

*Fruits
and Fruit-trees*



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FRUITS AND FRUIT-TREES.





Drawn & Etched by Tho. Listerhow.

At the Gate of the Orchard.

FRUITS AND FRUIT-TREES,

HOME AND FOREIGN.

An Index to the Kinds Valued in Britain,

WITH DESCRIPTIONS, HISTORIES, AND
OTHER PARTICULARS.

BY LEO. H. GRINDON,

Author of "*Country Rambles*," "*Manchester Banks and Bankers*,"
"*The Shakspeare Flora*," "*The Little Things of Nature*,"
and other works.

"To know
That which before us lies in daily life,
Is the prime wisdom."
Paradise Lost.

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PREFACE.



THIS volume claims to be no more than an amateur's contribution to the literature of the very large and varied subject of Fruits and Fruiting-plants. To exhaust the subject would require folios: the difficulty in dealing with even a portion of it is not to find material, but to select such as may be likely to prove most generally useful and interesting. In the following chapters those fruits only have been dealt with which are either produced in Great Britain, or which are

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imported from foreign countries as established articles of commerce. So many novelties from abroad now make their appearance in the shops, that it is hoped that a book giving exact information, at all events respecting these last, may meet a want without question often felt.

No attempt has been made to deal with the arts of Culture. They require special treatises, and happily such works have already been published by experienced practical gardeners. Neither has endeavour been made, except briefly, to describe the very numerous "varieties" of the garden fruits commonly cultivated. Particulars respecting these are given at length in the Catalogues issued every year by the leading fruit-growers. Three of the latter the author here begs to thank very sincerely for supplying him with the names of the sorts they consider supreme:—Messrs. Thos. Rivers & Sons, Sawbridgeworth; Messrs. R. Smith & Sons, Worcester; and Messrs. R. P. Ker & Sons, Liverpool.

The information brought together in these pages has been gathered from very various sources, all esteemed authentic. Everything that has needed only a carefully observant life passed in the British Islands is, so far as regards the author's own responsibility, purely and wholly original.

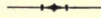
LEO. H. GRINDON.

Manchester, October, 1885.





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FRUITS AND FRUIT-TREES.

Chapter First.

INTRODUCTORY.

“My fruit is better than gold ; yea, than much fine gold.”

Prov. viii. 19.



HERE are words which touch the imagination with peculiar force, the very sound of which is agreeable, and which in their compass and immortal charm remind us of the “infinite variety” of Cleopatra. Such are Home, Spring, Truth, Friendship, Sunshine. To this excellent list belongs that other simple but very meaningful one, FRUIT. The mention of fruit never fails to inspire thoughts of classic form, artistic hue, fragrance, delight of palate, healthful service to the body. It invites also, in the pleasantest manner, to contemplation of the

delightfulness of a well-kept promise, since fruit of every kind begins with Flowers : not such as lilies, which come and go, casting their brightness on the world for only an hour ; but flowers that are prophets as well, sending the mind forward into generous autumn.

No one ever refuses fruit. Every man who has the opportunity of eating fruit, makes the best use of his chance. We are invited to fruit by the pleasant consciousness that here is something upon which Nature, in providing for our sustenance, has concentrated her richest and most useful powers. Fruits give us all their virtue at the first solicitation. We may bake if we please, or boil, or stew, but very few indeed are the fruits which are not eatable just as they come from the tree or the plant, charged with wooing nectar, and that dissolve almost upon the instant ; or if not juicy, then of the capital substance of the filbert and the chestnut. Their charm does not wait, like that of dinner-vegetables, for bringing forth under the influence of fire. A little sugar now and then, or a touch of salt, adds a certain chaste felicity to the flavour. In the aggregate they are still independent of any artifices we may call to our aid. Matured in the sunshine, they are themselves like the sunbeams of heaven, which ask nothing from mankind but grateful reception and perennial enjoyment. Because so useful to us—and this not simply as aliment, but very generally as sustainers and restorers of health, “good physicians” really and truly—Nature has endowed fruits with all sorts of pretty wiles and persuasions to

approach—"Come and eat." The things that are less good for us, though still salutary, have to make their claims heard in some indirect and merely suggestive way. Fruit speaks a language that needs no teaching, and no effort to learn and understand. The eye and the heart interpret simultaneously, and every portion of our fabric reaps the benefit.

"What beauty," says Leigh Hunt, "as well as other agreeablenesses, in a well-disposed fruiterer's window! Here are the round, piled-up oranges, deepening almost into red, and heavy with juice; the apple, with its brown red cheek, as if it had slept in the sun; the pear, swelling downwards, and provocative of a huge bite in the side; thronging grapes, like so many tight little bags of wine; the peach, whose handsome leathern coat strips off so finely; the pearly or ruby-like currants, heaped in light, long baskets; the red little mouthfuls of strawberries, ditto; the larger purple ones of plums; cherries, whose old comparison with lips is better than anything new; mulberries, dark and rich with juice, fit to grow over what Homer calls the deep black-watered fountains; the swelling pomp of melons; the rough, inexorable-looking coco-nut, milky at heart; the elaborate elegance of walnuts; the quaint cashew-nut; almonds, figs, raisins—in short,

'Whatever Earth, all-bearing mother, yields,
Rough, or smooth rind, or bearded husk, or shell.'

How much more refined a service, he might have continued, the waiting upon a lady in a fruit-shop than in a

pastry-cook's! A white hand looks better on a basket of strawberries than on any sophisticated preparation from the oven. Man or woman, whoever it may be, that renders the comely meed of ripe fruit, takes us, in that pleasant action, so much the nearer to nature, thus to the pure, upon which we can always rest in faith.

Surely, too, it is because so good for us that Nature yields her fruits in abundance so vast. No niggard hand is that which converts the orange-tree into an *eldorado*, and hangs the crimson clusters upon the currant-bushes. Happy the day when the munificent design of all this shall be recognized by statesmen and every one in power, and simple alimentary fruit, that costs little to produce, be reckoned as one of the genuine "rights of the people." Happy again when it is remembered that God sends fruit, as He sends flowers, not for personal pleasure only, but for employment in kindly charities, very specially in the hospital. A sound and large-hearted Christianity is better declared by the gift to a poor creature who has lain for weeks, perhaps months, on the couch of sickness, of a bunch of grapes, or a basket of strawberries, the "fruit of refreshing," than by any amount of aëriform benedictions. Here, indeed, it is "blessed to give." For the same reasons, how vast becomes the practical importance of seeing that our gardens and orchards contain the best varieties, the sweetest and the most prolific. Fruit-culture, fortunately, is no longer hap-hazard, but now conducted upon scien-

tific principles. The best kinds of fruit can be got quite as easily as the inferior. No man is constrained nowadays to put up with anything third or fourth rate. Not that the procuring of good sorts from the nurseryman is the all in all. Fruiting-plants require care, attention, and watchfulness every bit as much as orchids. It is the successful treatment of these which proves the gardener's ability. That beautiful and far-reaching phrase, "By their fruits ye shall know them," is not more true in morals as a metaphor than in the literal sense when we are looking to those who dig and prune.

The garden and market-place signification of the word Fruit is, after all, only a part of that in which it is employed by the botanist, and this it becomes important to consider, so that we may perceive how very limited is the ordinary sense. The fruit of a plant is the seed-case when ripe—the portion of the flower which in its earliest state was the "ovary," with anything, in special instances, that may have become adjoined to it. Many actual "fruits" are regarded as only "seeds," as corn of all kinds, and the fruits of such plants as sage, parsley, and the sunflower. But every one of these consists of a seed within and a "pericarp," or enclosing case, though this may be a simple shell or integument. Of this seed-like class of fruits there are probably, taking the whole world, quite twenty-five thousand. The beauty of very many of them is delectable, as happens with the embossed cypseles of the hawkweeds, and the polished grains of the forget-me-not. Another twenty-five thousand of the

botanical "fruits" come to the front as finished examples of the capsule, the cone, the legume, and of the natural urns, vases, cups, and goblets which Art has in all ages delighted to imitate in gold and silver, marble and glass. A collection of the principal types of these compares well with a cabinet of sea-shells. How beautiful the sculptured produce of the pine-tree; the round head of the poppy, with its ring of little apertures under the eaves for escape of the seeds; the acorn in its tessellated cup; the three-fold pod of the moringa; the ribbed hemisphere of the sand-box tree! Another set, smaller in measurement, includes those charmingly pretty play-things of nature, the fruits of the common pimpernel, the rose lychnis, the wood-sorrel, the birdsfoot, the willow-herb. They are little, it is true. Are they, then, insignificant? Little things belong to much more elevated reaches of eyesight than big ones. Any one can see big things. The perceiving of little ones demands fine and assiduous culture of the best of the human faculties, the inner eyes as well as the outer. The minims of nature declare far more powerfully than the immense things that nature is "a lute that lieth still," waiting only the skilful musician.

Yet another great company of the botanical "fruits" presents itself in the form of Berries. The scope for variation is here much more restricted, seeing that a berry must needs be more or less oval or spherical, and totally devoid of carving or filagree. Never mind. There is always a resource. Here the lack of diversity in figure is

compensated by inexhaustible variety of bright colours and endless fashion of cluster. Recall the spectacle presented at Michaelmas by the opulus and the mountain-ash, the innumerable shining scarlet of the hedgerow brier, the crimson of the dulcamara, the festoons of the curling bryony, the deep-toned purple of the elder, the raven-wing thyrsi of the privet, and at Christmas the bracelets of Old England's incomparable holly. As in the field so in the garden, where the impearled snow-berry is challenged by the scarlet aucuba, the berbery, the Mahonia, the cotoneasters in their many kinds, the thorns, no fewer, the arbutus, the pyracantha, and the passion-flower, with golden pendants as large as plums. Every good conservatory makes equal show in its plenty of scarlet Rivina, ardisias, and cherry-solanums, in its white leucobotrys, and azure-berried Billardiera and elæocarpus. Berried plants, in the hands of the skilful decorator, stand abreast of the best examples of tinted foliage, and often prove more valuable for enduring ornament than even the longest-blooming flowers.

Before parting with them it is unwillingly that we are constrained to remember that among fruits there are many that are deleterious, malevolent, and even poisonous. That a fruit should at any time prove false to its exalted ideal is a disheartening discovery, and one rendered more lamentable by the traitors being detected among the Berries, since it is these which are most likely to seduce the unwary. Happily, the number of really poisonous berries is very small in comparison with the

harmless ones, and it is seldom that the flavour of these is sufficiently inviting for much danger to accrue. In England we have the scarlet berries of the common arum, or "lords-and-ladies," and the shining black ones, not unlike cherries, of the belladonna, or "deadly-nightshade." There is again a very capital set-off. The infinite benevolence of nature has attached to every poisonous plant some special mark or feature by which it may be learned off-hand. It will be a good sign that truly useful Botany is being taught in schools when the pupils are less heavily charged with abstractions regarding protoplasm and cell-formation, and are shown how to distinguish noxious plants from the innocent.

No exact line can be drawn between fruits popularly so called and those which are "fruits" only with the botanist. The margins overlap, and not infrequently the idea of a fruit changes with the latitude and the people. Berries disdained in a wealthy country are prized where there is nothing better to be got, as when the Indians of North America resort to the Gaultheria. In warm countries, again, many become palatable which in cold ones are harsh and insipid, as cornels in the south of Europe, the gay fruit of which Horace boasts when he sends to his dear friend Quintius that beautiful little sketch of his Sabine country-seat: "And did you but see my hedges, rich with sloes and ruddy cornels!" So, again, as myrtle-berries in the Levantine countries. "Of the perfumed berries of the myrtle," says Miss Beaufort (now Lady Strangford) in one of the most lively and

picturesque books of Eastern travel ever printed, "while staying at Damascus, I made my luncheon."* The botanical fruits also include various esculents commonly counted with the "vegetables," as kidney-beans, marrows, cucumbers, tomatoes, aubergines; with certain spices and condiments, as capsicums, pepper-corns, pimento, and vanilla-pods.

Confining the term to fruits commonly so understood, the total number in the whole world is small in proportion to the entire number of different flowering-plants. Probably the total is about five hundred. Many are peculiar to tropical countries, as the mango, the mango-steen, the durion, the papaw, the sour-sop, the sweet-sop, the mammee, the anchovy-pear, the alligator-pear, the cherimoyer, the rose-apple, the bread-fruit, the guava, the carambola. Of these we never see examples in England (though a few may now and then be ripened in some choice hothouse), because too perishable to be conveyed across the water. Others belonging to subtropical and the warmer temperate countries, though staples or favourites at home, are equally unknown in England, for various reasons easily conjectured, such as the water-chestnut of the south of Europe, the famous nelumbo-seeds of Asia, the Moreton Bay chestnut, the May-apple of North America, and the kei-apple of Natal. In England, of indigenous fruits, growing wild and collected for market, we have six or seven—the blackberry, the cranberry, the whortle-berry, the elder-berry, the

* "Egyptian Sepulchres and Syrian Shrines," 1861, p. 318.

cloud-berry, and the hazel-nut. Of kinds more or less probably indigenous, *plus* many introduced from foreign countries in bygone ages, and assiduously cultivated, we have over twenty—the apple, the pear, the quince, the medlar, the peach, the nectarine, the apricot, the plum, the cherry, the grape, the gooseberry, the currant, the raspberry, the strawberry, the walnut, the melon, the pineapple, the fig, the mulberry, and others of less importance. Some of these present themselves under forms so different—the plum, for instance, when fashioned into a greengage—that practically the number is perhaps nearer thirty. Of imported fruits—few of them ever cultivated, and then chiefly as curiosities or for ornament—the list runs again to about a score, including the orange, the lemon, the citron, the lime, the shaddock, almonds, chestnuts, coco-nuts, juvias, sapucajas, opuntias, bananas, pomegranates, hickory-nuts, pecuan-nuts, souari-nuts, etc., all in the fresh condition, or just as they come from the tree, with various dried ones besides, as dates and litchis. Figs in the dried state, “French plums,” prunes, raisins, and the currants of the grocers’ shops may be mentioned for completeness’ sake, though belonging botanically to the previous lists. Occasionally we may see loquats, the custard-apple, granadillas, and a few others, the aggregate of all sorts thus amounting to about sixty. The number of the strangers will probably increase year by year, owing to the more rapid ocean communication now practicable, and to that laudable, not to say noble, interest in the productions of foreign

countries which always marks a highly civilized community, and which has already filled our gardens and conservatories with the loveliest flowers and the greenest leaves played forth by nature.

Two very interesting questions here present themselves. Whence did England derive, in the first instance, the fruits not indigenous we now cultivate? and from what countries do we receive the imported ones? The history of all the very ancient fruits, such as the fig, the grape, the walnut, and the citron, and of some even of the comparatively modern ones, such as the orange, presents in many of the particulars the complexion of a romance, so curious is the blending of truth and fable. Dating, like the history of the cereals, and of language, from the earliest ages of which we have knowledge, over some of the most interesting portions there hangs a veil that will be lifted only when men behold the face of Isis. It is practicable, nevertheless, to trace what may be termed the middle history, or that which runs abreast of the diffusion of Christianity. As regards our own island, fruit-culture may be referred, for its beginning, to the Romans, that wonderful people to whom primitive Britain was indebted for its first lessons in the useful arts, as road-making and architecture. The Roman governors and other magnates, of whose handsome and well-appointed villas vestiges still exist, brought into this country the earliest practice of horticulture. It was the Romans who introduced "greens" and the onion, and among fruit-trees, the chestnut and the vine, probably

also the apple and pear, the plum, the cherry, the fig, and the walnut. That some of these in their crude form are natives of Britain is quite true. But the harsh crab and austere wild cherry are not to be confounded with improved descendants fit for the orchard. Introducing the eatable kinds, the Romans have as clear a title to be considered the founders of British apple and cherry culture as of the cultivation in our island of the vine. The six or seven indigenous British fruits, eatable just as they occur in the wilderness, and never cultivated for market, have been mentioned above. Two others only are palatable without cultivation, the wood strawberry and the raspberry, and these would be all the Romans found on their arrival. Let us not forget, however, that pleasant little fruit-substitute which Caractacus himself may not have disdained to eat, and which in another immortal island was for certain not unknown to darling Miranda—

“And I with my long nails will dig thee pig-nuts.”

Though introduced by the Romans, the culture of several of the fruits named above, after their departure, in all likelihood, declined rapidly, and some of them may have been lost. With the Normans, that other great people to whom Britain owes so much, horticulture flourished anew. In the gardens of the monasteries—those grand old asylums of literature and religion when everything around was dark and rude—along with medicinal plants would certainly be cherished whatever good fruits were

procurable. The monks always sought to establish themselves in situations favourable to the cultivation of good fruit, just as they always had an eye to good fishing. Under ecclesiastical influence, during the old days of monastic splendour, when Tintern, and Fountains, and Rievaulx, and Furness, were the centres of the local civilization, there can be no doubt that many excellent introductions from the Continent took place. The period of the revival of learning was also eminently favourable to fruit-culture. With the period of the Reformation may be associated, very definitely, the original culture of the gooseberry and the currant; probably, also, of the strawberry and the raspberry. Henry VIII., whatever his short-comings in other respects, was a great patron of fruit-growing. The troubles upon the Continent which drove the Flemings, with their auriculas, into old England, refuge always of the destitute and forlorn, again proved serviceable to our gardens. Of substantial importance even greater was the assiduity, with a view to improvement of quality, which marked the seventeenth and eighteenth centuries. Fruit-culture at length became one of the fine arts, and to-day there is no country in the world in which the value of science, in many of its departments, is so well demonstrated as by the British fruit-grower. The precise date of the introduction of any particular kind of fruit is thus in most cases indeterminate. It can be conjectured, but no more.

The history of the importation of gathered fruit from foreign countries forms quite as interesting a chapter in

the annals of British commerce. Cherries and pears were supplied from the Netherlands at a very early period. When the cathedrals were building, when Venice was in its glory, there came from the ports in the Mediterranean dates, oranges, lemons, almonds, chestnuts, pomegranates. In the Elizabethan age, the banana and the coco-nut made their appearance, only as curiosities—an item, nevertheless, of no little significance in the record. The pine-apple was first seen in the reign of Charles II. Which shall we put down as the latest introduction? The fruit, it would seem, of the “tree-tomato,” *Cyphomandra betacea*, to be spoken of by-and-by.

The aggregate of the present imports, until the actual figures are seen, is almost inconceivable. According to the Government Blue-book “Annual Statement of the Trade of the United Kingdom with Foreign Countries and British Possessions,” the quantities of the different kinds of fruit landed upon the shores of England, and the declared values, were in 1883 as follow:—

		Value.
Almonds	61,654 cwts. ...	£232,260
Apples (raw).....	2,251,925 bushels...	553,488
Nuts	— ...	455,124
Oranges and lemons.....	4,477,043 ,, ...	1,704,826
Various fruits, not specified (raw)	2,660,475 ,, ...	1,380,952
Do. do. (dried) ...	299,866 cwts. ...	303,337
Do. do. (preserved without sugar).....	15,364,015 lbs. ...	147,623
Succades, including all pre- served in sugar	37,168 cwts. ...	124,088
Currants.....	1,026,584 ,, ...	1,423,062

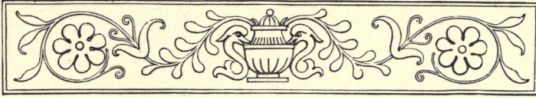
			Value.
Figs and fig-cakes	128,434 cwts. ...		£262,671
French plums and prunelloes	13,937 ,, ...		54,430
Plums (dried or preserved) ...	1,841 ,, ...		6,651
Prunes	25,343 ,, ...		35,226
Raisins	588,309 ,, ...		1,057,934
			<u>£7,741,672</u>

In addition to this enormous quantity, all destined for the British mouth, there was an import of 61,262 tons of various “nuts and kernels used for expressing oil,” value £872,179. Apart from contemplation of the magnitude, how vast the amount of diverse industry implied! What breadths of land to supply it all! What diligence in the gathering! How many good ships to be freighted! How much enterprise and activity in the buying and selling! No mean position in the world’s economy assuredly is held by flowers, since in flowers all fruit begins. Who shall measure the annual fruit-commerce of the world? Jamaica alone sent to the United States, in 1884, more than five millions of coco-nuts, and nearly forty-two millions of oranges!

Now arises a third question. In what parts of the world did our cultivated fruits originally grow? What countries were their birthplaces? When and how—for that some have travelled far is very plain—did they get diffused? In the beginning, the seeds of different sorts would be carried, as at the present day, by birds. In all ages, streams of water and the waves of the sea have lent their aid in promoting dispersion, the sea very conspicu-

ously in the conveyance of the coco-nut to the islands of the South Pacific. Others would be carried by man, in the course of his wanderings and migrations. But who shall write the minute history? No problems are more difficult; few are more fascinating than are wrapped up in the archæology of the fruit-bearing plants. It is well that we are thus beset, since half the enjoyment of life consists in the sense of being embosomed in enigmas.





Chapter Second.

THE APPLE (*Pyrus Malus*).

“For things we make no compt of, have in them
The seeds of life, use, beauty, like the cores
Of apples, that we fling away.”—*Festus*.



FOREMOST always among fruits interesting to an Englishman is the Apple. The apple is of more use and benefit to the people of England in general than all the other fruits put together. It remains longest in season, and can be used in the greatest variety of ways. No one ever objects to apples. Newly gathered from the tree they are the most brisk and refreshing of all the common fruits of temperate climates. For culinary purposes they are unexcelled; even when dried, as in “Normandy pippins,” their merit remains; and we must not forget that the most genuinely English beverage

is cider. No one ever tires of the apple. It is to fruits in general what good wheaten bread is to other accustomed food. While it satisfies it never cloyes. There is no time of life, either, when the apple becomes a superfluity, or is no longer suitable as aliment. As for boys and girls in fair health, for them the apple would almost seem to have been primarily created. There is a period in the life of children when they are hungry all over, voracious at every pore. Eat they must and will, flying to cakes and mischievous sweets, candies, and confecti-
ons, unless judiciously supplied with what is really wholesome. Bread is deficient in savour. Fruit, fully ripened and of simple kinds, is the happy medium, and in no shape is it better for them than that of the apple. The tree itself is recommended by its hardiness—it thrives wherever the oak will flourish; by the ease with which it accommodates itself to every diversity of soil and situation our island affords—very good apples are ripened in the Orkneys, and even in Shetland—and by the comparatively late season of the bloom, so that a fair crop can always be calculated upon. In Britain no fruit can be brought to so high a degree of excellence with so little trouble, though pains taken in apple-culture never go without plentiful reward: the fruit is infinitely varied in flavour, and in the comeliness that ensues upon change of form and colour; and to complete the pleasant list of virtues and good qualities, there is the longevity, and, increasing with age, the gracious fertility. The potential life of an apple-tree is quite a hundred and fifty years.

Many of the best apples shown at the great Congress of 1883 came from trees a full century old, and comparatively few were from trees less than fifty years of age.

No wonder that the apple appears so often in myth and fable ; that it serves the poet so well as a symbol at once intelligible and picturesque ; and that if in past times there were "apples of discord," to-day we have our "love-apples." In literature, as these phrases show, the word is not to be always taken in the strictly literal sense. In fiction it is apt to appear after the same manner as "rose" and "lily," the figurative image of something delectable, even supreme, not a reality, but abundantly significant to the imagination. Not apples to be eaten were those in the mind of the donor of the famous fable of Hippomenes and Atalanta, where the maiden loses the race through stopping to gather up the too seductive "poma aurea ;" nor were they veritable apples in the picture of the golden fruit of the Hesperides, in that beautiful story of the three chaste young ladies, far away in the West, who kept them safe from intrusion and curiosity. The meaning of the fable is easy to discern. Every particular has its purpose ; it would be difficult to find anything in the whole range of story and myth more delicately expressed, or more in harmony with the best principles of nature and virtue. No wonder, again, that painters of the Temptation of Eve, sustained by *Paradise Lost*, should employ the apple to represent the fruit of the Tree of Knowledge ; and that in the A.V. of the

Old Testament, whatever the Hebrews understood by *tappūach*, we read upon six occasions of "apples" and the "apple-tree." "Apples of gold in pictures of silver;" "Stay ye me with raisins, comfort me with apples;" "As the apple-tree among the trees of the wood, so is my beloved among the sons: I sat down under his shadow with great delight, and his fruit was sweet to my taste." Not one of the Scripture references carries allusion to the apple of the English orchard. That the ancient Hebrews ever saw or knew anything of apples of any kind is in the highest degree improbable. The Hebrew word simply denotes something fragrant. The quince, the citron, the apricot, have all in turn been suggested as the fruit meant. Conjectural the proper rendering must remain, and seemingly for ever, since the "Revised" has allowed "apple" and "apple-tree" to stand untouched. Their idea of the words (apple and apple-tree) is very plainly that they are to be understood as very elegant and intelligible figures of speech.

