1640) figures a carrot-like and a turnip-rooted form. Both have short-pointed pods with a slight constriction. The one is called "*R. vulgaris*, ordinary garden Reddish" (a misnomer from the colour), and the other is "*R. niger, rotundior radice*, the rounder-rooted blacke Reddish."

The wild radish he figures under "*Rapistrum album articulatum*, white wilde Charlocke," with long articulated siliquas. This appears, therefore, to be *Raphanus Raphanistrum*, L.

*Eighteenth Century*.—In Tournefort's "Compleat Herbal" (1730, vol. ii., p. 466) the pod of the garden radish is well represented as slightly constricted, striated, and sharp-pointed; the flowers are purple. Tournefort describes *R. major, orbicularis vel rotundus*, with white or purple flowers; *R. niger*, with smaller leaves and deeper jagged (serrated?). "Parkinson sowed the seed of this species, which produced plants, some of which had black roots; but the greatest part were covered with a white skin." Lastly, *R. minor, oblongus*, with oblong root.

In his "British Herbal" (1756) Dr. John Hill first describes "The wild white radish" *R. sylvestris, radice albente*. His figure of this is a two-seeded constricted and pointed pod; the leaves lyrate, but the segments all connected: "It is found in some parts of Sussex, principally near the sea-coast. . . . Ray calls it *R. maritimus flore luteo, siliquis articulatis secundum longitudinem eminenter striatis*. One would think that the garden radish was raised from this, but for the colour of the flower" (p. 243). He then describes the garden radish, *R. vulgaris*; the round, black radish, *R. radice rotundo nigro*; and, lastly, the long, jagged-leaved, black radish, *R. foliis laciniatis radice longo nigro*. The last two are figured, the foliage being very distinct; but the pods are similar to those of the first mentioned. Hill says that the garden radish and the last-named are natives of Spain; the round, black radish, of Italy. With regard to the colours of the flowers of the Spanish-Italian varieties, the flowers are white with a tinge of purple or red, some more, some less. The pods are jointed in all.

Taking Miller's "Dictionary" as an example, the author mentions *R. sativus* and three others as constant varieties, and *R. Raphanistrum* as distinct. It is called "the white-flowering Charlock with a jointed pod." He also observes that "the small round-rooted radish is not very common in England, but in many parts of Italy it is the only sort cultivated."

*Nineteenth Century*.—In the "Prodromus Syst. Nat." of A. P. de Candolle (1824) we find seven species described, as well as two doubtful ones. Of *R. Raphanistrum* there are three varieties, with

white, yellow, and purplish flowers; while *R. maritimus* flowers are yellow, and scarcely veined.

From the foregoing abbreviated descriptions it will be seen how all the characters relied upon are variable, as Bentham observes; and, judging by the figures of the siliquas, they certainly are constricted, but in that of Tournefort the constrictions are much reduced under cultivation, so that it does not appear surprising that they should vanish altogether. *R. maritimus*, being a South European type, will account for the tenderness sometimes shown in the radish; so that the general result appears to be that radishes have been raised in many countries from the local sub-varieties of this variety of *R. Raphanistrum*.\*



FIG. 7.—WILD RADISH (*Raphanus Raphanistrum*). Quarter natural size.

With regard to the two principal forms of the root of the garden radish, the long, spindle-shaped and the globular turnip-formed, M. Carrière describes his experiments with the wild species *Raphanus Raphanistrum*, L. (fig. 7), growing them from seed in two very different soils during five consecutive years. Some were grown at Paris in a light soil, others in the country in a firmer or strong soil, argillaceous and calcareous. At Paris the long form prevailed almost entirely. It was just the contrary elsewhere; the tuberous form was most abun-

\* The last seven paragraphs are quoted from the *Gardeners' Chronicle*, June 25, 1898, p. 389.

dant. At Paris the colour was rose or white; while the others were of a deep violet, and some had a pronounced brown colour or were nearly black, like the Alsace *Navew*; but there were pretty well all colours and forms \* (figs. 8, 9).

#### RAMPION.

*Campanula Rapunculus*, L., is a native of England, but considered as doubtfully wild by Hooker. It occurs from Denmark southwards, in N. Africa and Siberia. Whether this root was known to the ancients is not certain. Dodoens (1559) says the Greek name was *Gongulē*

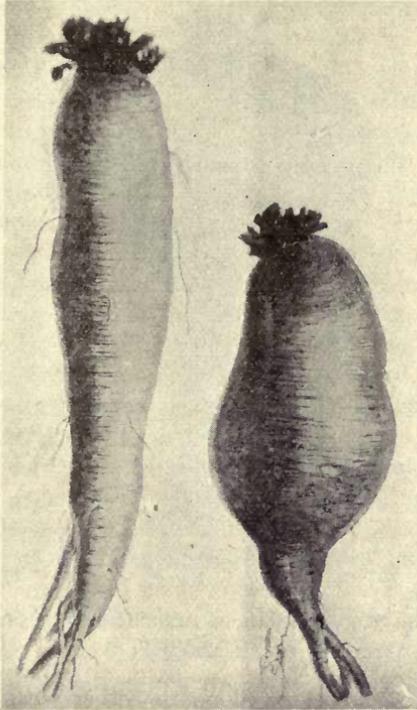


FIG. 8.—LONG FORMS OF RADISH RAISED BY M. CARRIÈRE FROM THE WILD RADISH.

*agria*, but this could hardly mean anything else than the wild turnip, or probably a degenerate form of the garden turnip, as the name implies a "round" root. Aristophanes uses the word *gongulis*, but the plant cannot now be identified. In the sixteenth century we find two distinct plants called Rampion: one was known as the greater *Rapuntium*, now recognized as *Phyteuma spicata*, L., and the smaller was *Rapuntium parvum*. This is the true rampion, *Campanula Rapunculus*, L. Their use was described as being especially serviceable in salads, being boiled and eaten with oil, vinegar, and pepper.

\* *Origine des Plantes Domestiques démontrée par la Culture du Radis Sauvage*, 1869.

## SALSIFY.

*Tragopogon porrifolius*, L., was cultivated much more in the sixteenth and following centuries than to-day. It occurs wild in North and Middle Europe, as well as in Greece, Dalmatia, and Italy. The name is derived from the Italian word *sassefrica*, evidently the same as *saxifraga*.

The sixteenth-century botanists all describe the goat's-beard (*T. pratensis*, L.) and refer to the Greek names *Tragopogon* and *Comē*, and the Latin *Barba hirci*. Dodoens has a figure and adds:

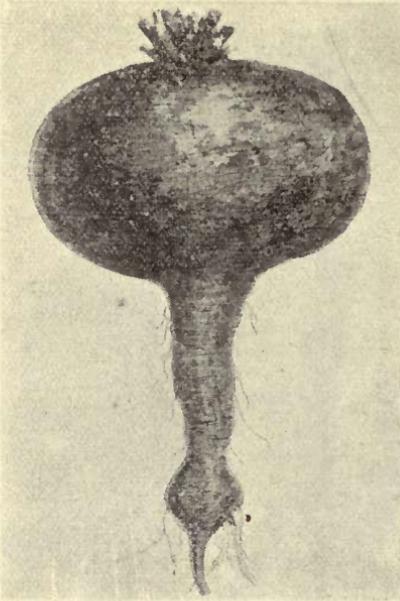


FIG. 9.—TURNIP FORM OF RADISH RAISED BY M. CARRIÈRE FROM THE WILD RADISH.

“ There are two kinds, one yellow, the other with a purple flower ” (1559). Gerard appears to be the first to figure the salsify as *T. purpureus*, purple goat's-beard. He describes both species as having the same medicinal virtues. With regard to the use as a vegetable, he says of the roots: “ Boiled in water untill they be tender, and buttered as Parsnips and Carrots are a most pleasant meate and wholesome, in delicate taste farre surpassing either Parsnip or Carrot.” Gerard observes though not wild in England it was cultivated “ in gardens for the beautie of the flowers, almost every where.”

## SCORZONERA.

*Scorzonera hispanica*, L., or viper's grass, was introduced from Spain in 1576, and Gerard appears to be the first writer who alludes to it. He says: “ Viper's grasse is called of the Spaniards *Scorzonera*, which soundeth in Latine *Viperaria*, or *Viperina*, or *Serpentaria*, so

called because it is accounted to be of force and efficacy against the poisons of Vipers and Serpents, for *Vipera*, or a viper, is called in Spanish *Scurzo*. In English we may call it Scorzoner after the Spanish name, or Viper's Grasse."

Parkinson, writing in 1640, says of it: "The roote is as thicke as three fingers or more, but much shorter than in any other kinds [of Scorzonera; he describes six in all], blackish without, and somewhat whitish within, yeelding very little milke, when it is broken." The plant is said to be "wild in Europe, from Spain, where it abounds, the South of France, and Germany, to the region of the Caucasus, and perhaps even as far as Siberia, but it is wanting in Sicily and Greece. In several parts of Germany the species is probably naturalized from cultivation."\*

With regard to the use of the root the following has been given as to its esculent and medicinal values. "The taste is sweetish and agreeable, something like that of the roots of certain umbelliferous plants or the common hazel-nut, and a variety with a paler skin has a still more agreeable flavour. Its effects on the digestive organs are to increase the flow of gastric juice and bile. It is said that its antibilious power is scarcely inferior to that of dandelion, and it is on this account one of the best remedies in cases of indigestion. These good effects, however, cannot be insured unless the root is properly cooked, as its medicinal qualities may be quickly destroyed. It should be cut as little as possible, and washed, *not* scraped, as the abundant milky juice, on which its salutary properties depend, then escapes. After boiling for about twenty or twenty-five minutes, or till it is quite soft (rather more salt being added to the water than usual in cooking vegetables), it is to be taken out and peeled, as the dark skin then comes off as readily as that of a boiled potato. When fresh from the garden a quarter of an hour may be sufficient, which is of some importance to the invalid to know; because after it has become quite soft all further boiling is injurious to its medicinal qualities, and soon destroys them; but when it has lain out of the ground for a long time and become hardened, it may require twice the time to boil—the rule then is, *to boil until it be soft*. It is usually eaten in the same way as asparagus, which is the preferable mode for the invalid. It is one of the most agreeable of vegetables in point of flavour."†

This root shows very well how a drug-plant passed into a culinary vegetable; such being the origin of many of the latter.

#### SKIRRET.

This name has been applied to the Greek *Sisaron* and the Latin *Siser* or *Sisarum*; but Linnaeus placed it under the genus *Sium* as *S. Sisarum* (eighteenth century). In the fourteenth century "Skir-whit" and "Baucea" were both applied to the wild Parsnip. The first question is, What did the ancients mean by *Siser* or *Sisarum*? *Sisaron*

\* *Origin of Cultivated Plants*, A. de Candolle, p. 44.

† *Treasury of Botany*, s.v. p. 1041.

is first mentioned by Epicharmus, a Syracusan poet, 500 B.C. Pliny (first century) says "the wild *Sisarum* is very like the cultivated kind," and attributes certain medicinal virtues to it, equally applicable to the parsnip. As an edible vegetable, Pliny says that "it had its reputation established by the Emperor Tiberius, who demanded a supply of it every year from Germany. It is at Gelduba, a fortress situate on the banks of the Rhenus, that the finest are grown, from which it would appear that they thrive best in a cold climate." He then adds a feature which at once distinguishes the *Siser* from the modern skirret. "There is a string running through the whole length of the skirret, which is drawn out after it is boiled." This string is characteristic of many wild roots, but is not in the cultivated ones. Moreover, he implies a single root, not a cluster of small ones, which the true skirret of to-day has. Pliny then proceeds: "Still, for all this [*i.e.* boiling it] a considerable proportion of its natural pungency is retained. . . . The larger parsnip has also a similar string inside, but only when it is a year old." When speaking of the *Pastinaca* or Parsnip, he makes the same remark that after being cooked "it is found quite impossible to get rid of the pungent flavour."

Coming to the sixteenth century, Matthiolus, in his commentary of Dioscorides (1574), figures the modern skirret with numerous knotted roots, and leaves very like those of a parsnip, under *Siser*, but adds a second kind which represents the Carrot. He confesses that "it is most difficult to show what the true and legitimate *Siser* was."

Dodoens (1559) had already figured the skirret as the *Siser* of Pliny, and says it was known to the herbalists as *Serulum*, *Seruilla*, or "chervil." This name perhaps arose by mistake from some resemblance of the foliage to that of the true Chervil (*Cerefolium*). In France it was then, and still is, called "chervis."

Dodoens, in describing the skirret, says the leaves resemble those of the parsnip, with "seeds somewhat broad." That would apply to the Parsnip; but he adds, "but the Skirwirt that groweth in my garden hath a little long crooked seede." This agrees with the seed of the true skirret. He finally adds: "The roots are white, of a finger's length, divers hanging together." He thus seems to blend the parsnip with the true skirret, or *Sium Sisarum*.

Lobel, in his "History of Plants" (1756), figures the skirret as having numerous tuberous roots and leaves like those of the parsnip, as *Sisarum*, adding the Spanish name *Cherivia*. He describes the taste as like, but more pleasant than, that of parsnips.

Gerard (1597) figures *Sisarum*, and calls it "Skerrets."

With regard to the country whence the skirret came, none of the sixteenth-century herbalists appear to know. Gerard only observes that it was cultivated in gardens. He seems to think it was the same plant as Pliny's *Sisarum* or *Siser*, for he says: "This is that *Siser*, or Skirret, which Tiberius commanded to be conueied vnto him from Gelduba."

Lastly, Bauhin (1672) still regarded *Sisarum* as identical with the Roman plant.

The conclusion to be drawn from the above doubtful notices is that *Siser* and *Sisarum* were Roman names for some variety of parsnip, and that the true skirret was unknown before the sixteenth century.

To come to more modern days, Tournefort, in his "Compleat Herbal" (1719), figures the skirret with numerous spindle-shaped roots, and says he knows but one species, *Sisarum Germanorum*, which Caesalpinus had regarded as synonymous with *Elaphoboscum* (fifteenth century). But as it has "white umbels of sweet-smelling flowers," it could not be the parsnip.

Linnaeus, in 1754, is the first to cast doubts upon the origin of the skirret. He includes it under the genus *Sium*, one species of which, *S. latifolium*, is our British water parsnip, resembling the parsnip in foliage, but it is not edible, being slightly poisonous. Linnaeus, however, adopted the old Latin name *Sisarum* as specific, but adds, "*Habitat in China.*"

Alphonse de Candolle, in his "Origin of Cultivated Plants," discusses the question of the origin of the skirret, but thinks it doubtful as a native of China, observing that Maximowicz recognizes only the Altaic region of Siberia and North of Persia as the home of the wild *Sium Sisarum*, L. He observes: "It came, perhaps, from Siberia into Russia, and thence into Germany. . . I cannot find any Russian name, but the Germans have original names, Krizel or Grizel, Görlein or Gierlein, which indicate an ancient cultivation, more than the ordinary name Zuckerwurzel or sugar-root. The Danish name has the same meaning—*sokerot*, whence the English Skirret."