The tree, as well known, is one of medium dimensions, disposed to be round-headed, but never lofty. The leaves are ovate, and fall in autumn. The flowers come at the same time as the cowslips and the poets' narcissus, in little umbels of three to six; in figure, as in all the rest of their family, they are rosaceous, the five petals quite free, white, and delicately shaded outside with pale carmine. Hence the enchanting spectacle of an apple-tree in full bloom—a sight as lovely as the scarf of Iris*—not simple

* "Rich scarf to my proud earth."—*Tempest*, iv. 1.

snow, like a cherry or a pear, but roseate. The uppermost portion of the flower-stalk is deeply concave, the sepals of the calyx springing from the margin, as do the petals and the numerous stamens, while in the centre are five slender pistils. The curious should note this carefully, since the apple, as regards structure, is one of the most remarkable productions of nature. The rule in plants is for the ripe fruit to consist only of the matured ovary. In the apple the matured ovary is the smallest portion of the fruit! Soon after the petals drop, the vase-like top of the peduncle becomes gradually distended with juicy tissue. By degrees it adjoins itself to the pistils within. These at last become completely embedded, and constitute the "core"—French *cœur*, the heart. A horizontal section of a ripe apple shows plainly where the adhesion took place, this being indicated by green fibres. A ripe apple is thus, in truth, *imperium in imperio*, a fruit within a fruit. Contemplated only in maturity, it would seem to be one of the class technically called "inferior," very numerous, and explained perhaps on the same general principle—that of the adhesion of outward parts to inner ones. The charm about the apple is that we can watch day by day how all progresses. The lesson it gives is quite as salutary as pretty, since it is only by studying and watching development, beginning with infancy and youth, that we can ever properly comprehend conclusions and the perfect. The five cells of the core contain (unless some of them fail) two brown seeds or "pips" apiece, so that every apple is designed

originally by nature to be the parent of ten more apple-trees. This astounding fecundity in regard to possible offspring, shown also in most other plants, seems beyond the power of man to understand. When seed is distinctly the food of any of the lower classes of animal life, it speaks for itself as another disclosure of the divine munificence. By-and-by perhaps we may know: for the present the question goes with the enigmas. "Pippins" are properly apples that have been raised from these "pips" as distinguished from grafts, though the name is now restricted to particular sorts. "Grafts" are simply multiplications of an already existing kind. The elder horticulturists thought that a tree was improved by re-grafting, *i.e.* grafting upon itself. Hence the term *rennet* or *reinette*—a corruption of *re-natus*.*

The native countries of the apple cannot be said to be certainly known. According to Decandolle it appears to be most truly indigenous in the district lying between Trebizond and Ghilan (North Persia). He believes it to be a native also of the mountains of north-west India, and of Europe in general, excepting the extreme north, Britain included. Karl Koch, on the other hand, whose views and opinions are never to be treated lightly, while he allows the Asiatic claim, considers that the apple is only naturalized in Europe, though the introduction may have taken place in pre-historic times. That it existed

* "Grafted," the accustomed word, is a vulgarism, as bad as "drowned." See the A.V. of *Romans* xi. 17, 19, 23.

in Europe at that remote period is proved by the remains of apples found in the Swiss Lake-dwellings. When we talk of the native country of a cultivated plant or tree, of course it means of the plant in its crude, original, rudimentary condition. Garden apples are not spontaneous anywhere. All have come, in course of time, from simple and primitive forms represented in our English hedgerows by the Crab; for this seems after all to be only one of three or four different species of *Pyrus*, each of which has played its own part in the origination. It is convenient to call the English Crab and all our cultivated apples by the collective Linnæan name of *Pyrus Malus*. Still, however, we have to ask how much of their nature and character they may have inherited from the *Pyrus pumila* (or *præcox*), the *P. dasyphylla*, and the *P. prunifolia*; the "crab" of England, a tree found all over Europe, receiving their various influence, just as ancient families, though preserving their integrity, have been tintured by their marriages right and left. At what period and in what country the austere crab began to disclose its wonderful capacity for change to a better condition, and by what circumstances the tendency to improve was first aroused, there is no possibility of finding out. Probably the change was contemporaneous with the development of the social and constructive instincts of man, pertaining to no particular spot and to no particular period. Good apples no doubt arose in the earliest times, as they constantly do at the present day, "by accident." Nature has not two ways of working, nor did

the bees only begin to carry pollen from one flower to another when men first observed them engaged upon what Virgil so felicitously calls their "studies." That the crab grew into a sweet and pleasant thing at a very early period is shown by the ramification of the name, plainly Aryan (making allowance for dialectic changes), throughout the languages of the old Celtic and Northern nations, in whose legends and mythology the fruit also appears very generally. With our Saxon ancestors it was "æpl" or "æppel." That the ancient Greeks possessed it is shown by that charming picture in the *Odyssey*, so simple and natural, where Ulysses reminds his aged father that when a little boy he had given him, for his own garden, "thirteen pear-trees, and ten apple-trees, and forty fig-trees:" "I asked each of thee, being a child, following thee through the garden, and thou didst name and tell me each."* How tenderly the words recall to mind that fragment of early paradise—our own first little plot, where, in the golden days of "lang syne," we first learned how to feel and see. Truly the great poets are for all the ages: "the sun of Homer shines upon us still!" In Roman literature references to apples are frequent. Yet even in Pliny's time good ones would seem to have been scarce in Italy, for he knew of apple-trees in villages near the imperial city which were more profitable to their owners than small farms. The good wrought in England by the Normans has already been mentioned. It was during their time that apple-culture commenced in our

* xxiv. 336-344.

island the noble course which has never slackened. Cider-apples were introduced by the Normans, and though Kent led the way, it was while the earliest cathedrals were rising from the ground that the foundations were laid for the future fame of the "cider-counties,"* those beautiful lands, beginning with Devon upon the south, and ending with Hereford in the north, which form a semi-circle round the upper portion of the Bristol Channel, and which, when the orchards are in bloom—often covering many acres—are the loveliest in our country; becoming so again when the fruit is ripe, excelling even the corn-fields. For a short period in late autumn, the spectacle, in some parts at all events, is unique, one that in England only apple-trees can supply. This is when the leaves have mostly dropped, but the fruit still clings to the boughs, and, the sun shining on its loveliness, we are reminded of Paris on the top of Ida, and the rival goddesses who for a moment

"The veil divine
Cast unconfined, and gave him all their charms."

The names of various old towns and villages in England which commemorate early apple-culture, as Applethwaite, Applegarth, Appleby, Appledurcombe, date, according to Isaac Taylor, from times anterior to the Conquest.

* Cider is said to have been first made in England about the year 1284. Coincidences are always curious: the preparations were just then in hand for the building of the nave of York Minster; Caernarvon Castle, quite recently completed, was the scene, in this identical year, of the birth of Edward II.

“Appleton,” the family surname, began just after it. In 1066, among the followers of William there was a lady of the name of Mabilia. She fixed her residence in Kent, at one of the many places where apples, it would seem, were already plentiful, and, commending herself to the people by her virtues, became known as Mabilia d’Appleton, or Mabilia of the apple-orchards. Her descendants, the Appletons of Kent and the adjoining counties, like the Traffords of Lancashire, still, after eight hundred years, cling faithfully to the ancestral soil. The heraldic crest became an apple-bough, with leaves and fruit, and continues such to the present day.

This inestimable fruit-tree has been carried, during the last three centuries, to every part of the world where it can thrive. Hot countries are unfavourable to it: the fruit is appreciated nevertheless, as in Alexandria, and even Cairo, where imported European apples never wait long for a purchaser. It does admirably well in New Zealand, and in Australia, whence apples are now finding their way to the English market, arriving, very opportunely, in the spring. In the park-like prairies of Chili it has become quite plentiful;* it has reached even to Patagonia; and how grand has been its success in North America needs no telling. What may be the dimensions of the largest apple-tree in the Old World we do not know, but

* In Chili there is made a good deal of cider, in Spanish called *chicha*, and corresponding, in its use and measure of popularity, to the *vin ordinaire* of the French.

in Cheshire county, Connecticut, U.S., there is one certified by family tradition to be quite a hundred and forty years old, the trunk of which at a foot from the ground, above all the enlargements common to the base of trees, has a girth of over thirteen feet. The uppermost limbs of this wonderful tree reach to the height of sixty feet, and the lateral spread of the whole is a hundred feet. From five out of the eight branches there have been gathered crops varying from eighty-five to one hundred and ten bushels of perfectly good ripe fruit. The best of the New World apples now come from Nova Scotia, immensely to the credit of that little colony; the next best from Canada. This helps to prove that it is not cold winters which are obnoxious to apple-trees. They are content to endure frost if it be balanced by hot summers. American apples are now brought to England in prodigious quantity. In 1881 the import amounted to 1,250,000 barrels. We receive plenty, also, from continental Europe, the total from all parts amounting in 1882 to 2,386,805 bushels. In our own island, according to the Agricultural Returns for 1883, the number of acres planted with fruit-trees is about 185,800. About 150,000 are devoted, probably, to the culture of the apple, and as an acre will hold, on the average, about seventy, the total number of orchard trees owned by old England will exceed ten millions. How many more exist in private gardens it is impossible to estimate. What comes of this wonderful amount of apple-culture was illustrated at the great Apple Congress mentioned above (p. 19), Chiswick,

October, 1883, when two hundred and thirty-six exhibitors placed upon the tables no fewer than ten thousand one hundred and fifty dishes, illustrating two thousand and twenty different varieties, of which the judges allowed one thousand five hundred and forty-five to be truly distinct. With a view to determining the best, a poll was taken on the votes of a hundred and thirty of the exhibitors, the result being that among dessert apples "King of the Pippins" won the honours, "Cox's Orange" coming next, and the "Ribston Pippin" third. Of the culinary apples in cultivation "Lord Suffield" was considered the best; then "Dumelow's Seedling;" and thirdly, "Keswick Codling." A "codling," it may be remarked, is any apple that requires cooking, as illustrated in Shakspeare,* and in the congregate word "pease-cod," literally green or unripe pease. In reference to the judgments at the Congress, there was naturally considerable difference of opinion, some apples being more popular simply because better known in particular districts than others quite equal in quality. Some kinds, moreover, excellent when the crop can be secured, are disappointing because apt to fall prematurely from the tree; or because, though they ripen well, they are of inferior "keeping" power. The apple perfect in all respects—the best "all-round" sort—has yet to be certified. The cultivator must be satisfied with a good percentage of merit, and any one about to plant a garden or orchard must consult growers

* "Not yet old enough for a man, nor young enough for a boy, as a codling when 'tis almost an apple."—*Twelfth Night*, i. 5.

of local experience, and consider what he himself particularly wishes to possess. By the kind permission of the editor of the *Gardeners' Chronicle*, we here reprint a list of the dozen varieties considered best in the six districts of England marked out at the time of the Congress for the sake of preliminary classification. The list was supplied by Mr. P. Grieve, of Bury St. Edmunds,* the names following in the order of merit ascribed to the various kinds. Apple-names, like those of roses, do not pretend to be scientific. They are bestowed simply for convenience of identification.

GROUP I.	GROUP II.	GROUP III.
Southern Counties.	Eastern Counties.	South Midland Counties.
Cox's Orange King of the Pippins Ribston Pippin Blenheim Orange Kerry Pippin Devonshire Quarrenden Court de Wick Sturmer Pippin Scarlet Nonpareil Irish Peach Yellow Ingestre Fearn's Pippin	Cox's Orange Blenheim Orange Kerry Pippin Irish Peach Sturmer Pippin Golden Harvey Red Quarrenden Golden Winter Pearmain Lord Lennox Russet Nonpareil Scarlet Nonpareil Ribston Pippin	Cox's Orange King of the Pippins Ribston Pippin Kerry Pippin Devonshire Quarrenden Irish Peach Fearn's Pippin Claygate Pearmain Adam's Pearmain Scarlet Nonpareil Wyken Pippin Court de Wick

* April 18, 1885, p. 503.

GROUP IV.	GROUP V.	GROUP VI.
North Midland Counties.	Western Counties.	Northern Counties.
Cox's Orange Blenheim Orange King of the Pippins Ribston Pippin Irish Peach Court de Wick Kerry Pippin Sturmer Pippin Fearn's Pippin Maltster Mr. Gladstone Nonpareil	Cox's Orange King of the Pippins Ribston Pippin Irish Peach Margil Court Pendu Plat Devonshire Quarrenden Kerry Pippin Blenheim Orange Ashmead's Kernel Sturmer Pippin Scarlet Nonpareil	Cox's Orange King of the Pippins Ribston Pippin Blenheim Orange Irish Peach Kerry Pippin Early Margaret Claygate Pearmain Devonshire Quarrenden Red Astrachan Yellow Ingestre Adam's Pearmain

“King of the Pippins,” the victor over all, is an apple renowned for its free and constant bearing qualities, and the abundance of the crop even upon very young trees. Scotland, however, claims for its best the “Ribston Pippin,” “King of the Pippins” standing only second, and “Cox’s Orange” considerably lower in the scale. This may come of the last-named not succeeding so well in the northern parts of the island as in the southern, or it may not be so well known. In Ireland the two finest varieties of dessert apple are considered, as shown by the votes, to be “Irish Peach” and “Summer Strawberry.” To describe these various kinds is, in the present place, quite impossible. Their manifold shapes, colours, and

qualities are familiar, in truth, only to specialists and great cultivators; and to the uninitiated, without actual sight of the fruit, words can seldom be much more than words. It may be useful, however, to mention a few more of the fifteen hundred sorts under cultivation as particularly valuable, thus to be inquired for by the intending planter. For culinary use it is allowed that the old "Keswick Codling," though placed only third at the time of the poll, still maintains an untouched reputation. "Lord Suffield," despite its blue ribbon, is acknowledged, *per contra*, to be one of the shortest-lived as to tree, and one of the worst keepers as regards produce. No such comment is made upon Grosvenor, Yorkshire Beauty, Echlinville Seedling, Peasgood's Non-such, all of them good early sorts. Capital kitchen apples, to succeed the above, are said to be Lord Derby, Mère de ménage, Beauty of Kent, Warner's King, New Hawthornden, Cox's Pomona, and Nelson's Glory. Excellent late varieties, also for the kitchen, are Winter Greening, Rosemary Russet, and Bringewood Pippin. Really it is upon these culinary or kitchen apples that the mind rests with the profoundest sense of thankfulness and satisfaction. The germ of civilization is found in the art and science of the kitchen. The apple, were it valued and honoured as it deserves to be, would take its place upon the table as regularly as the potato. We do not use it half enough in our cooking. Happy the day when the illustrious old roasted apple—not the unfortunate victim of the modern stove, simply softened, but the

hot and foamy, bubbling, fragrant one, full of comeliness and romance, fresh from the side or front of the fire, *ipsissima* and *bonâ fide*—shall come back to the place it always ornamented and honoured, and the heart be moved to ejaculate once again, “Blessed be the man who invented roasted apples.”

Among dessert kinds of corresponding merit for general purposes may be specially recommended the Claygate Pearmain, Scarlet Pearmain, Worcester Pearmain, Adam’s Pearmain, Golden Reinette, Red Astrachan, Early Harvest, Duchess of Oldenburgh, Devonshire Quarrenden, and Seek-no-further.

Much depends, as regards success in apple-culture, upon the judicious care exercised in the original planting of the trees; remembering, at the outset, that apples like a dry subsoil, and that to hope for good results upon badly-drained land is out of the question. Apple-trees have no love for the banks of streams, nor for any kind of low-lying situation, since it is here that fogs and spring frosts are likely to be most harmful. A south-west aspect, with tendency to due south, is their delight as to point of the compass. If the situation be somewhat exposed, and anything of the nature of an orchard be intended, the trees should be planted rather near together, say about eighteen feet apart. In sheltered situations, and where the soil is kindly, the distance should be about thirty feet one from the other. In either case the lines of trees should be planted not in such a way that every four trees shall make a square, but after the manner called

by mathematicians "quincunx," familiar in all kinds of spotted muslin and other art patterns. The individual trees have then more room, although the reciprocal distances are no greater than when disposed rectangularly. A very good plan supplementary to the apple-tree planting is to insert a plum-tree between every couple of apples, the plum beginning to bear sooner, and thus furnishing revenue while the orchard itself, because of its youth, is not yet productive. But do not plant too many kinds. A nicely graduated succession of sorts is far better than a multitudinous variety, to say nothing of the uncertainty of a great number of different sorts doing well in any one specific locality. No collection, even of moderate extent, can be depended upon for a certain crop every season in a climate like that of England, where so many perils are identified with the period called Spring. Plentiful as apple-trees are already, there is room in England for an indefinite annual increase of the number. Every small farm ought to have its orchard, and its plot of bush-fruits as well, since, excepting during hay-time, the owner generally has leisure enough to attend to all that is wanted, and the return helps in no slight measure to pay the rent.

Apple-culture in England will not have attained its proper status until another great fact is recognized and acted upon—namely, the inexpressible value of fruit-trees in general as decorative or ornamental objects. Orchards laid out with pleasant walks, provided with seats, and a fair amount of flower-beds, so as to invite to quiet morn-

ing and evening stroll, would then indeed be charming. They would double the enjoyment of May, and very specially of ripe October. To sever the ideas of fruit and flowers is to divorce things joined together in the beginning by God who made them, and who intended them to be in nature, as the year's evening approaches,

“Like perfect music set to noble words.”





Chapter Third.

THE PEAR, THE QUINCE, THE MEDLAR, THE LOQUAT, AND OTHERS.

“O Spring, of hope, and love, and youth, and gladness,
Wind-wingèd emblem ! brightest, best, and fairest,
Whence comest thou, when, with dark winter's sadness,
The tears that fade in sunny smiles thou sharest ?”

Shelley.



THE history of the Pear (*Pyrus communis*) corresponds, in some degree, with that of the apple. The original native countries would seem to be the same, so far as regards the typical or primitive form—the district, that is to say, of the southern Caucasus and the north of Persia, extending therefrom, westwards, over all parts of temperate Europe, reaching even into the southern portions of Sweden, and somewhat doubtfully into our own island. To assert positively that it is

European as well as Asiatic would be somewhat bold. Many of the seemingly wild examples in Europe are probably no more than descendants of ancient cultivation; and not only so, for, as with the apple, it seems quite likely that the pear, as we have it to-day, has come of the intermarriage (in some of its varieties, at least) of three or four different ancestors. The primitive parent, the Adam of the race, may be correctly imagined, in all likelihood, from the crude forms of the *Pyrus communis* still to be found; but there can be little doubt that were the pedigree of the pear in its best existing form within reach, it would show the names also of the *Pyrus eleagri-folia* of north-eastern Asia Minor; the *Pyrus Sinaica* of Syria, whence this tree was conveyed to Italy contemporaneously with the Damascus (or damask) rose; and specially the *Pyrus Achras* of southern Russia, the beautiful species so much honoured in the country of the Don Cossacks—the tree there resorted to on all occasions of *fête* and festival, and beneath which the villagers keep up their pretty annual custom of choosing a queen for the year. It is not improbable, also, that crosses have taken place between the crude *Pyrus communis* and certain species of *Mespilus*, and likewise with the quince. Those who care to explore the subject in all its complexity, must consult the writings of Decandolle, Godron, Leroy, Decaisne, and Karl Koch; the last-named of whom considers that Europe has no claim at all to the pear as an indigenous plant, and refers it to China.

In any case the cultivation, though very early, did not

begin, it would seem, so soon as that of the apple. In constitution the pear is less hardy than the apple; it cannot accommodate itself so readily to varied soils; the uses of the fruit are less multiform, and very few of the sorts allow of being kept through the winter. Hence in early times it was not suited for a staple; and finally, there is the certificate supplied by the names borne by the tree in the northern languages, which point in every instance to the Latin *pirus* as their common ancestor.* That the ancient Greeks were acquainted with it is shown in the lines above quoted from the *Odyssey* (p. 24), and in Theocritus, who introduces the pear in that beautiful little elegy, the lament of Thyrsis (i. 134). Italy, in the time of the Cæsars, possessed, according to Pliny, thirty-six distinct varieties. The mural paintings uncovered at Pompeii frequently represent both the tree and the fruit. Virgil speaks of the latter in his ninth Eclogue.

When well developed, a mature pear-tree is one of the most pleasing objects in nature. The general figure is much handsomer than that of the apple; it attains a very markedly superior stature, this reaching to thirty, fifty, even seventy feet; the diameter of the branchy head is often greater than the height; Mr. Edwin Lees, in his entertaining volume, "The Forest and Chase of Malvern," tells us that at Borland, in Worcestershire, there are pear-trees "as big as oaks." The leaves resemble those of the apple, but have longer stalks, and are usually quite

* *Pirus*, let it be noted, is the proper old Roman spelling of the name. It became "*pyrus*" only by mediæval corruption.

glabrous on both surfaces. The structure of the flowers is similar, but the petals are always pure white; the structure of the fruit is also similar, but the tissue usually contains some gritty matter; the pips are black instead of brown, and there is never a concavity at the base. When ripe the clusters are prone to hang in a peculiar mantling way, very beautiful, the pear being one of the trees which always give an impression of easy grace of carriage as well as of opulence. In the latter respect, let the season be favourable, the pear emulates the orange. The great pear-tree at Garmouth (near the mouth of the Spey)—one of the variety called "Golden Knot," or "Golden Ball," not a large fruit, but very sweet—has borne, as a single crop, the incredible number of twenty-eight thousand six hundred. A curious fact respecting the fruit is that while twin apples, *i.e.* two united, side by side, are very common, twin pears are almost, if not quite, unknown. *Per contra* (a profoundly interesting occurrence for the botanist), pears are apt to present very singular malformations, all going to prove that the origin of the fruit is the same as that of the apple, as described on p. 21, *i.e.* it comes of the adhesion of the distended extremity of the flower-stalk with the five ovaries, and gradual fusion therewith, though in the pear the green spots are not distinguishable. It is further interesting to observe that though the younger branches of pear-trees are apt to be spinous while in the wilderness, when cultivated thorns appear no more. Also that pear-trees, like the laburnum and the woodbine, are apt to

blossom anew in the autumn, but then abnormally, the flowers coming out, not according to pear-law, upon "spurs," but at the extremity of long wood-shoots of the current year.

Seedling pears take a much longer time to become fruitful than seedling apples; they require, it is said, fifteen to eighteen years. This may be connected, in some degree, with the long lease of life, the duration of the pear being equal to that of many timber-trees. Maturity established, it enters, more remarkably than most other trees, upon a kind of middle period, corresponding to that beautiful table-land of human existence which, by keeping up a cheerful heart, never descending to "envy, hatred, and malice," may be extended almost indefinitely, old age acquired without growing old. There is another curious point of likeness. Every one knows that the people best adapted to ornament "Society" are precisely those who can most easily dispense with it, and who find profound satisfaction amid the tranquillities of home. So with the pear. Many plants, as heather and the bluebells, call for companions: they are never seen except as elements of huge assemblages of their own kind. The peculiarity, on the other hand, of the pear, like that of the wayside agrimony, is that solitude suits it quite as well as the crowd, even more so. Yet under cultivation, rejoicing always where the amenities are, how it loves a sunny house-front!—one of those sweet old-fashioned country mansions with the ancient gables, where the fruit may be reached through the lattice. In

the wild state the pear is noted also for dislike of the hills, and preference for the plains and valleys and the shadow of woods.

In England the celebrity of the pear probably began with the uprise of the monasteries, and in all likelihood in the county still famed for its perry. There is no historic mention of the pear-orchards of Worcestershire of earlier date than the time of Henry V. ; but as at Agincourt the men of Worcestershire, according to Drayton, had for the device upon their banner "a pear-tree laden with its fruit," the culture must needs have been long established. The number of varieties now in cultivation cannot be far from a thousand. Leroy alone enumerates nine hundred and fifteen. Very many of these have been raised in Belgium, the country where fruit-trees, pears especially, were first raised from seed on scientific principles, not hap-hazard, an art first practised about the time of William III. France and the Channel Islands produce the best and the most astonishing the world has knowledge of. It is from Jersey that the marvellous pears arrive which in Covent Garden are priced at fifteen guineas the dozen—these last obtained in some degree by artificial means. Many kinds of fruit acquire larger dimensions than ordinary if the plant is so trained that the fruiting-branches are in close proximity to the earth. When, moreover, the power of the plant is concentrated upon a comparatively small number by removing the bulk of the possible produce, those allowed to remain for ripening almost certainly reach a much

more considerable size. In Jersey the trees destined to produce the huge pears above mentioned are thinned to a few fruits each, and the branches that are to bear them are kept as low down as possible. What France has done for the pear is plainly told by the names borne by scores of the best descriptions, as Doyenné d'été, the best of the very early pears; Souvenir du Congrès, weighing, on the average, a pound and a half; Doyenné du Comice," superb both in quality and appearance; Durondeau, rich and delicious; Josephine de Malines, famed for its aroma; not to mention those universal favourites, the Jargonelle and the Marie Louise—the celebrated pear raised by the Abbé Duquesne, and named in compliment to Napoleon's empress. Among pears with English names, none excel Clapp's Favourite, very early; Lucy Grieve, that beautiful lemon-yellow one, with blush on the sunward side, very tender and melting; Knight's Monarch, sugary and perfumed; Rivers' Beacon, bright and handsome; and for stewing, turning red during the process, that capital old sort, the Black Pear of Worcester. This is the famous variety said by tradition to be the pear represented in the City Arms, or rather in the second or more modern of the two shields belonging to Worcester—*Argent*, a fess between three pears, *sable*. The date of this shield is uncertain, but in all likelihood it coincides with that of the visit of Queen Elizabeth to Worcester.

Returning to the subject of the best sorts for planting, while every one, of course, follows his own predilections

in the matter, it must be remembered that the choice has still to be regulated, in great measure, by the soil and climate of the locality, and by the aspect, many of the varieties being sensitive in regard to one or other of these. Where the soil is clayey, wet, and cold, it is hopeless, at any time, to expect pears of first-rate quality. To know which to *pick*, when in want of just one or two for private pleasure, watch the movements of those excellent judges, the wasps.



THE QUINCE (*Cydonia vulgaris*).*

THE Quince, like the apple and pear, is a fruit of very ancient fame, as sure to be the case with one so attractive to the eye—massive and golden, and that could not fail to be observed in the very earliest historical times, this because of its birthplace. The original seat, there is no reason to doubt, was the North of Persia, where it still grows spontaneously in the woods, extending to the shores of the Caspian, the region to the south of the Caucasus, and to Anatolia. That it moved westwards at

* Hooker and Bentham, whose unflinching disposition to consolidate is well known to botanists, include *Cydonia* in the genus *Pyrus*, under which comprehensive name they also place *Mespilus* and *Sorbus*. (*Genera Plantarum*, i. 626, 1862.) While quite prepared to accept their judgment, I think it better, in the present volume, to employ the names under which the trees are generally known and spoken of.

an exceedingly early period may be considered certain. There is good ground for belief that the ancient Hebrews were acquainted with it, and with the ancient Greeks and Romans it was very plainly a favourite. Cultivated extensively near Cydon, one of the chief cities of ancient Crete, it was natural that the Greeks, who first saw it in that island, should call it the Cydonian mēlon—mēlon, in the Greek language, denoting any large, round, succulent fruit not produced in clusters like grapes. Homer, indeed, applies the name to fruit in general. (*Iliad*, lx. 538.) Used by itself, mēlon probably denoted the apple *ipsissima*, but there can be no doubt that it was essentially a generic or collective term for all fruits of the kind indicated. The congenerate Latin *malum* possessed precisely the same broad significance.* Hence we find the fruit before us bearing with the Romans the name of *Malum Cotoneum*—Cotoneum being the same as “Cydonian,” the spelling varied in conformity with Latin usage. This in itself is of no great moment, but the circumstance acquires great interest from its showing the origin of the modern English word. In Italian, when that language was forming, the Latin name became *codogno* or *cotogna*. Subsequently, in French this was shortened to *coigne*. Chaucer spells it *coine* or *coin*, and at last we get quince, which is in reality the plural of the word, mistaken for the name in its singular form. That the quince should

* Mēlon is the word used in the Septuagint as the Greek representative of the Hebrew *tappūach*, Wiclif following suit in the English version, as the Vulgate had done with their *malum*.

be identified with *Cydonia* was quite natural. In all ages men have been prone to name things from the towns or countries where they first saw them, or from which they were first received. To this day we ourselves speak of "French beans" and "Turkey rhubarb," though in each case the epithet is altogether wrong and misleading.

The tree yielding this celebrated fruit grows to the height of fifteen or twenty feet. The branches, always numerous, are crooked and distorted; the leaves are oval entire, downy upon the under-surface, dusky green above, and deciduous; the flowers, in figure resembling apple-blossom, but larger and more open, are white, or sometimes pale pink, and produced singly at the extremities of the twigs. The aspect of the tree when in bloom thus becomes very pleasing. In due time the quince itself arrives, in shape a sort of irregularly oval apple of good size, when in perfection of a rich deep golden-yellow colour, more or less downy, and exhaling a powerful odour. When the entire crop is ripe, the display is one again of rare beauty—familiar in the southern counties, and recommending the tree for decorative use, even when there is little care for the fruit. A horizontal section of the fruit brings to view a core of five large cells, constituting an elegant pentagon. In every cell there are many seeds, invested with a kind of mucilaginous pulp, so that the quince may always be told off-hand from an apple or pear by this one feature, the apple and pear, as said above, never having more than *two* seeds in each cell. Another distinction is supplied in the large and leafy

lobes of the calyx remaining permanently upon the summit. In England the flavour of the quince, though apple-like, is austere; it cannot be eaten as a dessert fruit. In warm countries, on the other hand, though still delicately bitter, it is bland. A certain dainty roughness, combined with aroma, constitutes, in fact, the grand characteristic of the quince, wherever it may be ripened. Because of this, and of the capital recommendation of its great size, the quince has been esteemed for at least two thousand years for the making of marmalade. The Romans, for this purpose, boiled their quinces with honey, calling the preparation *melimelum*, "mel" being the Latin for honey. From this word, in course of time, was made the Portuguese *marmelada*, and thus in English we get "marmalade." The extension of the name to the familiar conserve made of Seville oranges is quite modern, metaphorical, and complimentary. Three or four centuries ago marmalade was greatly esteemed in England—much more so than to-day, as was natural to a period when choice of good things was limited. Miss Wood, in her "Letters of Royal and Illustrious Ladies," relates an amusing anecdote as to the fondness for it of fickle and never-satisfied Henry VIII. In 1539 the new queen, Anne of Cleves, desired to engage a maid-of-honour. Lady Lisle, seeking to propitiate his majesty in favour of her daughter Katharine, made him a present of some damson-cheese, and some of this identical quince-jam, then called "cotiniac." Whether the object was attained or not we are left in doubt. So acceptable, however, to

the royal epicure were Lady Lisle's sweetmeats, that Anne Bassett, by whose hand they had been conveyed, writes off-hand: "The king doth so like the conserves you sent him, that his grace commandeth me to send to you for more, and that as soon as may be." To make marmalade, the directions in the time of Elizabeth were as follow: "Take faire Quinces, paire them, cut them in pieces, and cast away the core, then put unto every pound of Quinces, a pound of Sugar, and to every pound of Sugar a pinte of water; these must be boiled together over a stil fire till they be very soft, then let it be strained or rubbed through a strainer or an hairy Sive, which is better, and then set it over the fire to boile againe, untill it be stiffe, and so box it up, and as it cooleth put thereto a little Rose water, and a few graines of Muske mingled together, which will give a goodly taste to the Cotiniat. This is the way to make Marmalad."*

Marmalade is still largely manufactured in France, particularly on the borders of the Garonne, and is imported thence as a luxury for the table. To people whose health is improved by resort to astringent diet, it is considered very useful. The chief employment of the quince in our own country is to enliven apple-pie and apple-pudding. When apples are flat, or of poor kinds, a quince sliced and diffused in the pie has a wonderfully quickening effect, superior even to that of lemon-peel.

In classical poetry, though *mēlon* and *malum* standing alone, without epithet, probably denote, in most cases,

* Gerard's *Herbal*, p. 1452.

the apple,—there are passages in which the words point, very significantly, to the quince. Virgil speaks of the mala “whitening” as they become ripe. Quinces, too, are plainly referred to in a celebrated metaphor in Theocritus (xxvii. 48) which no doubt well pleased Boccaccio, for the apple, though smooth, is not downy, whereas the quince, as said above, has a skin that in good examples is quite velvety. This feature of the quince helps also to the understanding of the metaphorical “golden apples” of the Hesperides (p. 19).



THE MEDLAR (*Mespilus Germanica*).

THE Medlar is a European fruit-tree, occurring wild in woods and thickets in the southern portions of the continent, and extending here and there into the central parts. It is met with also in the southern Caucasus. In England it cannot be considered indigenous, though usually inserted in the Floras. In size and general figure the tree corresponds with an ordinary apple. Few trees, however, present a more rustic, not to say uncouth appearance, the branches making fantastic elbows in all directions. In the wild state it is spinous. The leaves are broadly lanceolate, four or five inches long, serrulate, dark green, more or less pubescent, and deciduous. The flowers, an inch across, are pure white, nearly sessile,

and produced singly at the extremities of the shoots. The calyx-lobes are large and leafy, and remain until the fruit is ripe. This, when fully formed, is very curious, being almost globular, upwards of an inch in diameter, flattened at the top, and of a fine greenish-brown colour. Instead of a proper "core," there are five great stones or bony "seeds," the upper extremities of which slightly protrude. These "stones" correspond to the five cavities of the apple, the pear, and the quince. The difference is simply that the substance of the carpels is bony instead of parchment-like. Similar ossification occurs in the pyrenes of the Thorns, the *Pyracantha*, and the *Cotoneasters*, which here again seem to be "seeds."

Newly ripe, the medlar is not eatable, being hard, harsh, and astringent. The flesh is then greenish-white. In a few weeks it begins to soften, the flesh turning brown and pulpy, and acquiring a peculiar vinous flavour, which to palates educated in medlar districts is always a treat, though to many people distasteful. The softening marks the first stage of decay, and hence it has come to be charged upon the unfortunate medlar that it is not fit for food until partially rotten. Partly, no doubt, because of its uninviting appearance at this time; partly because of the astringency, it has never held a high place among the garden and orchard fruits; and the same circumstances may account for its never having kindly mention in literature. But the charge of partial rottenness is not quite fair. The very same may be said, and with equal truth, of the peach, the apricot, and the strawberry. All

of these are ripe, in the genuine sense of the word, as soon as the seed is mature, capable of vegetating, however hard and solid the fleshy part may be. Softening, in every one of them, is a stage beyond ripeness, and the sign, rather, of incipient decay. A capital jelly may be prepared from medlars, resembling that made of the guava. To this end they should be bruised, then boiled in a large stew-pan, with plenty of water, for half an hour. The semi-fluid product must then be strained through a flannel bag, and after adding a pound of lump sugar to every pint of the clear escape, boiled again for twenty-five minutes. The medlars may be thus employed while still hard, but it is better to wait till they have begun to soften.

The medlar remains attached to the branch until very late in the autumn. It is by no means apt to fall, and is best not gathered till the leaves begin to drop. There are three distinct varieties, the Dutch, large but somewhat coarse, the Royal, and the Nottingham, the last named the best and the fittest for dessert.

The etymology of the name is very curious. It occurs first in the old Greek herbalists as *mespilē*, then in Latin as *mespilus*, which in Norman French became *meslier*. After the same manner the Low-Latin *misculare*, to mix, became in French *mesler*, whence the English to "meddle," or interfere in other people's affairs, and the substantive a "meddler." No wonder that before orthography was fixed *meslier* followed suit, and became *medlar*.

THE LOQUAT, OR "JAPANESE MEDLAR"

(Eriobotrya Japonica).

LOQUATS are the beautiful little yellow fruits, the size of plums, and usually four or five together in a loose cluster, which we occasionally see in the shops, as an import from Malta. The golden and downy skin, tinged with red, seems to promise something that shall vie with the apricot. The fleshy portion, however, is but scanty, being the envelope only of one or two large stones—five, indeed, when all are perfected that it is possible for the fruit to contain. The smallness of the quantity is compensated by the flavour, which is agreeably sub-acid, apple-like, and melting, and in good varieties, quite luscious, while the odour is such as would tempt the most delicate invalid. Besides being so good for dessert, a very fine preserve may be made from this elegant fruit. In the markets of Hyerés, Toulon, and other places in the south of Europe, loquats are common. In England, also, they might be raised as easily as indoor peaches. Excellent little crops have often been obtained;* it needs only that the cultivator shall combine for them, artificially, the climates of Malta and North China. There are several varieties, some of them superior to the ordinary Maltese, and these seem but to wait introduction. The only real difficulty with any of the kinds—and this has been surmounted by the gardeners

* As at Stawell House, Richmond, three or four years ago.

who have secured a harvest—is that the flowering takes place in mid-winter, long before even peaches begin to blossom.

In its native countries, Japan and China, the tree producing these desirable fruits is a handsome evergreen, attaining very considerable dimensions, and living to a great age. It was brought to Europe in 1784, and three years afterwards direct from Canton to Kew, and in 1818 first ripened fruit in England. Being by no means tender, it stands the open air in the southern counties, at all events if placed against a wall, and in the north is kept, not uncommonly, in “Winter Gardens.” Under cultivation, the leaves are nearly a foot in length, broadly lanceolate, corrugated above, and curiously dressed with fur underneath. The flowers come out in dense clusters at the ends of the branchlets, individually resembling those of the hawthorn, creamy-white and deliciously fragrant. The peduncles and calyces are overlaid with the same kind of fur as that upon the leaves, but paler. Hence the scientific name, *Eriobotrya*. Fully developed clusters of the fruit consist of as many as twelve or fifteen. Being easily raised from seed, or by grafting upon a quince-stock, the loquat is quite within reach as an ornamental plant. It rarely makes any superabundant growth, needs no pruning, and is altogether a very interesting inmate of our gardens. A coloured drawing of the loquat, including foliage, flowers, and fruit, is given in Edwards’ *Botanical Register*, pl. 365 (1819), and another in the *Trans. Hort. Soc.*, vol. iii., p. 299 (1820).

THE ROWAN, OR MOUNTAIN-ASH

(Pyrus Aucuparia).

THE Rowan claims a place among the fruit-trees because of the excellent jelly which, as in the case of the medlar, may be prepared from the so-called "berries" when mellowed by autumn. Popularly this well-known fruit is supposed to be poisonous. But it is eaten by birds, field-fares in particular, with avidity; the scientific appellation, Aucuparia, signifies the fowlers' or bird-catchers' tree; if thrown within their reach, the berries are speedily gathered up by poultry; and it is needful only to visit Arran, to say nothing of northern continental Europe, to discover how they are esteemed for the use first named—the preparation of jelly. That the jelly, however sweetened, is somewhat bitter must be confessed; nevertheless it is by far the nicest kind to eat with venison. To make the jelly, boil the "berries" in water (cold at first) till reduced to such a consistence that the fluid can be strained through a canvas bag; to every quart of the fluid add two pounds of loaf sugar, then boil again for ten minutes.

That in elegance of profile the mountain-ash is almost unrivalled scarcely needs mention. Attaining the stature of twenty or thirty feet,* it is one of the few trees which

* Mr. A. D. Webster, of Penrhyn, mentions one, a giant of this kind, the girth of which, at a yard above the ground, is seven feet eight inches, the spread of the branches covering a space of forty-two feet in diameter. This is probably the very largest in the country.

are graceful from first to last, never growing out of shape, and to touch which with the pruning-knife would only be to spoil. While young the growth is rapid. Hence in plantations it becomes an admirable nurse-tree for young oaks and other saplings of deliberate temper, quietly submitting, when it has done its work, to be overtopped, and even to be destroyed, by the shade and drip of its foster-children. The mountain-ash specially deserves to be planted also where the harbouring of singing-birds is an object. It is one of the trees, again, not many, which have two distinct festal seasons. In May and June the light green of the beautiful foliage is set off by cream-coloured bloom, more than exuberant. Then for a time it is unattractive, and we almost forget it. In September it again becomes conspicuous, but now with glory of fruitage, first of a rich orange colour, when ripe lucid vermilion, such as attracts the most indifferent and incurious—

“The mountain-ash,
No eye can overlook, when, mid a grove
Of yet unfaded trees, she lifts her head
Deck'd with autumnal berries, that outshine
Spring's richest blossoms.”

In the wild state the Rowan occurs throughout Europe and Russian Asia, though unable in high latitudes to become more than a shrub. The northern habitation at once suggests the meaning of the latter name, Rowan being connected etymologically with the Scandinavian *runa*, a spell or charm. The fame of the tree in ancient witchcraft is well known; it is not dissipated, in truth,

even yet. Its favourite haunts are woods and the banks of streams and rivers, where it can lean over the water. Very specially does it love the rocky sides of little cascades. Still more congenial is the exposed mountain-slope, where it may often be seen alone, "a silent spirit of the solitude." Hence the common English name. In Forfarshire it is found at a height of two thousand five hundred feet above the level of the sea, yet it flourishes equally well close to the shore. In England there are few spectacles of the kind more striking than the Rowans along the Trent Valley line of railway when the fruit is ripe. In Scotland how charming, again, the slopes above the Crinan Canal, where these beautiful trees have for their handmaids the innumerable lady-fern.



THE SERVICE, OR "WITTEN PEAR-TREE"

(*Pyrus domestica*).

THE Service, though little known, is a tree, like the mountain-ash, of singular interest. In many points it closely resembles the mountain-ash: the leaves are similar, only that they have fewer and deeper serratures, and are more flocculent while young; the flowers, also, are much the same. But the bulk and the stature it is capable of attaining are considerably greater; it grows more slowly while young; it lives much longer, and the fruit is altogether different. In shape it resembles a little pear, or sometimes a little apple. The skin is reddish or

greenish brown, usually with a sprinkling of small white spots ; and (in England) only two or three of the cluster usually remain to get ripe. They are mature about the same time as the medlar, which they agree with also in being excessively austere until decay begins, say in December, and then they remind us, alike in substance and flavour, of a brown Beurré pear. After eating, they leave in the throat a peculiar sensation of warmth.

Being a native of the south of Europe (occurring also in Algeria), the fruit was well known to the people of two thousand years ago. Virgil, in his description of the customs of the Scythians, says that being unpossessed of the vine, they "joyously imitated the juice of the grape, with fermented cups of *acidis sorbis*." This rude beverage was at a later period called *cerevisia* (the name, originally, of a drink something like beer), and being one that seems never to have gone out of fashion, *cerevisia* at last became the name of the tree, the spelling changed to "service." Evelyn, in the "Sylva," chap. xv., says that "ale and beer, being brewed with these berries, being ripe, is an incomparable drink." The fruit is still a common article of food in Italy and France, where it is "preserved" and considered useful in cases of dysentery. It appears also in the markets of Wiesbaden, and is sold in the streets of Constantinople under the name of *kizilzicks*, literally "little reds," the colour of the fruit while unripe, being in Turkey, not far from ruddy. The warmer climate does not mitigate the intense acidity. So acid and astringent is the Service even there, that a Turkish

mother will call her peevish, crying baby a kizilzick. The Ottomans regard it as an infallible preventive of diarrhoea.

The Service was introduced into Britain most probably by the Romans, but it never became common. A solitary individual, of great age (being mentioned in the "Philosophical Transactions" for 1678), stood in Wyre Forest, near Bewdley, up till 1862, when, through the carelessness of some gipsies, it was destroyed by fire. On the strength of this, the Service has been thought indigenous, but the Wyre Forest tree was no doubt a descendant of ancient cultivation. Though rare, it is not difficult to find examples. One in the Oxford Botanic Garden fruited abundantly in 1884, as did the great Claremont tree, sixty feet high, and nearly eight in circumference at two feet from the ground. Two or three venerable Services may be seen also at Ribston Hall, Wetherby, Yorkshire.

Unfortunately there is a good deal of misconception over the Service. The name is often misapplied to the common white-beam, *Pyrus Aria*. It is confounded also with the *Pyrus torminalis*, a tree occurring in south country hedges, but having leaves more like those of a maple. The fruit of the *torminalis*, called the "wild Service," is sometimes offered for sale, threaded upon strings, to the length of a yard, but is next to worthless. It is brought even to Covent Garden, and in some parts of Northamptonshire, where the tree is abundant, is carried in procession at village feasts.

THE SIBERIAN CRAB, OR CHERRY-APPLE

(Pyrus prunifolia).

A VERY pretty little fruit, inside, and in colour also, like an apple, but in dimensions resembling a cherry, borne upon stalks quite as long and slender as those of cherries, and usually growing in clusters of three to six or seven. It is one of those which occupy the border-land between the uncivilized and the acknowledged garden fruits, among which it will probably some day be reckoned, when some pains have been taken with the culture. For although called a "crab," in point of flavour it is already far in advance of the wild apple; rather sharp, no doubt, but palatable and inviting, and when prepared with syrup, always a welcome sight upon the table. The tree producing it is one of quite moderate dimensions. The leaves remind one of the plum-tree. The white flowers come out in profusion in early summer. As said above (p. 23) it may perhaps be one of the parents of our modern garden apples.

As implied in the name, the native country is Southern Siberia; it extends, however, into Tartary and North China. When introduced is not quite certain, but it would be shortly before 1758. In 1784 came another form of this interesting plant, which having smaller fruit, usually of a much deeper red, received the name of *Pyrus baccata*. Like the *prunifolia*, it is Siberian, reaching through the eastern districts of Lake Baikal

and Dahuria, past the Amoor and through northern China, into Japan. Whether to be considered a variety of the *prunifolia*, or a distinct species, is matter of opinion. The technical differences consist in the calyxlobes being persistent in the *prunifolia*, while in the *baccata* they are deciduous. In the former, moreover, the styles are connate below the middle, instead of free, as in the *baccata*. Coloured drawings of both may be seen in the *Botanical Magazine*, the *baccata*, pl. 6, 112 (1874), and the *prunifolia*, pl. 6, 158 (1875).



All the fruits mentioned, so far, are produced by trees belonging to the Natural Order Pomiferæ, that one which furnishes everything of the apple kind. There are several others, altogether subordinate in merit and never brought to market, but which in course of time may, like the Siberian crab, by cultivation perhaps be improved. Such are the fruits of the different species of *Pyrus* above spoken of as ancestors in part, of the garden pear; such, too, may be considered the possible future of that exceedingly beautiful and well-known shrub, common against the lower portions of the walls of dwelling-houses, often also independent—the crimson-flowered *Pyrus Japonica*—technically *Cydonia Japonica*. In favourable seasons, in the southern English counties, this ripens abundance of little pear-like fruits, said to serve well for preserving.

A near ally of the *Japonica*, introduced from the same country about 1872, and called *Pyrus Maulei*, a

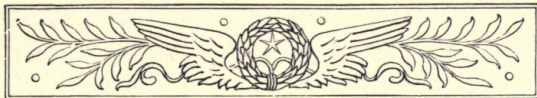
very showy plant, produces a really handsome and very promising fruit, yellowish, with red streaks and blotches, and sharply acid. Though not eatable in the raw state, made into jam the flavour becomes very distinct, and is thought superior to that of marmalade.

Then come various species of the grand genus *Cratægus*, familiarly represented in the common hawthorn of the hedgerows. As a rule, the fruits of these are useless to mankind, but the produce of many may be compared to little red, or more usually yellow, apples. They cannot be eaten fresh, but are serviceable for tarts, either alone or in combination with genuine apple. Such are the fruits of the *Cratægus Azarolus*, the *Cratægus Aronia*, both from the south of Europe, and the North American *Cratægus coccinea*. The *Cratægus tanacetifolia*, one of the species with golden-yellow fruit, indigenous to the mountains of Greece, appears to be the original *mespilè*, as described by Theophrastus.

Having so many excellent fruits ready made, as it were, experiments in regard to the amelioration of these half-dozen are perhaps hardly to be expected, except as scientific pastime. They are very interesting, nevertheless, as illustrations, in all likelihood, of what all our best fruits were in primæval times, when their development had scarcely begun; as illustrations, also, of the abundance of rude material there is around us, waiting only for the enterprise and curiosity of man. They seem to hold the same position in Europe as that which in Australia is held by the indigenous fruits not yet culti-

vated by the colonists ; and among which, judging from what is known of the history of the apple, etc., there may be lying latent an immense amount of capacity for becoming rich and precious, by-and-by to be disclosed. Such may happen with yet another of the Pomiferæ, that beautiful small tree, the Amelanchier, in Canada called the June-berry, the innumerable snowy flowers of which are one of the delights of every good garden early in May. The natives of the vast district extending from Hudson's Bay southwards to Florida, and westwards to Nebraska, collect the fruit when ripe, press it into square cakes, and use it with their pemmican.






Chapter Fourth.

STONE-FRUITS.

“ Wisest of all to welcome and make ours
Whate’er of good, though small, the Present brings,
Kind greetings, sunshine, song of birds, and flowers,
With a child’s pure delight in little things,
Knowing that mercy ever will endure.”

R. C. Trench.

“  TONE-FRUITS ” are those illustrated in the plum and the cherry—the most remarkable of all the forty classes into which fruits in general are resolved. For it is among these that we have at once the utmost simplicity of fruit-structure and its *beau-idéal*. Theoretically, a “fruit” when perfect consists of three distinct and easily separable layers—a skin, or “epicarp,” under which is pulp or flesh, called the “mesocarp;” with under this again a hard and bony one, called the “endocarp.” In

the great majority of fruits these three parts are not developed, and all there is to represent them is an envelope such as we find in the shell of the nut, the pod of the pea, and the bag which holds the juice of the grape. In the apricot, the cherry, the peach, and the rest of the stone-fruits, on the other hand, all three layers are present, and in the completest form. The fruit is now called a "drupe," and the family—still only a small one—which illustrates it so well naturally receives the name of *Drupifera*. Very interesting is it to observe how Nature reserves her perfections for select companies of things.

Theoretically, again, all fruits are referable to the idea of a leaf in its simplest form, as found, for instance, in the apple-tree—or of several such leaves—folded lengthways, so that the edges meet, and, uniting, fabricate a little box, inside of which the seeds are contained. This is plainly the great principle which lies at the foundation: there are a thousand proofs and illustrations of it, and all that there is besides in fruits consists of some curious kind of appendix. The leaves thus metamorphosed are termed the "carpels," and it hardly needs adding that a fruit consisting of only one carpel, as in the case of the plum and cherry, is the simplest. The five seed-chambers of the apple, constituting the core, come of the combination of five such "carpels;" pods like those of the columbine and the larkspur, peas and beans, consist, like "drupes," of only one carpel. The groove or furrow down one side of most varieties of

the drupe indicates the line of junction of the two edges of the carpellary leaf: in the almond, when ripe, they fall asunder.

The number of the *Drupiferæ* altogether is about a hundred. All are trees and shrubs, with leaves always alternate, usually ovate or lanceolate; flowers formed of five free petals, which are seated, with about twenty stamens, upon the upper part of an urn-shaped and five-lobed calyx, in the bosom of which is found the solitary pistil. The flowers are usually pure white, sometimes of a cheerful rosy colour, the shade occasionally so deepened as to approximate magenta. They are prone to expand very early in the year, scarcely preceded even by the celandine, and are never later than the month of May. Hence, more than any other trees of the fruit-bearing class, the *Drupiferæ* are subject when in bloom to cruel storm-beating. The winds of March, however "taken" by the loveliness of *Perdita's* daffodils, are merciless to the damson and the plum. The white petals are wrenched away, and strew the ground as if with snow.

The kernels of the fruit, and sometimes the leaves as well, are noted for containing the basis of that deadly poison, prussic acid. The bark, in many instances, yields a peculiar kind of gum, not soluble in cold water, distinguished, accordingly, from acacia-gum by the name of "cerasin." Dr. Beijerinck, of Amsterdam, has shown that the effusion of this curious substance, familiar in the translucent tears of the garden cherry, which hang from the boughs like amber icicles, even more so, perhaps,

in the oozings from plum-tree sores, is referable, primarily, to the operation of a minute parasitic fungus, a species of *Coryneum*, which may be transferred for experiment sake from one tree to another. Gumming is thus to be classed with the maladies that plants are subject to. There are plenty of illustrations of it, but it is here perhaps, in the stone-fruit trees, that the student of vegetable pathology finds his best opportunities for investigating the causes and the results.* Another very curious and interesting occurrence for the student, seldom observable except in the *Drupiferae*, is the superseding, at times, of the solitary carpel, by two, three, four, and even five carpels, all of the same kind, an effort towards conformity with the quinary perianth. Instances of this occur in certain species of cherry, in the double-flowered plum, and the double-flowered peach. These extra carpels stand side by side, unconnected if only two, partially united when more, and every one of them usually ripens. The native countries of the *Drupiferae* are found almost exclusively in the temperate parts of the northern hemisphere. Carried into the tropics, these priceless trees are apt to become evergreen, and cease to bear fruit. Where the date and the banana flourish we must never look for the cherry, though the apricot is quite happy in the oases of the North African deserts.

It is important not to confound with the genuine stone-fruits the somewhat similar olive, litchi, cornel, and others, these belonging to quite different families, as will

* For particulars, see the *Gardeners' Chronicle*, Feb. 23rd, 1884.

be described by-and-by. The genuine stone-fruits are the plum, including the greengage and the damson; the cherry, the peach, the nectarine, the apricot, the almond, and the produce of the cherry-laurel.



THE PLUM (*Prunus domestica*).

THE early history of the plum, like that of the apple and pear, is remote and complicated. In the abstract, the plum idea, so to speak, is represented by no fewer than three fairly distinct typical forms, and these, for convenience' sake, it is best to treat as "species," and to call by distinct names. They are (1) the common Sloe, sloe-thorn, or black-thorn, of every hedge and thicket, well named *Prunus spinosa*; (2) the Bullace, *Prunus insititia*; and (3) the form which, from its appearing to be the more immediate source of the garden plums, is called *Prunus domestica*. By some botanists all three are run together under the single name of *P. domestica*. Theoretically there is no objection to this; in any case we know what Latin name to give the garden plums. (1) The *P. spinosa* is a shrub, usually not many feet high, though capable of becoming a tree of fifteen or twenty feet. It is densely branched, the branches spreading almost at right angles, terminating in stout thorns, and so intricately interwoven as to be absolutely impenetrable by man, and by all but the smaller quadrupeds and birds, the latter finding it a safe refuge and

asylum. The shoots while young are downy; in early spring—long before the appearance of the leaves, which, when mature, are ovate and sharply serrated—there is a beautiful out-flow of immaculate white blossom, the flowers growing singly, or two or three together, half or three quarters of an inch across, and presenting a most remarkable contrast to the dark-hued bark; the fruit, when ripe, is the size of a large pea, spherical, dark violet, and covered with glaucous “bloom;” the pedicels are glabrous, and the fruits, individually, are erect. Some individually are astonishingly productive, others seem to be absolutely barren, owing probably to some defect in the reproductive organs. In flavour these little plums or “sloes,” are intensely harsh. In France the boys call them sibarelles, since to whistle after eating them is impossible. Well is the name of “sloe” applied, the signification being that which sets the teeth on edge. The spinosa occurs all over Europe, Britain included, also in Russian Asia. The second form, *P. insititia*, is a tall shrub or small tree, less thorny than the spinosa, sometimes thornless, and having larger leaves, which are already expanding when the flowers appear. These also are larger. The young shoots are covered with velvety down; the pedicels are either downy or glabrous; the fruit is *pendulous*, globular, or slightly elliptical, much larger than the sloe, usually purple-black, occasionally reddish or yellowish, and when ripe, moderately sweet. This form grows wild in the south of Europe, in the regions south of the Caucasus, and in European Turkey.

When met with north of the Alps, as in English hedges, it is probably naturalized from cultivation. "Bullace," like sloe, is an old northern word, the etymology uncertain. The third, *P. domestica*, is again a tall shrub or small tree, the branches glabrous while young, and without thorns. The flowers, contemporaneous with the leaves, have downy peduncles; the fruit is pendulous, ovoid, blackish-purple, and sweet. This form of the plant, admittedly the principal one, is very doubtfully indigenous in Europe. It occurs in woods and hedges, but has all the appearance of a plant naturalized only in part. The genuine native countries seem to be Anatolia, the region to the south of the Caucasus, and northern Persia.

Whether these three forms are to be regarded as absolutely distinct or not, is an open question. The late Mr. Bentham considered that the *insititia* and the *domestica* may be only varieties of the *spinosa*, produced by long cultivation. If so, the common sloe will have been the original parent of everything of the plum kind. The sloe, however, is not a plant that seems likely ever to have invited cultivation. It is very different also from the others in its root-habits. The probability is that all our modern garden plums began with the *insititia* and the *domestica*, and this either independently or by commixture. The garden forms have, in every case, much larger leaves and stronger shoots. They blossom later, the flowers are larger, and the fruit, as well known in the "egg plum" and the "magnum bonum," attains a length sometimes exceeding two inches.

When and where, as in the case of the crab-apple, the improvement of the plum began, it is impossible to determine. The ancient Greek writers speak of the *κοκκύμηλον*,* probably referring to the damson. They also mention the *βράβυλον*, but what the latter word denoted is doubtful, seeing that Theocritus applies it both to a palatable fruit—in that pretty passage in the seventh Idyll when the people are enjoying the harvest-festival in the island of Cos, “all things breathing the incense of fruit-season . . . pears . . . and apples . . . and boughs weighed to the ground with plums,”—and contrariwise, to one that would be quite the antithesis of the apple—“as much as the apple is sweeter than the *βράβυλον*, so much have you gladdened me by your return.” In Roman literature the plum is frequently referred to, now under the name of *prunus*, as in the charming lines where Virgil describes the old Corycian who, cultivating his little garden, “equalled, in his contented mind, the wealth of kings,”† and when Ovid narrates the story of Acis and Galatea.‡ The identification of the name of the damson or damasin, properly “damascene,” with the famous Syrian city of Damascus, we owe to Pliny.

The development of the plum in England has corresponded with that of the apple, though the varieties are less numerous. France also has distinguished itself in

* Literally the cuckoo-melon—another interesting illustration of the broad sense, anciently, of *mēlon*.