MM. A. Paillieux and D. Bois in "Le Potager d'un Curieux: Histoire, Culture et Usages," observe that Jacques and Hérincq give the date 1548 for the introduction of the chervis or skirret into Europe. If so, then the date of Dodoens' figure 1559 and the several countries in which he says it was then cultivated (unless it be confounded with the parsnip) would seem to indicate too short a time for its diffusion. The mystery of its origin and introduction, therefore, still remains unsolved.

#### THE TURNIP AND THE RAPE.

These two plants are only different forms or varieties of the same species known as *Brassica campestris*, L. (fig. 10)—*B. Napus*, L. (?), being the Rape; *B. Rutabaga*, L., the Swede; *B. Rapa*, L., the globular Turnip and the spindle-shaped Navew. Another variety is called *oleifera*, the seeds of which supply rape and colza oils.

Both kinds were well known to the ancients. The Greeks had two words *Gongulē*, which was the turnip, for the word means "round," and Aristophanes speaks of *Gongulē memagmenē*, which may be translated "mashed turnips." Theophrastus and Dioscorides have the name *Bounias*, which was recognized in the sixteenth century as the rape and called *Napus sativus*; but someone has written in MS. of that century, "The little Navew."

Pliny regards the rape and turnip as the same, for he observes: "The Greeks have distinguished two principal species of rape, the male and the female, and have discovered a method of obtaining them both from the same seed; for when it is sown thick, or in a hard, cloggy soil, the produce will be male." Elsewhere he distinguishes the forms, saying: "Medical men call those which are round 'male,' while those which are more elongated are known as 'female' rape; the last are superior in sweetness, and better for keeping, but by successive sowings they are changed into male rape." It is clear that the male is the "turnip" and the long-rooted the "rape."\*



FIG. 10.—WILD TURNIP (*Brassica campestris*). One-third natural height.

Dodoens calls the turnip the "round rape," but adds a chapter on the "long rape," or navew, of which "there are two sorts, tame and wilde." These correspond to his plates of *Napus sativus* and *Napus sylvestris*. "The roote of the Navew gentle or garden long Rape is very long and thicke, in all things else like the Turnep or round Rape." He adds: "The Navew gentle is much sowed in France, especially about Paris" (1559).

Turner repeats the above and adds: "The long-rooted rape groweth very plenteously a little from Linne, where as much oyle is made of the sede of it" (1568). Besides supplying oil, Gerard adds that the seed "feedeth singing birds" (1597).

With regard to field turnips, Mr. Macdonald says: "It appears to have been brought over from Holland and grown on the Marquis

\* The reader is referred to the Radish and Carrot for similar instances of change of form, according to the stiffness or looseness of the soil.

Townshend's estate at Rainham, Norfolk, in 1730. . . . It has been evolved from the common rough-leaved rape, with no semblance of a bulb." Several varieties existed at the beginning of the nineteenth century, such as the White-fleshed from Flanders, and the Yellow-fleshed, probably derived from the Yellow Tankard, but altered by cultivation. The Swede was first introduced into Scotland in 1781, and called "Ruta Baga" at Gottenberg, whence the seed was sent, and supposed to have originated from the smooth-leaved rape.

With regard to the value of the turnip, Prof. Church writes: "The turnip, like many others of the same family, contains a pungent essential oil. The root is very watery and contains but little nourishment. It has no starch but, instead, a jelly-like matter (pectose). Turnips contain no more than '5 per cent. of flesh-formers.'" The proportions are nearly 93 per cent. of water, and "pectose" 3 per cent. The nutrient ratio is 1:6; the nutrient value not quite 4.

## CHAPTER III.

## GREEN VEGETABLES.

## ASPARAGUS.

*Asparagus officinalis*, L., is a native on the coasts of Wales, Cornwall, and Dorset, but is rare. It was well known to and cultivated by the ancients. Pliny devotes a chapter to its cultivation, mentioning that the dead stems were burnt down, the ashes being thus restored to the bed. All writers, from Pliny to Parkinson (seventeenth century), allude more to its supposed medicinal virtues than to its use as an article of diet. Dodoens figured it in 1559, and all subsequent herbalists have also done so. He adds, "The shoots are boyled and eaten in salet with oyle, salt and vinegar." To this Gerard (1597) adds: "Sodden in flesh broth."

At the present day, in the southern parts of Russia and Poland, the waste steppes are covered with it, and it is there eaten by horses and cattle.\* With regard to the chemical analysis of asparagus, Professor Church found 89·8 per cent. of water, 3·0 per cent. of albuminoids, 5·9 per cent. of sugar, etc. Hence the nutrient ratio is 3·0 : 5·9, the nutrient value being 9·3.

## "FRENCH" ASPARAGUS.

A plant, the spring shoots of which, consisting of the inflorescences in bud, are sold in the markets of Bath under the above name. It is botanically known as *Ornithogalum pyrenaicum*, L. It occurs in woods and copses of southern counties. It is allied to the "Star of Bethlehem" (*O. umbellatum*, L.), a naturalized wild flower. The present writer considers it very insipid.

## AUBERGINE OR EGG-PLANT.

This is known botanically as *Solanum Melongena*, L. It has long been known in India, but not in Europe until the close of the sixteenth century. In North Africa it was known in the ninth century, and is now cultivated throughout the Nile Valley (De Candolle). It is not so commonly used in England as on the Continent. It is eaten cooked.

## BROAD BEAN.

This was called *Vicia Faba* by Linnæus, but is now better known as *Faba vulgaris*, Moench. After an exhaustive examination of all the

\* *Treasury of Botany*, s.v.

localities recorded of its being wild, De Candolle's conclusion is that the origin is not known. The Greeks of old called it *kuamon*. It was found in the excavations of Troy; and "it was an ancient Roman rite to put beans in the sacrifices to the goddess Carna, whence the name *Fabariae Calendae*." A small bean has been found in the remains of the Swiss lake dwelling of the Bronze Age. It resembles a variety still cultivated in Spain. It was well known in Egypt; but Herodotus says, "The Egyptians never sow the bean in their land, and if it grows they do not eat it either cooked or raw. The priests cannot even endure the sight of it: they imagine that it is unclean." The explanation probably is that it was only cultivated by the poorer classes as the bean existed then in Egypt.

In II Samuel xvii. 28 and Ezek. iv. 9 the word "pol" occurs, and is translated "bean," as the Talmud maintains it to be this, the Arabic word *fol* still signifying the bean.

De Candolle suggests that *Vicia narbonensis*, wild in the Mediterranean basin, north of Persia, and Mesopotamia, may have been the origin of our cultivated plant, as it most nearly resembles it. The reader is referred to the kidney, French, or haricot bean for the dietetic values of these plants, as Professor Church does not specify that of the common or broad bean.

#### KIDNEY OR FRENCH BEAN.

*Phaseolus vulgaris*, L. var. *nanus* (sp. L.), if not the dwarf kidney bean, is something like it, and was cultivated by the ancient Greeks. Dioscorides describes it, a figure being added to a manuscript of the fifth century now at Vienna under the Greek name, "Phasioli"; Dr. Daubeny pronounces the illustration to be "very good." According to Liddell and Scott's Lexicon, Aristophanes (fifth century B.C.) is quoted as referring to it; and a light boat was also called "phaselus," "probably from its likeness to the pod." From this we might infer a long history of the kidney bean in Greece. But was it not a species of *Dolichos*?

Bentham and Hooker place *Dolichos* the sixth in position from *Phaseolus* in the tribe "Phaseoleae." The leaves in both are three-foliolate. The pods are linear or falcate, the flowers various in colour. Pliny observes: "In the case of the kidney bean, it is usual to eat the pod together with the seed." Turner (1548) says of "*Phasiolus* otherwise called *Dolichos*; it may be called in English, 'Large peasen or favelles.'" It is in great plenty about Paugia in Italy."

Dodoens (1559) gives a figure of the dwarf bean, the pods hanging from the axils of leaves immediately above the root. This he called *Phaseolos* and *Dolichos* (Greek), *Smilax hortensis* (Latin).

Matthioli, in his commentary on Dioscorides, gives a good figure, observing: "*Phasioli* are common in Italy in gardens and frequently in fields. There are many kinds, distinguished by their various colours, white, reddish, black, and spotted"—evidently referring to the seeds.

Gerard (1597) illustrated four kinds of *Phaseolus* and two of *Smilax*; but it is difficult to recognize our *P. vulgaris*. Johnson in his edition

of Gerard (1636), adds others from Clusius, such as *P. peregrinus*, *fructa minore albo*, which he describes as follows: "The stalk of this is low and stiff; the flours are of a whitish yellow on the outside, and of a violet colour within; the fruit [seed] is snow white, with a black spot in the eye. This is *P. peregrinus*, 4 of Clusius." It seems to correspond with the haricot. This name is derived from the Italian *Araco*, given to a common field weed of Southern Europe, known as *Ochrus*. Johnson adds that Clusius obtained his sorts from "the East and West Indies." Lastly, after a long investigation into the history of *P. vulgaris*, A. de Candolle sums up as follows: "(1) *P. vulgaris* has not been long cultivated in India, the south-west of Asia, and Egypt; (2) it is not certain that it was known in Europe before the discovery of America; (3) at this epoch the number of varieties suddenly increased in European gardens, and all authors commenced to mention them; (4) the majority of species of the genus exist in South America; (5) seeds apparently belonging to the species have been discovered in Peruvian tombs of an uncertain date, intermixed with many species, all being American." An interesting paper\* upon the seeds and tubers found in the Peruvian tombs (the date being from the twelfth to fifteenth centuries) fully confirms the fact that *Phaseolus vulgaris* and the varieties *oblongus* and *ellipticus*, of various colours, were cultivated in Peru long before the Spaniards entered South America.

#### SCARLET RUNNER BEAN.

*Phaseolus multiflorus* (Lim. *P. vulgaris* var. *coccineus*) is a native of South America, and was introduced in 1633, according to Paxton. Linnæus (1764) refers to two botanists, who wrote of it—Jakob Corontus and Morison, both of the same century. It is figured by Parkinson (1640) as "*P. Indicus, flore coccineo*, the Scarlet flowered *Frenche* bean." He adds that "it grew in the West Indies, and was first grown by Mr. Tradescant," the gardener to Charles I. He died about 1652.

The amount of nutrition in haricot and French and scarlet runner beans may be assumed to be much the same. Professor Church says that the *Pods* contained 91.8 per cent. of water, 0.64 per cent. of mineral matter, and 2.02 of true albuminoids. The beans contain 23 per cent. albuminoids, 52.3 per cent. of starch, &c., and mineral matters 2.9 per cent.; the nutrient ratio being 1: 2.5; the nutrient value, 80.

*Lentils* appear to be the *most nutritious* of all vegetables as regards the quantity of *nitrogen* present, the albuminoids amounting to 25 per cent., while the starch is 56 per cent.

To supply a convenient standard among underground roots for the *carbonaceous* qualities, the Potato may be taken, for this has only 1.2 per cent. of albuminoids, but 18 per cent. of starch.

\* "Sur les Graines et Tubercules des Tombeaux Péruviens de la Période Incasique," par MM. Costantin et Bois, *Rev. Gen. de Bot.* vol. xxii. p. 242.

## CHAPTER IV.

### GREEN VEGETABLES (*continued*).

#### THE CABBAGE TRIBE.

*Brassica\* oleracea*, L. (*Cruciferae*), is a native on the chalk cliffs of the coasts of England (figs. 11, 12) and of Wales, the Channel Islands, and W. and S. Europe. It has no wild varieties, but innumerable sorts have arisen under cultivation. It supplies a nutritious diet from the roots, stems, and branches, as well as from the leaf-buds, leaves, and unexpanded inflorescences.

The origin of the name "cabbage" is as follows: In the sixteenth century the French name of the plant was *choulx*, "as if we wished to speak of the stems, Latin, *caules*, by which also *Brassica* is called by Cato, since scarcely any herb grows larger in the stem. The '*choulx cabuz*' are the most delicate for eating." † This appears to have been the popular French name for the *Crambe capitata* or "Cabbage cole" of Gerard. In modern French the first word is retained, so that *chou* alone signifies the cabbage; while in English this is dropped, and we have turned the second into cabbage (formerly spelt "cabbidge"). *Cabuz* is derived from *capus*, which meant in French "round-headed," being itself derived from the Italian *capuccio*, a "little head," a diminutive of *capo*, Latin *caput*.

*Root*.—The only instance of the roots being cultivated was a variety called *Napo-brassica*, first mentioned by C. Bauhin ("*Pinax*," 1671), and described as being like a carrot or turnip and cultivated in the colder parts of Bavaria, and especially on the mountains near Bohemia. It was called "Dorsen" or "Dorschen."

Tournefort described this, but only in the words of Bauhin, and makes no mention of its being grown in his day (1730).

A turnip-like form is cultivated in France, differing from the Kohl-rabi in that the leaves arise from the summit only, so that it resembles a turnip, the globular part belonging to the root. It is known as *Chou-Navet*. ‡

\* With regard to the derivation of the word *Brassica*, Hermann Boerhaave (1727) says it is from ἀπὸ τοῦ βράζειν, Lat. *vorare* ["to devour"], *quia haec planta locum tenet inter herbas edules*, i.e., "because it holds a place among edible plants." But there is no such Greek verb. There is βράσσειν, ἢ βράζεινν, "to boil," and βιβρώσκειν, "to eat," as well as the word ἀναβρώζειν, from an obsolete verb, ἀναβρόχω, "to swallow" or "gulp down."

† *De Re Hortensi Libellus*, by Carolus Stephanus, 1545.

‡ It is figured in *Les Légumes et Les Fruits*, Paris, 1893.

*Stem.*—There are two forms of the stem in use; the most important is the Kohl-rabi (var. *Caulorapa*), remarkable for its globular form. It is not clear whether it was known to the ancients, but Pliny's description of the "Corinthian" turnip seems to agree with it. He says: "The root is all but out of the ground; indeed, this is the only kind that in growing shoots upwards, and not, as all the others do, downwards into the ground."

It appears to have been introduced into Germany from Italy about 1558, and into Tripoli about 1574. Dodoens, who figures five kinds of *Brassica*, omits it (1559); so also does Lobel (1576); but Dodoens, in his "History of Plants" (second edition, date ?), says of No. 4: "It



FIG. 11.—WILD CABBAGE AS GROWING ON CHALK CLIFFS, S.E. ENGLAND.

bearth a great round knop like a Turnep, the which groweth right under the leaves, even hard upon the ground, and is white within, like a Turnep, and is even so drest and prepared to be eaten." This, presumably, was in Holland, about 1570.

Matthioli, in his "Commentary on Dioscorides" (1574), has a good figure of Kohl-rabi under the name *Brassica gongylodes*. He says it is cultivated in the gardens of Italy, and observes that the stem becomes tuberous, like that of the rape ("cujus caulis rapi in moren extubemat").