† Georgic iv. 125-146. ‡ Met. xiii. 817.

plum-culture. The "Orleans plum" was brought from the neighbourhood which witnessed the heroism and death of Joan Darc, when the English were masters there, *temp.* Henry V. To France we are indebted also for the greengage, called in that country, in compliment to the Queen of Francis I., La Reine Claude. It was brought to England from the monastery of La Grand Chartreuse about the middle of the eighteenth century, by one "Rev. John Gage," brother of the owner of Hengrave Hall, near Coldham, Suffolk, and thence receiving his name it soon got diffused over England. In Paris, in 1789, when all allusions to royalty were forbidden, "La Reine Claude" had to go, and was superseded *pro tem.* by "Prune Citoyenne!" Karl Koch regards the greengage as representative of a distinct and variable species of *Prunus*, native of the Caucasus.

The black and deeply corrugated dessert fruit imported from France, to the extent of two hundred tons annually, under the name of "French plums" represents two or three different sorts. The inferior varieties are from the Prune d'Ast; the better ones are the produce of the Catherinea. They are gathered by hand, dried partly in the sun, partly by fire-heat, the treatment changed day by day until the fruit is fit for packing. "Brignolles," the delightful little sweetmeats in fancy boxes edged with lace, are prepared from some kind of yellow plum. They are shaken from the trees, when quite ripe, upon cloths spread to receive them; then carefully skinned, and placed in the sunshine for a few days. When dry enough

they are impaled upon osier-sticks, and again exposed to the sun. Then comes the removal of the stones, pressure into a round form, and deposit in the boxes. The manufacture of these dainty receptacles, the pretty coloured frills and ornamental lace edgings, coloured pictures for the lids almost always superadded, has become quite an important branch of art-work, one welcome invention almost always suggesting another, which latter, as in the present instance, contributes immensely to the pleasing appearance of the commodity dealt with.

Prunes are the fruit of a kind of plum called Juliana, and by the French Prunier de St. Julien. These are grown largely in the valley of the Loire, especially about Bourgueil, a small town between Tours and Angers. They are prepared by simple drying, chiefly in the sunshine, and are then packed for market. The import into this country, including a few of inferior quality received from Germany, is about four hundred tons annually. The value of French plums, and of prunes, the latter when stewed and sweetened, is well known. They are much more wholesome than the fresh fruit, nutritious and demulcent. They are also esteemed in medicine, especially as furnishing an ingredient of laxative confections.

In England the most valuable of all the innumerable varieties of the plum is unquestionably the damson. Very hardy, easily cultivated, and usually yielding an abundant crop, it well deserves its accustomed place in cottage gardens and the hedges about farmhouses.

There are several varieties, some of them scarcely distinguishable from varieties of the Bullace, except by their ripening about a month earlier. A very good one, with large fruit, but not so sure to yield a full harvest as the common English or round damson, is called the Shropshire. A still larger fruit, and better flavoured, is given freely by the "Frogmore" damson. The "Crittenden," raised near Maidstone by Mr. Crittenden, is another excellent damson. The "Farleigh" is perhaps the most productive fruit, and the most repaying, of any kind in cultivation. The fruit is small, but produced in thick clusters, and unsurpassed for preserving. A year or two ago one Kentish grower alone sent to market three thousand bushels, and received for his trouble fourteen shillings per bushel, or £2,000. The yellowish variety of the Bullace is the fruit sold in London as the "white damson." In the neighbourhood of Colchester a variety is largely grown which fruits so plentifully that the clusters resemble bunches of black Hamburgh grapes. Most, if not all, of the Bullaces are of good flavour, and excellent for culinary purposes. Among the superior sorts may be reckoned the "Essex" and the "Royal." Of select dessert plums the best are considered to be Belgian Purple, Coe's Golden Drop, Golden Esperen, Jefferson (yellow, spotted with red), and Kirke's (purple). The best greengages are Bryanston, Denniston, Superb, Reine Claude de Bavay, Reine Claude du Comte Hathem, Transparent, Guthrie's Late, and Oullins' Golden.

THE CHERRY (*Prunus Cerasus*).

To the cherry—that sweet and simple, old-fashioned, but ever-welcome summer fruit, so grateful at dessert, so capital for pies, and other useful and elegant addenda to the dinner-table—pertains, as to the apple, the pear, and the plum, the old uncertainty as to beginning. Though we are accustomed to hear and speak of the “wild cherry” as if the cultivated one were the same, directly descended from it, changed only in quality, in reality there are *two* wild cherries; two forms, at all events, are recognized by authors in general. Each of these may have truly lineal descendants, but the whole question is for the present an open one.

The most conspicuous of the two forms is the queenly tree well named by Ray, *Cerasus sylvestris**—tall, rising to the height of thirty or forty feet, destitute of branches for a considerable distance above the ground, especially fond of the brows of steep, over-hanging banks, where it can tower in its snowy pride, no production of nature being more exquisitely white with bloom in the earliest days of summer; and in August loaded with its innumerable little globose, red or black, and sweetish fruits—not, however, for long, if there are birds anywhere near.

* Usually called, in recent books, *Cerasus Avium*; a name leading to confusion with the Bird-cherry—*Prunus Padus*, a plant quite different.

The leaves are ovate-lanceolate, two to four inches in length, serrate, and somewhat pendent. The flowers issue from leafless buds, in umbellate clusters of two or three, on peduncles usually exceeding an inch in length, the petals arising from the edge of a very prettily urn-shaped calyx; and, a very important feature, no suckers arise from the root. Another important character is that the flesh of the fruit clings to the stone. Favourably circumstanced, the *sylvestris* will attain the stature of nearly eighty feet. Near Wragley, in Lincolnshire, there is one seventy-six feet high, the trunk, at four feet from the ground, eight and a half feet in circumference. Several of equal dimensions exist in Hampshire. At Stedalt, Balbriggan, twenty-two miles N.N.E. of Dublin, there is one over eleven feet in circumference, four feet from the ground; and even this is surpassed by the renowned tree upon Old Conna Hill, the girth of which is nineteen feet! The huge proportions of these marvellous Irish cherries are well matched in their aspect, which is at once patriarchal and picturesque, as indeed is always the case with trees where the former epithet falls well. The identification of our native British trees by means of their *leaves*, independently of the flowers and fruit, is one of the most pleasing occupations of the young field botanist. The cherry (among trees with ovate and serrate leaves) is at once told by the presence of two or three little red glands, often bright as holly-berries, at the upper part of the petiole, just where the blade begins. They occur also in the peach and some other

garden stone-fruits, and are probably to be regarded as rudimentary indications of the pinnate leaf of rosaceous plants.

To what degree the *sylvestris* may be accounted a genuine native of the British Islands is, after all, uncertain. Essentially it belongs to the northern parts of Persia, the Russian provinces to the south of the Caucasus, and to Armenia, extending thence to the mountainous parts of Greece, Italy, and Spain, and over continental Europe in general, as far as the south of Sweden. It occurs also in Algeria. The stones being carried to long distances by the birds, it has become naturalized in north-west India, and, at the other extreme, sparingly, in Madeira. To the same circumstance is probably owing also the wide diffusion of the tree in continental Europe, a diffusion beginning in prehistoric time, when the birds, we may be sure, were in many ways providing for the future welfare of mankind. If mighty geological changes took place in the primitive ages, all planned prospectively for the benefit of the coming occupants of the earth's surface—not forgetting those which have helped to fill the world with glorious scenery—one of the inestimable aliments—why should not the birds also have rendered there own little innocent service? In contemplating the outcome of the divine institutes for the happiness and welfare of man, we deny ourselves half the enjoyment which arises thereon, if the eyes are not let rest quite as often upon the “trifles” as upon the majestic. One of the natural varieties of

the *sylvestris* is that which the French call *mérisier*.* The same occurs in England, producing "merries," fruits larger than those of the normal form, sweet, and deep black instead of red, sometimes very pale, so that in Cheshire the last-named is called the "white merry." In Hampshire the merries are collected for sale. They are the earliest of the fruits that ripen in England to make their appearance in the markets. The blossom of the merry is finer and larger, and rather later than that of the typical *sylvestris*. The leaves are shorter and the clusters are not so large, and the peduncles, also, are shorter. The "geans" of the northern counties appear to be much the same. This name, also, is French, representing the Norman *guigne*, a word which seems to have been originally *guisne*.

The second form, named by Miller *Cerasus vulgaris*, the *cérisier* of the French, is a plant of very different habit, often a mere shrub of six or eight feet in height, fond of the sunny borders of woods and glades, and especially attached to grassy slopes, which it sometimes covers with dense thicket. This comes of the abundance of the suckers thrown up from the spreading roots or rhizomes—the *sylvestris*, it will be remembered, has *no* suckers. Another great distinction is that the flesh of the fruit, which is sour or bitter, separates readily from the stone. The original habitations appear to have been much the same, the most ancient extending from

*The etymology of this word is obscure. Dr. Prior says it is "from *mericca*, adjective of *merica*, a berry mentioned by Pliny."

the borders of the Caspian to those of the Bosphorus, whence it became diffused over Europe, but not so widely as the *sylvestris*, and more slowly, being of weaker constitution. In Europe it always presents the aspect of a foreign plant, settling, but not completely naturalized. When Theophrastus, the old Greek writer on plants, speaks of the cherry-tree he plainly refers to the *sylvestris*, the height being one of the features he mentions. Virgil, on the other hand, as plainly speaks of the *vulgaris* :—

“Pullulat ab radice aliis densissima silva
Ut cerasis ulmisque.”

The differences above indicated may still be no greater than would be consistent with original singleness of “species.” Many botanists consider that they are essentially the same thing. The question holds some practical importance from the bearing it has upon the work of cultivators, who have always to think of the inherited constitution of plants as well as of their merits and utility. Whatever the measure of relationship, they are the parents of all the cultivated cherries, and these, it is interesting to observe, foretell the variety of their fruit in the beautiful and curious diversity of the flowers, as regards both the petals and the form of the calyx.

When the cherry was first made an object of culture there is no evidence to show. Cherry-stones occur in the Lake-dwellings of western Switzerland. The Romans, Pliny tells us, had eight varieties. That it was first brought to Italy by Lucullus, from Cerasus, a town of Cappadocia, the story a thousand times recited, is not

true. The voluptuous consul simply introduced a fine variety, unknown to the imperial city before his time. The interesting fact remains that while the old town in Pontus got its name from the cherry-trees round about, in "cerasus" we have the parent, first, of the French *c risier* and *c rise*, and eventually of the English "cherry," which, by the way, ought by rights to be spelt *cheris* or *cheris*. The established spelling came of our forefathers confounding the *s* with the sign usually employed in English to mark plurals. The very same mistake was made over the name of the vegetable in Latin called *pisum*, French *pois*, properly in English a "peas," plural "peasen"—

"He talked of turnips and of peasen,
And set good seed in proper season."

England probably owed its earliest garden cherries to the Romans. When the Romans quitted the country, the culture would be continued by the Anglo-Saxons, and subsequently it would be in favour with the Normans. History is silent, nevertheless, in regard to this pleasant fruit up to the time of Henry V., when cherries, as shown by some old verses in Warton, were cried for sale in the streets of London. The famous cherry-orchards of Kent appear to date, historically, from the time of Henry VIII., but, had we the record, they would probably be found to have had a very much earlier beginning; and the same would probably prove to be true in regard to the celebrated cherry-orchards of Buckinghamshire, where the beech-woods also abound with the

wild form of the tree. In the Elizabethan age the fruit was so common that the boys had a game they called "cherry-pit," played with the stones. Shakspeare gives it a worthier place than is allowed to any other. The allusions to fruits are almost always found in lines written not from his own rich heart—these we always know on the instant by their wisdom and grace—but in such a stage necessities demanded,—the lines required by that mean section of mankind which cares only to be made laugh. Not so when we come to the cherry. Here he is jocular no longer, but in every instance delicate if not poetical. How lovely the picture painted by Helena, in the *Midsummer Night's Dream*, when delineating the mutual love between herself and Hermia in the days of their girlhood, now so sadly discomposed. If one sentiment more than another was specially dear to Shakspeare it was the sanctity of friendship :—

“O, and is all forgot ?

All schooldays' friendship, childhood innocence ?
 We, Hermia, like two artificial* gods,
 Have with our needles created both one flower,
 Both on one sampler, sitting on one cushion,
 Both warbling of one song, both in one key,
 As if our hands, our sides, voices, and minds
 Had been incorporate. So we grew, together,
 Like to a double cherry, seeming parted,
 But yet a union in partition ;
 Two lovely berries moulded on one stem ;
 So, with two seeming bodies, but one heart,

* “Artificial,” here curiously employed in the sense of skilful, ingenious.

Two of the first, like coats in heraldry,
Due but to one, and crownèd with one crest.
And will you rend our ancient love asunder
To join with men, in scorning your poor friend ?
It is not friendly, 'tis not maidenly ;
Our sex, as well as I, may chide you for it,
Though I alone do feel the injury."

The simple but pretty song "Cherry Ripe" is very slightly altered from one written by Herrick, the clergyman poet, *temp.* Charles I., to whom we owe "Fair Daffodils."

Numerous varieties of this pleasant fruit are now cultivated in England, many of them understood to have come originally from Holland and Belgium. The best are considered to be the common Bigarreau, the Bigarreau Napoléon, the late black Bigarreau, the Bedford Prolific, the Royal Duke, the Early Rivers, the Early Red Guigne, the Elton, the Black Tartarian, the Early Lyons (or Rose de Lyons); and, specially adapted to the northern counties, Florence, Governor Wood, Knight's Early Black, and the good old well-known May-duke* and Morello, the last-named doing well against a north wall. When the plantation is a large one, the trees should be so disposed as to form a square, not put in lines, since the birds, never slow to discover cherry-trees, can then be more readily challenged; whereas when in lines, the never-failing blackbirds in particular, on being disturbed, simply chuckle and go to the other end. Any kind of soil will do for cherry-trees, except the very wet and clayey, thought they thrive best in sandy loam.

* Corrupted from *Médoc*, the name of part of the Gironde.

Cherry-trees should be planted also as ornaments. To relegate fruit-trees to the kitchen-garden and orchard is not far from a mistake. If apple and pear-trees had varieties like the double-blossomed cherry, they, too, would be allowed a place, perhaps, near the roses and lilies. In some parts of the continent, cherry-culture as in Kent is one of the principal sources of wealth. This is specially the case with the villages at the foot of the hills which fringe the valley of the Rhine. When the cherry-crop is ripe, the schools are all closed for a fortnight; young and old, master and servant, all set to work to get in this luscious harvest of the trees. Italy and the islands of the Greek Archipelago export some of their cherries to Egypt. They are carried to Alexandria, where the pleasant tartness always secures for them an immediate and profitable market.



THE PEACH (*Amygdalus Persica*).*

ONE of the poets has a passage beginning—

“Whether or not the blushing peach
Was Eden’s once forbidden fruit,
I cannot tell——”

The question may be unhesitatingly answered for him,

* Hooker and Bentham, in the “*Genera Plantarum*,” i. 610, adopt the same course with the stone-fruit trees as that which they have followed in respect of the apple and pear, the quince, etc., as mentioned on page 42; they place the whole, that is to say, in the single comprehensive genus *Prunus*.

and in the negative, though the epicure may be forgiven should his fancy rest for a moment, while scanning the possibilities, upon this queen of the stone-fruits—a gift of nature at all events more pleasant to associate with the garden of the four rivers, than the great, pale yellow, and not very shapely cousin of the orange and lemon commonly called the “forbidden fruit.” The peach is one of the fruits which, like many flowers, imitating the sun at noonday, have their meridian. There is just an hour, not much more, when the odour and the taste of this regal fruit are at the highest pitch. Fortunate is he who then secures it! That hour is like the day—it must be one of brightness overhead—when the horse-chestnut keeps festival, dressed to the topmost pinnacle with bouquets fit for princesses. The meridian passed, the fruit is still delicious, the tree imposing, but now it is the *afternoon*. Accustomed, as most people are, to see peach-trees nailed to a garden wall, or trained and tied, limb by limb, finger by finger, to a trellis under glass, their singular beauty, when living a life of freedom, is in general unknown. A standard peach-tree in full bearing is a spectacle, once beheld, never to be forgotten. In our own country it cannot often be hoped for, and then it will be found only in the southernmost counties. At Strood, on the Medway, some years ago, there were trees quite ten feet high, and eight feet through, bearing three to five hundred really good fruit apiece. Still, for the perfect realization of the standard peach, it is needful to visit the Continent, Italy in particular. Peaches do not

prefer to grow against walls; it is that the exigencies of our climate enforce resort to them. The peach never acquires any great bulk or stature, nor does it live to be very old. In these respects it corresponds with the queen of flowering-plants, the rose. The blossom, very abundant, appears in early spring, before the leaves, seated closely upon the branches, the petals usually deep carmine, occasionally white. The leaves, when mature, are lanceolate, three or four inches in length, acute and glabrous; the peculiarities of the fruit are its almost globular form, a groove down one side, and composition so exquisitely sub-liquid, that while enjoying a peach we hardly know whether we are eating or drinking. The stone inside is curiously wrinkled and furrowed, and contains a very large kernel. The skin is either downy, and then soft as velvet, as in peaches emphatically so called, or it is destitute of velvet, but still soft, and then we have the variety called the Nectarine. The specific identity of the two fruits is well established. Darwin, in the "Variation of Plants and Animals under Domestication," adduces plenty of proof, including that supplied by peaches and nectarines growing side by side upon the same tree. The nectarine is not found even apparently wild. There can be no doubt that it is a variety of purely garden origin, and that it differs from the peach only in the way that the smooth-skinned gooseberry differs from the hairy one. When the stone lies quite loose, except at the point of basal attachment, in either case the fruit is called a "free-stone" or Pavie. When

the flesh adheres to it, we have a "cling-stone" or Brugnnon. The difference seems to have existed ever since peaches were cultivated, being mentioned by the oldest horticultural writers. The "free-stone" condition arises simply from the natural decay of the fibrous cords which connect the pulp with the surface of the endocarp. Why it should occur is not yet explained: that the difference consists in no more than this natural decay is shown by the existence of intermediate forms, by the French called semi-cling-stones. The ordinary complexion is well known, yellowish green on the side that has been rather less exposed to the sun, lively red upon the other, very much the same as in many kinds of apple, the colour chastely softened, in the peach, by the silky velvet pile which covers the entire surface. "Peach-colour," said of ribbons, etc., it may be useful to remark, does not mean the colour of the *fruit*, but of the flowers; just as when "almond" is spoken of, in similar connection, the reference is to the roseate hue of the tree when in bloom. Many varieties in the colour of the ripened peach have arisen under cultivation. In one of them the skin is of a uniformly soft pale greenish white. Another may be described as pink. A third, called the St. Helena peach, is of a bright golden colour. The flesh also presents beautiful tints. The radiation of crimson lines and veins is a very familiar enrichment: in the variety called the Sanguinole (an excellent kind for preserving) the entire substance is of a richly tempered blood-colour. An extremely singular variety, in respect of shape, is

known as the "flat peach;" this on account of its seeming as if compressed vertically, so as to be converted into a ring of flesh, the stone in the middle, like the boss of an ancient round shield. Common with the Celestials, it constantly appears in Chinese drawings: in England it is grown as a curiosity.

The peach has, until quite recently, always been considered indigenous to Persia. That in some inferior form this fruit was conveyed from south-western Asia to Rome during the reign of the emperor Claudius, say some time during the first half-century of the Christian era, as stated by Pliny, making at that period its first appearance in Europe, there is no reason to doubt. It was in consequence of this transit that the name of *malum Persicum* was bestowed upon it, or perhaps *Persicum arbor*, whence, by slow degrees, and after many vicissitudes, represented in pesca, pesche, peshe, peche, etc., our own word "peach." That the peach-tree grows apparently wild, and in great profusion, in and about northern Persia is also undeniable. The researches of Decandolle go to prove, however, that the veritable native country is China, where the tree has been cultivated from the remotest antiquity, and from which it would, in process of time, move westwards. Had it existed originally in Persia and Armenia, Greece and Rome would assuredly have known of it sooner, and references to it would have occurred in the literature of the last-named nations, whereas they are perfectly silent.

When first made an object of culture in western Europe is unknown, though very certainly it was in France that this fruit, at a very early period, found not only a congenial climate, but admiration such as led to France becoming the most famous scene of high-class peach-growing in the world. North America may claim the ascendancy perhaps, in regard to the quantity produced, but France is still unrivalled in respect of quality. The special scene of French peach-culture is Montreuil, near Paris, which place annually supplies about twelve millions of the fruit, the earliest and latest selling at two and three francs apiece. It is to this celebrated locality that almost everything of importance connected with peach-culture is ultimately referred, and from this it would seem that the best of modern varieties have been received.

In England peach-growing is believed to have begun, under French example, as early as the eleventh century; but no great move was made till the period so noted in connection with several other fruits—the time of Henry VIII. It was then, also, that the nectarine was taken into English favour. Numerous varieties of both descriptions of fruit are named in the catalogues issued by the nurserymen; and as new ones always appear when peaches are raised from the kernel, though many of the sorts thus procured are worthless, there would seem to be in this fruit, as in the apple, an indefinite latent capacity for change. Where outdoor ripening cannot be looked for, the climate being unfavourable, no department of indoor fruit-culture is more interesting as well as profitable than

that which covers the peach and the nectarine, especially as no two varieties attain maturity at the same time ; nor is any spectacle, except that of ripe grapes, more ravishing than the well-managed peach, when the house is charged with its delightful perfume. All the resources of art are well devoted to it, and aid is sometimes sought from the little wizards of the honeycomb. Cultivators whose temperament is of the anxious type are accustomed to place a hive of bees in the peach-house, with a view to their assisting the fertilization of the flowers. That bees thus introduced render some service is likely enough. But the confining of them within limits so narrow seems to involve an amount of cruelty which the humane would be unwilling to inflict. When bees are brought into the peach-house, their well-known habit of soaring upwards in a spiral manner, as soon as they find themselves in new quarters, to take their bearings before flying away in quest of honey and pollen, results in the death of many through exhaustion. They beat against the glass, fall, and die. Fertilization is quite as successfully promoted by sweeping over the flowers a plume of pampas-grass, or a bunch of soft, downy feathers tied to a rod ; and even this seems called for only in the case of certain shy-setting varieties, such as Noblesse and Crawford's Early. The varieties generally held in highest esteem are Bellegarde, Grosse Mignonne, Hale's Early (the finest early peach), Late Admirable, Princess of Wales, Royal George, Walburton Admirable, Alexander, Stirling Castle (very hardy), Galande, Early Beatrice, and Sea

Eagle, the finest of the late sorts. The best nectarines are Violet Hâtive, Byron, Humboldt, Lord Napier (very early), Newton, Spenser, and Elruge.

The peach is now established in all parts of the world favourable to its existence. Captain Head told us long ago of the beauty and productiveness of the peach-trees in the neighbourhood of Mendoza, on the eastern side of the Andes: the extent of the culture in North America, incredible without, is declared by the figures published under authority. Between the Delaware and the Chesapeake, and the Brandywine and Cape Charles, it is estimated that there are growing at this moment no fewer than five millions of trees, young and old, covering about fifty thousand acres of land. In New Jersey orchards containing ten to twenty thousand trees are not uncommon. In the season special trains are chartered to carry the produce to the great cities. In California, also, the annual yield is becoming enormous. The tinned peaches, now so well known in England, are received chiefly from Cincinnati. Not that the whole of this vast yield corresponds in quality with the English peach. Much of it is useful only as the basis of "peach-brandy," and no small proportion is thrown to the hogs. The beginning of this great industry dates only from 1680, before which year the peach had not crossed the North Atlantic. The kernels, it should be added, with those of some of the other stone-fruits, contribute to the flavour of ratafia, maraschino, and other liqueurs, and pre-eminently to the most pernicious of all, the too-famous noyau.

THE ALMOND (*Amygdalus communis*).*

THE almond, like the apple, is one of the very ancient fruits. The history of it is bound up with that of events recorded in connection with the nations of over three thousand years ago, as in the touching old story narrated in *Genesis* xliii., when Jacob directs his sons to "carry down the man a present, a little balm, and a little honey, spices, and myrrh, nuts, and almonds," articles, all of them, at that period no doubt greatly esteemed in the land of the Pharaohs. The tree producing this fruit is so very nearly allied to the peach, the general figure and the foliage corresponding almost exactly, that by some botanists the last-named is thought to be no more than an immensely improved descendant of the almond. Plenty of support may be found for this conjecture if we set out predisposed in its favour. There seems, however, no necessity to assume the identity. A very marked distinction is found in the circumstance already mentioned in regard to the bursting open of the husk when ripe. The native countries of the two trees are also geographically so far asunder as to imply, it would seem, a specific difference from the very beginning. The primitive home of the peach appears to have been China: the almond seems to belong to those parts of Europe, warm and dry, which are bathed by the Levantine Mediterranean, reaching thence into western temperate Asia. Upon Hermon

* In the Hooker and Bentham classification, *Prunus Amygdalus*.

and the Lebanon it ascends to the height above the sea level of five thousand feet : it occurs also in Gilead and in Moab. Whether truly wild in the north of Africa, and even in Sicily, is uncertain. The nuts from cultivated trees germinate, like those of the peach, with so much readiness, that the last-named places may hold it only as an ancient colonist. That it was known to the Greeks is shown by the references in Theophrastus, in whose writings we first meet with the name *amygdalus*; and that it was familiar in Italy in the time of the Romans is proved by the frescoes found at Pompeii. Pliny speaks of it with the delight at once of a naturalist and a poet at heart, dwelling upon the spectacle of the early bloom as one of the loveliest that trees afford. It was this same circumstance—the early bloom, decking every branch with the most delicate pale rose-colour long before the leaves expand—that recommended the almond for employment not only in the figurative language of Scripture, but in the classical myths and fables, as in the oft-told tale of unhappy Phyllis. Phyllis, queen of Thrace, gives welcome to Demophoön while on his way home from the Trojan war. He remains at her court awhile; it is not difficult to guess what happens: when he goes, it is with many promises to come back, sincerely spoken, but not easy to keep: word is brought to her, in a little while, untruly, that Demophoön is unfaithful: she dies of grief; the gods, in pity, change her body into an almond-tree: the prince returns, now for the first time to learn what has happened; he embraces the tree, the

spirit of Phyllis is still alive in it, and, conscious of the clasp, comes forth in the shape of a thousand flowers. Is this to be relegated to the domain of the absurd? Never pronounce a thing to be meaningless because on the instant you do not perceive the secret of its significance. Phyllis has lived and died a thousand times, in every age and country; the wanderer, on his return, has never failed to find the poet's almond-tree, woman's faithful love, awaiting him.*

When the almond-tree was first brought to England is not known. Probably in the Plantagenet times; possibly much earlier, since, in an Anglo-Saxon Catalogue of the eleventh century, it has the name of "eastern nutte-beam." Chaucer alludes to it in the *Canterbury Tales*—

"And almandres gret plente;"

but this does not imply that he had seen the tree in England, though very possibly he had met with it upon the continent, since the poets are allowed to employ such names not only as metaphors, but for the sake of picturesque effect in their descriptions. In any case the tree had become common in the gardens in and around London by the time of Elizabeth. The interest of the Chaucerian line consists in the light it throws upon the history of the spelling of the name, which is no other than a curious modification of the original Greek amyg-

* In the "Epistles of the Heroines" Ovid has bequeathed us one supposed to be written by Phyllis when in her deepest grief—without question the most tender and beautiful composition of its kind extant in any language.

dalus. Wiclif (1388), in *Genesis* xliii. 11, has *almaundis*, and in *Eccles.* xii. v., *almaunder*. The current English spelling, almond, appears first in the 1611 version of the Old Testament.