A very poor specimen is figured in the "Historia Plantarum," generally attributed to Dalechamp, printed at Lyon (Lugdunum). If anything can be inferred from it, it would seem not to have been much

cultivated in France in 1586, for other and later figures are improvements. (Fig. 13.)

Gerard separates this kind from the Colewoortes or Cabbage tribe as "Rape Cole," *Caulorapum rotundum*, and reproduces Matthiolus' figure, adding a second, in which a few leafy shoots proceed from the axils of the leaf-scars on the tuberous stem. This being oblong instead of globular, he calls it *C. longum*, or Long Rape Cole. (Fig. 14.)

He gives as the countries of cultivation Italy, Spain, and some places in Germany, omitting France. "They are accounted for daintie meate."

There is another kind of cabbage with a peculiarly formed swollen

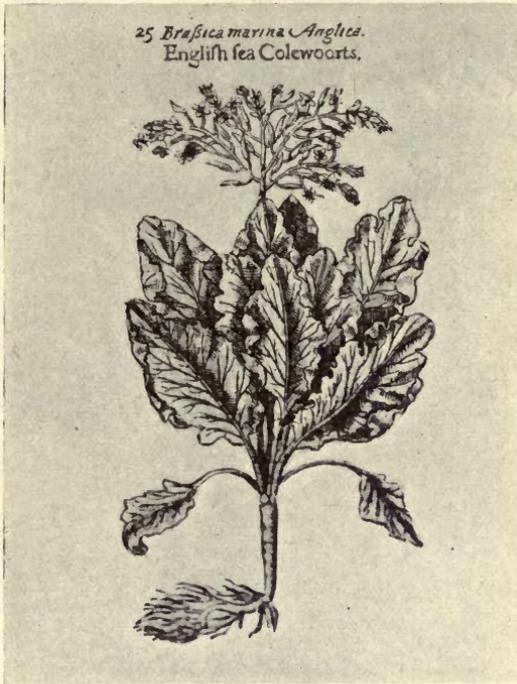


FIG. 12.—WILD CABBAGE (GERARD, 1597).

stem, being tapered at both ends, and called *Chou Moellier Blanc*, or the "white Marrow Cabbage." \* "The Chou Moellier," Mr. Sutton tells me, "is used in France for cattle food, and both leaves and stems are employed for this purpose, the latter being chopped up. This is a favourite crop with some French farmers." The stem swells to about four times the diameter at the base, then tapers again at the summit. The foliage is that of the wild plant. Pliny's description of the Pompeian cabbage seems to tally with this as to the stem.

The fact that the cabbage plant has a conspicuous and thick stem is the reason why *caulis* (Latin for a "stem") supplied the later name.

\* Illustrations are given in present-day French catalogues.

Thus Turner observes (1547) that the English name was Cole or Keele, the Dutch *Kol*, the French *Chauls*, and that the apothecaries of his day actually called the plant *Caulis*.

In a glossary of the fourteenth century called “*Sinonoma Bartholomei*” it is said that *Brassica* was the name *before* transplanting; afterwards, as a garden vegetable, it was called *Caulis*. This was the official name, corrupted into the English forms cole, coule, rede-coule, coole, and reed-worte, in the fourteenth and fifteenth centuries.

*The Foliage.*—The most important writer on the Cabbage among the ancients is Pliny. He commences his chapter on the varieties as follows:—“Cabbage and Coleworts, which at the present day are the



FIG. 13.—*BRASSICA RAPOSA*, ORIGIN OF KOHL RABI (*HISTORIA PLANTARUM*, 1586).

most highly esteemed of all the garden vegetables, were held in little repute among the Greeks.” But Cato, on the other hand, sings the wondrous praises of the cabbage. He distinguishes three varieties: the first, a plant with leaves wide open and a large stalk [the early Savoy Cabbage?]; a second, with crisped leaves, to which he gives the name of *apiaca* [curled colewort?]; and a third, with a thin stalk and a smooth, tender leaf, which with him ranks the lowest of all [not identifiable; probably near to the wild form.]

“The best time for sowing them is at the autumnal equinox, and they are usually transplanted as soon as five leaves are visible. In the ensuing spring, after the first cutting, the plant yields sprouts, known

as *cymae*. These sprouts, in fact, are small shoots thrown out from the main stem, of a more delicate and tender quality than the cabbage itself. After the *cymae* have made their appearance the cabbage throws out its summer and autumn shoots, and then its winter ones, after which a new crop of *cymae* is produced."

It has been suggested that *cymae* (or *cymata*, as Columella writes it) were vegetative buds developed as leafy shoots. If so, this would be just like the form now cultivated as the "thousand-headed kale," adaptable for sheep.

The various kinds named and described by Pliny are as follows: "(1) *Tritiana*; (2) *Cumanian*, with leaves close to the ground and a



FIG. 14.—RAPE COLE (*Caulorapum rotundum*), AFTER GERARD, 1597.

wide open head; (3) *Aricinian*, of no greater height, but with more numerous leaves and thinner (this last is looked upon as the most useful of them all, for beneath nearly all of the leaves there are small shoots thrown out, peculiar to the variety); (4) the cabbage of *Pompeii* is considerably taller, the stalk, which is thin at the root, increasing in thickness as it rises among the leaves, which are fewer in number and narrower (the great merit of this cabbage is its remarkable tenderness, although it is not able to stand the cold\*); (5) the *Bruttum* thrives all the better for the cold, its leaves are remarkably large, the stalk thin and the flavour pungent; (6) the *Sabine* has leaves crisped to such a

\* The above description of No. 4 agrees remarkably with the *Chou Moellier Blanc*, described above.

degree as to excite our surprise, and their thickness is such as to quite exhaust [conceal?] the stem;\* in sweetness, however, it is said to surpass all the others; (7) *Lacuturris* (i.e., "lake-tower"). They are grown in the valley of Aricia, where formerly was a lake and a tower. The head of this cabbage is very large; there is no cabbage that runs to a larger head than this, with the sole exception of the *Tritiana*, which has a head sometimes as much as a foot in thickness, and throws out its *cymae* the latest of all." This is the most complete list we possess of the varieties in the first century of our era. We have to come to the sixteenth century for any new descriptions; and although some writers of that century, as Dodoens, still recognise the forms of his day as being comparable with Pliny's, the difficulty now of doing so is greatly increased, though we find varieties of similar types. It would be rash to call them lineal descendants, as the same forms will arise afresh under similar conditions, as has occurred more than once when wild seed has been grown for experimental purposes in gardens.

The earliest attempt at an illustration of *Brassica oleracea*, L., that I know of is one in an edition of the "*De Herbarum viribus*" (1506), by Macer Floridus. He wrote his poem in 1140, and the first printed edition was issued in 1487 at Naples. The figure is suggestive of the wild plant or a kale, but certainly not of a cabbage. It is named *Caulis*, and the hexameter line referring to it runs—

*Caulis romanâ, graecorum, Brassica linguâ.*

Dodoens gives illustrations of five sorts of *Brassica* (1559), but the seed of the last was sold for that of rape, as he describes it as supplying oil for lamps, &c. He describes five sorts of "white" and five "black," including the rape, and identifies them as follows with Pliny's names:

No. 1. *Brassica sessilis et capitata*, corresponds with Pliny's (1) *Tritiana*.

No. 2. *Allobrogica* or *Sabaudica*, 'Choux de Savoy,' with a smaller and longer head, sweeter than the first, and impatient of cold. It is Pliny's (7) *Lacuturris*.

No. 3. *Cauliflores*, unknown to the ancients unless it be (4) *Pompeiana* or *Cypria*.†

No. 4. *Rapecaulis*, the kohl-rabi; perhaps Pliny's "turnip," as stated.

No. 5. *Patula*, "with crisp and rugose foliage; as it is much darker in colour, and approaches the *B. nigrae*, it is called *Negrecaulis* by the Italians."

Of the *Brassicæ nigrae*, "commonly called *rubra caulis*," Dodoens describes—

No. 1. *Patula*, "with very large leaves lying on the ground, on a

\* Bohn's translation has "exhaust." Not having access to the original Latin I do not feel sure as to the meaning, and suggest "conceal," as the stem is no longer visible, as in Sutton's "A1 Kale."

† There is nothing in Pliny's description to suggest this. As stated, it agrees better with the *Chou moellier*.

short stem. This was Cato's *leia*, and agrees with Pliny's (2) *Cumanian*."

No. 2. "Another capitate form, but much smaller than Pliny's *Tritiana*. Perhaps it is his *Lacuturris*."

No. 3. "Foliage variously and doubly incised, like parsley. It is the *Selinoides* of Cato."

No. 4. "Excessively crisped foliage, usually called *B. crispa*; it is Pliny's *Sabellica*."\*

In Gerard's "Herbal" (1597) there are fifteen figures of 'Coleworts' or forms of *Brassica oleracea*, L. They are interesting in showing something like the probable origins of the existing chief modern types in cultivation, from the slight modifications which arose in the wild form. This Gerard calls *B. marina anglica* or "English



FIG. 15.—EARLY FORM OF KALE, RESEMBLING THE WILD PLANT (GERARD, 1597).

sea colewort" (No. 10). The sources of the cultivated forms can be detected in the original wild plant. Thus Hooker describes the stem as "very stout"; and, unlike the turnip, carrot, and radish, it does not produce a rosette of leaves on the ground, but at an elevation. Hence this *caulis* or stem at once distinguished it in the eyes of the early cultivators. As the lower leaves fall off the upper, with very short internodes, form a dense cluster at the top. In this we see the origin of the "head" of the cabbage. When the stem elongates, and the leaves are more scattered, it produces the kales (fig. 15). Below the lowest leaves Gerard figures a few globular buds. In his 'Perseley Colewort,' a kale with finely dissected leaves, the buds are represented as much more numerous. In them we may see the origin of our Brussels sprouts.

\* Dodonaeus' (Rembertus) *De Stirpium Historia Commentariorum Imagines* (1559).

In the ninth figure of 'Cole Florie,' changed to-day into 'Cauliflower,' there is a very small group of little clusters of flower buds embedded in a large mass of foliage; in fact it occupies less than the twentieth part of it. If this represents the earliest form of the large cauliflowers we have now it is not surprising that Pliny knew nothing about it. (Fig. 16.)

Great changes have taken place in the shape of the leaves. In the wild form Hooker describes the leaf of the plant as "obovate, lobed, and sinuate." There is a terminal, the largest, lobe, and from one to four pairs of much smaller ones below. To the enormous expansion of the uppermost lobe cabbages are due. "Sinuate" means having a "wavy" margin; in this one sees the origin of all the "crisped" forms, due to an immense increase, by hypertrophy, of the minute interspaces between the tips of the veins.



FIG. 16.—EARLY FORM OF CAULIFLOWER (GERARD, 1597).

Hooker classes the cultivated forms under the following heads: *Acephala*, i.e., headless, the Scotch kale, cow cabbage, and borecole; *Bullata* and *Gemmifera*, Savoys and Brussels sprouts; *Capitata*, the red and white cabbages; *Caulorapa*, the kohlrabi; *Botrytis*, the cauliflower and broccoli.

Returning to Gerard's figures and comparing No. 1 with the wild plant, No. 15, the only difference we can see is that the lower part of the stem has retained its leaves, instead of becoming bare. This is the first result of cultivation and the beginning of some of the kales. The best modern form of this is seen in Sutton's magnificent 'A 1' kale; there is the crown of leaves at the summit, but the whole stem below is densely covered with leaves, the entire foliage being thoroughly crisped. The description is that of "curled sprouts." Though many

of the leaves of the stem are retained the great mass of the foliage below the terminal branch is due to the development of the auxiliary buds, the leaves of which are *sessile* and much curled and crisped; not growing out into *shoots*, as in the "thousand-headed kale."

Gerard gives two other figures of kales in which leaves are retained almost to the root; and in these the stems have grown upwards so as to lengthen the internodes and prevent the rosette or head forming. The leaves in both are finely divided, so he calls them *Brassica selinisia*, the parsley colewoort, and *B. selinoides*, fine-cut colewoort. He says it was not much known, and he is the first to describe it. A form somewhat resembling these still appears as a "sport," but I am not aware of its being cultivated. However, Gerard was wrong in saying that he was the first to describe the lacinate types; for two, called *Brassica crispa Tragi* and *B. tenuifolia recimata*, are figured in "Historia Plantarum," 1586.

No. 2, which Gerard calls *B. Sativa crispa*, or 'Curled garden cole,' only differs from No. 1 in having a naked stem below and the leaves rather more cut and *very slightly* curled at the edges; the most primitive condition of the "crisped" forms of to-day.

No. 10 is another form of the last, having the whole margin strongly revolute. Gerard describes it as *B. tophosa* (apparently from a rough resemblance to pumice-stone); "the swollen Colewoorte of al other is the strangest; it came from Fraunce." One or two modern kinds certainly approximate to it. Thus Mr. Sutton writes me as follows: "I am struck with the close resemblance of the plant [*B. tophosa* of Gerard] to two types of kale which are well known in the trade to-day. One is the *Chou palmier* of France, or palm-tree kale of England. [A bullated form, but not with the margins so much 'revoluted' as in *tophosa*.] The other is the Welsh tree kale, growing from four to five feet high, and producing an abundance of similar leaves up to the stem with a pyramidal habit. The leaves of the Welsh kale much more resemble those of Gerard's picture, being very much curved back."

The Borecole, so called from the Dutch *boerenkool*, meaning "peasant's cabbage," is a hardy form of kale, with the leaves loose and much curled. It is apparently almost a crisped form of the wild cabbage; the foliage may be green or purple, or sometimes variegated with red or yellow colours, and then often used as a decorative plant. Varieties are known under the names of German greens, Buda kale, Scotch kale or curlies.

With regard to size, some have very tall stems, others stems of medium length, and others dwarf. Differences are noticed by later writers. Thus C. Bauhin,\* describing one form of kale, says that it has been seen "as high as trees" at Florence. Tournefort describes a red colewort as being "taller than the other species; for it grows up with a high stalk, two, three, or four foot, or even cubits, high, which is thick and of a dark purple colour, rugged on the lower part, some-

\* *Pinax*, p. 111 (1617).

times single, and at other times branched out into arms . . . if well looked after it arrives to the height and firmness of a tree."\*

We seem to see here something resembling our Jersey kales, of the stems of which walking-sticks are made. Gerard's figures thus illustrate a certain progression from the wild plant. The leaves become more wavy, then more dissected, till the parsley-form is reached.

Crispness is next adopted, in various degrees, among which the curious "*tophosa*" type occurred. It is this group wherein so great an advance in form and variety occurs at the present day. Those with leaves of slight departure from the wild plant, as Carter's Phoenix kale, might be mentioned, with erect foliage and broad terminal lobes. Then his *Chou de Russie* is a first step towards the



FIG. 17.—THE OPEN CABBAGE COLE (*Brassica patula*), AFTER GERARD, 1597.

more dissected parsley-type. The thousand-headed kale† has also a primitive type of leaf, but the stem buds are fully developed into shoots.