The cultivation of the tree in England may be said to be purely for the simple purpose insisted upon by Bacon, "the royal ordering of gardens" so that there may be beauty in them at all seasons. The blossom comes immediately after that of the mezereon and the golden Forsythia, captivating, in its far-visible roseate, the most incurious—all three plants delicious in their bringing to mind those sweet little souls who, like Mary Wortley Montagu, pet and plaything of a whole circle of wits and scholars, come into bloom, smiling and sparkling, while barely twelve years old. The stature attained, when full grown, is about twenty feet, but flowers come in profusion while the tree is not yet more than a third of that height. Fruit, and even then not worth gathering for table, is ripened only in exceptionally fine, hot summers, preceded by mild and uninterrupted springs. A singular merit of the tree, as regards decorative value, is that, like the lilac and laburnum, it consents to live in the suburbs of cities. For the highest decorative purposes, the variety called *macrocarpa* should, if possible, be procured, the flowers being twice as large as those of the accustomed one, often pure white, and remaining longer in perfection. The fruit of this, as expressed in the name, is also larger. In either form of the plant it provides a very curious object for examination, the

mesocarp, or portion of the fruit which in the peach is juicy, being in the almond dry and leathery. The almond is subject to a singular malady, which at midsummer, when the tree is viewed from some little distance, gives the spectator an idea of large bright red flowers or fruits, very odd and perplexing, till examined. Then it is found that certain of the leaves have been attacked by a parasitic fungus, called *Ascomyces deformans*. The fungus lives inside the leaf, and bursts through the skin, the entire leaf being at the same time most curiously bulged and curled. Peach-trees are subject to attack by the same enemy. The only cure for it, or method of preventing recurrence, is to pick off the infected leaves and burn them.

The almonds of the shops are brought chiefly from the south of France and Spain. Great quantities are ripened, in particular, in Provence, the blossoms being there seldom injured by frost. A few are received also from Italy and from Barbary. Those used for culinary purposes, the dingy-brown, flattish, and somewhat dusty ones—the poorer sort—called “Valencias,” came originally from the province of that name. The more elongated, rounder, and clear-skinned variety used for the table, are “Jordan” almonds. Not that they have anything to do with the renowned river of Palestine, all being received from Malaga. The epithet came into existence through a mistaken understanding of the name by which this fruit is called in the *Promptorium Parvulorum*, the celebrated old English-Latin Dictionary

compiled in 1440 by "Geoffrey the Grammarian," viz., "Jardyne almaunde, amigdalum jardinum," literally a cultivated or garden almond.* How much older than 1440 "Jardyne" may be, there is at present no evidence to show. In tracing the history of words it is important to remember that all words were *spoken* before they were *written*, and that the occurrence of a given word in literature simply proves, at all events as a rule, that the word was already established, and known to people in general. How many words in our own colloquial have yet to be recognized by authors! The corruption took place before the Elizabethan age, Gerard saying of this variety, that it is "vulgarly called a Jordan almond," "vulgarly" meaning colloquially, as when Scripture is ordered to be read in the "vulgar tongue." The most delicate of all the known varieties is that one called in France *La Princesse*, the shell of which is so thin that it yields to the weakest fingers. None of these come to England, unless as curiosities. When almonds are shelled before exportation, the trouble and cost of the process is covered by the value of the refuse, which serves excellently for domestic fuel.

Bitter almonds are the produce of a variety called, because of their flavour, *amara*. In figure, leaf, and blossom, it does not differ from the sweet, or "dulcis." These are charged with amygdalin, the base of prussic or hydrocyanic acid. Great care has to be exercised in dealing with them, no vegetable poison being more

* Camden Society's Edit., 1843, p. 257.

energetic. The *oil* is especially dangerous. Sweet-almond oil is a very different substance—quite harmless, and hence put to varied uses, among which is the manufacture from it of Kalydor, and the famous “Rowland’s Macassar.” The abundance of the oil renders almonds rather difficult of digestion, at all events with people whose digestive powers are weak. Eaten in moderation they are nutritious and demulcent. When placed upon the table ready shelled, as when mingled with raisins for dessert, they should always be previously blanched, the brown skin being possessed of irritant properties.

In 1880 the total quantity of almonds of all descriptions brought into this country, was 86,763 cwts., valued at £334,713. The bitter ones were chiefly from Mogador.



THE APRICOT (*Armeniaca vulgaris*)*

THE Apricot is that beautiful yellow stone-fruit, nearly globular, fully an inch and a half in diameter, and furrowed on one side, the complexion of which moved Mr. Ruskin to describe it as “shining in sweet brightness of golden velvet.” Excepting in the southernmost counties, in England it does not ripen successfully unless the tree be trained, like the peach, against a wall facing the sun. The gloriousness of the spectacle presented by the tree

* *Prunus Armeniaca* of Linnæus and “Genera Plantarum,”
see p. 80.

when in its natural condition, and in full bearing, compares well with that even of the peach. Not far inferior, after all, is the sight of a first-class apricot, even in captivity, when in full harvest. So few fruits raised in England are literally of "golden" hue, that the tree is then little less precious as an ornamental one. The stature attained, when growing in the open, is twenty or thirty feet. After infancy it never loses time, soon reaching maturity, but the lease of existence is short. In spring and summer it is told at once from all other fruit-trees by the shape of the leaves, these being roundish cordate. They are glabrous, also, on both surfaces. The flowers precede the leaves, coming in March and April, and presenting the accustomed rosaceous symmetry of form pertaining to the *Drupiferae* in general; the petals are white, or lightly touched with pink. The apricot can stand a good deal of cold, provided the tree be kept dry. While the fruit is in its early stages, a capital protection for it is supplied by a shield of pine-tree branches.

As expressed in the Latin generic name, this admirable tree is believed to be a native of Armenia, though Koch, who spent so long a time in exploring that country, and the regions adjacent, says that he never met with it thereabouts truly wild. Upon the Caucasus, it ascends the mountain sides, almost to the summit; it occurs also in Thibet, Afghanistan, China, and Japan. The movement westwards would seem to have been slow and rather late. No mention, either of the fruit or of the tree, is made in classical literature before the time of

Dioscorides. The Romans themselves seem to have been imperfectly acquainted with it, though it is to their language that the name is finally traceable. What may have been the repute during the middle ages is altogether unknown. In England it appears to have been first seen about A.D. 1524, *temp.* Henry VIII., whose chief gardener, one Wolfe, a catholic priest, is said to have procured or brought it from Italy. Rather too tender for northern Europe, in Egypt and in Syria all disasters encountered elsewhere are fully compensated. No place in the world is more famous for its apricots than the neighbourhood of Cairo. The gardens thereabouts contain, it is estimated, not fewer than sixty thousand trees, standards, like the apples in English orchards. The price of the fruit in the markets is what in English coin would be represented by a penny or three-halfpence per pound. Such of it as does not get consumed while fresh is made into a luscious paste, by slightly drying, then rolling the mass till quite flat, incorporating almond kernels, and then drying again. Damascus is almost as well provided as Cairo. Here, also, a large portion of the produce is dried for winter use, but chiefly after the manner of figs. The stones are collected for exportation, the kernels to be used in the manufacture of noyau. Bokhara seems to be in no degree behind. In Dr. Lansdell's very interesting new work upon Russian Central Asia, in which some thirty-five pages are devoted to the Flora of this little-known region, "the first thing that struck me," says the author, "was the enormous size of the apricot-trees,

standing like avenues of old English pears, from thirty to forty feet high, with a circumference of trunk, near the base, of four to five feet."

The best kinds of apricot for cultivation in England are those called Large Early, Blenheim, Royal, and Moor Park. Hitherto this fruit has not succeeded well in the forcing-house, but the prospects, under Mr. Rivers' modes of treatment, are decidedly encouraging, and in this we may rejoice, the flavour of the fruit, when ripened under glass, being immensely superior to such as it acquires in the open air. Being very perishable, yet fairly solid, the apricot recommends itself excellently for preserving, and no less so for the method of drying practised in Italy, where the fruit is cut in half, the stone removed, and then spread out awhile in a spent oven. These dried halves are the "Italian apricots" of the shops.

In the names borne by fruits, as already illustrated, we have many curious examples of the vicissitudes of words. The derivation of "quince" from *Cydon* has been cited as one of the oddest. That of "apricot" is still more remarkable. According to Professor Skeat, it begins in the old Roman epithet applied to this fruit—*præcox*, "early," meaning the fruit which precedes others of its class. Another form of the word was *præcoquus*, having for its old neuter plural *præcoqua*. Travelling into Greece, *præcoqua* became *πραικόκιον*, plural *πραικόκια*, and this being adopted by the Arabs, with whom the tree was now beginning to be planted extensively in

northern Africa, and who prefixed their well-known definite article *al*, the result—making allowance for the usual alphabetical changes—was *al-barqûq*. The last-named then got into the Portuguese language, and the spelling changed again. From the Portuguese it moved into French, and so, at last, into our own, taking the shape, at first of “apricock,” as found in Shakspeare, and eventually, though not till 1782, of “apricot.” The most curious circumstance is that the initial *a*, now indissolubly attached, should be the Arabic *al* abbreviated, certifying the ancient journey of the word eastwards and then back again, like a tourist-ticket.



THE CHERRY-LAUREL (*Prunus Lauro-cerasus*).

THE Cherry-laurel, to call the plant by its proper name, is the well-known glossy evergreen ordinarily called *the* laurel. Strictly speaking, it is not a laurel at all, this very ancient appellation belonging, legitimately, to the trees and shrubs which constitute the genus *Laurus*. Foremost among the latter is the common Bay, *Laurus nobilis*, the tree always intended by “laurel” in mediæval literature, and in the poets, until quite recently. Chaucer’s “fresh green laurel” is the Bay, the scent corresponding with “the eglantere full well.” So is the laurel which in another place he associates with the wild honeysuckle—

“Some of laurel, and some full pleasantly,
Had chapelets of woodbine.”

The "laurel" always identified in story with honour and triumph, and used as the emblem of victory, as when chaplets are placed upon the brows of princes and conquerors, is also the Bay. The confusion or carelessness which led, in the sixteenth century, to the extension of the name to the *Prunus* is much to be regretted. To restore it to the *Laurus nobilis*, the rightful owner, is now for ever impracticable, considering all the circumstances; the least that could be done would be to call the usurper always, as we do here, the *Cherry-laurel*.

To describe so common a plant is scarcely needful, except for completeness' sake. Every one knows the large ovate-lanceolate yellowish green leaves, and the fine contrast they present to the foliage of other garden shrubs. When old enough to bloom, every one who has the opportunity of contemplating the tree in April and May, knows too, full well, how it covers itself with long and erect racemes of white honey-scented flowers; followed, in propitious seasons, by clusters of rich black-purple fruit resembling damsons. A "tree," by the way, though we speak of it as one, the cherry-laurel does not deserve to be called. At the best, it is only a huge rambling shrub, disposed to be semi-prostrate. This comes of the shoots elongating fast, but not increasing proportionately in thickness, so that they cannot help reclining. When in full fruit, the appearance is very striking, the bunches bearing no distant likeness to small clusters of the variety of grape called "Lady Downes." Though the leaves are charged with poisonous matter,

corresponding with the amygdaline of the peach-tree, in which the kernels go shares, the pulpy portion of the fruit is perfectly innocuous, and not only so, but fairly palatable and nice. When large, plump, and well-ripened, it makes an interesting addition to the October dessert. It supplies material, also, for a capital tart, a good jelly, and an excellent jam ; but in making these, because of the poisonous matter, the stones should first be removed, a process quite easy, as they readily part from the flesh.

The Cherry-laurel is a native of Asia Minor, the Crimea, and the northern parts of Persia, coming into Europe barely three hundred years ago. From the account given by Clusius, the famous botanist of Vienna, in the sixteenth century, it would seem to have been first cultivated in the neighbourhood of Constantinople. It was from that place that the original plant was sent to Clusius, in 1576, as one of many curious novelties, all of which, excepting the cherry-laurel and the horse-chestnut, perished on the way from the severity of the cold. The particulars related by Clusius as to the difficulty he experienced in establishing his little *protégée*, have all the charm of a romance of human life. It was six feet high, and bore the name on arrival of Trebison Cumani, "the date of Trebisond." The Italians, to this day, call it *Lauro di Trabesonda*. It was by Clusius, the original recipient, that it was named Lauro-cerasus. Parkinson says that in England it was first cultivated at Highgate, by a Mr. Cole, a London merchant, who used to cover it

in winter with a blanket. The susceptibility to damage by severe frost which in England, every ten or twenty years, brings so much sorrow to the cherry-laurel, would seem to have been detected, or at all events foreboded, on its first arrival.

By 1688, according to Ray, the cherry-laurel had become quite common in English gardens; and now we have many beautiful varieties, the handsomest of which, and most distinct, for ornamental shrubbery purposes, is the Colchican, introduced from Belgium in 1841.

A very curious parallel exists between this plant and the yew-tree, though they are in no degree related. In both, the kernels and the leaves are poisonous; in both, at the same time, the succulent portion of the fruit is free from anything deleterious, so strange is the association sometimes indulged in by nature, of good and evil in the same production, life and death walking arm in arm. The fruit of the yew is never gathered, like that of the cherry-laurel, for table; it is left to the thrushes, by which all is soon cleared away: boys are apt to eat it, but then a boy is an animal that will eat anything at any time.



As with the Pomiferæ, so in the plum-family there appear to be several species which only await skill and enterprise to be lifted to the rank of acknowledged fruit-trees. First may be mentioned the *Prunus cerasifera*, the "cherry-plum" or "Myrobalan plum," the *cerisette* of the French, well so named, a dish of them more nearly

resembling one of pale red cherries than of plums. The flesh is yellowish, sweet, with a slight acidity, and juicy. Though pleasant to eat just as it comes from the tree, the fruit is better adapted for tarts, and for preserving like ordinary plums and cherries. The production of it in England is rare and scanty, owing to the exceeding earliness of the bloom, and consequent exposure of the still tender produce to the frosts only too frequent in March and April. The tree attains the height of thirty or forty feet, and when in flower, especially when placed near dark evergreens, is for beauty unexcelled. The native country is unknown. Whether or not it is to be considered a true "species" is also doubtful. Dr. Hooker thinks it may be referable to the *Prunus insititia*—Koch considers it a form of the *P. divaricata* of the Caucasian provinces. A coloured drawing is given in the *Botanical Magazine*, pl. 5,934 (1871).

Then comes the *Prunus Pissardi*, which itself may be only a variety of the *cerasifera*, though received from Tauris, a town about two hundred and thirty miles from Teheran. The specific name was bestowed in compliment to M. Pissard, gardener to the Shah of Persia. The foliage is remarkable for its deep claret-red colour; the ovoid fruits, produced in abundance, almost exactly match it, and, though small, have a fairly good flavour.

The "Mume" of Japan, *Prunus Mume*, and the *Prunus tomentosa*, from the same country, seem also to contain elements of merit, waiting to be developed, though, in truth, the trees themselves are as yet very uncommon.

The fruit of the Mume is half-way between an apricot and a plum. The fruit of the *tomentosa*, figured in Siebold and Zuccarini's *Flora Japonica*, pl. 22, is of a brilliant red or scarlet colour, and in shape somewhat resembles a small apple. Lastly, there is the pretty pink-flowered Chinese shrub called *Prunus* (or *Amygdalopsis*) *triloba*, the little round fruits, when mature, reddish-orange colour. Great botanical interest attaches to this plant, on account of there being several, usually five or six, drupes to every flower.





Chapter Fifth.

BERRIES.

“In her days, every man shall eat in safety
Under his own vine, what he plants, and sing
The merry songs of peace to all his neighbours ;
God shall be truly known, and those about her,
From her shall read the ways of perfect honour,
And by those claim their greatness, not by blood.”

King Henry the Eighth, v. 4.



TRICTLY speaking, or in the precise and technical sense of the term, as understood by botanists, a “berry” is a fruit of the kind illustrated in grapes and currants—a thin-skinned bag of juice, or of very soft pulp, containing several seeds, or at times only a single seed.

The word is of very ancient extraction, belonging to the northern nations, and coming proximately from the Anglo-Saxon *berige* or *berga*, with the primitive sense, it would

seem, of "edible fruit." Hence, no doubt, the broad use of it in the names strawberry, raspberry, blackberry, mulberry, all of which designate fruits quite different in structure from true, or botanical berries, as will appear by-and-by. Genuine berries are very common, though the number of eatable kinds is comparatively small. They belong almost exclusively to the plants of temperate countries, tropical sunshine being too powerful for them, and are very generally of bright and attractive colours. The grape, the currant, the gooseberry, the berbery, the whortle-berry, the cranberry, the elder-berry, are in Britain the chief representatives.



THE GRAPE (*Vitis vinifera*).

OTHER fruits, it may be conceded, are more generally or more variously useful, but it remains true that the most illustrious is the Grape. The grape is a kind of "Good Samaritan;" it is the source of that which "maketh glad the heart of man;" the plant producing it holds the highest place in scriptural metaphor allowed to any individual member of the vegetable kingdom. The history can hardly be said to have a beginning; it is lost upon the horizon of the remotest past. The oldest literature in the world, and the oldest monuments in the world, alike deal with the vine as with something long since familiar, an inheritance from days yet older. The fig-tree was the first to be made useful by mankind—the leaves supplying

apparel, the first factor in human uprising; and the first to come into view after the subsidence of the waters was the olive; but the first of the fruit-trees planted with a view to consuming the produce was the vine. Noah seems to have come direct, as it were, from the sublime covenant of the Rainbow, when "he began to be a husbandman, and planted a vineyard." Among the drawings upon the walls of the tombs in ancient Egypt are representations of every circumstance connected with the culture of the vine; the treading of the grapes for wine-making is also pictured, and the storing of the wine in earthen jars. Homer, when he bestows epithets upon cities of renown, and wishes to make them appear enviable and joyous, employs the epithets ἀμπελόεις and πολυστάφυλος, literally "rich in vines," and "possessed of many clusters of grapes." The same poet introduces the vine upon the shield of Achilles. In every other classical author we find some allusion that similarly declares the primæval fame, Virgil again referring to the imitation of it in works of Art. How beautiful the description of the beechen cups carved by Alcimedon, "round which a curling vine, superadded by the easy-moving graver, mantles the bunches diffused from the pale ivy." Ivy-trails, he means, surrounded the upper portion, while vine-trails rose under each handle, the leaves blending in such a way as to leave lateral spaces for the figures which he then proceeds to mention. It is nothing less than consistent with its noble nature that this incomparable plant, the *Vitis vinifera*, should always be foremost in

design. All miniatures and dainty little pictures were originally encircled with representations of the foliage. Hence, the French word being *vigne*, we still call such miniatures *vignettes*.

The native country of the grape-vine was long a matter of uncertainty and dispute. It is now tolerably well determined that the original locality was the tract which stretches from the hills on the southern border of the Caspian, in latitude 37° , to the shores of the Persian Gulf and the Indian Ocean, and eastwards, through Khorassan and Cabul, to the base of the Himalayas. At the present day, in the Caucasus of Cashmere, it climbs to the tops of the tallest trees, disporting itself with all the luxuriant carelessness of a tropical passion-flower, and producing fruit in abundance, especially when near streams of water. That these seemingly wild vines are the absolute descendants or posterity of the primæval plants must not be too hastily or certainly concluded. They may possibly be no more than mementoes of ancient cultivation in those particular spots, just as in England at the present day we often find memorials of gardens and orchards long since extinguished. The pathetic lines,

“Near yonder copse, where once a garden smiled,
And still where many a garden flower grows wild,”

supply a text, we may be sure, illustrated in every country where man has tilled the soil. Birds, too, would carry the seeds far and wide. The vines apparently wild in some parts of southern Europe, as in Greece and Italy, are almost certainly by derivation from the primitive vine-

yards. Doubts exist, indeed, as to whether the vine, as we have it to-day, may not be, after all, like the cultivated pear, the outcome of the intermarrying, in the first ages, of two or more ruder species. These, it is thought possible, may be the Indian forms of *Vitis* named by Roxburgh *latifolia*, *parvifolia*, and *lanata*.

The phrase "wild vine," it is important here to indicate, has in the A.V. of the Old Testament a very different signification. Nothing could be more natural during the up-growth of language than that the word "vine" should pass on from the grape-producing plant to any other of similar habit—constituted, that is, of long, limp, and pliant shoots, and prone to mount into trees and tall shrubs, either by spiral twining, after the manner of the hop and the wild honeysuckle, or by means of the "little strong embrace" of tendrils, as shown in passion-flowers, the bryony, the melon, and the cucumber, which last are by nature arboreal plants, and when cultivated in frames, and prostrate upon the ground, are like the birds of the woodland when imprisoned in cages. It is in reference to a plant of the same family as the cucumber—namely, the colocynth—that the phrase "wild vine" occurs in the A.V., being applied to it in the famous narrative of the gathering of the bitter fruit in 2 *Kings* iv.

Apart altogether from its value as a source of fruit, the vine is a singularly elegant plant. The height to which the slim shoots can ascend has an image in the tree-mantling ivy of old England. One of the branches of the celebrated vine at Hampton Court reaches to the

distance, from the root, of a hundred and fourteen feet. Many shoots always run in company, as imaged again in the wild clematis, or "Traveller's joy." When trained, as it easily may be, so as to climb into a Lombardy poplar, or even into a laburnum, assisted a little at first, then allowed to do as it pleases, it soon presents a wonderfully charming appearance. After a few years' growth, the great arms swing themselves in the most fantastic manner from bough to bough, throwing out graceful pendants and festoons, such as are within the power of no other ligneous plant of temperate latitudes. Throughout the summer it is dressed with the large, broad leaves, five to ten inches across, so loved and admired by Art, and which, though substantial, are yet sufficiently thin, and though plentiful, sufficiently far apart, to allow easy and pleasant passage to the sunlight. Their long slim stalks, and the great angular spaces in the blade, again give help, so that a use for the vine even more delightful yet may be secured, and that is for the summer-roofing of an arbour. Looked at from below, the idea they give then of lucid green has its counterpart only in the translucent verdure of a grove of young beeches in the month of May. In autumn, before they drop, they turn deep yellow, clouded or veined with crimson, and in some varieties become purely and wholly crimson, rivals then of the sugar-maple, more brilliant in death than in the full vigour of existence. The climbing is accomplished by means, as said above, of the "tendrils," those innocent green fingers which in their general history, many

other plants producing similar ones, are so wonderful as to provide a distinct subject of botanical study. They are not *new* organs. Every one of the tendrils represents what might have been a bunch of grapes. They are a kind of supernumerary foundations or beginnings of bunches, developed in the form we find them, to compensate the weakness of the shoots, and to enable them to take their well-deserved place aloft. That such is the true nature of the tendrils of the vine is quite evident from their arising from the leaf-axils, and being often tuberculated with rudimentary flower-buds. The flowers make no show. Like those of the oak, they can afford to be unpretentious. But how curiously formed! The five petals cohere at the tips, but are free at the base. The opening takes place by their detaching themselves from the receptacle; they are then carried upwards by the elongation of the stamens, and finally they drop off in the shape of a pretty little five-rayed star. The flowers have the merit, also, of being honey-scented—the attribute alluded to in the delicious picture in the *Song of Solomon*: “The fig-tree putteth forth her green figs, and the vines with the tender grapes give a good smell. Arise, my love, my fair one, and come away!”* As for

* The Hebrew word employed in this passage, *sēmādhār*, is quite different from the term which denotes ripened grapes. It occurs also in ii. 15, and in vii. 12, but nowhere else in Scripture. The amended version in the “Revised” is:—

“The fig-tree ripeneth her green figs,
And the vines are in blossom,
They give forth their fragrance.”

the fruit, the variety it affords, under cultivation, alike in form, colour, and flavour, is inexhaustible. The latter we can always depend upon as sure to be elevated, generous, dulcet, unalloyed. By rights, every berry should contain five seeds. It is seldom, however, that more than three come to maturity.

The potential longevity of the vine is unquestionably very great; some think it can live for centuries. So is the attainable bulk of the principal stem, feeble and attenuated as the branches are. History furnishes examples of bulk even prodigious. The statue of Jupiter, made for the ancient Etrurian city of Populonia, so Pliny tells us, was of vine-wood. So were the architectural ornaments of the temple of Juno, at Metapontum in Lucania. In a later age the doors of the cathedral of Ravenna were constructed of vine-wood, the planks twelve feet long and fifteen inches wide. These statements, taken in connection with the well-known hardness and compactness of the wood when old, are rendered perfectly credible by what is certain in regard to the great Californian vine, unfortunately now no longer in existence, having been cut down because of ill health in 1875. It stood at Montecito, near the sea, in Santa Barbara county, with a romantic incident for the very beginning. A young Spanish lady was presented by her lover with a riding-whip, the handle of which was made of a vine-cane. She planted it, by his request; it is to be hoped that the current of their own happiness moved *pari passu*: in any case, it grew so wonderfully, that when cut down the

diameter of the trunk at the base was eighteen inches, and at a yard above the ground fourteen inches. The branches, which by training spread themselves in all directions to the number of about twenty, covered over four thousand square yards of ground. The yearly produce varied from seven thousand five hundred to ten thousand bunches, the aggregate weight running from five to six tons. The entire plant, sawn into pieces, and reconstructed, complete in everything save life, was sent to the great Exhibition at Philadelphia in 1876. On the close of this, the trunk was returned to San Francisco and deposited in the museum at Woodward's (a sort of miniature "Crystal Palace"), where it will probably be preserved after the manner of an ancient Greek statue. The largest and most celebrated vine in England is the famous old Black Hamburgh at Hampton Court, planted in 1768, a slip from one at Valentines, Ilford, Essex. Originally it was intended simply to cover a piece of bare wall. The protecting with glass was an afterthought, by no means immediate. In ordinary years the produce has been from twelve or thirteen hundred up to eighteen hundred bunches. In very favourable ones it has ripened no fewer than two thousand two hundred, every bunch well coloured, and fit for table. This grand old plant is now somewhat on the wane. When all is over, it will be said truthfully that more human beings, from first to last, have stood under its shadow than under any other vine in the world. Possessed of features and qualities so glorious, it seems

curious that the vine is not more used as a purely decorative plant. Poor as the fruit may be, compared with that of the hothouse, how beautiful the spectacle, common in the southern counties, occasional in the north, of the vine covering the cottage-front. Remembering what the vine stands for, metaphorically, in Scripture, one of the good signs of the growth in our country of pure taste in matters of church-ornament, which, when dealt with lovingly, as by the Plantagenet architects, is shown outside as well as inside, will be planting a vine beside the porch, and training it so as to form an archway to the House of God.

Any attempt to trace the history of the original diffusion of the vine must needs be hopeless. Nothing, probably, will ever be ascertained of earlier date than the time of Julius Cæsar, who, after his subjugation of ancient Gaul, B.C. 55, took possession of the Valley of the Rhine, and soon introduced many kinds of fruit from Italy. From Ausonius we learn that the banks of the Moselle possessed this plant by the middle of the fourth century, at which period, also, grapes were grown in the neighbourhood of primitive Paris, but it was not for quite a couple of centuries afterwards that the cultivation became general either in Germany or France. Charlemagne, that admirable patron of the useful arts, horticulture in particular, gave grape-growing his warmest encouragement. The introduction into England took place under the later Roman governors. Vineyards would seem to have been first planted in our island about A.D. 280. They are

mentioned in the earliest Saxon charters, and plainly as having been found in the country by the Saxons, not made by them. The religious fraternities of the dark ages, spreading out of Italy in all directions, helped to disseminate useful vegetables and fruits. Vineyards, under their influence, as well as gardens and orchards, became customary adjuncts to the monasteries. They are mentioned in Domesday Book as existing in Kent, Middlesex, Hampshire, Wilts, Dorset, Hertfordshire, Norfolk, and Suffolk, and continued to be common for many centuries after the Conquest. During the wars of the Roses all the best of them seem to have been utterly ruined, excepting such as pertained to the ecclesiastical institutions, and these likewise perished at the time of the Reformation. Since then, the culture of the vine in England has been carried on with regard chiefly to the fruit as an elegant addition to the table. There is no reason, however, why the ancient cultivation out-of-doors for the sake of wine-manufacture should not in some measure be restored. There are plenty of sunny slopes where the plant would thrive just as it did of old. It is certain that there has been no deterioration in the local climate such as would hinder: if any change, it has been one of improvement, such as is promoted by the drainage of moor and fen. What is wanting to ensure success is not another climate, but care and pains in the cultivation.