We now come to the true cabbage, with the leaves closing over one another, making the compact head; but before arriving at this stage we have to pass from the kales with spreading foliage. The first step is a great increase in the dimension of the terminal lobe till it becomes nearly circular. Even in the wild state it is often very large. In a leaf from a wild plant from the chalk cliffs at Walmer the terminal lobe is  $9\frac{1}{2}$  inches long by 7 inches in breadth. It has only one deep indentation, reaching within one inch of the midrib.

\* *The Compleat Herbal*, vol. i. p. 429.

† A better name, perhaps, would be 'Thousand-shooting' kale.

Gerard's third figure, of the Red Colewoort (*B. rubra*), has broader leaves, which form a denser cluster, but still spreading. This may have been the origin of our pickling cabbage. The next figure, No. 4, *B. capitata alba*, the White Cabbage Cole, is the first he recognises as a true cabbage, but the leaves are more *erect* and still loose. He says of these two, No. 3, "The red kind of Colewoort is likewise a Colewoort of the garden, and differeth from the common in the colour of his leaves, which tende vnto rednesse, otherwise very like No. 4. There is also founde a certaine kinde heereof with the leaues wrapped



FIG. 18.—EARLY FORM OF SAVOY CABBAGE, THE "CURLED SAVOIE COLE"  
(GERARD, 1597).

together into a rounde head or globe, whose head is white of colour, especially toward winter, when it is ripe."

No. 6 is called *B. patula*, or Open Cabbage Cole (fig. 17). The leaves are represented as quite circular; but, as Gerard says, "when it cometh to the shutting up or closing together, it rather dilateth it selfe abroade than closeth al together." As the object of the cultivator is to make his cabbages form a "heart" this form has probably disappeared.

The genuine hearting cabbage is represented by Gerard's fig. 5. It is "lesser than the white cabbage, and the colour of the leaves is of a lighter red than those of the former" (No. 4). Gerard gives two figures of the Savoy Cabbage, now known botanically as *B. oleracea bullata*; but this character of bulging between the meshes of the ribs and rims is neither figured nor alluded to, so that it is probably a

later production. He figures them as having round leaves, but very "open," thus describing them:

Fig. 11, *B. sabauda*, "Sauoie Cole. The leaues are greet and large, werie like to those of the great Cabbage, which turne themselves vpwwardes as though they woulde embrace one another to make a loued Cabbage; but when they come to the shutting vp they stande at a staie, and rather shewe themselues wider open than shut any neerer together; in other respects it is like vnto a Cabbage." In this respect, therefore, it resembles an intermediate stage between kales and the hearting or headed cabbages of to-day.

Messrs. Sutton have developed a bullated form of Kale, called the "Palm-leaved Kale," which might represent the preliminary stage towards the Savoy Cabbage, the leaves spreading, like those of a palm tree, and not incurved.

No. 12 is *B. S. crispa*, "Curled Sauoie Cole," which only differs in having a slightly curled margin. (Fig. 18.)

The present-day description of the Savoy as given in the "Treasury of Botany" is that it is "chiefly distinguished by its leaves being wrinkled in such a manner as to have a netted appearance. When fully headed it forms an excellent hardy winter vegetable." Hence the Savoy differs now from Gerard's in having a central heart, a "bullated" surface, and often a crisped margin.

The varieties of true "hearting" cabbages are now innumerable, and it would be useless to enumerate them. Some are suitable for cattle and more for domestic purposes. Messrs. Carter alone have nearly forty varieties of red, white, and Savoy cabbages.

When globular buds are produced they can be borne on the stem in the axils of the leaves or leaf-scars, and only a rosette of leaves on the top, giving us the ordinary Brussels sprouts. The top may be replaced by many buds, as occurred in 1787, or both may be combined, a true cabbage being borne with sprouts below. This is Messrs. Carter's new Cabbage-sprout, the result of a hybrid between *Winningstadt* Cabbage and *Cambridge Champion Brussels Sprout*.\*

The curious proliferous form mentioned above was described in 1787.† It is called *B. capita polycephalos*. (Fig. 19.) In size it resembled ordinary cabbages, but differed in bearing several heads (sometimes fifty, the size of eggs, according to Tournefort), some larger, some smaller. It was thought to have resulted from extra nourishment. It is said to be an unaccustomed and rare form. There is no evidence of its having had any descendants, and Mr. A. Sutton writes that at the present day "there is no variety or strain of cabbage which produces an abundance of small cabbage heads; but we have often seen plants somewhat like your description [of the *polycephalos*], where the first head of a plant in a young stage has been injured, either by the hoe or by insects."

Brussels sprouts are so called from the fact that they originated in

\* Catalogue, 1907, p. 21 (figure and description).

† *Historia generalis plantarum*, p. 521. Attributed to Dalechamps.

Belgium and have been long cultivated there. They were brought to England about the middle of the last century, and are characterised by the production of numerous buds in the form of miniature cabbages in the axils of the leaves all along the stem, instead of making a single large head at the summit. In six of Gerard's figures he shows a few buds occurring on the otherwise bare stem. Such foreshadow the possibility of their development into the modern form.

In ordinary Brussels sprouts the globular buds are produced without the leaves on the stems; but Mr. James Carter developed a form in which the leaves were retained, covering the stem in an erect manner.

*BRASSICA CAPITATA*  
*Palycephelos*



FIG. 19.—MONSTROUS FORM OF CABBAGE (DALECHAMP, 1586).

It was called 'Chou de Burghley,' but "it was not constant, and sometimes ran into all sorts of other types."

Gerard figures also "*B. prolifera*, Double Colewoort, No. 7, and *B. p. crispa*, the Double Crispe Colewoort." His description of the former is: "The Double Colewoort hath many large and great leaues, whereupon do grow heere and there oher small iagged leaues, as it were made of ragged shreds and iagges set vpon the smooth leafe, which giueth shewe of a plume or fanne of feathers." The other variety only differs in having "intricately curled leaues, and so thick set ouer with other small cut leaues, that it is hard to see any part of

the leafe it selfe, except yee take and put aside some of those iagges and ragged leaues with your hande."

He does not say whether these proliferous sorts were cultivated, but such outgrowths from the ribs on the under side of the leaves are not at all uncommon. They sometimes take the form of funnels on long stalks.

Messrs. Carter inform me that "there is a kind of borecole cabbage grown for the Paris markets at the end of winter called Bricoli Cabbage; we fancy we have noticed the crested growth you mention coming from the back of the ribs of this variety."

*Inflorescence.*—The broccoli and cauliflower supply globular masses of hypertrophied inflorescences, the flowers being in bud, the name implying "flowers of the stem" (*caulis*). It is known as "chou-fleur" in French, broccoli being the Italian name, from *brocco*, a "shoot"; for the primitive type was probably not a compact mass but a bundle of shoots, as occurs in the Maltese broccoli to-day. Gerard's figure, described above, is a very primitive form of the modern massive head. (Fig. 16.)

"The sprouting or asparagus broccoli represents the first form exhibited by the new vegetable when it ceased to be the earliest cabbage, and was grown with an especial view to its [flowering] shoots. After this, by continued selection and successive improvements, varieties were obtained which produced a compact white head, and some of these varieties were still further improved into kinds which are sufficiently early to commence and complete their rustic growth in the course of the same year. These last-named kinds are now known by the name of cauliflower." \*

With regard to the two principal modern forms of sprouting broccoli, Mr. Sutton writes: "'The White Sprouting Broccoli' has been known as such for at least fifty years, and is carefully selected year by year to the best type. Purple sprouting broccoli, on the other hand, may or may not have been developed from the old 'Purple Cape' broccoli; but in habit of growth it more resembles a closer, more compact form of the thousand-headed kale, the edges of the leaves being serrated, and the plant much branched, the small purple heads eventually developing into flower buds."

The "heads," as sold in Malta, appear to be more like a degenerate form of English broccoli, as they are not round and compact, but loose and in spikes, without bearing leaves, whereas our sprouting broccolis are derived from the lateral leafy shoots of the stem (as in thousand-headed kale), but terminate in an inflorescence. The earliest notice of this variety appears to be in Miller's "Dictionary," 1724, where it is called the 'Sprout Colliflower.' It seems to have originated in Italy. Being sown in September there, as in Malta, it is cut in April or May.

*The Cauliflower* was earlier known, being mentioned by Dodonaeus—1553 or 1559—and figured by Gerard, 1597, though it was rare in Parkinson's time, 1629.

\* *The Vegetable Garden*, 1885, p. 95.

As illustrating the origin of the many varieties of *Brassica oleracea* by cultivation, Professor Buckman raised varieties from the seed of wild plants collected from Llandudno, "some having short petioles and the close-hearting condition of cabbages, both green and red, the tendency [to vary] being much increased by repeated transplanting. Others, with longer petioles and lyrate leaves, seem to take on the looser method of growth of kales, &c." With reference to persistency of form, Professor Buckman adds: "It may be remarked, as throwing some light on the nature of the changes by which the cultivated varieties of this genus have been attained, that experiments with seeds of plants showing any particular tendency, and especially if repeatedly grown in the same soil, will ever result in an increase of the same peculiarity." \*

\* *Treasury of Botany*, s. v. *Brassica*.

## CHAPTER V.

GREEN VEGETABLES (*continued*).

## CARDOON AND GLOBE ARTICHOKE.

THESE two plants were formerly regarded as distinct species, *Cynara Scolymus*, L., and *C. Cardunculus*, L., respectively; but now they are considered varieties of the same plant, a native of South Europe and North Africa. Indeed, Linnaeus quotes Bauhin as saying that the latter will spring from the seed of the former.

Parkinson (1629) appears to be the first to call the Cardoon *Carduus esculentus*—i.e. "edible thistle"—though it is recorded as having been introduced in 1658 and cultivated in Holyrood Palace Garden in 1683. "It has been more cultivated on the Continent than here. The only parts eaten are the inner leaf-stalks and the top of the stalk called the receptacle of the florets when blanched and used in stews, soups, and salads." It is one of the European plants which has spread to an enormous extent over the prairies of South America.

Dioscorides uses the word *Kinara*, and Pliny *Scolymos*, which he also calls *Limonia*, and classes it among thistles. He is probably referring to the Cardoon in saying, "There is one plant the cultivation of which is extremely profitable and of which I am unable to speak without a certain degree of shame; for it is a well-known fact that some small plots of land planted with thistles (*scolymos*) in the vicinity of Great Carthage, and of Corduba more particularly, produce a yearly income of six thousand sesterces [about £26], this being the way in which we make the monstrous productions even of the earth subservient to our gluttonous appetites, and that, too, when the four-footed brutes instinctively refuse to touch them!" Pliny also says it has numerous medicinal virtues. In his "History of Plants," Dodoens describes three kinds of *Scolymus*, or "wilde thistle"; one, he says, "might well be called *Carduus asinus*—that is to say, Asse thistell." In his plates (1559) he figures both *Scolymus*, or *Cinara*, as *Articoca* of Italy, and *Cinarae aliud genus* as the *Chardons* of Italy. He describes it as much more spinescent and less used as food.

Gerard (1597) gives a good figure of the Artichoke (3 inches in diameter), which he calls *Cinara maxima anglica*, "the great red Artichoke." A second differing but little is the *C. m. alba*. A third, *C. sylvestris*, or "wilde Artichoke," is much more spinescent, and is called *Cardino* by the Italians, *Chardon* by the French, from the Latin *carduus*; hence Cardoon.

Parkinson (1640) alludes to a statement of Theophrastus (fourth

century B.C.) that "the head of *Scolymus* is most pleasant, being boyled or eaten raw, but chiefly when it is in flower, as also the inner substance of the heads is eaten."

Tournefort (1730) says: "The Artichoak is well known at the table. What we call the bottom is the *thalamus* on which the *embryos* of the seeds are placed. The leaves are the scales of the empalement. The Choak is the florets, with a chaffy substance intermixt. The *French* and *Germans* boil the heads as we do, but the *Italians* generally eat them raw with salt, oil, and pepper."

This author seems to refer to the "scales" as being eaten as well as the "bottom," but does not say when the former were first used, though the word "choak," or, as we would quote it, "choke," is appropriate for the pappus, or "chaffy substance," but the name "Artichoke" is really a corruption of the Italian *Articiocco*, itself a corruption of the Arabic *Al harshaf*.

The "receptacle" has a delicate flavour, but contains little nutritive matter.

#### CELERY AND CELERIAC.

Celery in ancient times was regarded as a kind of parsley, under the name *Paludapium*, i.e. "Marsh Parsley," being a more or less aquatic plant. The Latin name *selinon*, adopted from the Greek, is mentioned by Lucius Appuleius (163 A.D.). This gave rise to the Piedmontese Italian *seleri*, and thence to the English words.

In the Middle Ages it was called *Merche* and *Smallage*, but *Apium* by the apothecaries and herbalists, being much used in medicine. In the Eastern parts bordering the Mediterranean the foliage is used for flavouring, as in Malta, Italy, and the Levant, but never blanched. It was only used medicinally in the sixteenth century; for Gerard says: "This is not wonted to be eaten, neither is it counted good for sauce."

Parkinson (1640) observes: "It is not to be endured to be eaten alone, but, being boyled and otherwise dressed, it favoureth better." But he seems only to signify its use as a drug, and not as food. It appears to have been first blanched about 1670; for Sharrock in his book on vegetables devotes a section to the "Blanching or Whiting of Sallad Herbs," such as the succories, &c.; he does not specify the celery; but Salmon in his "English Physician" (1693) writing on the virtues of *Apium palustre*, says: "It is either of the marsh, called by the common name *Smallage*, or of the garden (made white and crisp by laying earth upon it), called *Sallary*, as being used for a salet-herb." In Wheeler's "Botanists' and Gardeners' Dictionary" (1758) it is said: "A variety of it, called the *Smallage*, is seldom cultivated in gardens. But there are two sorts found in the gardens, distinguished by the names of the Italian *Celleri* and the *Celleriac*."

Miller, in his "Gardeners' Dictionary" (1771), says: "The fourth sort is commonly known by the title of *Smallage*. This is what the physicians intend when they prescribe *Apium*. This plant grows naturally by the sides of brooks and ditches in many parts of England, so is rarely cultivated in gardens." He then describes the fifth sort

as *Apium dulce*, the upright Celery, and *A. rapacium*, the Celeriac or turnip-rooted Celery. It should be remembered that the wild and green plant is unwholesome, if not actually poisonous, but when blanched all suspicious qualities are prevented from arising. In Malta to-day the green tops are alone used, boiled, as the Maltese do not blanch the leaf-stalks.

There is not much nutriment in Celery, as there is over 93 per cent. of water. The chief constituents are sugar 2 per cent., and starch with mucilage 1.6, the mineral matters being 0.8 per cent. The nutrient ratio is 1:4.5, and the nutrient value less than 5.

#### CHARD.

We have seen under BEET that in ancient times and up to the sixteenth century only the leaves were eaten, and that it was not till

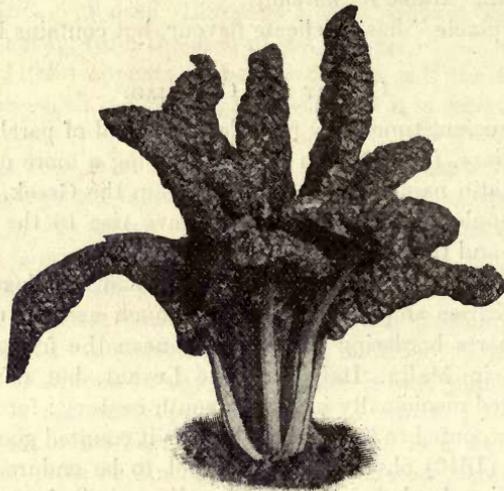


FIG. 20.—SWISS CHARD OR SPINACH BEET (BURPEE).

the close of the sixteenth century that the root became an article of diet. With regard to Chard, I extract the following succinct account from Mr. Booth's article in the "Treasury of Botany." "The large white or Swiss chard Beet (*B. cicla* var.) is a very distinct variety, remarkable for the thick midribs and stalks of its large upright leaves. It is the *Poirée à Carde* of the French, with whom it is a favourite vegetable served as asparagus."

The illustration (fig. 20) is a peculiarly interesting form of Swiss Chard or "Spinach Beet" sent out by Mr. W. A. Burpee, Philadelphia. He calls it *Lucullus*, and describes the leaves as follows: "The leaves are sharply pointed, the texture is heavily crumpled or 'savoyed' . . . the leafy portion of the foliage is served as spinach, the stalks being served separately."

## ONIONS AND LEEK.

The following species of *Allium*, L., are cultivated:—The common onion, *A. Ceba*, L.; a nearly allied species, *A. fistulosum*, L., the Welsh onion; *A. sativum*, L., the garlic, and a nearly allied form, the sand leek or wild Rocamboles, *A. Scorodoprasum*, L.; the shallot, *A. Ascalonium*, L.; the chive, *A. Schoenoprasum*, L.; the leek, *A. Ampeloprasum*, L. var. *Porrum* (genus, L.).

The sand leek, the wild leek, and chive are natives of Great Britain, though the second appears to be naturalized on rocky banks (Hooker).

*Allium Ceba*, L., is said to grow wild in Baluchistan and neighbouring countries, according to botanists quoted by De Candolle\*; but it has been cultivated from time immemorial and spread over so many countries that it may have been apparently wild elsewhere. It has been used as a spell in Chaldea, possibly 5000 B.C.† It was the *Kormuon* of Theophrastus and the *Caepa* of Pliny, who observes with regard to the onion in Egypt: "Garlic and onions are invoked by the Egyptians when taking an oath, in the number of their deities." Juvenal, a contemporary of Pliny, wrote in his satirical manner, "While towns worship the dog, but none Diana, to injure the leek and the onion is wicked, and to crush them with the teeth—O Holy race! whose gods are born in the kitchen garden!" Another writer observes, "Water is the natural deity of Egypt, but parochially it is the bull at Memphis and the onion at Pelusium. The Egyptians have dared to place the leek and the onion among the gods of the sky; while some worship the crocodile, the cat, the dog, wolf, and monkey, others, onions and garlic!" The prolific bulb-bearing "tree" onion was introduced from Canada in 1820. The green bulbs which replace the flowers are useful for pickling.

"The strong smell and taste of onions, as of the garlic and the leek, are due to a pungent volatile oil, rich in sulphur; but the quantity of this oil is very minute. . . . Onions have a feeding value superior to that of white turnips. Water amounts to 91 per cent., albuminoids, 1.5 per cent.; mucilage, sugar, etc., 4.8 per cent. The nutrient ratio is 1: 3.5, and the nutrient value lies between 6 and 7."

WELSH ONION (*Allium fistulosum*, L.). The name "Welsh" is probably a corruption of "Walische" and "Walche," meaning "foreign," as the walnut was called Walischenote in the fourteenth century. This species differs from the common onion in having the dilated part of the flower-stem in the middle and not at the base; moreover the alternate stamens are "trifid." "Russian botanists have found this species wild in Siberia towards the Altaï Mountains, on the lake Baikal in the land of the Kirghis."‡ It is known as the Rock Onion or Stone Leek in Russia. It has been cultivated in Great Britain since 1629.§ At the present day it appears to be only grown, as the young

\* *Origin of Cultivated Plants*, p. 67.

† "The Story of the Nations," *Chaldea*.

‡ Ledebour, *Flor. Russ.* iv. p. 169; referred to by A. de Candolle, *op. cit.* p. 68.

§ *Treasury of Botany*.

spring onions, for salads. De Candolle regards Dodoens' figure of *Cepa oblonga* as a "hardly recognisable" one of *A. fistulosum*. His figure in "Historia Stirpium" is named "Cepa" and evidently is only the common onion and not the Welsh onion. It is figured in Curtis's *Botanical Magazine*, No. 1230, 1809.

**GARLIC** (*Allium sativum*, L.) is of great antiquity as a cultivated plant, as indicated by the many names it possesses in different countries. Our word comes from the Welsh *garlleg*. De Candolle has traced it through many regions and gives the deserts of the Kirghis of Sungari, in the S.W. of Siberia, as the only country with any degree of certainty, as its origin.\* Herodotus says that an inscription was on the great pyramid of Egypt in his day, stating that 1600 talents had been paid for onions, radishes and garlic for the workmen who built it—probably about 3300 B.C.

Garlic is mentioned in several vocabularies of plants, from the tenth to the fifteenth centuries, and described by the herbalists of the sixteenth, from 1548 (Turner) onwards. Two British plants are called "Garlic," the wild (*A. oleraceum*), and the Crow (*A. vineale*); both have been used either as pot-herbs or for flavouring. A third species, *A. ursinum*, called Ransoms, has been eaten in times of scarcity.

**ROCAMBOLE** (*Allium Scorodoprasum*, L.). This species most nearly resembles the garlic, according to some authors; others make it very distinct. It has been said to be "undoubtedly wild" in the Alpes-Maritimes. Another botanist, Ledebour, says it is very common in Russia from Finland to the Crimea. "The natural habitat," writes De Candolle, "borders, therefore, on that of *A. sativum*; or else an attentive study of all the forms will show that a single species, comprising several varieties, extends over a great part of Europe and the bordering countries of Asia."\*

It was not known to the ancients, and its names are chiefly distinctive in northern countries, as Denmark, Sweden, Germany, where it was called *Rockenbolle*, i.e. *Bolle*, onion, on rocks, *Rocken*. The Rocambole is a British plant and sometimes called the Sand Leek; it is found in Yorkshire and Lancashire to Fife and Perthshire, as well as in Ireland.

**SHALLOT** (*Allium Ascalonium*, L.). Pliny, in remarking that the Greeks have many kinds of onions, mentions "the Ascalonean, so called from Ascalon, a city of Judaea." This name has been corrupted to *échalote* in French, *chalote* in Spanish, and changed to shallot in English. De Candolle from his historical investigations is not led to consider it as a species, especially as Theophrastus regarded it as a form of *A. Cepa*, and there is no proof of its being wild anywhere. Moreover, it commonly has no flowers, being called *Cepa sterilis* by Bauhin. This fact indicates a long cultivation by bulbs, as it produces many like the garlic. De Candolle thinks it is a form of *A. Cepa*, dating from about the beginning of the Christian era.

\* *Origin of Cultivated Plants*, p. 63 ff.

CHIVE (*Allium Schoenoprasum*, L.). De Candolle observes, "This species occupies an extensive area in the northern hemisphere. It is found all over Europe from Corsica to Greece, to the south of Sweden, in Siberia, as far as Kamschatka, and also in North America. The variety found in the Alps is the nearest to the cultivated form." It is also wild in the north and west counties of England and Wales. It was probably known to the ancients, as it is wild in Greece and Italy. It is figured by Dodoens, 1559, who gives the French name *Petit poureau*, as the leaves somewhat resemble those of a rush. The specific name means "rush-leek."

The LEEK (*A. Ampeloprasum*, L. var. *Porrum*) is a cultivated

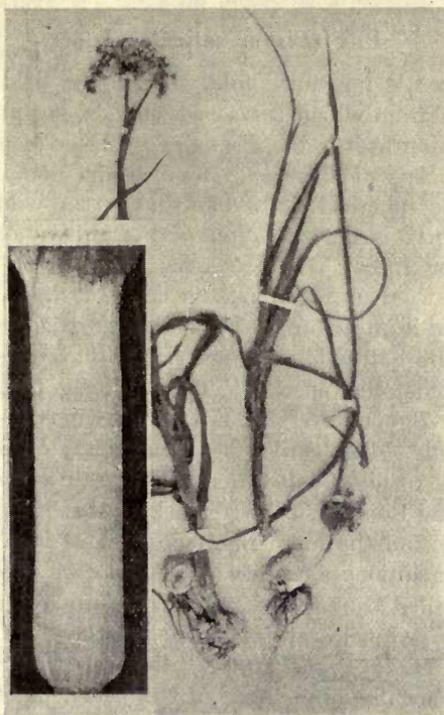


FIG. 21.—WILD AND BULBOUS LEEKS OF MALTA, WITH CULTIVATED FORM FOR COMPARISON.

form of the Linnean species, common in the Mediterranean region (fig. 21) and Algeria. It was well known to the ancients. Pliny observes that the Emperor Nero used to eat leeks and oil to improve his voice, and that the best came from Egypt. It is mentioned in Numbers (xi. 5) under a word, *chatsir*, meaning "to be green," but as it stands in the text with onions and garlic the leek was probably meant, as with the others it was commonly grown in Egypt. With regard to the cultivation, Pliny tells us "the seed is sown thicker than otherwise. They are cut repeatedly till the bed is quite exhausted. If they are wanted to bulb before being cut, when they have grown to some size they are transplanted to another bed."

The wild leek is bulbous, but under cultivation it produces no bulb; occasionally, however, it has one by "reversion," probably by growing in a too dry soil. Both Gerard (1597) and Parkinson (1640) figure it as bulbous. An Italian herbalist, C. Durante (1636), figures it with a straight, non-bulbous stem; so perhaps the modern form originated in South Europe. Linnaeus gives Holme Island in the Bristol Channel as a locality. This is where the scarlet paeony is also to be found, both being South European plants. It grows sparingly in the fields of Malta, whence those figured were taken. The cultivated bulbless leek is shown beside them for comparison with the original wild, bulbous plant.

#### PEA (*Pisum sativum*, L.).

The garden pea is not quite wild, though the field pea is a native of South Europe, from which it was possibly, if not probably, derived. Our earliest allusion to it is the discovery by Heer of peas in the lakewellings of the Age of Bronze in Switzerland and in Savoy; being recognized by the spherical form, like that of the wild field pea. De Candolle says there is no indication of the cultivation of the pea in ancient Egypt or India. He concludes as follows:—"The species seems to have existed in Western Asia before it was cultivated. The Aryans introduced it into Europe. It no longer exists in the wild state, and when it occurs half-wild, it is not said to have a modified form so as to approach some other species." The wild pea of South Europe and the cultivated in Egypt have rich crimson "wings," and the flowers are produced singly. The garden pea bears many on one main flower-stalk, perhaps the result of cultivation. The pea was well known to the ancient Greeks and Romans, Pliny remarking that it cannot stand cold, "Hence in Italy and the more rigorous climates it is sown in spring only." Pliny mentions a variety which appears to correspond with the modern, so-called Mummy pea, which has only a somewhat fasciated stem so that the peduncles are clustered together.\* Gerard figures it under the name *Pisum umbellatum*, "the tufted or Scottish Pease." He says "they are like unto those of the field, or of the garden, in each respect; the difference consisteth onely in that, this plant carieth his flowers in a round tuft or umble. . . . It is not very common." He figures four kinds. The first is the *P. maïus*, Rowncivall Pease, "The flower of which is white and hath about the middle of it a purple spot." This appears to correspond with our field pea; but Gerard calls *P. minus* "garden and field pease," only adding, "The field pease is so very well knowne to all, that it were a needlesse labour to spende time about the description." Hence he means our garden pea. The third is the "tufted" and the fourth, *P. excorticatum*, "Pease without skins in the cods." He thus describes it:—"They differ not from the precedent, saving that the cods heereof want that tough skinny membrane in the

\* The story that they were derived from the tombs of Egypt is a fiction. No peas have ever been found in them; as Brugsch Pacha informed me himself in the Museum at Gezireh, Cairo.

same, which the hogs cannot eat by reason of the toughness; whereas the other may be eaten cods and all the rest, same as kidney beans are, which being so dressed, are exceeding delicate meate." This variety is still in cultivation and known as the "sugar-pea." It is not known when the garden or the field pea was introduced into England, but Turner figures it (1568), and Gerard adds a figure of the now so-called "Mummy pea."

Mr. W. B. Booth says:—"In Queen Elizabeth's time (about 1570), we are told, they were occasionally brought from Holland and considered a 'dainty dish for ladies.' For many years their culture does not appear to have been much attended to, but after the restoration of Charles II., in 1660, the taste for green peas became fashionable."

Peas, like other leguminous plants, are highly nitrogenous. Prof. Church gives albuminoids 22.4 per cent., starch 51.3 per cent., and mineral matters 3 per cent. The nutrient ratio is 1 : 2.5; the nutrient value, 79.

#### RHUBARB.

The garden rhubarb is botanically *Rheum Rhaponticum*, L. It is stated that it grows in Thrace and Scythia; Mr. W. B. Booth (in the "Treasury of Botany") adds by the river Volga (the ancient name of which was *Rha*), and gives 1573 as the earliest date of its cultivation in this country; and that in Queen Elizabeth's time "the leaves were used as a pot-herb and considered superior to spinach or beet; but it was only at the beginning of the nineteenth century that the stalks were used for tarts," etc. Mr. A. Forsyth suggested the use of the unopened flowering bud or inflorescence within its bracts, to be cooked as the stalks are. They possess a milder flavour and form a delicate dish.\* With regard to the edible leaf-stalks Professor Church observes, "The chief nutrient in rhubarb is the sugar (glucose), which amounts to 2 per cent. of the fresh stalks. Its sour taste is due to oxalic acid, or rather to the acid oxalate of potash; oxalate of lime is also present. The following are the principal features: Water 95.1 per cent., albuminoids 0.9 per cent., sugar 2.1 per cent., oxalic acid 0.3 per cent. He adds: "As 1 lb. of rhubarb contains less than 1 oz. of solid matter, of which  $\frac{1}{4}$  only is nutritive, it is obvious that the food value is very small."