The beginning of the now universal system of forcing, or accelerating the production of grapes, by means of

artificial heat, dates from in or about 1705. Lawrence, in his "Fruit-Gardener," 1718, informs us that the first to attempt it was the Duke of Rutland, who, at Belvoir Castle, "kept fires constantly burning behind slope walls," whereby he was rewarded "even with the best Frontignacs, in July." These "slope walls" were at first open to the weather. The protection of the vines with glass was a later idea. How grand the achievements of the modern grape-grower needs no telling. The finest grapes in the world are those now produced in English hot-houses. A more interesting sight is nowhere presented than where there are several houses in succession, the grapes in all stages, from bloom to approaching maturity. Very interesting, too, is the fact that while England imports grapes from continental Europe in quantities so vast that they are sold in the streets like apples, England also raises grapes for *export*. It is not generally known, but none the less one of the curiosities of modern commerce, that Copenhagen and St. Petersburg are largely supplied with grapes from Yorkshire, grapes grown in the great vineries at Corwick Hall, near Goole. For safe transit to those cities, the bunches are wrapped separately in tissue-paper, then placed endways in boxes about sixteen inches square, with a good layer of cork-dust underneath. Nothing could more curiously illustrate the broad principle that England manufactures some of everything, and more or less, for all the world. The imported grapes commonly sold in the markets, as well known, are chiefly of the so-called "white" description, the berries

large and oval. These are brought principally from Almeria, in Spain, Portugal, and Sicily. The round-berried "black" ones, not so common, but very good, are mostly from Hamburg.

The magnitude of the bunches often produced in English hot-houses is sometimes prodigious. At the International Fruit Exhibition, held in the Manchester Botanical Gardens, at the close of August, 1881, there was shown a cluster of "Black Hamburg" from Lambton Castle, Durham, the weight of which was 13 lb. 4 oz. It recalled to mind the famous bunch brought from Eshcol by the spies, with their other samples of the products of the Promised Land, and which was borne "on a staff between two." From these words we must be careful not to infer more than is really meant. There is no need to exaggerate in the way that has often been done in pictures. The two men slung it, in all likelihood, not because the weight taxed their strength, but to prevent damage and bruising, simply anticipating the precautions adopted by all modern gardeners and fruit-dealers. Huge bunches, after all, are objects more for wonder than desire. They are not so satisfactory as good medium clusters. The grape-grower's triumph consists in a nice evenly-finished and well-ripened crop, free from anything sensational. A bunch of inordinate size cannot have a portion removed without the appearance, if the whole be not just then wanted, being spoiled; two or three comparatively small bunches, side by side—we speak of dessert—give a far pleasanter

impression of beauty ; and if all three, or even half, are not required for immediate consumption, no harm is done to the symmetry of what is left.

The choice of the varieties to be selected for cultivation in the vinery is, of necessity, like that of the choice of apples and pears for the garden, a matter that must be very much ruled by circumstances and personal considerations. Early grapes are wanted, intermediate ones, and late. Black grapes also, and white ; with all that pleasant change of sort which is supplied in the varied detail of taste and substance, some kinds being more remarkable for juiciness, others for lusciousness, aroma, or superb colour. Potential size of cluster and of individual berry, and time of endurance in nice condition, are also features of different sorts which give them claims to preference in regard to the special objects with which the fruit is cultivated. Among the most generally esteemed, the varieties over the merits of which there is little or no difference of opinion are the sorts called by the following names :—

BLACK GRAPES.

Black Hamburgh.—Universally known, and deservedly the highest in repute for general cultivation.

Black Alicante.—That excellent grape which, if left on the vine, goes on steadily improving, even up to Christmas, by which time it becomes almost a sweetmeat.

Gros Maroc.—The berries of this are very large, and distinguished for their fine “bloom.”

Gros Colman.—The berries of this one also are very large.

It is one of the varieties noted for keeping well.

Madresfield Court.—For the development of its best qualities this one should have a house to itself. The bunches then hang for many months without shrivelling.

Lady Downes' Seedling.—The clusters of this may be kept on the vines until Easter.

WHITE GRAPES.

White Muscat of Alexandria.—Of all grapes at present known, this one is unquestionably the queen. The vines are unsurpassed in good constitution and fecundity. When perfectly ripe, the size of the bunch, the complexion, and the taste leave nothing to be desired.

Early Muscat.—Excellent in being the earliest of the class.

Tokay Frontignan.—Also very early, and, like the first-named, very prolific.

Buckland Sweet-water.—Another of the very generously productive sorts, and well adapted for a cool vinery.

Chasselas de Fontainebleau.—Very juicy, and remarkable for its aroma.

Ferdinand de Lesseps.—The colour a charming amber; the flavour peculiar, a mixture of muscat and strawberry.

The last-named is one of the sorts obtained by "crossing," the vine being one of the plants which submit themselves

readily to the practice of artificial fertilization, or the transfer by hand of the pollen of the flowers of one variety to the blossoms of another and different kind, the practice to which we owe the greater portion of our fancy roses and rhododendrons, modern in the carrying out, but foretold in the immortal dialogue in the *Winter's Tale*:—

“This is an art,
Which does mend nature—change it rather, but
The art itself is nature.”

What stores of unexpected wealth have yet to be brought to the front by means of human skill and enterprise it is impossible even to conjecture. The undiscovered secrets of nature, we may be sure, are not less wonderful and delectable than the disclosures already before us. Meanwhile there is enough to do in making the best of the matchless sorts we are possessed of, and in working out new and elegant devices in regard to the use of the vine as an ornament even for our dwellings. How classic and refreshing when grown, for instance, in a pot, as a little standard, and trained to dimensions such as adapt it for the centre of the table, the seven or eight bunches of fruit, then quite easily at command, depending from beneath the broad green leafy crown. The appearance of a little vine thus trained is so exceedingly rich as to elicit warmer admiration than even the loveliest epergne of flowers. The best sort to employ for this purpose is the common Black Hamburg.

A different set of varieties should be resorted to for cultivation in the open air. There are several sorts which

yield capital crops of fruit in seasons at all complacent, at all events in the southern counties, and if care be taken to plant these, there is, on the average, a very plentiful reward. Not that to attempt grape-growing on a large scale out-of-doors, except for the manufacture of wine, is worth while, perhaps, as a commercial undertaking, the seasons being so uncertain, and the supply of table-fruit from abroad being so large and so cheaply obtained. But there is so much beauty and interest in connection with the fruiting of a vine in one's own garden as a source of enjoyment that not to secure it is a pity. The best kinds for outdoor culture are, taking first the purple-fruited, Esperione, Muscat Lierval, and Black Cluster; and among the amber-tinted, or "white," Muscat St. Laurent, Chasselas Vibert, Chasselas de Fontainebleau, and Tokay Frontignan. The above-mentioned Ferdinand de Lesseps also seems to do well.

Once again like the apple, the vine has found its way to all countries where the climate allows of the ripening of the fruit. In very cold regions it refuses to grow, and within twenty-five or even thirty degrees of the equator it seldom flourishes, too much solar heat being no less unwelcome than the reverse. The special interest of the circumstance consists in the prelude this wide diffusion forms to the manufacture by the various countries of their own wines. Wine has long been made at the Cape of Good Hope. Australia is rapidly developing this new industry. One of the most promising of the wines of the future is that which is made in large quantities at

Cincinnati and St. Louis, and sold under the name of "Sparkling Catawba." Florida and California are in no degree behind. It was only in 1860 that wine-making became an occupation in Algeria, yet in three years the quantity produced was no less than one million five hundred thousand imperial gallons, and by 1884 it had risen to over nineteen million seven hundred thousand gallons. Renowned as Egypt was in the days of the Pharaohs and the Ptolemys for its wine, none at all is now made there, the use of it being forbidden by the Koran. There are plenty of vines. The number is estimated at two hundred and twenty-five thousand, of which there are near Alexandria fifty-five thousand, and near Cairo fifty thousand, but the yield of these is employed simply for repast. It is melancholy to reflect that a plant of utility so vast, and capable of cultivation so extended, should have enemies so dire as the *oidium* and the *phylloxera*. In this respect, after all, it is by no means exceptional, the apple, the cereals, the potato, being, as well known, assailed, all in their turn, by some kind of destructive malady.

In countries where the processes which begin with drying the fruit can be put into successful practice, certain kinds of grapes are converted into Raisins, the pleasant form of the sweet gift of the vine which in England is always bound up so specially with thoughts of Christmas. The manufacture is exceedingly ancient, several references to raisins occurring in the historical books of the Old Testament, as in the celebrated story

of David and the pretty and discreet Abigail, 1 *Sam.* xxv. 18, also in 1 *Sam.* xxx. 12, 2 *Sam.* xvi. 1, and 1 *Chron.* xii. 40. In all these passages the phrase employed in the A.V. is either "bunches of raisins" or "clusters of raisins," the Revised reducing all to the uniformity of "clusters." There is reason to believe that, although "clusters" is the term approved by the Revisers, the original Hebrew word, *timmūqīm*, denotes, rather, compressed masses or cakes of the dried fruit, such as are still prepared for winter consumption. The etymology allows of either view, the sense of *timmūqīm* being simply that which has been desiccated. These cakes are also spoken of in the Old Testament under the name of 'ashishāh, this latter term involving, perhaps, the added idea of dried figs. It occurs in 2 *Sam.* vi. 19, in 1 *Chron.* xvi. 3, in *Hosea* iii. 1, where the article in question is mentioned as one of the offerings made to idols; and very curiously, in the *Song of Solomon*, when the Bride, feeling faint, cries out, "Stay me with 'ashishāh; comfort me with apples." The early translators thought that 'ashishāh meant "flagons of wine"—the phrase employed in the A.V. The genuine sense, "raisin cakes," or "cakes of raisins," has long been familiar to scholars. Happily the Revised has now placed it distinctly before the world, giving us, in place of "Stay me with flagons"—

"Stay ye me with raisins,
Comfort me with apples."

All the other passages in which 'ashishāh occurs have been similarly corrected.

The classical authors likewise allude to raisins, as when the nymph in Theocritus, who prefers maidenhood to an ill-assorted marriage, and who knows that age has its blessedness as well as youth, uses the happy metaphor—that grapes, though dried into raisins, are still delicious. (xxvii. 9.) Just as at the present day, so is it plain that there were loveable “old maids” long before two thousand years ago. Many an “old maid” among those laughed at by the pert, the ignorant, and the vulgar, is what we find her because too high-minded, too *recherché* in her gentle and educated tastes to have been satisfied with any one of the opportunities of marriage she had in the by-gones. She has never, in a word, *condescended* to marry. Happiness does not consist in being married, but in a contented frame of mind. Whatever their social position, men and women are capable only of a certain amount of happiness, and to imagine that marriage is the sovereign cure for all disquietudes is to imagine that it can change one’s nature. Theocritus was quite right in his doctrine, though the nymph is made to deal with it sportively: grapes—they must *be* grapes—“dried into raisins are still delicious.” Virgil recommends raisins as proper for the bees, when suffering from the casualties which at times befall their useful little lives. It is in his language that we find the origin of the name, which is a curious derivation from the Latin *racemus*, “a bunch of grapes,” the meaning it held as late as the time of Chaucer:—

“For no man at the firstē stroke,
Ne may not fel adoune an oke;

Nor of the reisisn have the wine
Till grapes be ripe and well afine."*

Widely dispersed over the world as the vine is in itself, there are very few localities where the preparation of raisins can be accomplished successfully. Particular kinds of soil are necessary for the vines, and the conditions of climate where the fruit can be cured are rare and limited. For perfect results, the grapes must be dried in the open air, in contact with a dry and heated soil, in an atmosphere void of all dampness, secure from rain and dew, and saturated, for the time being, with the hottest sunshine. These conditions are combined in certain parts of Spain; at their best, it would seem, exclusively near Malaga. Round about that celebrated city the country is very rugged. Beyond about six miles from the town, every spot where it is possible to insert a vine is utilized. Every hill is covered, especially near the sea, and every bunch is converted into the admirable sort we import under the name of "muscatels." Muscatels are often called "Raisins of the Sun," because originally, it would seem, after the stalks of the bunches had been partially severed, so as to interrupt the natural flow of the sap, they were left upon the tree to dry in the sunshine before gathering. In Spain, at the present day, the more usual practice is to cut the bunches when properly ripened, then to dry them in the sun, upon hard earthen floors, specially prepared, and which can be covered in case of rain. Two or three other parts of the

* "Afine," *i.e.* in perfection. ("Romaunt of the Rose," 3690.)

world have latterly become important as producers of raisins similar to muscatels. Very good ones are prepared in Fresno county, California, by cutting and laying the bunches to dry in the sun, in shallow trays, for about a fortnight. Near Huasco, in Chili, there is a little valley where many tons of first-rate raisins are annually prepared, the seeds so small as to be hardly noticeable. Excellent raisins are prepared also in some parts of northern Persia and Bokhara.

Valentia or pudding raisins are imported, like the muscatels, from Spain. But while the latter attain perfection only near the sea, the Valentias are raised in the interior of the country, and from an inferior description of grape, with a thicker skin. The bunches when cut are either hung upon lines or laid out upon the ground separately, turned over once, any of the berries that have spoiled being then picked out, and in fifteen days gathered up again. A lye of wood-ashes and barilla, medicated with salt and oil, is then prepared, and into this the bunches are dipped. The action of the lye causes the saccharine element of the fruit to exude in part to the surface; hence the peculiar brown and varnished appearance of the pudding raisin, as well as the stickiness which distinguishes it from the aristocratic muscatel. The Spaniards are well recompensed for the pains and trouble they bestow, since their fruit-trade with England alone, all sorts included, is worth annually no less a sum than £1,500,000 sterling.

The very sweet and nice little raisins called Sultanas,

light in colour, and destitute of stones or seeds, are received from Smyrna, in the vicinity of which town they appear to have been cultivated for between two and three hundred years. There is no essential difference between the vine which yields them and many other varieties producing small and seedless grapes. The special character of seedlessness seems to be correlative with the diminished size of the berry, and may have been originally induced by special circumstances of soil and climate, leading to partially abortive flowers. The vines are planted in rows six or seven feet apart, and at intervals of three or four feet, and so trained as to form irregularly branching little bushes, which seldom attain the height of a yard. They are grown almost exclusively upon the hippurite limestone of the neighbourhood, up to an elevation of about four hundred feet above the sea. The harvest commences about the middle of July, and occupies nearly a month in the gathering. The bunches are dipped, like those of the Valentia raisins in Spain, into a lye made of wood-ashes, to which has been added a small quantity of oil. They are then dried upon the ground, a process occupying nearly a week, after which the berries are stripped or shaken from the stalks, and packed in the drums in which they arrive for the shops. The quantity brought to England is about ten thousand tons annually.

Another variety of the vine furnishes the inestimable fruit so familiar, in the dried state, under the name of Grocers' Currants, or, when we are speaking of their uses

for cakes and puddings, simply as Currants. Little or nothing is known of its earliest history, though the plant was certainly in cultivation before the time of Queen Elizabeth, Sir Walter Raleigh being said to have had some sort of monopoly of the importation into this country. These are the genuine and original "currants," the word being a corruption of the epithet in *uvæ Corinthiacæ*, "Corinthian grapes," by which name they were called when first brought from Greece, the native country. The geographical range of the successful culture, like that of the muscatel raisin, is very limited, and from similar causes. The metropolis of the district in which the plant flourishes is Patras, whence the fruit has sometimes the appellation of the Patras currant. Of the eighty-six thousand five hundred tons exported from Greece in the thrice-famous currant-year, 1876, when all the vegetable products of Greece were exceptionally abundant, seventy-one thousand were the produce of the Morea, including a few grown in the neighbourhood of Missolonghi. The balance of fifteen thousand five hundred was despatched from the southern Ionian islands, including Zante and Cephalonia. Corinth, singular to say, produces none at all, though the grape is successfully cultivated there for wine-making. The actual localities of the cultivation are confined to a narrow belt of country near the coast. The vineyards are mostly within a hundred and fifty feet of the sea-level; they rarely exceed four hundred feet; the elevation is thus markedly lower than that to which ordinary grape-culture may be carried.

The vineyards best cared for present a quite unusual air of neatness and finish. The vines are planted in rows six feet apart. A single shoot is trained to a stake a yard in height. As soon as it is strong enough to stand alone, the stake is removed; the training of the branches is then so conducted as to give six or seven beautiful radiations of leafy shoot, which collectively produce, in due season, from fifty to ninety bunches. If an occasional prop should be needed, owing to the weight of the fruit, this is supplied, but nothing more.

Towards the end of July the fruit is ripe. The gathering extends over three or four weeks, the bunches upon the secondary shoots being somewhat later than those on the primaries. In six or seven days after being laid to dry, the berries begin to loosen themselves from the stalks, and in ten or twelve days all are free. Originally the bunches were laid out upon the bare ground, a piece being specially smoothened and cleaned for the purpose. Now the bunches are laid in wooden trays, six feet long by a yard wide, and just deep enough, say three inches, to hold a single layer. When the stalks have been winnowed out, the fruit is trodden into barrels ready for shipment.

The botanical origin of this most interesting little fruit would seem to have corresponded with that of the *Sultana*. The diminution in the size of the berry ensued, we must suppose, upon some special local conditions, which led in the first instance to partially abortive flowers, accompanied by failure of perfect seeds. The seedless

character of the great mass of the annual produce is, after all, by no means without exception. Individual berries often contain one or two seeds that will grow. In some localities there is a decided tendency to the production of perfect seeds. When, a few years ago, currant-culture was attempted at Leghorn, it failed through the plants, after three or four seasons, producing berries as well charged with seeds as the typical grape. Similar disappointment has been experienced in Sicily and in Malta. In any district at all exposed to storms and heavy night-dews—troubles from which the localities of the best Greek cultivation are quite free—the currant-vine can never be expected to flourish. We have it in England, as a curiosity, in the southern counties, and fruiting abundantly out-of-doors if placed against a sunny wall. The delicate little purple-black thyrsi then remind one of those of the privet, only that they are pendulous instead of erect.

To quit the subject of currants, taken in connection with the country producing them, without a thought of the condition of modern compared with ancient Greece, is impossible. The land of old Homer, of Plato, of Phidias, of Aristides,

“Clime of the unforgotten brave,
Whose land from plain to mountain-cave
Was freedom's home, or glory's grave,”

looks now, for its reputation, to what it may achieve, year by year, in the production of a little berry. The foreign commerce of Greece depends almost entirely upon the

success of the annual currant-harvest. Its people do not ask what is our opinion of the literature that first lived upon their classic soil; they are content to know that we look wistfully at their little vineyards. A recent traveller in Greece, who tarried awhile at one of the convents, tells us that even the monks, in the currant districts, can talk of nothing but their staple fruit. "How many inmates are there in this monastery?" we asked. "Three hundred," they replied; "and how much do you think the grapes will fetch this year in England?" England, it should be here interposed, consumes just about one half of the entire produce. "Is your library in good order?" "No; but our grapes are of excellent quality." "May we see your church?" "Certainly; but we hope you will recommend us to your merchants at Patras." And so on. Quite right. Anything that shows that the dry bones have begun to live again is to be contemplated with satisfaction. If their pursuits do not call forth the more brilliant faculties of the mind, the modern Greeks, in their pleasant contribution of currants to the wealth of the world, do a good work which must needs, little by little, initiate a well-deserved prosperity.

The total imports of raisins and currants, taken together, into England, in 1880, amounted to 1,215,436 cwts., of the value of £1,801,860.

The interest pertaining to the botanical family named after its chief member, the vine *ipsissima*, by no means ends with that illustrious plant. There are many other species belonging to various countries, some of which,

specially those of North America and of Portuguese Guinea, seem to promise well as sources by-and-by of good fruit. But most of them are valuable only as ornamental plants; sometimes for the gorgeous hues of their autumnal foliage, well illustrated in the common Virginian creeper, and in that incomparable house-front plant, the Japanese *Vitis tricuspidata*, commonly called *Ampelopsis Veitchii*; now and then for the inexpressible beauty of their berries. A more lovely fruiting shrub for a garden-wall than the *Vitis humulifolia*, again Japanese, it is impossible for the world to supply; only that for perfection it needs a good old-fashioned hot summer. Then its pretty foliage—that of the grape-vine in miniature—becomes a foil to crowds of clusters of little berries of the most exquisite Italian sky-blue, a spectacle unimaginal till the eye has feasted upon it. To the Vitaceæ belong, also, the various ornamental climbers which go by the generic name of *Cissus*. This latter, except for garden convenience, is not wanted, since, according to the “Genera Plantarum,” between *Cissus* and *Vitis* there is not even sectional difference. Hooker and Bentham also discard *Ampelopsis*; they use it, rather, merely as a sub-generic name. Profound interest pertains to all these last-named plants in regard to the hold-fasts by which they attach themselves to whatever they cling to. Their strong little thousand hands branch into irregular fingers, every one of which has at the tip a peculiar gland. This, in due course, secretes a sticky substance of extraordinary adhesive powers. So tenacious is it that the hand will

break off at the wrist rather than the finger-tips let go. Furthermore, instead of turning towards the light, after the manner of most other aërial parts of plants, they turn away from it, thus affording a conspicuous and very well-marked example of "negative heliotropism." Under glass there are found, also, of this family, various species of *Leea*, differing in their pinnate leaves, and in being destitute of tendrils.





Chapter Sixth.

BERRIES — CONTINUED.

GARDEN CURRANTS (*Ribes rubrum* and *Ribes nigrum*).

“To know
That which before us lies in daily life,
Is the prime wisdom.”—*Paradise Lost*.



THE Currants of the English garden received this name because of their resemblance to the *uvæ Corinthiacæ*, the little Corinthian grapes, or “Corinths” described at the close of the preceding chapter. The fame of these pleasant fruits, the red currant, the white, and the black, is comparatively modern, attention having been first given to them only in the Tudor period. No mention of any of the various sorts occurs in ancient Greek and Roman literature; nor does there seem to be any record of currants having been cared for by the

Anglo-Saxons or the Normans. The common Red Currant, *Ribes rubrum*, grows spontaneously in rocky woods, throughout central and northern Europe and Russian Asia, extending to the arctic circle. It is found wild also in Kamschatka and in North America, reaching from Canada and Vermont to the mouth of the River Mackenzie. The Black Currant, *Ribes nigrum*, is more restricted in distribution, being rarer in western Europe, though plentiful in the northern, the central, and the eastern parts of the continent, and in Russian and Central Asia. In many of the localities where both the red and the black now seem to be aboriginal, they certainly exist but as waifs of cultivation. In both species the leaves are alternate, petiolate, broad, with large angular lobes—vine-leaves in miniature; in both, the little greenish or reddish flowers are borne in small pendulous racemes. The general habit of the plant is that of a deciduous bush or little shrub. The longevity appears to be considerable.

In the wild state the *Ribes rubrum* presents itself under several different forms, regarded by the analytical school of botanists as so many distinct "species," and named *Ribes spicatum*, *Ribes petraeum*, etc. The little berries, even when quite ripe, are then intensely acid. In gardens it varies still further, but now chiefly in the colour of the fruit, as shown in the varieties called the "Normandy pink;" the common "white," that beautiful lucid berry, the very perfection of the plano-spherical, with ten vertically curving lines, like the meridians of

a globe, and less acid than the common red ; and the very pretty "Austrian currant," the fruit of which is pale, with red stripes. How rich and beautiful the language to the eye of the common red and the common white, when in full fertility, needs no telling. The common red, when trained against a cottage wall, where the foliage offers no impediment to full view of the brilliant clusters, hanging in companies often of half a dozen, presents a picture little inferior in charm to that supplied by the vines of Italy. Neither is it needful, except for pleasure of remembrance, to speak of its value for tart and pie, preserve, and jelly, and wine. Red-currant jelly, dissolved in water, furnishes one of the most agreeable and most salutary of all cooling drinks for the parched palates of invalids laid low by fever. Though the ancient Romans seem to have been unacquainted with this useful little fruit, it is interesting to note that in the markets of modern Italy there may be seen baskets of it, gathered wild in the woods of the Apennines and the Alps. The best varieties for cultivation in our own country are, among reds, those called Fay's Prolific, Red Dutch, Knight's Early Red, Houghton Castle, and Raby Castle, an excellent late kind, and very prolific. The largest fruits are produced by Cherry, but the bunches are short, and the quality is inferior. Among the whites, White Grape, large and sweet, is unquestionably the best ; White Dutch, if distinct, is also very good, but the berries are comparatively small. Blanc de Versailles is excellent.

A great merit with the Red Currant is that for the bushes to over-crop themselves is nearly impossible. Apple-trees, pear-trees, plum-trees, may, in favourable seasons, bear so profusely that the following year they are almost powerless. No such failure ever interrupts the even serenity of Red-currant life. Diffusing its roots near the surface of the ground, and a capital forager, the Red Currant soon regains all that it gives. Like a liberal heart, which always fills as fast as it empties, let the crop be ever so heavy, twelve months afterwards it is ready, like the lilies, to begin anew. The only particular need is judicious pruning. The young shoots should always be thinned out during the *summer*; the best and largest fruit being always borne upon the shoots or "spurs" of the current year, which, if they are to do their work well, must be vigorous and well ripened, a condition secured for them only by clearing away the superfluity of young green twig. All kinds of ligneous fruit-plants are the better for having the summer-shoots well thinned out as soon as formed. The removal of them is useful to the crop in hand, which is better reached by the sunshine, and the wood for the year to follow is knit more strongly. In order to secure very large and handsome currants, either red or white, the young shoots, at the time of the usual winter-pruning, should be shortened to a length of about two inches, the appearance thus given being somewhat that of the stumps in an osier-bed; not pretty, it must be confessed, but eminently conducive to the end in view. If beautiful effect is specially wished for, it is obtained by training the

bushes into the form of pyramids, after the manner sometimes practised with fuchsias. Sad havoc is often made of the buds in early spring by the birds. The best preservative is a mixture of fresh lime, soot, and a small quantity of soft soap. Let this be run through a fine sieve, and apply with a syringe before the buds begin to swell. Birds desist, and grubs do not appear.

The Black Currant is differentiated not alone by the colour of the fruit, and its peculiar smell and taste, especially when baked, stewed, or "preserved;" the berries are individually much larger than those of the Red, the bunches contain fewer, and lastly there is the powerful and characteristic odour of the leaves, though in this last particular one or two other species of *Ribes* go shares. There is a very perceptible difference, also, in the complexion of the plant. Like the Red Currant, it never over-crops itself, every season giving the old accustomed revenue. Another great comfort in the cultivation is that the currant-worm does not touch it. As a fruit suited for dessert, and for culinary purposes, it is inferior to the red. For preserving, especially with a view to eventual medicinal use, it stands deservedly high in esteem, being tonic, stimulant, and soothing. "Black-currant tea" is one of the oldest, as well as one of the most valued, of domestic remedial drinks. These good qualities recommend it, also, for the manufacture of a simple kind of wine.

Many varieties are in cultivation. Those particularly well adapted for the northern parts of our island are the old "Black Naples" and "Carter's Black Champion," an

excellent feature of which last is that the fruit hangs perfect upon the branches until with old age it must needs drop. "Lee's Prolific," large and very sweet, is a capital sort. A curious variety is met with occasionally in which the berries are of a golden-amber colour, interesting to the botanist, but of no economic value.

No other currants yet discovered compare in value with the above-named. That inestimable spring-flowering shrub, the scarlet-flowering currant, *Ribes sanguineum*, introduced from the coasts of north-west North America, in 1826—raised from seeds, rather, sent home by the ill-fated David Douglas—produces abundance of berries, covered with greyish "bloom," but they are insipid and worthless. The fruit of the *Ribes inebrians*, also North American, is said to possess narcotic properties; and several others may perhaps, by culture, be rendered valuable to mankind. So far, reputation lies with the two far-famed European species.



THE GOOSEBERRY (*Ribes Grossularia*).

THE Gooseberry is a native of central and southern Europe, also of western Asia, occurring in the Caucasus, and under different forms, in the Himalayas. As a rule, when wild, it dwells in thickets, especially where the ground is rocky. In England, though often met with in the recesses of sylvan dells, it is but doubtfully indigenous. All the seemingly wild examples are descendants probably

of ancient cultivation. Like the sweet violet, and many other flowers, it often wanders out of gardens. Wayfarers, eating the fruit as they go along, cast the seeds right and left, and these germinating readily, the plant is soon arm-in-arm with the aborigines. The ancient Greeks and Romans would seem to have had no knowledge of it. If known, it was disregarded, this doubtless because in southern and south-eastern Europe the berries are small and tasteless, which circumstance explains the neglect of the gooseberry, not only in the past, but at present, in the south-west. Even in France it is little cared for. The climate which suits it is precisely that which is best loved by the scented rose, the humid one of Britain; and in this last-named happy land the perfection attained by the one is reached in corresponding degree by the other. No country in the world excels Britain in regard to its gooseberries. They ripen delightfully in every part, and for the poor man as well as the rich. To say where the best are produced is not easy. The district pre-eminently favourable is reputed to be that one distinguished as the Lothians.

When first noticed, when first named, there is no evidence to show, unless indicated, in some measure, by the etymology, which seems to be traceable to certain old Gothic words denoting crisp, curled, or frizzled, thus to indicate, at the same time, that the original gooseberry was the hairy one, the *Uva crispa* of renowned old Fuchsius, who gives a drawing of it on page 187 of his *Historia*, published in 1537, *temp.* Henry VIII. Primi-

tive forms of the word are found in groise-berry and grose-berry, with which may be compared the French groseille and the Scotch grozet or grosart. The synonym found in the eastern counties, "fea-berry," also written "feap-berry" and "fay-berry," though not yet satisfactorily explained, is of much more recent date. Whichever was the earliest form, the hairy or the hairless, the plants are essentially the same. Both conditions occur among the progeny obtained by sowing the seed of either, and this quite independently of soil or climate. The culture of the gooseberry appears to have been first attended to at the period of the Reformation. It was then taken up both in England and upon the continent, say in Holland and in Germany; but the progress was slow until within the last hundred years, during which the strides have been rapid. Whether our ancestors ever saw it in any other form than the little round bush, some three or four feet in diameter, to which we are accustomed in modern gardens, no historian has put upon record. Perhaps it may be only within our own age that the gooseberry has shown itself able to rise, when trained against a house-front, to the height of several yards, bearing plentifully to the very top, and presenting a beautiful spectacle when led abreast of jessamine and clematis. In one particular it never changes. The gooseberry never forgets its *prickles*, which, by the way, compared with the thorns and spines of prickly plants in general, are very curiously exceptional, coming of a remarkable development of the pulvinus. Fond, in the wild state,

of woods and sylvan dells, the gooseberry, under cultivation, is always the better for a moderate amount of shade, though it suffers from too much. Hence it does well even when planted against a north garden wall, and when so placed, if covered up at the proper time with matting, fruit remains at command till the time even of damsons. The best way to grow gooseberries is unquestionably upon *trellises*. The plants then occupy comparatively little space. Being more easily pruned, and the summer growth cleared out of the way of the sunshine, the wood gets better matured, and heavier crops are the result; they can be netted with greater facility for protection against the birds, and the fruit can be gathered with greater speed and comfort than from bushes in their natural touch-me-not state.

The sportiveness of the gooseberry is comparable with that of the apple and the pear. Hence the distinction, not only of smooth and hairy sorts—by some distinguished as the “Esau” varieties—but the four-fold classification of red, yellow, white, and green. Tastes and preferences vary as usual, but upon the whole it is acknowledged that the yellows are the richest and most vinous in flavour, and that the least meritorious, especially when large, are the green sorts. The best for preserving are found among the hairy kinds. Smooth sorts, or nearly smooth, are preferred for vinegar, and for that capital old English domestic beverage, gooseberry wine, which, when skilfully manufactured, possesses the colour and the flavour of champagne, and mantles like the best

Clicquot. The smooth sorts are the best adapted, also, for that admirable service—one in which the gooseberry is very nearly unique, and certainly unexcelled—employment, while still green, for the tart, the pie, and the pudding; and to which end, for refreshment even in winter, it may be stored up in jars and bottles.* In this relation—the pie and pudding one, while the fruit is still unripe—the value of the gooseberry can hardly be over-rated. To those classes in particular, of the working community, whose occupations keep them much indoors, in shops and manufactories, nature, in early summer, supplies few things more healthful. Indoor workers require a larger amount of the description of acid such as fruits contain, than is needed by people who get plenty of fresh air, and for them the green gooseberry comes in abundantly and cheaply. Let us not forget that other delightful invention, “gooseberry fool,” literally *foulé*, *i.e.* beaten, pressed, or trodden, as when grapes are “trodden” for wine.

The ease and success with which gooseberry culture may be practised by the cottager has led, in different parts of England, to the institution of annual Gooseberry shows. Foremost among these are the celebrated exhibitions yearly held in Lancashire, and at Harborne, near Birmingham, the “Society” at which latter place was

* The only other fruit, growing in England, which can be eaten while unripe, is the red currant, sometimes brought to market as a poor substitute for the gooseberry. Cucumbers, marrows, peas, and beans, eaten while unripe, though fruits in the botanical sense, count popularly with the “vegetables.”

founded as far back as the year of Waterloo. The growers, the arts of growing, and the shows themselves furnish illustrations of character alike original and entertaining. The men who devote their energies to the work are almost exclusively of the same race as those who, towards the middle of the eighteenth century, began to render South Lancashire so noted for its "naturalists in humble life," and who, while occupied as hand-loom weavers, earned so much fame as cultivators of various kinds of choice flowers. Their number has diminished under the influence of the Steam-engine, the introduction of which induced a change no less great in the social condition of the Lancashire operatives than in the complexion of their manufactures. There are plenty living, nevertheless, who inherit the taste and the enthusiasm of the patriarchs, and as far as the scope permits, the old spirit is keen as ever. In the by-gones the pursuit before us carried with it no slight dignity. Southey, in the "Doctor," quotes an obituary notice in an old Manchester newspaper, of some one who "bore a severe illness with Christian fortitude and resignation, and was much esteemed among the class of *Gooseberry-growers*" (p. 348, ed. 1849). The prime object with these cottage-cultivators is not refined flavour, nor yet a plentiful crop. The prizes go to the biggest and heaviest individual berries. To secure triumph it is enough that a single fruit outweighs all rivals. Upon this one great end the grower sets his whole heart; to the attainment of this he devotes all his thoughts and energies; he

foregoes no labour, and cheerfully sacrifices personal comforts. The treatment of the bushes is very similar to that above-mentioned as the practice of the Jersey pear-growers. Those designed to produce the show-fruit are kept quite small, and the branches, not more than ten or twelve, are trained so as to be almost horizontal, and not more than nine or ten inches above the surface of the ground, the entire plant being often under a couple of feet in diameter. Immense pains are taken with the manuring; and in order to maintain congenial coolness of the atmosphere immediately around the fruit, a luxuriant growth of chickweed is encouraged, the green sprouts almost touching the pendent berries. The nearer they approach maturity, the more anxious becomes the time, especially if there is prospect of heavy or continuous rain, of all dangers to ripening gooseberries the most to be dreaded, since, if wetted over much, they are certain to burst. To avert this misfortune, fatal to prize-winning, the show-fruit bushes are protected with little tents, admitting of easy removal. Every hour is now momentous. Men intent upon victory not uncommonly sit up all night in case of accident. The story is well authenticated of a Middleton silk-weaver who, a thunder-storm impending, lay awake as if for his life, and with the first patter against the window-panes, rushed to the rescue with his bed-quilt. The show is generally held in the club-room of some country inn. A chairman is appointed. He takes his place at the head of the table, and, scales in hand, calls for the heaviest red, or the

heaviest yellow, as required per programme. A berry is then produced, weighed with an accuracy of minuteness that would have been rapture to old Shylock, and the weight carefully noted in writing by a secretary. This process is repeated until everything brought for competition has been tested, the berry which lies quietly in the scale until defeated by a heavier one, taking the honours when all is over. At one of the recent Harborne shows four hundred and fifty berries were weighed, and of these ninety-five took prizes, then suffering the usual decapitation, "topping and tailing," so as to be disqualified for competition anywhere else. The entire performance occupies three to four hours.

The weights attained by the mode of culture described are often astonishing. Among the largest gooseberries shown at the Old Trafford Exhibition, August 4th, 1884, were many which exceeded 25 dwts. In the "Gooseberry-growers' Register" (for these enthusiasts have an Annual of their own), examples are recorded of 30 dwts., and of weights up even to 37, beyond which, it would seem, no grower has yet succeeded in going. This last-named prodigious weight was attained by one of the celebrated red variety called "London." Every atom of the kindly regard due to honest industry, indefatigable perseverance, and honourable emulation, is well deserved by these simple-hearted gooseberry-growers. Far better that their leisure and their powers should be devoted to the production of big gooseberries than to pursuits which, if not actually demoralizing, can never be in any degree

elevating. Still one cannot but wish that crude aim should be superseded by aspiration, and quality be esteemed better than mere bulk—always a very doubtful kind of excellence, and not infrequently, without any reference to gooseberries, the only one that can be claimed as a merit by the vulgar, the coarse, and the unenviable. The big prize gooseberries have their redeeming feature. Though unsuited for dessert, they are capital for tarts, and to the people by whom they are raised, this last is a substantial recommendation.

The best varieties of gooseberry for gardens in general, the fruit in every instance large, are the following:—

Red.—Crown Bob, Hopley's Companion, Merry Monarch, Rifleman, Roaring Lion, Whinham's Industry, Guido, Ironsides, Prince Albert, Young Wonderful.

Yellow.—Broom-girl, Gipsy-queen, Marigold, Whitaker's Two-to-one, Leader, Pilot, Surety Yellow.

Green.—Conquering Hero, Favourite, Green Walnut, Profit, Angler, Telegraph, Independent.

White.—Freedom, Smiling Beauty, Snowdrift, Snowball, Wellington's Glory, Whitesmith, Eagle, Lady Delamere, Nailor, Mayor of Oldham.

Among the capital old varieties with small berries, but of high flavour, may be named, Red Champagne, a fruit of unequalled richness, White Champagne, Champagne Yellow, Golden Drop or Early Sulphur, Greengage, Warrington Red, and Old Rough Red, an excellent one for preserving.

THE WHORTLE-BERRY (*Vaccinium Myrtillus*).

IN most parts of Great Britain and Ireland, the eastern English counties excepted, there is found upon hills and moorlands such as sportsmen resort to for grouse, also in dry and rocky woods, a hardy little shrub from which in August may be gathered purple berries the size of peas. They go by several different names, whortle-berries, whinberries, bilberries, blaeberrys, hurtle-berries, and in districts where the plant abounds, are brought to market in considerable quantities. In the raw state they are scarcely palatable, but made into tart or pudding, they supply a very agreeable change after currants and other cultivated fruits, though with the drawback of astringency, and the objection that the juice stains the lips. But the stain is soon effaced by the use of a lemon. Usually growing in large patches, and often occupying immense areas of moor and mountain surface, for, like the heather and some among ourselves, it rejoices in great solitudes that have never felt the plough, the bright green of the foliage never fails to give pleasure. The flowers are pretty, being bead-like, almost globular, waxy in texture, and of a peculiar reddish green. The berries grow singly and somewhat sparingly, and present upon the summit a curious little crater, the floor of which is flat, the persistent style standing like a pillar in the centre, and the margin representing the remains of the calyx. When newly ripe, they are covered, like plums and grapes, with

a beautiful glaucous "bloom," and are filled with juice resembling port-wine. The height of the plant seldom exceeds thirty inches, and is usually much less; the branches are wiry, angular, and very tough. Not only in Britain is this interesting plant produced. It occurs, in similar habitats, throughout central and northern Europe and Russian Asia; also, but sparingly, in southern Europe, and then only upon lofty mountains, where, as occasionally in Britain, it shelters itself in pine-woods. Under how many more names it is known in those various countries we cannot tell; the etymologist has work enough before him with the appellations employed at home, for over none of those applied to common fruits is there still so much to be determined in the shape of history. *Vaccinium* dates from the time of the Virgilian Pastorals, though then applied, very evidently, not to a fruit of any kind, least of all to the whortle-berry, to which it was transferred only in the sixteenth century, but to some kind of purple or other dark-hued flower. "Ah, comely one," cries Corydon, "trust not too much to charm of complexion! See how the white bells of the bindweed fade away; how quickly depart the purple *vaccinia*!"* So in Claudian—

"Sanguineo splendore rosas *vaccinia* nigro
Induit, et dulci violas ferrugine pingit."†

What particular flower was before the mind of either poet, if either really intended anything definite, is indeter-

* *Ecl.* ii. 17, 18. Compare ii. 50 and x. 39.

† *Raptus Proserp.* xxxv. 92, 93.

minable. Probably the word was introduced after the same manner as in a later age "asphodel," "iris," and "amaranth" were used by Milton. Virgil was indebted, perhaps, to Theocritus for his imagery, for he loved to tread in the wake of the Sicilian, and in that case was thinking of the beautiful figure of the "inscribed hyacinth (x. 28). "Whortle" is said by Dr. Prior to be a mediæval corruption of myrtillus, which itself is supposed to refer to the somewhat myrtle-like character of the foliage. "Hurtle" he considers to be another spelling of the same word. Another explanation is found in the Anglo-Saxon *wyrtil*, a small shrub, diminutive of *wyrt*, the old Northern name for a plant of any kind, and preserved to this day in fifty such appellations in the vernacular, as milk-wort, salt-wort, star-wort, blush-wort, rib-wort. "Hurts," Prof. Skeat reminds us, are in Heraldry blue or purple roundels, imitating and named from the berries, just as green roundels are called pomes, or apples.* Bilberry is thought to be the Danish *böllebær*, meaning round or ball berry. Blaeberry, or bleaberry, is equivalent to blue-berry, the epithet here carrying the original Scandinavian sense retained in the phrase to "be beaten black and blue." "Whinberry" would seem to mean the berry produced in waste places, where whins and heather grow, just as the *Campanula rotundifolia*, the "bluebell of Scotland," is the "heath-bell," literally the wilderness-bell.

Berries of a dark-red colour, acid and austere, not fit for eating, though available for the preparation of jelly,

* *Notes and Queries*, Dec. 20, 1879, p. 495.

are yielded by another species of *Vaccinium*, called, from some doubtful association with the immortal mountain-ridge near ancient Troy, "*Vitis Idæa*"—the vine of Mount Ida. In the vernacular they are "cow-berries." Growing abundantly on rocky moors, and on wild and airy slopes of sub-alpine hills, especially in the north of England and in Scotland, the pretty little clusters, first of light pink flowers, then of smooth-cheeked and shining fruit, never escape the observant. These berries are said to be sold in the markets of Aberdeen. Yet another species, also common in the Highlands, the *Vaccinium uliginosum*, produces fruit very similar to that of the *Myrtillus*, but not so juicy, and having the very ill repute of being decidedly narcotic and injurious.



THE CRANBERRY (*Oxycoccus palustris*).

WHILE the true *Vaccinia* diffuse themselves over the elevated moorlands, where the soil is seldom saturated, in the wet peat-bogs their place is taken by the cranberry, a very near ally, and differentiated in little beyond the shape of the flower, which is deeply four-lobed, the lobes bending back so as to disclose the stamens. These form a central cone of golden yellow that sets off the delicate rose hue of the petals. As a flowering-plant the cranberry justly claims a front place among Nature's *bijouterie*. So far as known, it is the smallest of fruiting-

plants, and, unless a better claim be preferred by the wild thyme, the smallest of flowering-shrubs, for the stems and branches, though ligneous, are as fine as thread. They love to creep and trail among sphagnum and other little bog-plants, and to be near the glistening sun-dews. Then, running to the length of about twenty inches, at last they form densely entangled mats, close upon the surface of the ground. When ripe, the red berries, mottled with yellow or purple, are collected by means of a kind of coarse wooden comb or small rake, and sent to market for tarts, though if put away in closely corked bottles they will keep good for a considerable length of time.

This innocent little plant grows all over the British Islands, where the conditions are favourable, but is now much less plentiful than formerly, and must needs still further diminish in quantity, owing to the drainage and cultivation of the sodden moors and bogs upon which alone it can exist. It extends also over every part of northern Europe, Asia, and America. In the last-named country it has a powerful rival in another and much larger and stronger species, more ascending in habit, and producing berries more oval in figure, larger, and of a brighter colour, approaching even crimson. This one, the *Oxycoccus macrocarpus*, supplies the greater portion of the cranberries ordinarily offered for sale in the shops. Packed in small kegs, with a sufficiency of spring-water, the annual import is now very considerable, amounting to thousands of tons yearly. We might have it, if we cared,

as a home fruiting-plant. Much swampy land still exists that might be utilized for the culture. So easily is it cultivated, and so pretty withal, in flower, that wherever a little peat-bog can be formed in a garden, resting on a bed of porous material, and with free circulation of air above, success is certain, and the produce of blossom and fruit great and delightful. The cranberries imported from North America and Newfoundland contain at times a slight admixture of the fruit of yet another species, the *Oxycoccus erythrocarpus*. The derivation and meaning of the name cranberry are unknown. Gerard does not use it. With him it is the fen-berry.



THE ELDER-BERRY (*Sambucus nigra*).

FEW trees are better known to people in general than the old-fashioned and homely Elder of every country hedge, and of back-gardens and dull corners where nothing else will grow, in the suburbs of probably every town in England. Though in such localities as these, usually lumpish and ungraceful, under favourable conditions it can become really handsome. An elder that till recently grew near Perth was thirty feet high, bearing a finely-balanced round head, upon the summit of a substantial trunk twice as tall as a man; and when covered, as the elder always is at midsummer, with its countless broad clusters of cream-white bloom, and again in

October with its heavy harvest of glossy purple, presented one of the most striking examples of tree-beauty to be found anywhere thereabouts. One even taller and more majestic, and for the species singularly arboreal, stands at this moment in the grounds of Thorpe Perrow, Yorkshire. The universality of its occurrence comes of the ease with which the elder accommodates itself to every diversity of situation and soil. By means of it an air of cheerfulness may be given to the darkest and gloomiest recesses; it endures exposure on the bleakest hillside; it grows well near the sea; it thrives under the shade and drip of other trees; it will establish itself even upon old walls and crumbling ruins—then usually springing from casually scattered seeds, as indeed is very commonly the case elsewhere. After all, whether in England truly wild or not is uncertain. Possibly it was introduced in the time of the monasteries as a medicinal plant, the fame of the elder in the hands of the herb-doctor being immemorial; the frequent existence of very old elders near the relics of ancient ecclesiastical buildings gives encouragement to this opinion. On the other hand, it is scarcely possible to imagine an aspect of more genuine spontaneity than is presented by the grey and tattered representatives of past ages at Holdwick Scars, Upper Teesdale. Like the patriarchs of their kind upon the eastern declivity of the Malvern Hills (the Herefordshire Beacon), they seem to be part of the primitive vegetation, not a day younger than the parsley-fern and the mosses at their feet. Wherever seen in Scotland,

the elder has certainly been introduced.. Geographically, it extends over all parts of continental Europe, excepting the north-eastern. It reaches also into southern Siberia, the region of the Caucasus, and northern Africa. No tree is more remarkable for rapidity of growth while young, or for preserving a more stationary character after attaining full development. No tree, when green, is more easily identified, the odour of the bruised leaves (usually considered nauseous) being peculiar to it. When in flower it can be told from all others having similar bloom, by the leaves being pinnate and opposite. In autumn all is confirmed by the massive, almost sumptuous bunches of deep-hued fruit, the only ones of their kind. In winter, in case of need, we may discover it by the abundance of light and spongy pith in every shoot more than a year old, and which is exceeded only in the sunflower. Several varieties, as to foliage, occur in gardens, as the variegated, the golden, the ternate-leaved, and the parsley-leaved. Besides these, there are the white-berried and the green-berried, the flavour of which is much milder than that of the purple. The colour, in this last, resides purely in the skin, the pulp being translucent.

The elder is embedded in folk-lore and superstitions, some of them very ancient. The vernacular name is the Anglo-Saxon *ellen* or *ellern*, a word of indeterminable signification, with the same kind of accidental or careless insertion of a *d* that we have in "tender," Latin *tener*. "Sambucus" is the name of the tree in Pliny; yet, in

reality, a word far older than the time even of the Cæsars. In the first instance it denoted a kind of small harp or lyre, invented, it would seem, by the ancient Chaldeans, since in *Dan.* iii. 5, et seq., this instrument is mentioned as the sabbëkhâ', in the A.V. rendered dulcimer. The Greeks gave it the shape of sambukë; the Romans that of sambuca, as in Persius v. 95. Then it was extended to the tree, apparently because the Roman sambuca was made of the wood, which, when old and sound, is no poor substitute for box.

The bark, the buds, the leaves, the flowers, the fruit, of the elder, have all had their reputation in pharmacy, and the latter in some degree maintain it. Many tons of the flowers are brought every year to Covent Garden for sale by the herbalists. Elder-berry wine, spiced, and drunk warm, continues to this day a rustic winter cordial. A "rob" made from the berries is considered a safe and excellent domestic remedy in cases of catarrh and similar maladies.

A very beautiful decorative species of elder, the *Sambucus racemosa*, may here be mentioned as deserving a place in every shrubbery. It does not grow to quite the dimensions of the *nigra*, and the greenish flowers make little show, but the splendour of the tree when the fruit is ripe almost compares with that of the mountain-ash. The clusters are of the brightest scarlet; in figure they resemble small bunches of grapes; no wonder that they are soon visited, destructively, by the birds. This admirable plant forms in September one of the most

conspicuous vegetable features of the Bernese Alps. That it will flourish in every part of England is plainly declared by the luxuriance it attains in South Lancashire and in Staffordshire.



THE BERBERY, OR BARBERRY

(*Berberis vulgaris*).

THE Berbery counts with the currant, the gooseberry, and the raspberry, completing with these, in its produce, the quartette of what gardeners call "bush-fruits." Not that it corresponds in value, or is even made an object of cultivation for the sake alone of the fruit. The berbery serves merely as an elegant addition to the list; it can easily be dispensed with; when absent, it is not missed, but whoever commands a good crop of the ripe fruit is certainly fortunate. As usually seen, though not so tall when wild, it is a bushy shrub, three to six feet in height, with abundance of slender pale brown twigs that nearly conceal the principal stem. Every part is studded with very sharp prickles, from the axils of which rise the obovate and serrated leaves, some of them singly, others in clusters. In May come the flowers, individually no larger than peas, but disposed in pretty racemes that hang from the arching twigs like jets of gold. The odour of these is powerful, and to many persons unpleasing. In due time they are followed by long pendulous strings of scarlet berries, shaped like grains of rye, but thrice as

large, rounded at the extremities, slightly curved, and intensely but agreeably acid. Many curious botanical particulars pertain to the berbery. The growth, while young, is rapid. After a few years there comes a sudden pause. Shoots and suckers from the base of the plant still make their appearance, but no particular increase takes place in the general dimensions of the plant, and in this condition it remains indefinitely—when undisturbed, it is thought for a possible two or three centuries. At Castle Howard, there is a berbery shaped like a little tree, with a trunk twelve to fifteen inches in diameter! The flowers are, for an exogen, remarkably exceptional, consisting of six sepals and six concave petals, each in two sets, an inner and an outer; the filaments of the six stamens follow the curve of the petals, reclining against them languidly, but the instant they are touched at the base, in front, they rise up as if animated; finally, the anthers open by lateral valves, like those of the bay-tree. The spines themselves are of very curious nature, representing what might have been leaves, as proved by many of them, upon vigorous shoots, having the spaces more or less filled up with a web of green tissue.

In the wild state this very interesting plant occurs in thickets and open woods, ranging over the greater portion of Europe and temperate Asia, and occurring upon the Himalayas. It is from Asia that the name seems to have been originally received. In Britain it is but doubtfully indigenous, though Gerard, *temp.* Queen Elizabeth, speaks of a village called Iver, "two miles from Cole-

brooke," "where most of the hedges are nothing else but barberry bushes." The present infrequency in even the semi-wild condition appears referable to the value, real or imaginary, of the bark, in the eyes of the herbalists, and to suspicions entertained by watchful farmers, who consider it prejudicial to neighbouring cornfields. In gardens it occurs under several different forms, one with yellow fruit, another with white, and a third violaceous. There is also a variety called *dulcis*, the berries of which are larger and less acid, said to be of Austrian origin; and a very handsome one with foliage of the colour of the copper beech, called *purpurea*. Upon old plants the berries are apt to be stoneless. These individuals constitute the form called *asperma*; and though in all the varieties well worth collecting, it is the fruit of these which should always be sought for the preparation of jelly and preserving in general. Boiled with sugar, it is excellently palatable. It is from the *asperma* that the delicious *confitures d'épine vinette*, for which Rouen is so celebrated, are most usually prepared. The same are sometimes employed in England for the cores of a very nice description of sugar-plum. Birds seldom touch the berbery, apparently because too acid for them.

Several other species of *Berberis*, several, also, of the sub-genus *Mahonia*, distinguished by its pinnate leaves, produce fruit in great abundance, but it is rarely eatable. The *Mahonia Aquifolium* loads itself with bunches resembling little grapes, and in the highest degree ornamental. The *Berberis Darwinii* is not more distinguished

for the profusion of its golden bloom in early summer than for the vast quantity of purple berries, the size of peas, which follow in August—unfortunately useless to man, the seeds being so hard, and the flavour so poor, that even jam made from them is worthless. To some extent there is a set-off in the pleasant taste of the fruit of the *B. dulcis*, also round and black, an elegant little evergreen from Magellan and Valdivia, where it is used, both green and ripe, just as in England we use gooseberries.





Chapter Seventh.

THE ORANGE AND ITS KINDRED.

“Thus was this place
A happy rural seat of various view :
Groves whose rich trees wept odorous gums and balm ;
Others whose fruit, burnish'd with golden rind
Hung amiable, Hesperian fables true,
If true, here only, and of delicious taste.”

Paradise Lost.