#### SEA-KALE (*Crambe maritima*, L.).

This is not at all common, but occurs in the sandy shores of England and the continent. It was eaten by the ancients, for Pliny thus speaks of it. "There is a kind of cabbage known by the name *Halmyridia*, because growing only on the seashore. It will keep green and fresh during a long sea voyage, put into oil-vessels lately dried. Nitre preserves the greenness when cooked, a result which is equally ensured by the Apician mode of boiling, or in other words, by steeping the plants in oil and salt before they are cooked." This is somewhat suggestive of "sour-kROUT." The first herbalist of the 16th century to distinguish

\* *Gardeners' Chronicle*, 1846, p. 5.

this plant and figure it was Lobel (1576), under the name *Brassica marina monosperma*; *Brassica* being the true cabbage with a long pod containing many seeds; whereas the sea-kale has only one. He says that Turner suggested the name; but no mention of it is in his "Names of Herbes" (1548) nor in his "Herbal" (1568) where *Brassica marina* (as in other herbals) means the *Convolvulus Soldanella*. Gerard (1597) describes it as *B. marina Anglica*, as if it were a native only of England, but Hooker states its continental distribution is—"Coasts from Finland to the Bay of Biscay and the Black Sea." Gerard does not describe any use for it. Parkinson is the first to illustrate the characteristic globular, one-seeded pods. Mr. W. B. Booth says:—"It appears to have been known to the Romans, who gathered it in the wild state and preserved it in barrels for use during long voyages. From a remote period it has been used in this country by residents near the sea. . . . It was sold in Chichester in 1753. It was not known about London until 1767, when Dr. Lettson cultivated it at Camberwell and was the first to bring it into notice."\*

Sea-kale contains upwards of 93 per cent. of water, 1.4 per cent. of albuminoids, 3.8 per cent. of mucilage and starch, &c., and 0.6 of mineral matter.

#### SPINACH (*Spinacia oleracea*, L.).

Spinach is first figured and described by Turner (1568). He writes:—"Spinage or Spinech is an herbe lately found and not long in use, but it is so wel known amongst al men in al countreas that it nedeth no description." He only alludes to its supposed medicinal virtues. It is said to be a native of West Asia. Gerard (1597) describes it as a medicinal "pot-herb"; but adds that "it is eaten boiled. . . and is used in sallades when it is young and tender." "Prickly" and "Round" spinach are two varieties of the above.

Spinach contains much nitre and is a wholesome vegetable. There is 90 per cent. of water, 1.2 of albuminoids, 4.0 of carbohydrates, 2.0 of mineral matter.

#### SPINACH, NEW ZEALAND (*Tetragonia expansa*).

Closely allied to *Mesembryanthemum*, this plant is a native of Tasmania, Australia, and of South America as well as New Zealand, implying a probable early connexion by means of an Antarctic continent; for the depth of the ocean decreases northwards in the direction of the southern extremities of existing land; several species of the genus being found at the Cape. It is said to have been introduced by Sir Jos. Banks in 1772. The leaves are thick and used as a substitute for spinach, but the mucilage in the leaves is somewhat objectionable.

#### VEGETABLE MARROW.

A. de Candolle considered that botanical indications were in favour of a Mexican or Texan origin. In Gerard's "Herbal" (1597) there is a

\* *The Treasury of Botany*, s.v. Crambe.

figure (fig. 22) which he calls the Spanish cucumber; raised from seed, "not long since sent out from Spain." It grows, he adds, to a foot in length, is green below, but yellow in the sun, with spots and lines of divers colours, but it is represented smooth, and not rough like a cucumber. The Spaniards might well have received this from Mexico. The figure would answer very well for a vegetable marrow, now known as *Cucurbita ovifera*, L., and if A. de Candolle be correct, it may be an American variety of *Cucurbita Pepo*, the pumpkin; while the gourds of Europe are forms of *C. maxima*.



FIG. 22.—VEGETABLE MARROW FROM GERARD'S "HERBAL" (MISCALLED CUCUMBER), 1597.

Many small forms of fruits are cultivated of various shapes, as the Turk's Cap, and being forms of the species *C. verrucosa*, some are warted; others are globular, pear or bottle-shaped, and of different colours—some of these were figured by Parkinson (1640). Professor Church says of the vegetable marrow that "although the fruit is very watery, yet it contains more nutritive matter than its close ally the cucumber. The percentages are as follows:—Water 94.8, albuminoids 0.6, sugar, starch, fat and cellulose, 4.1; mineral matter, 0.5. The nutrient ratio is 1:5, the nutrient value 3.5.

CHAPTER VI.  
SALAD HERBS.  
CRESS, BITTER.

THIS, one of our commonest weeds in gardens, &c., is a small annual member of the family Cruciferae, *Cardamine hirsuta*, L., and like all members of this family it is perfectly wholesome. It has been cultivated and improved, so is now used as a salad plant. It is allied to the Cuckoo-flower or Lady's Smock (*C. pratensis*, L.).

CRESS, GARDEN.

No one appears to know for certain whence the garden cress (*Lepidium sativum* of Linnaeus, who gives no locality) came. M. A. de Candolle, after having exhausted his researches, thinks, by an "assemblage of more or less doubtful facts [statements?], that the plant is of Persian origin, whence it may have spread into the gardens of India, Syria, Greece, and Egypt."

Dioscorides said that the herb came from Babylon, and Pliny adds that in Arabia it is said "to attain to a size that is quite marvellous." It was cultivated for its seed, and used as a dried herb under the name of *Cardamon* by the Greeks, and *Nasturtium* by the Romans—the former name on account of its good influence upon the heart (*kardia*), and the latter because of its pungent odour, causing one to make a wry face or "nose-twisting," as *nasitortuum* implies. Hence, in the sixteenth century it had the name in France of *Nasitort*.

It occurs in Middle Age vocabularies as *Cæse* (tenth century), *Kersens* or *Cressens* (thirteenth century), *toncarsyn* (i.e. town-carsyn) (fourteenth century).

Pliny records numerous complaints for which cress was used, as it was valued only as a medicinal plant.

In the sixteenth century we find it used as a salad plant. Thus Dodoens observes: "Cresses eaten in sallet with lettuce is of vertue like to rocket and good amongst cold hearbes." We see here how it, like many other plants, passed from purely medicinal to culinary uses, as salads. Gerard also observes (1597) that "Galen saith that cresses may bee eaten with bread *veluti obsonium* [i.e. as food (especially fish) that was eaten with bread], as the Lowe Countreymen many times do, who commonly use to feede of cresses with bread and butter. It is eaten with other sallade herbes as Tarragon and Rocket; and for this cause it is chiefly sowen."

It is not known when the *seedlings* were first eaten as now, and

not the herb more fully grown. There were smooth and crisped-leaved sorts, both broad-leaved and narrow-leaved.

#### CRESS, WATER.

This plant was regarded as a kind of *Sisymbrium* by Dioscorides. His commentator, Matthioli, calls it *S. aquaticum*, "being endowed with the same taste as our *Crescio*," or the "cultivated nasturtium" (1574). The French called it *Cresson de ruisseau*. Hence came our English name; but in the sixteenth century it was also called "Water-Kars."

Its use was at first wholly medicinal, being subsequently recommended in salads. Linnaeus retained the generic name *Sisymbrium*, calling it *S. Nasturtium*, but Robert Brown restored the latter name to generic rank, adding *officinale* as the specific name, so that it became *Nasturtium officinale*.

Professor Church observes of the water-cress, "The dietetic value cannot be judged of by the proportion or amount of organic nutrients present, as it depends mainly upon the quantity of mineral matters, aromatic oil, and other minor ingredients."

#### CORN SALAD OR LAMB'S LETTUCE.

This plant is a member of the Valerian family, *Valerianella olitoria*. It is found in corn-fields and hedge-banks, and has been long used as a salad plant. Thus Gerard (1597) writes:—"These herbes grow wilde in the corne fields, and since it hath growne in use among the French and Dutch strangers it hath beene sowen in gardens as a sallad herbe. It is with pleasure eaten with vinegar, salt and oil, as other sallads be, among which it is none of the worst."

At the present day it is more used on the Continent than in England. A golden-leaved variety is cultivated. M. de Candolle thinks that it is truly indigenous only in Sardinia and Sicily, as no name is traceable in Greek and Latin authors, or in the Middle Ages. In fact the cultivation of it appears to be comparatively modern.

#### CHICORY AND ENDIVE.

These names correspond to the two species *Cichorium Intybus*, L. (fig. 23), and *C. Endivia*, L. (fig. 24). The former is a native, especially on calcareous soils, of England, and wild in Europe, West Africa and east North-West India; the endive is still found in the corn-fields of Egypt. They were probably two of the plants included in the "bitter herbs" of the Israelites, for they belong to the tribe *Cichoriaceae* of Composites, characterized by a very bitter milky juice, as in the dandelion and other allies.

The chicory is a tall plant with large blue flowers borne on a wiry stem, and "runcinate" leaves, *i.e.* having the marginal lobes pointing downwards, as in the dandelion, whereas the leaves of the endive are large, oval, and merely toothed on the margin.

The chicory was called *seris* by the ancient Greeks, and *Intubum* by the Romans. This word appears to have been corrupted to *hindeb* in Arabic and "endive" in English. Though looked upon as a medicinal herb, Pliny observes that "the wild endive has certain refreshing qualities, and is used as an aliment." Ovid also mentioned it as a salad plant.

Having been originally introduced into Europe from Egypt, it spread as a garden herb from Italy, and was first received in England before 1548, when Turner speaks of two sorts of *Intybus*, the cultivated and the wild. "The former is the white and garden endive; the wild also has two sorts, *cichorium* and the dandelion." Other writers

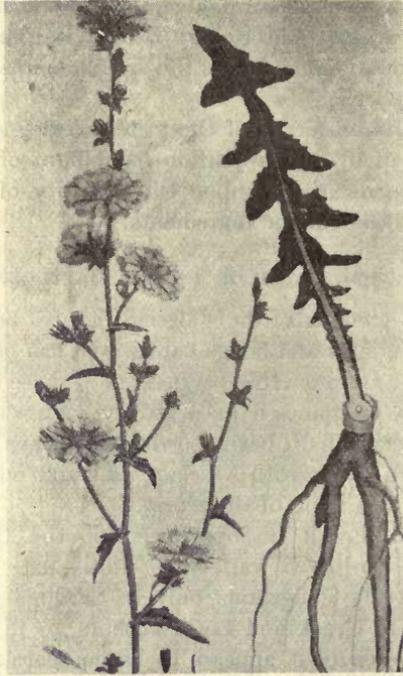


FIG. 23.—WILD CHICORY. One-eighth natural size.

of the sixteenth century describe the crisped-leaved as well as the broad- and narrow-leaved varieties. The former resembles the wild form of Egypt to-day, the latter our wild runcinate species.

These differences are due to the nature of the soil and climate, just as the horseradish, dandelion, &c., vary greatly in the form of the leaf according to the soil in which they grow. At the present day *C. Intybus* is cultivated in Paris under the name *Barbe de Capucin*, and consists of elongated, very narrow leaves, being little else than the mid-rib, which is blanched. Witloof, or Brussels chicory, is derived from the variety with broader leaves. M. H. L. de Vilmorin\* remarks, "It is noticeable that in all leaves developed

\* *Saladings* (JOURNAL R.H.S., 1890, March 25, p. 260).

in darkness the rib seems to attain its normal size, while the leaf-blade itself is greatly reduced in breadth. This fact is particularly striking in Witloof, where the head seems to be made up almost entirely of the imbricated leaves." He adds, "The eatable part of Witloof is 4 to 5 inches long, not quite 2 inches across, in the shape of the head of a small cos lettuce; it is almost pure white, very solid and firm."

Messrs. Sutton's 'Combination' or Christmas Salad has the interior leaves *runcinate* and the outer *entire*, forming a combination of *Barbe de Capucin* and Witloof.

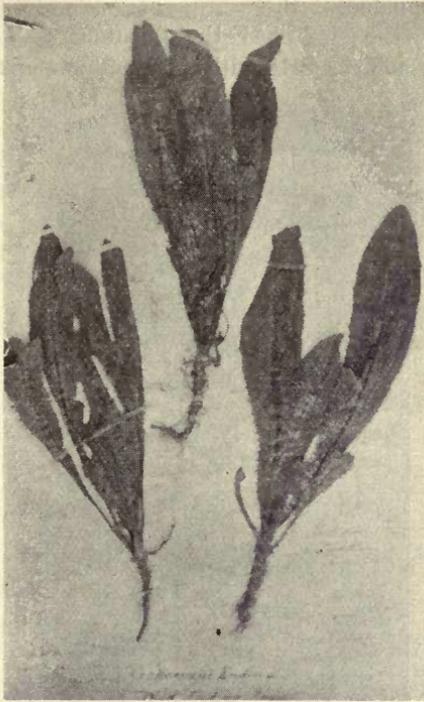


FIG. 24.—WILD ENDIVE FROM A CORN-FIELD, EGYPT.

Endive, notwithstanding its being blanched, retains a good deal of its bitterness. "It contains in 100 parts: 94 of water, 1 of albuminoids, 1 of sugar, 2 of starch, &c., and 0.8 of mixed matter," so that it has no nutrient value of any consequence.

#### CUCUMBER.

*Cucumis sativus* is now believed to be the cultivated form of *C. Hardwickii*, Royle, wild from Kumoon to Sikkim. It has been cultivated in India for some three thousand years, and spread westwards. The Greek name was *sikuos*. Pliny describes the Italian fruit as "very small," probably like our "gherkin"; the same form is figured in herbals of the sixteenth century, but "those grown in some of the provinces are remarkably large and of a wax colour or black"; by this Pliny means dark green. Gardeners to-day speak of

black mint in the same sense. He describes their long shape and adds, "If hung in a tube while in blossom the cucumber will grow to a most surprising length."

Pliny tells us that the cucumber was so great a favourite with the Emperor Tiberius that he raised beds made in frames upon wheels by means of which the cucumbers were moved and exposed to the full heat of the sun, while in winter they were withdrawn and placed under the protection of frames glazed with "mirror-stone," probably a thin layer of selenite, a crystallized form of gypsum, which can be split into thin translucent slices.

Gerard (1597) so described the cucumber: "the fruit is long, cornered, rough, and set forth with certaine bumpes or risings, wherein



FIG. 25.—COMMON CUCUMBER, FROM GERARD'S "HERBAL," 1597.

is contained a firme and solide pulpe or substance, transparent or thorow shining; which together with the seede is eaten a little before they be fully ripe." His illustration (fig. 25) of the plant shows cucumbers like our young gherkins.

The dietary value is practically nothing, there being upwards of 96 per cent. of water.

#### DANDELION.

This familiar wild flower (*Taraxacum officinale*, Web.) is now cultivated and blanched for saladings. It has long been regarded as a useful drug and still is included in existing Pharmacopœias. It does not appear to have been grown as a salad plant till quite modern times.

The Dandelion (from *dens leonis*, lion's tooth, in reference to the leaf) was called *Caput monachi* or "prestis croune" in the fourteenth century. Linnaeus named it *Leontodon Taraxacum*. As it is widely spread over north and south temperate regions, it was probably, with endive, one of the "bitter herbs" of Scripture. A very small and starved variety grows on the rocks and walls of Valetta in Malta.

#### LETTUCE.

Several plants were included under the name *Lactuca* by the Romans, and the Greeks distinguished several kinds of *thridax* and *thridakine*, as they called the lettuce; though the Latin name appears to be derived from the Greek word *galaktouchos*, "having milk." This is the characteristic feature of the section of Composites known as *Cichoriaceae*, to which the dandelion, lettuce, chicory, &c., belong. The ancients recognized several varieties in colour—black, brown, white, purple, red and blood-red—but whether they all belonged to our garden lettuce is doubtful. This is believed to have been derived from the species *L. Scariola*, L., a rare British plant, but widely distributed over Europe, and Siberia, to the Himalayas.

Pliny refers to the "crisped" and a "squat" variety, probably like our cabbage lettuce. These were known as *crispa* and *capitata* in the sixteenth century, and have been grown ever since. "Lettuces contain but little nutriment of any kind except mineral salts, especially nitre. . . . A small quantity of sleep-producing substance, called *lactucarin*, is found in the stem." (Church.)

#### MUSTARD.

We have two species of mustard, the white (*Brassica alba*, Boiss.), with yellow seeds, and the black, with brown ones (*B. nigra*, Koch), both being indigenous. To these Pliny adds a third, probably *B. erucoïdes*, L., the "rocket-leaved" mustard. He thus describes mustard: "It has so pungent a flavour that it burns like fire, though at the same time it is remarkably wholesome for the body, the leaves being boiled as those of other vegetables." The reader will recall the references to mustard in the Gospels. With regard to these Dr. W. M. Thomson, in his book, *The Land and the Book*, observes: "I have seen this plant on the rich plain of Akkâr as tall as the horse and his rider." The black mustard grows in the hedges, &c., near St. Ives, Cornwall, quite five feet in height.

The only culinary use in the sixteenth, seventeenth, and eighteenth (to 1730, Tournefort) centuries was as "sauce" with vinegar to "help digestion." In the fourteenth century it was known as "Senevy," probably a corruption of *Sinapis*, the old Latin name. In a recipe for the palsy we read: "Take barley-bred and no outhier, and ete potage that is made of *Seneuye*, that ys an herbe that men maketh mostard ther-of, . . ."

Mixed with vinegar it was used as a mustard plaster by the ancients for the stings of serpents and scorpions. "The pungent essential oil

is not produced till the ground seeds are wetted." The ordinary condiment is derived from the black mustard, as "the seeds of *B. alba* do not yield a pungent oil, but only a non-volatile rubefacient." (Church.) Many acres of the yellow-seeded mustard (*B. alba*) are, however, cultivated for Messrs. Colman near Wisbech.

#### PURLANE.

*Portulaca oleracea*, L., is a very widespread little fleshy-leaved plant with minute yellow flowers. It spreads itself on the surface of the ground, but there is a variety with an upright stem. Both are cultivated in Europe. It is occasionally grown in England as a salad-plant or for pickling. There are three varieties, known as the green, golden, and large-leaved golden. Gerard (1597) figures the "wild" with small leaves and the "garden" purslane with much larger ones. Besides its medicinal uses, he says it was "much used in sallads with oile, salt and vineger."

#### SAMPHIRE.

The samphire (*Crithmum maritimum*, L.) on the rocks round our coasts was known to the Greeks as *Krithmon* or *Krithamon* and as *Crithmum* to the Romans. The English name is derived from St. Pierre—i.e. St. Peter's herb. This was corrupted into "sampier" (sixteenth century); thence into "samphire." It was probably so called from growing on rocks, *petra* being the Greek for rock and *petros* a stone. Turner, an early writer of the sixteenth century, says it was first used as medicine "sodden in wine," then "both raw and sodden and eaten as a worte or a common mete herb, that is eaten in sallet or otherwise. It is kept in bryne."

Other herbalists of the same century repeat the above uses. The marsh samphire (*Salicornia herbacea*) of our salt-marshes is sometimes substituted for the true samphire, but it is much inferior. Its main use was for making barilla, an impure carbonate of soda, obtained by burning the dried plant.

#### SORREL.

This was called *Oxalis* or *Acetosa* in the sixteenth century, but now is regarded as a species of dock, *Rumex Acetosa*, L. Besides its medicinal uses, Gerard observes: "The juice in summer-time is a profitable sauce in many meates and pleasant to the taste. It mooveth appetite to meate. The leaves may be sodden and eaten in manner of a Spinnach tart or as meate." Since the French sorrel, *R. scutatus*, was introduced the British species has fallen in repute, for the former has more succulent leaves. Paxton, in his *Botanical Dictionary*, gives 1596 as the year of its introduction.

#### TOMATO.

This now familiar fruit is produced by *Lycopersicum esculentum*, Tourn., one of ten species, natives of South America, mainly Peru. It has been introduced into many warm countries, arriving in Europe in

the close of the sixteenth century (1596). M. A. de Candolle shows, from a total absence of all knowledge of the tomato in Asia, that it could not have been a native of that continent; on the other hand, all positive evidence points to Peru, and the small-fruited *L. cerasiforme*, wild on the Peruvian shore, is the most probable origin of it.

The peculiar ribbed form of the fruit first grown in this country was due to a malformation called a "multifold" flower, in which the usual number of parts is much augmented. Modern cultivators now grow the normal globular form.

CHAPTER VII.  
KITCHEN HERBS.

ANGELICA.

THIS is not our English *Angelica sylvestris*, L., but an allied species, *A. Archangelica*, L., an occasional outcast of gardens, and a native of Iceland and Norway (Gerard), as well as other European regions. Gerard says it was very common in gardens in his time (1597). Like other strongly scented plants it was regarded as a preventive against the plague. He says it was eaten, except by Icelanders, in times of scarcity. At the present day ring-like sections of the green stem are preserved in sugar and used to adorn cakes, &c. The leaves have been eaten like celery as a vegetable, and the fruits are employed in flavouring some cordials, as Chartreuse.

ANISE.

Anise (*Anison* of Dioscorides and *Anisum* of Pliny) was well known to the ancients. It is said to have been found wild in "Candy, the best, and the next in Egypt." (Turner, 1548.) It is now known botanically as *Pimpinella Anisum*, L. Besides its sixty-one remedies referred to by Pliny—"being taken in wine, either raw or boiled for the stings of scorpions. . . . Both green and dried it is held in high repute as an ingredient in all seasonings and sauces, and is also placed beneath the undercrust of bread." The leaves are now occasionally used for seasoning, and for flavouring cordials, as the fruit contains about 2 per cent. of an essential oil (Church).

BALM.

The botanical name of balm is *Melissa officinalis*, L., from the Greek word for a bee—doubtless in reference to its honey. It is a native of Middle and South Europe and West Asia, but only naturalized in England. It smells strongly of lemon, is carminative and stomachic. The leaves have been employed in claret-cup and "balm wine." It is also used in certain liqueurs and perfumes. It was well known as a drug-plant in the sixteenth century and called Bawme, and in Italian *Cedronella*, from the citron-like smell. Dodoens (1578) observed, "If a man put Bawme into Bee-hives, or else if the hives be rubbed therewithal, it keepeth Bees together, and causeth other Bees to resort to their company."

### BASIL.

Two species of basil are cultivated, the "Bush Green" and the "Sweet Green," the former is *Ocimum* \* *minimum*, L., and the latter *O. Basilicum*, L., both being natives of India. They were introduced into England in 1573 and 1548 respectively.

The sixteenth-century herbalists, as well as Tournefort (1730), only refer to its supposed medicinal virtues, which Parkinson is inclined to consider to be of little value (1640).

At the present time the leafy shoots, being strongly scented, are used for seasoning.

### BORAGE.

This plant was probably known to the ancients under the Greek and Latin name for "Ox-tongue" (*Bouglōssos* and *Buglossa*) The following remark of Pliny most probably refers to Borage, "the main peculiarity of this plant is, that if put into wine, it promotes mirth and hilarity, whence it has obtained the additional name of *euphrosynum*," i.e. 'promoting cheerfulness.' The present Latin name is *Borago officinalis*, L.

Gerard (1597) observes: "Those of our time do use the flowers in salads to exhilarate and make the mind glad, to the comfort of the heart and driving away of sorrow."

It is still employed in claret-cup, &c. It is a common roadside weed in Malta, and extends from Middle and South Europe to West Africa.

### BURNET.

Garden or salad Burnet is botanically *Poterium Sanguisorba*, L. The name is derived from the Latin word *poterium*, a goblet, as the foliage, tasting somewhat like cucumber, was put into the so-called "cool tankard."

In the sixteenth century the Burnet was called *Pimpinella* or *Bipennula*, from the two rows of leaflets. One botanist, Gesner, suggested it should be called "*Peponella*," because of its smell like Melons or Pompions, to which it is like." Besides several medicinal uses, Gerard says, "The leaves of Burnet steeped in wine and drunken, doth comfort the hart, and maketh it merrie."

### CARAWAY.

*Carum Carui*, L., is not a native, but is occasionally naturalized from cultivation. Hooker gives its distribution as Northern Europe, North and West Asia, and Himalaya. Gerard says that "Caruwaies grew almost everywhere in Germanie and in Bohemia; and took its name from Caria, where Dioscorides said it grew. The seeds are confected or made with sugar into comfits." Besides possessing

\* The ancient herbalist distinguished between *Ocimum* and *Ocymum*: as the latter name was given by Tragus to the Buckwheat, from its rapid germination, *okus* in Greek meaning "quick."

medicinal virtues, we use them now for cakes; but in the sixteenth century it was written, "the stalkes, when they come first up, are wonderful pleasant, eaten in a sallet unsodden. And the herbe serveth to make swete and well savored potage" (Turner, 1578). The fruits, "caraway seeds" of commerce, contain an essential oil and are now used for flavouring cakes, confectionery and cordials.

#### CHAMOMILE.

This familiar domestic drug-plant (*Anthemis nobilis*, L.) used as a "tea" for its tonic properties, is a native, chiefly round the coasts. The flower-heads of the cultivated "double" form are used, the wild being too bitter. The aromatic scent is due to an essential oil; but as the "single" heads are stronger in this respect, this is the form employed in medicine.

The "Wild Chamomile" belongs to a different genus, being *Matricaria Chamomilla*, L. Though not used here, it is on the Continent.

#### CLARY AND SAGE.

*Salvia Sclarea* and *S. officinalis*, both South European plants, and cultivated for seasoning. Gerard (1597) describes and figures several species, besides our two English *Salvias* under the names *Gallitricum* and *Horminum*. It was called Cleereie because, "The seede of Clarie powdered, finely searced [sifted or cleansed] and mixed with honie, taketh away the dimnesse of the eies and cleereth the sight."

With onions, &c., sage forms a well-known "stuffing."

#### CORIANDER.

*Coriandrum sativum*, L., is wild in South Europe, but has long been cultivated. It will be recalled that the manna was described as round like coriander seed. The fruit, unlike that of most of the members of the Umbellifer family, is globular and not elongated, as in caraway, &c. It is aromatic, like so many others, and has been used for flavouring salads, soups, &c., as well as liqueurs, and in confectionery.

#### DILL.

*Anethum graveolens*, L. Wild in Spain and South Europe, this has long been used as a condiment. Taylor, who first translated the Bible into English in the sixteenth century, made an error in writing "Anise" for Dill (in Greek it is *Anethon*). At the present day Dill is used as "Dill Water" for infants, as well as occasionally in soups, sauces and pickles, &c.

#### FENNEL.

*Foeniculum officinale*, All., is a native of our coasts from North Wales to Cornwall, and from Norfolk to Kent; and from South Europe to India. In Malta there is a xerophytic variety, with more rigid and pointed leaf-segments, as well as the normal form. The name is

from *fenum*, hay. It was well-known to the ancients, Pliny according twenty-two remedies to it. He observes that serpents taste it "when they cast their old skins, and that they sharpen their sight with the juice by rubbing against the plant."

Together with the St. John's-wort, it used to be hung over doors to warn evil spirits. Like several other Umbellifers, it is carminative, as is Dill, and was used in several drugs in the Middle Ages. Gerard (1597) only refers to medicinal uses. Parkinson (1640) appears to think that its culinary use was derived from Italy; for he says:—"The leaves, seede and rootes are both for meate and medicine; the *Italians* especially doe much delight in the use thereof, and therefore transplant and whiten it, to make it more tender to please the taste, which being sweete and somewhat hot helpeth to digest the crude qualitie of Fish and other viscous meats. We use it to lay upon Fish or to boyle it therewith and with divers other things, as also the seede in bread and other things."

#### HOREHOUND.

*Marrubium vulgare*, L.—The common or white Horehound is a native, but also widely dispersed over Europe. It was formerly used in various ways as a drug-plant, but is now only grown for a beverage and a remedy for coughs, and as a seasoning plant.

#### HYSSOP.

The modern Hyssop is *Hyssopus officinalis*, L., a native of South Europe. It was only used as a drug formerly, but now young shoots are sometimes employed as a pot-herb. It is often mentioned in the Bible, but it cannot for certain be known what Labiate it was. Probably more than one were used.\*

#### ICE-PLANT.

*Mesembryanthemum crystallinum*, L., a native of the Canaries, is so called from the innumerable bladdery hairs filled with water which give the plant a frosty appearance. It is used for table decorations. It was first introduced in 1775. The generic name was given because it only flowers in great sunshine or the "middle of the day."

#### LAVENDER.

*Lavandula vera* (*Spica*, L.), a native of South Europe, and allied species, were well known to the ancients for their perfume, the name being derived from *lavo*, to "wash," as it was used in baths. It was introduced in 1568. Its uses as a perfume are familiar to all.

#### MARJORAM.

Pot Marjoram is a shrubby species, *Origanum Onites*, L., of South Europe, *Onitis* having been both the Greek and Latin name. The Sweet Marjoram is *O. Majorana*, L., of North Africa. Both are used

\* See *Plants of the Bible* (Bagster).

for seasoning and soups. The British species, *O. vulgare*, L., is also aromatic and has likewise been used.

#### MINT.

The garden mint, *Mentha viridis*, L., is a cultivated form of *M. sylvestris*, L., the Horse-mint, which is recorded as cultivated at Aleppo. Either *M. sylvestris* or some form approaching *M. viridis*, which is not known as a truly wild plant, was probably the mint of Scripture. It is a favourite plant in association with peas and in pea-soup.

#### PENNYROYAL.

This is *Mentha Pulegium*, L., a native of England and South Europe. It was formerly in great repute for its supposed medicinal virtues, and is still employed as a domestic remedy.

#### PARSLEY.

*Petroselinum sativum*, Hoff., is the common Parsley in Bentham's 'Handbook' and *Carum Petroselinum*, Benth., in Hooker's *Student's Flora*.\* According to the former it is a native of Eastern Mediterranean regions, its old name being *Macedonicum*. De Candolle gives Turkey, Algeria, and the Lebanon.

The ancients distinguished between two plants under the name *Selinon*, one being the celery (*Apium graveolens*) and called *heleio-selinon*—i.e. "Marsh selinon"—and the other, our parsley, *Oreo-selinon*, "Mountain selinon"; or *petroselinon*, meaning "Rock selinon." It was the last name from which Parsley is derived, for in the middle ages *Petroselinum* became corrupted into *Petrocilium*. This was Anglicized into *Petersylige* and *Petersile*. This became *Persylle*, *Persely*, and finally *parsley*.

In the sixteenth century the parsley was known as *Apium hortense*, but the herbalists retained, as the official name, *Petroselinum*. A variety *crispum* was grown, as it is to-day, being even mentioned by Pliny. Camerarius in 1588 calls it *Apium verum*, and says it was the plant which the ancients used for crowning the victors in the Nemean games and also for decorating tombs.

Linnaeus (in 1764) named it *Apium Petroselinum*, and gives Sardinia as its wild habitat.

It was not introduced into England before 1548. Several varieties now exist. No mention appears to have been made by the ancients or in the Middle Ages of the variety with an enlarged tap-root, but Miller in his Dictionary calls it "the large-rooted Parsley."† The tap-root grows to a considerable length and is  $\frac{1}{2}$  inch in diameter, and under cultivation it has developed both a parsnip-like as well as a turnip-shaped form. Miller says (in 1771): "This is now pretty commonly sold in the London markets, the roots being six times as large

\* Hence Bentham has not kept to his own name.

† His definition is "Foliis radicalibus trifidis, serratis; petiolis longissimis"; which agrees with the parsley.

as the common Parsley. This sort was many years cultivated in Holland before the English gardeners could be prevailed upon to sow it. I brought the seeds of it from thence in 1727; but they refused to accept it, so that I cultivated it several years before it was known in the markets."

At the present day the "long white" and the "round sugar" forms, known as the Hamburg Parsley, are sold by seed-growers, being much esteemed for flavouring soups, stews, &c.

In England parsley is only found wild as an escape from gardens. It is used as a garnish and sauce, as well as fresh and dried for flavouring.

#### ROSEMARY.

*Rosmarinus officinalis*, L., is a south European plant of dry localities, as on rocky ground in Malta, and was well known to the ancients as a drug-plant. It was introduced in 1548 for making "Rosemary Tea" for nervous headaches. It was called *Libanotis* by Dioscorides from its perfume having some resemblance to that of frankincense. It is now used for seasoning as well as for its scent. Narbonne honey is said to derive its flavour from rosemary.

#### RUE.

*Ruta graveolens*, L., is a native of South Europe, and introduced in 1562. Being very strong-scented, it was regarded as an important medicinal plant. Pliny mentions some four score remedies, and it has been highly valued ever since, being still retained in our Pharmacopœia. Though the taste is exceedingly disagreeable to us, Pliny says that "the ancients held rue in peculiar esteem; for I find that honeyed wine flavoured with rue was distributed to the people in his consulship by Cornelius Cethegus." This plant, with others, was used as a preventive of the plague, and together with Southernwood was always put in front of the dock in former days to ward off jail-fever. Italians eat the leaves as a salad.

#### SAVORY.

Summer Savory is *Satureja hortensis*, L., and Winter Savory *S. montana*, L. They were introduced in 1562 from South Europe, e.g. Spain and Italy. They are used for flavouring.

#### TARRAGON.

*Artemisia Dracunculus*, L., is a native of Siberia. It has lance-shaped leaves with an aromatic flavour. It is used for sauce and salads, as well as in the making of Tarragon vinegar.

#### THYME.

The garden Thyme is an "improved" cultivated form of the wild Thyme of the mountains of Spain, *Thymus vulgaris*, L. var. *citriodorus*, and has a lemon scent. There is also a broad-leaved variety in cultivation. Thyme is used for stuffing, soups, and sauces.



# INDEX.

*Acetosa*, 60  
*Alexanders*, 6  
*Al harshaf*, 45  
*Allium*, species of, 47, 48, 49  
*Anethon*, 64  
*Anethum graveolens*, 64  
*Angelica sylvestris*, 62; *A. Archangelica*, 62  
*Anise*, 62  
*Anison* and *Anisum*, 62  
*Anthemis nobilis*, 64  
*Anthriscum*, 8  
*Anthriscus bulbosus* and *A. Cerefolium*, 8  
*Apiaca*, 32  
*Apium dulce*, 46; *A. graveolens*, 45, 46, 66; *A. hortense*, 66; *A. palustre*, 45; *A. Petroselinum*, 66; *A. rapactum*, 46; *A. verum*, 66  
*Arache blanc*, 3  
*Asparagus officinalis*, 26; *A. French*, 26  
*Atriplex agrestis* and *A. domestica*, 3  
*Aubergine*, 26

BALM, 62  
*Barba hirci*, 20  
*Barbe de Capucin*, 56  
*Basil*, 63  
*Battata virginiana*, 13  
*Baucea*, 21  
*Bawme*, 62  
*Bean*, broad, 26; *French* or kidney, 27  
*Beet*, 3; *Spinach Beet*, 46  
*Beta maritima* and *vulgaris*, 3, 4; *cicla*, 46  
*Bipennula*, 63  
*Borage*, 63  
*Brassica alba*, 59; *B. campestris*, 23; *B. crispa*, 37; *B. eruroides*, 59; *B. gongyloides*, 30; *B. Marina*, *monosperma*, 52; *B. nigra*, 59; *B. oleracca*, v, 29; *B. o. bullata*, 39; *B. prolifera*, 41; *B. raposa*, 32; *B. sabauda* or *Sauoie*, 40; *B. selentata* and *selinoides*, 37; *B. tophosa*, 37  
*Broccoli*, 42  
*Brussels sprouts*, 40  
*Buglossa*, 63  
*Burnet*, 63  
*Bush*, and *Sweet Green*, 63

CABBAGE, 29; *Dodoens' vars.* 34; *Gerard's vars.* 35. ff.; *Hooker's vars.* 36; *Pliny's vars.* 33; *Savoy*, 39; *C.* open, 39

*Caepa*, 47  
*Caerse*, 54  
*Campanula Rapunculus*, 19  
*Caput monachi*, 59  
*Caraway*, 63  
*Cardamine hirsuta*, 54  
*Cardamon*, 54  
*Cardino*, 44  
*Cardoon*, 44  
*Carduus esculentus*, 44; *C. sylvestris*, 44  
*Cariota*, 7  
*Carrot*, 5  
*Carum canu*, 63; *C. petroselinum*, 66  
*Cauliflower*, 36  
*Caulorapum rotundum* and *longum*, 31, 33  
*Cedronella*, 62  
*Celeriac*, 45  
*Celery*, 45, 46  
*Cepa oblonga*, 48  
*Cepa sterilis*, 48  
*Chamomile*, 64  
*Chard*, 46; *Swiss*, 46  
*Chervil*, 8  
*Chicory*, 55  
*Chive*, 49  
*Chou de Burghley*, 41; *C. d. Russie*, 38; *C. fleur*, 42; *C. Moellier Blanc*, 31; *C. Navet*, 29; *C. Palmier*, 37  
*Choux cabus*, 29  
*Cichorium Endivia* and *C. Intybus*, 55  
*Clary*, 64  
*Cochlearia Armoracia*, 9  
*Cole* or *Keele*, 32; *C. florie*, 36; *C.*, open cabbage, 38; *C. curled sauie*, 39  
*Convolvulus Soldanella*, 52  
*Coolewort*, *Perseley*, 35  
*Coriander*, 64  
*Coriandrum sativum*, 64  
*Corn-salad*, 55  
*Crambe capitata*, 29; *C. maritima*, 29, 51  
*Cress*, *Bitter*, 54; *C. garden*, 54; *C. Water*, 55  
*Cressens*, 54  
*Cresson de rousseau*, 55  
*Criethum maritimum*, 60  
*Cucumber*, 57  
*Cucumis Hardwickk*, 57; *C. sativus*, 57  
*Cucurbita maxima*, 53; *C. ovifera*, 53; *C. Pepo*, 53; *C. verrucosa*, 53  
*Cynara Scolymus*, 44; *C. Cardunculus*, 44

DANDELION, 58  
*Daucos*, 7  
*Daucus Carota*, 5, 6

Dill, 64  
*Dolichos*, 27

EGG-PLANT, 26  
*Elaphoglossum*, 5, 6, 7, 23  
 Endive, 55

*Faba vulgaris*, 26  
 Feldmora, 7  
 Fennel, 64  
*Foeniculum officinale*, 64

*Galaktouchos*, 59  
*Gallitricum*, 64  
 Garlic, 48  
 Garlic, Crow, 48  
 Garlic, wild, 48  
 Garleg, 48  
*Gongulé*, 19, 23  
 Gourd, 53

*Halmlyridia*, 51  
*Heleo-selinon*, 66  
*Helianthus doronicoides*, 2  
*Helianthus tuberosus*, 1, 2  
 Horehound, 65  
*Horminum*, 64  
 Horseradish, 9  
 Hyssop, 65  
*Hyssopus officinalis*, 65

ICE-PLANT, 65  
*Intubum*, 56

KALE, 35  
 Kersens, 54  
*Kinara*, 44  
 Kohl-rabi, 30  
*Kormoon*, 47  
*Krithmon*, 60  
*Kuamon*, 27

*Lactuca Scariola*, 59  
 Lactucarin, 59  
*Larandula vera* L. var. *spica*, 65  
 Lavender, 65  
 Leek, 49  
 Lentil, 28  
*Leontodon Taraxicum*, 59  
*Lepidium sativum*, 54  
 Lettuce, 59  
 Lettuce, Lamb's, 55  
*Libanotis*, 67  
*Limonia*, 44  
*Lucullus*, 46  
*Lycopersicum esculentum*, 60; *L. cerasi-*  
*forme*, 61

*Macedonicum*, 66  
 Marjoram, Pot and Sweet, 65  
 Marrow, vegetable, 52  
*Marrubium vulgare*, 65

Marsh Samphire, 60  
*Matricaria Chamomilla*, 64  
*Melissa officinalis*, 62  
*Mentha Pulegium*, 66; *M. sylvestris*, 66;  
*M. viridis*, 66  
*Mesembryanthemum crystallinum*, 65  
 Mint, 66  
 Mustard, 59

*Napo-brassica*, 29  
*Napus sativus* and *N. sylvestris*, 23, 24  
*Nasturtium officinale*, 54, 55  
 Navew, 19, 23

*Ocimum Basilicum* and *O. minimum*, 63  
*Olusatnum*, 6  
 Onion, kinds of, 47; *O. Rock or Stone*,  
 47; Welsh or Walische, 47  
*Origanum Majorana*, and *O. Onites*, 65;  
*O. vulgare*, 66  
*Orioseelinum*, 60  
*Ornithogalum pyrenaicum*, and *O. umbel-*  
*latum*, 26  
*Oxalis*, 60  
 Ox tongue, 63

*Paludapium*, 45  
 Parsley, 13  
 Parsley, 66; Parsley, Hamburg, 67;  
 Parsley, Marsh, 45  
*Pastinaca domestica*, &c. and *P. sylvestris*  
 or *erratica*, 5, 6, 7  
 Pea Gardens and Pea, Mummy, 50  
 Pease, Rowncivall; Scottish, and tufted,  
 50  
 Penny Royal, 67  
 Petit pourreau, 49  
*Petrociliun*, 66  
*Petroselinon*, 66  
*Petroselinum sativum*, 66  
*Petrosilium*, 66  
*Phaseolus Indicus*, 28; *P. multiflorus*,  
 28; *P. vulgaris*, and *P. peregrinus*, 27,  
 28  
*Phasioli*, 27  
*Phyteuma spicata*, 19  
*Pimpinella*, 63  
*Pisum excorticatum*, 50; *P. Maris*, 50;  
*P. sativum*, 50; *P. umbellatum*, 50  
 Poirée à carde, 46  
*Portulaca oleracea*, 60  
 Potato, 13  
*Poterium Sanguisorba*, 63  
 Protein, 59  
 Pumpkin, 53  
 Purslane, 60

*Radicola* or *Radicula*, 15, 16  
 Radish, 15  
 Rampion, 19  
 Ramsons, 48  
 Rape, 23; *R. Cole*, 31, 33  
*Raphanus agris* or *sylvestris*, 15; *R.*  
*orbiculatus* and *pyriformis*, 16; *R.*  
*Raphanistrum*, 17, 18

*Rheum Rhaponticum*, 51  
 Rhubarb, 51  
 Rocamboles, 48  
 Rosemary, 67  
*Rosmarinus officinalis*, 67  
 Rue, 67  
*Rumex Acetosus*, 60; *R. scutatus*, 60  
 Ruta-Baga, 25  
*Ruta graveolens*, 67  
  
 SAGE, 64  
*Salicornia hortacea*, 60  
 Salsify, 20  
*Salvia officinalis* and *S. Silarea*, 64  
 Samphire, and *S. Marsh*, 60  
*Satureja hortensis*, and *S. montana*, 67  
 Savoy, Summer and Winter, 67  
*Scandix*, 8  
 Scarlet-runner, 28  
*Scolymos*, 44  
*Scolymus hispanicus*, 9  
*Scorzonera hispanica*, 20  
 Sea-kale, 51  
*Selinon*, 45, 66  
 Seneuue, 59  
*Serpentaria*, 20  
 Seruilla, 22  
 Serulum, 22  
 Shallot, 48  
*Sicer*, 5  
*Sikuos*, 57  
*Sinapis*, 59  
*Sisaron*, 5, 7, 21  
*Sisarum*, 21, 23, 24  
*Siser*, 21, 22  
*Siserum*, 5  
*Sisymbrium aquaticum*, 55  
*Sium Sisarum*, 21, 23  
 Skirret, 21  
 Skirwhit, 21

Skirwhite, 7  
 Skyrwort, 7  
*Smilax hortensis*, 27  
*Solanum Maglia*, 14; *S. Melongena*, 26;  
*S. tuberosum*, 14  
 Sorrel, 60  
 Spinach, prickly, round, and New Zealand, 52  
*Spinacia oleracea*, 52  
*Stachys Sieboldii*, 1  
*Staphylinos*, 5, 6, 7  
 Star of Bethlehem, 26  
 Swede, 23

*Taraxacum officinale*, 58  
 Tarragon, 67  
*Tetragonia expansa*, 52  
*Thridakine*, 59  
*Thridax*, 59  
 Thyme, 67  
*Thymus vulgaris* var. *citriodora*, 67  
 Tomato, 60  
 Toncarsyn, 54  
*Tragopogon porrifolius*, *pratensis*, and  
*purpureus*, 20  
 Turnip, 23

*Valerianella olitoria*, 55  
 Vegetable Marrow, 52  
*Vicia Faba*, 26  
*Vicia narbonensis*, 27  
*Viperaria*, 20  
*Viperina*, 20

WATER-KARS, 55  
 Witloof, 57  
 Wyrtruma, 16





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