ONE of the most pleasing emotions possible to the human heart is that one called gratitude. When and where most fittingly rendered every man must judge for himself—every man has plenty of opportunities ; but assuredly among our benefactors none are better entitled to kindly thought than the unknown ones to whom we are indebted for the inestimable Orange. To the thirsty and appreciative west, India, in the orange,

sent indeed "a golden gift." Of all the fruits received from latitudes distinctly warmer than our own, the orange is the most refreshing and the most healthful. It is invaluable, among the exotic fruits, in the circumstance of being as cheap as the commonest of the home-grown, so that the poorest labourer can without difficulty go shares with the patrician, to whom, despite the cheapness, it is equally welcome. It is fitted, before all others, to be the universal fruit of commerce. No description of juicy fruit allows, in the same degree, of being packed in boxes, and then subjected to the close confinement of the hold of a ship for two or three weeks. The aromatic oil in the leathery rind preserves it from the effects both of heat and cold, and the acidity of the former renders it proof against the attacks of insects. Apples get worm-eaten; Queen Mab knew what happens to hazel-nuts; the plum may harbour a grub; the orange never. In course of time, like all other juicy fruits, it must needs decay, but no juicy fruit retains its goodness so long or so well. People can have the orange as sound and fresh as when newly gathered, in any part of the world, at almost every season of the year, and in almost any quantity. For let the orange-tree only have the warm and delicately moistened climate to which by nature it is co-ordinated, with plenty of sunshine, air, and light; protect it from frost and the asperity of stormy winds, which always try it sorely, and no plant in nature is more bountiful. A good orange-orchard literally grows gold for its possessor. It presents, also,

one of the most charming of botanical spectacles. The refreshing verdure of the orange-tree, persistent all the year round, places it in the front rank of decorative foliage-plants. When in full bloom, the enveloping atmosphere is charged with odour; when the fruit is ripe the golden spheres hang "like lamps in a night of green." Both flowers and fruit have their highest tide of plenty and loveliness, yet both may usually be found side by side at all seasons, and in all stages between the white-tipped opening bud and golden maturity. This is the reason why orange-blossom is employed for the bridal chaplet. In the wreath of orange-blossom, a fair proportion of green leaf being introduced, the ideas are presented, emblematically, of delightful intrinsic qualities in the wearer, of perennial or evergreen happiness to come, and of a home or fire-side circle, by-and-by to arise, all in good time; the graceful grown daughter, before long to be a bride herself, fulfilling the tender promise of the early spring, which itself has never departed, but is sweetly renewed again and again, in the successive darlings that are fondled upon the rejoicing knee. The dedication seems to date from the time of the Crusades, and to have originated with the Saracens. By these it was introduced into Spain. Thence it travelled into France, and so into England. None of our old poets refer to the wreath of orange-blossom, so that as regards our own country the use of it would seem to be comparatively modern—another proof that chaste and elegant poetic truths, like

discoveries in art and science, are unlimited in their number, every age and generation awakening to new and exhilarating insights.

The orange is one of the group of fruits in which we find also the lemon, the citron, the lime, and the less important, but still valuable, shaddock and kumquat. They belong to the botanical order *Aurantiaceæ*, an assemblage of about sixty species of small but very comely trees and shrubs, laurel-like, evergreen, natives almost exclusively of the warmer parts of Asia, and recommended by rich variety of good qualities. About half a dozen of the sixty species constitute the genus *Citrus*, and it is among these that we find the famous fruit-bearers of the order; though not the only ones that are able to please the palate, several producing nice little berries which perhaps would improve under cultivation. Nor, though pre-eminent as the fruit-bearing genus, must we take *Citrus* as the type of the order, or its best representative. It differs from most of the other genera in several important particulars, and very notably in the leaves, the stamens, and the ovary, not to mention the fruit itself, which in all the other genera is fleshy instead of juicy. The specialty in the leaves is that while the rule in the *Aurantiaceæ* is that these organs shall be compound, here in the genus *Citrus* there is but a single leaflet, so large, however, that it looks like a fully developed simple leaf. That it is really the terminal leaflet of what might have been a trifoliolate or a pinnate leaf, is shown by the articulation of the blade to the

petiole—a very curious condition, and well worthy of observation by the student. The petiole itself is often remarkably dilated. In all the species the leaves are densely charged with oil-cysts. In all, the flowers, about an inch and a half across, consist of four or five free petals, either of a pure cream-white, or white flushed externally with purple or violet, and more or less conspicuously dotted with oil-cysts. The stamens, also free, vary in number from ten to sixty, and are irregularly polyadelphous; the ovary within supports a thick green style, crowned by a thick yellow stigma. The peculiarity of the fruit consists not alone in its being juicy, as opposed to fleshy. The juice is lodged in innumerable little bags, irregular in shape, and which must be regarded as peculiar cellular extensions of the faces of the carpels. The latter vary in number from seven to about fifteen. The rind, except in the tropics, where it is often grass-green, is always some shade of yellow, internally spongy, almost destitute of juice or sap of any kind, but covered on the outside with a layer of different substance, which again is charged with cysts of volatile, fragrant, and very inflammable oil.

Technically, this very curious type of fruit, occurring in no other family, is called the “hesperidium,” the name referring to the mistaken fancy that oranges were the famous *aurea mala* of the Hesperides. An additionally curious feature consists in the presence, not infrequently, in the larger forms, of a secondary series of carpels, much smaller than the principal ones, but still in a distinct

whorl, and constituting a perfect little inner fruit of the same form, an orange within an orange, or a lemon within a lemon, reminding one of a famous comparison in Aretæus, only that here there is nothing on the exterior of the fruit to indicate the curious state of things within. Yet another singular occurrence, specially observable in the citron, is spontaneous separation and protrusion of the carpels, so that they look almost as when pulled asunder for eating. Oranges in this odd condition are said to be "horned." Extraordinary specimens of "finger-citrons," with twelve to fifteen projecting carpels, each seven or eight inches long, may be seen in the Museum of the Edinburgh Botanic Garden. It may be added that the little trees constituting the genus *Citrus* are always glabrous in every part, and usually, in the wild and seedling state, spinous, the long green spines proceeding from the leaf-axils. The lease of life is not known, but there can be no doubt that, at all events in the case of the orange, it extends, in individuals favourably circumstanced, to centuries. The origin of the name is still a puzzle to etymologists. By some it has been referred to the Hebrew *qētōreth*, "incense," or "perfume."* Most probably, it is referable to *kedros*, the cedar, the rind of the citron having been anciently held in great esteem as a preservative against insects, which the odour of cedar-wood was also supposed to drive away. "*Citrus*," the Latin word, occurs

* As in *Prov.* xxvii. 9: "Ointment and perfume rejoice the heart: so doth the sweetness of a man's friend by hearty counsel."

for the first time in Pliny. In Greek it took the shape of kitros and kitrea, but not until after the classical period.*

The great value to mankind of these admirable fruits consists in the abundance of citric acid which they contain. Vegetable acids are invaluable, not to say indispensable, adjuncts to human food. Nearly every fruit eaten by man, and most of the parts of vegetables which are eaten whole, contain more or less of some vegetable acid. When such acids do not exist in food, recourse is instinctively made to vinegar, acetic acid, produced by the decomposition of various vegetable substances, and which supplies the needful quantity. Of all the vegetable acids known, the citric appears to be the most valuable and efficacious. It exists in a considerable variety of fruits and vegetables, but nowhere so remarkably as in the fruits before us, the lemon and the lime in particular. The exact mode of action of this acid is one of the problems. So far as understood, it would seem to check those unhealthy conditions of the system which culminate in the disorder called scurvy, in bygone days so terrible a scourge to sailors. Not that citric acid is the only anti-scorbutic, either as a preservative or a curative. Large and striking experience has proved, nevertheless, that

*The Romans gave the name of citrus also to an extremely celebrated kind of aromatic wood, furnished by the *Callitris quadrivalvis* of Barbary, the same as the "thyine-wood" of the Apocalypse, xviii. 12. Allusions to this wood are frequent in their literature, and of course must be carefully distinguished from those made to the fruit.

lemon-juice and lime-juice, both heavily charged with it, are the most trustworthy prophylactics yet discovered in regard to scurvy; and as such, lime-juice is now constantly carried in stock by the ships both of the Royal Navy and of the merchant service. A very curious fact, not yet explained, is that the acid, which is easily separated from the juice by chemical process, is not nearly so efficacious as the juice itself. Ye that are wise, eat oranges, drink lemonade.

THE CITRON (*Citrus Medica*).

THE first of the fruits produced by a *Citrus* to become known in Europe was the citron. When first brought westwards from India is indeterminable, but the period was early, since it is spoken of by Theophrastus, three centuries B.C., under the name of the Median mēlon. The birthplace was then thought to be Media, the ancient kingdom of Cyrus the Great, and which commemorates, in its name, the sevenfold famous sorceress:—

“In such a night,
Medea gathered the enchanted herbs
Which did renew old Æson.”

Some think that the citron had reached Babylon before the return of the Jews from the great captivity, B.C. 536, and that it is intended by the Hebrew tappiach, in the A.V. translated “apple.” The Jews themselves believe

it to be the 'ēts hādhār of *Leviticus* xxiii. 40, where the command is given as to keeping the Feast of Tabernacles: "Ye shall take you on the first day the boughs of *goodly trees*, branches of palm-trees, and boughs of thick trees, and willows of the brook, and rejoice seven days." For this reason they still employ it when celebrating the annual Feast, which falls some time in August. "A citron," says Canon Tristram, "is handed round, and smelt by the worshippers as they go out, when they thank God for all good things and sweet odours given by Him."* That there shall be no lack of the fruit when the time arrives, the citron is cultivated for this particular use at a place called Assats or Assat, about a day's journey from Tarudant, in Morocco, on the bank of the river Loos, near which there are very ancient citron-orchards, known by the names of Aaron, David, and others of the patriarchs. The shipment, which takes place from Mogador, amounted in 1883 to a hundred and ten boxes, containing over nine thousand of the fruit, the poorest of which are worth four shillings each, while specially fine ones, without blemish, fetch as much as twenty shillings. But alas for the pious belief! Scripture supplies no ground for it. The Hebrew phrase means nothing more than "goodly trees," as in the A.V., and as acknowledged in the Revised; the rest is simple tradition, and must be put down to the ancient commentators. "Targums," as they are called, Chaldee paraphrases upon various Old Testament books, existed in an oral form among the Jews

* Natural History of the Bible, p. 348.

for several centuries B.C. and A.D. Towards the end of the second century A.D., the most famous and valuable of them all, the so-called Targum of Onkelos upon the Pentateuch, appears to have been committed to writing. In this one the Leviticus words are explained by others which make them signify the citron, and here the vindication of it ends. The Septuagint had rendered 'ēts hādhār by "goodly fruit of trees." The Vulgate has "fruit of a very lovely tree." Luther "fruit of beautiful trees;" Kalisch "fruit of a beautiful tree."

Whatever the history prior to the time of Virgil, say 40 B.C., citrons had then reached Rome, as proved by the celebrated lines in the second Georgic:—

"Media fert tristes succos, tardumque saporem
Felicis mali,"

tristis, or sad, denoting the flavour of the fresh rind, while the "delayed taste" neatly implies its long continuance upon the palate, and *felix*, or "happy," the consummate virtues of the fruit. These were considered to be almost miraculously restorative, a circumstance not forgotten by those who think that the citron was the *tappūach*—"Comfort me with apples." To this very day the ladies of the Orient are accustomed to carry a piece of the rind for use as a *vinaiquette*. Even when quite ripe, the citron is scarcely eatable as it comes from the tree. The supreme value of this famous fruit consists in the suitability of the thick and spongy rind for change into the candied sweetmeat so familiar in the shops towards Christmas-time, the indispensable ingredient of

the national "Christmas-pudding." Mingled with fruits that have undergone no such conversion, the citron, when candied and in perfection, adds also to the dessert a feature almost princely. The cultivation appears to have begun in Europe towards the close of the third century, when the tree was established in Italy, a country which at the present day sends to England an annual average of three thousand seven hundred and fifty tons of the rind, value £60,000. The principal seats of the culture are the districts round about Florence and Genoa, after which come Sicily, Corsica, Madeira, and the Azores. The citron is a favourite fruit-tree also in Egypt, India, China, Jamaica, and the Brazils. Usually, the rind is candied in the country of its production. When sent to England in the raw state it is pickled in brine. The tree is a frequent ornament of English conservatories, and with good management ripens its fruit, as yearly at Cherkley Court, Leatherhead, Surrey.* The fruit was well known as far back as the time of Elizabeth, being minutely and accurately described by Gerard, who calls it the pome-citron.

The natural height of the citron-tree is about ten feet. It has no distinct trunk, but many short, thick, irregular, and straggling branches. The leaves are large, five or six inches long, and almost always rounded at the

* The seat of Abraham Dixon, Esq., celebrated not only for the richness of the collection of tropical fruit-plants in which the enthusiasm of the owner takes so much delight, but for the beauty, rarely equalled, of the exotic water-lily house, the *Victoria regia* leading the way.

extremity—a very characteristic feature. The petioles are scarcely dilated. The flowers, produced in clusters of three to ten, are pale purple. The fruit seems an immense lemon, but without a nipple, often reaching eight or nine inches in length, and weighing several pounds; the rind is rugged and wrinkled, highly aromatic, and internally very thick and hard; the pulp is scanty and pale; the juice is neither very abundant nor very acid. Though undoubtedly Indian by birthright, singular to say, truly wild examples do not appear to have been observed.



THE ORANGE.

THE orange-tree is usually distinguished with ease and precision. The leaves are pointed, and their stalks are so broadly winged, that in form they resemble little kites; the flowers are pure cream-colour, the most delicate of all the many shades of white; the fruit is globular, or with only a tendency to the oval, never elongated, and destitute of a nipple; the rind is comparatively free from cavities and wrinkles, and usually adheres so lightly to the pulp, that it can readily be torn away. Like the apple and the grape, this delectable plant shows a wonderful tendency to sport, sometimes in the foliage, more particularly in the figure and flavour of the fruit, the rind included. Some of the varieties are very strongly marked, and hence it has been customary to regard

them as "species." Whatever they may be in respect of origin, it is convenient to adopt the threefold nomenclature which refers the whole to—(1) *Citrus vulgaris* or *Bigaradia*, the Bitter or Seville orange; (2) *Citrus Aurantium*, the Sweet or "China" orange; and (3) *Citrus Bergamia*, the Bergamot orange. Most of the varieties fall under the head of No. 2, the *C. Aurantium*, these including, among other well-known kinds, the Lisbon, the St. Michael's, the Red Maltese, and the Tangerine. The original or primitive form, that which all the varieties may claim as their common ancestor, the founder of the family, appears to be preserved in the Bitter or Seville orange. Everything that can be adduced in the shape of evidence points to a later beginning of the Sweet, even in India; and to a still later beginning, comparatively recent, of the Bergamot. The tendency of seedling oranges of all kinds to revert to a ruder condition than that of their immediate parents, is very decided. Seedlings may thus be regarded as giving a trustworthy intimation of what the primitive form may have been. For the same reason, although often raised in parlours and greenhouses as pretty and engaging curiosities, seedling oranges can never be depended upon as likely to yield fruit exactly resembling that from which the seeds were taken. To be sure of getting a particular sort, it is indispensable either to graft or to propagate by means of layers. It must be remembered also, in home-culture, that seedling fruit-trees do not flower and fruit, unless grafted, until they have attained a certain degree,

as it were, of manhood. Left to themselves, they have, like animals, to attain maturity before it is possible to generate.

The origin of the name, as with so many others applied to fruits, is found in the earliest languages of which we have knowledge. According to Max Müller, it must be sought in some primitive Aryan word, preserved in the Sanscrit *nagarunga* or *nagrunga*, and which in Arabic became *naranj* or *nareng*. Passing through the medium of the Moors when settled in Spain into mediæval Latin, in the latter it became *anarantium*, *arantium*, and *arangium*. This was afterwards changed, apparently because of the golden hue of the fruit, so remarkable and so brilliant, into *aurantium*, and from *aurantium* the transition in France into *orange* was easy and natural. Restorations of ancient spellings are never desirable. "Orange" is now fixed for ever. How curiously interesting, nevertheless, is it to note this intensely vulnerable character of words, and the mutilations that in the course of ages scores of thousands have undergone. The loss of the ancient initial *n* has a curious counterpart in the history of the name of the adder, which should properly, by derivation, though upon perfectly different grounds, be "a nadder," Anglo-Saxon *næddre*, Latin *natrix*.

No very peculiar characters pertain to the Bitter orange in respect of the foliage and the flowers, excepting that both are more distinctly aromatic than the corresponding parts of the Sweet, though not so when placed beside the

Bergamot. The tree is perhaps usually somewhat smaller. The grand feature is the fruit, which is large, dark in colour, and rugged, the rind very thick, aromatic, and extremely bitter. The pulp, also, has bitterness super-added to the acidity. Whether or not justly considered to be the best representative of the primitive orange, it is certain that the western world became acquainted with it very much earlier than the era of the Sweet. That the ancient Greeks and Romans had no knowledge of the orange, in any of its varieties, is hardly necessary to say. Alexander himself does not seem to have penetrated so far into India as to have met with it, or it may not then have been carried into the portions of territory watered by the Indus, no reference to it being made by Alexander's historian, Nearchus. The first conveyance of it towards Europe stands to the credit of the Arabs, who, towards the close of the ninth century, striving on the one hand to diffuse their religious faith, and with the other to promote the useful arts, carried it back with them into their own country, thence into Palestine, north-eastern Africa, Morocco, and Spain. Those mighty caliphs who from the heart of southern Asia extended their conquests to the foot of the Pyrenees, leaving traces everywhere, as the Romans did, of their power and knowledge, made, during their occupation of old Granada, great plantations of the tree, especially around the famous city of Seville, where relics of these plantations survive to the present day, and from which place the fruit has its duplicate name of Seville orange. The Crusaders

probably helped to give it further extension on the northern side of the Mediterranean. Their enterprises, though in some respects so futile and unprofitable, contributed greatly to the new birth of civilization in Europe, to the diffusion of the love of art, and of zest on behalf of the beautiful in all its forms. With the history of the Crusades is indissolubly bound up the entire idea of Heraldry in its best intent and significance. Abreast of it runs the history of the uprise of Gothic Architecture, the purest and most romantic it is possible for the mind of man to conceive. Abreast of it, also, assuredly would be found, were they written, the earliest records of the introduction from the east of some of our most lovely flowers and precious fruits, the Seville orange leading the way. The Seville orange is now extensively cultivated in the warmer parts of the Mediterranean region, more particularly, as of old, in Spain. The flavour of the rind recommends it for "marmalade" so called. It is also in great request for the preparation of essential oil or otto of orange, for flavouring extracts, various medicines, and liqueurs. Curaçoa owes its enticement very largely to the rind of the Bitter orange. This famous liqueur is prepared, not, as often supposed, in the island after which it is named, but in Holland. It is simply that Curaçoa supplies the very finest description of peel. In Amsterdam there is a regular orange-peel mart, where saucers containing samples from various countries are set out upon long tables. Hither come the manufacturers of the liqueur, who can tell at once from the taste of the

peel from what part of the world it has arrived, and are always glad to pay a higher price for that received from Curaçoa.

Orange-dulcamara, as it would be better called, seeing that "marmalade" it is *not*,* is at once the pleasantest and most healthful conserve put on the table. That found in the shops is manufactured principally in Scotland. In a single establishment in Dundee, the quantity made every day during the season of greatest activity, say the close of winter and the spring, is not less than two thousand five hundred pounds weight. After meeting the home demand, vast quantities are shipped to America, Australia, and the East and West Indies. Much goes also to continental Europe, for even Spain, Portugal, and Italy are glad to get their Seville oranges back from England in the charmingly transformation state of "marmalade."

The Sweet orange is thought to have originated in countries farther to the east than those from which the Bitter was received—China, probably, and Cochin China, whence it would seem to have travelled into India about the beginning of the Christian era. When first seen in Europe is uncertain; probably it was some time about the middle of the thirteenth century, five hundred years after the appearance of the Bitter, and much more than a thousand after the coming of the citron. Opinions differ as to the route by which it came. Some incline to Persia and Syria: perhaps it was introduced direct from

* Marmalade proper is made from quinces. See p. 45.

eastern Asia by the Portuguese. The latter conjecture is supported by the fact of the orange being called in Nice and Italy *Portogalie* and *Portogalli*. When first conveyed to England is also unknown. The earliest mention of it, as regards this country, appears to be in Queen Eleanor's household expense book for A.D. 1290, where it is said that she purchased from a Spanish ship which came to Portsmouth, "vii. poma de orange." By the time of Elizabeth it had become common, since Gerard says that "every circumstance belonging to the forme is very well known to all." So in *Coriolanus*, ii. 1, for although the scene is laid in Rome, the allusion in the case of the litigant "orange wife" is to London ways. It was in the Shakspearean age that the fashion of carrying "pomanders" was introduced. These were oranges from which the whole of the pulp had been scooped out, a circular hole being made at the top, then—after the peel had been thoroughly dried—filled with spices, so as to constitute a sort of scent-box. The pomander was suspended from the neck, or carried in the hand, according to the fancy of the owner. It is this, and not a veritable orange, which may often be seen in old portraits, though the painters seem not always to have understood what they were doing. It was in the Shakspearean age, also, that the *orange-tree* was first grown in England, the earliest having been cultivated by Sir Francis Carew, half-nephew, by marriage, of the unfortunate Sir Walter Raleigh, in his garden at Beddington, Surrey. Sir Francis brought his young plants from Portugal, in or about 1595.

They grew to be eighteen feet high, and being protected during the winter by means of moveable sheds, lived to be nearly a hundred and fifty years old, or till killed by the terrible frost of 1739-40. So greatly esteemed thence-forwards were orange-trees, that the desire to possess them seems to have led the way to that capital invention, the Greenhouse. No plants were more cherished in the conservatories, such as they were, of the time of William and Mary, and Queen Anne. When decorative ever-green shrubs of any kind were but few, and tender exotic plants of any description were scarcely known, it was natural that orange-trees should be prized immensely, kept even in the banqueting-rooms of halls and palaces. They were imported from Genoa, when four or five feet high, and placed in large tubs of earth, so as to be removable during summer into the open air. The taste continued till the middle of the eighteenth century, or till the beginning of that wonderful adornment of our gardens with the best and loveliest vegetable productions of foreign countries, some of the earliest to arrive being the camellia and the rhododendron, soon to be followed by the chrysanthemum and the fuchsia—which has never slackened: the orange had then to take its place with the crowd, and now it is less often conspicuous than half concealed. Yet the orange remains what it always was, the paragon of indoor leaf, flower, and fruit-trees all in one; and charming is still the spectacle, occasionally met with, of an orangery. The importation of oranges being cheap and easy, there is no need to attempt to grow

them in England for market. That is no reason why the wealthy amateur gardener should not add to his other refined pleasures the very elegant one of orange-culture. To perceive what may be accomplished, no more is wanting than a visit to Mr. Rivers' orange-house at Sawbridgeworth, where a spectacle is presented that would serve well to illustrate a tale from fairy-land or the Arabian Nights. The house is a hundred feet long and twenty-four feet wide. The path down the middle is an avenue of green and gold, the fruit upon a level with one's lips, and almost vocal with that irresistible *Come, eat me!* the silent utterance of which, in one sweet way or another, is the sign, ever and always, of what is best for us, and most glorious. Many different varieties are grown at Sawbridgeworth: the trees yield, upon the average, half a bushel of fruit apiece. Trained against a south wall, and protected in winter with matting, the orange-tree has been known to fruit even out-of-doors, in South Devon. In the Channel Islands it does so frequently.

When we are cultivating a precious plant, just as in dealing with our fellow-creatures, the question is not what can they endure, but what treatment will tend to develop their best and most loveable qualities. In horticulture, nevertheless, the former must needs always be a consideration. So far as regards the orange-tree, the simple fact is that it can bear in winter, without injury, and has to bear, for several months, in many places on the northern side of the Mediterranean, as at Mentone, a night temperature of 40° , and a day temperature of 50° or

55°. But then it has at the same time the heavenly privilege of a clear blue sky, with plenty of radiant sunshine. The amount of sun-heat required to ripen the fruit is much less than is demanded by peaches and grapes. The orange wants no more, at all events in the south of Europe, in Spring, when the fruit is maturing, than is required to ripen the strawberry and to bring out the earliest roses.

So thoroughly naturalized has the orange-tree now become in the south of Europe, that in Italy, Spain, and Portugal it constitutes a very large element of the vegetation. In France the orange country is chiefly Provence, or that part of the south which lies to the eastward of the Rhone. Groves of orange-trees are especially abundant and beautiful in the environs of Nice. More to the westward, where the myrtle, the cactus, and the eucalyptus grow as if natives, they cast an air of enchantment over the scene which the pen only of a poet can describe—verdure, fragrance, innumerable bright gold, uniting to give the luxury of the tropics without their troubles. The fruit takes from twelve to eighteen months to get perfectly ripe. Hence the overwhelming beauty of the orange-groves in winter, which seem converted by its golden presence into summer. The trees are in full bloom again while still laden with the previous year's produce. Hence the yet more captivating spectacle presented when this summer-like winter is followed by spring. It is from these countries, definitely Spain and Portugal, from Malta, Sicily, and the Azores, that we

derive our chief supplies of the fruit. The best are the Valentias, so agreeably acidulous, from Spain; and the St. Michael's, from the Azores, pale yellow, and rather small. About a hundred millions come annually from the former localities, and about double that number from the Azores; Fayal, Terceira, and St. Mary's contributing their shares, though St. Michael's gives name to the whole. It has been computed that about twenty-five millions out of these three hundred are annually sold in the streets and places of public resort in the metropolis. In the Azores the plantations vary in extent from an acre to upwards of sixty acres. The winds being vehement, and a saline atmosphere injurious to the very young buds in early spring, they are surrounded by tall hedges of camellia, loquat, *Cryptomeria Japonica*, and *Cunonia Capensis*. On account of the weight of the fruit, the branches are supported by props, and underneath them are patches of lupines, which, after decay, are dug into the ground to serve as manure. The annual average yield of the trees is fifteen hundred fruit fit for export, not including damaged ones and failures. They are capable of far greater individual fecundity; the productiveness increases with age; when at the tip-top of strength an orange-tree will produce the marvellous number of twelve to sixteen thousand. The gathering for the British market is made before the fruit is quite ripe, beginning in October and extending to the new year. To become perfectly ripe it would have to be left upon the trees till spring. The very best are those which, like Sir Isaac's apple, drop

quietly, in their own time, from the bough. Gathered thus early, they "keep" better. The early plucking also ensures a plentiful crop every year, trees which are allowed to retain the fruit till mature yielding good crops only in alternate years. So needful is shelter from the sea-breezes that in the Balearic Islands the orange-groves are all found in the crater-like hollows among the rocks. In Valentia they are defended by belts of olive and carob. Not only does the fecundity augment with age. The fruit of the older trees has a thinner rind, and more juice, and fewer seeds than that of young ones. We must not forget the commercial value of *orange-flowers*. The orange-tree is a mine of odours as well as of fruit-wealth. The perfumers draw from it no fewer than four distinct scents, one from the leaves, two kinds from the flowers, another from the peel. At Nice there is a regular market for the flowers, lasting for a month, during which time fifteen to eighteen tons weight are sold every day, the flowers of the Sweet orange fetching twopence per pound, and those of the Bitter threepence. A ton of the flowers yields by distillation about forty ounces of Neroli, worth twenty guineas, and besides this there is five guineas' worth of orange-flower water.

From Europe, chiefly, the orange-tree has been carried to every part of the world where the climate allows of the ripening of the fruit. Good oranges, of large size, somewhat oval in figure, are now received every winter from Jaffa. What poetry in the very name! What charm in the associations! To the rocky and foam-beaten harbour

belongs the immortal fable of Andromeda and Perseus ; it was in Jaffa, literally The Beautiful,* that the maiden Tabitha was restored to life by St. Peter. To-day the adjacent orange-orchards are as lovely and as prolific as those of Spain. We do not receive more from them for want of direct steam communication. All consignments from Jaffa to England have at present to be trans-shipped either at Smyrna or Alexandria, with results detrimental alike to the fruit and to the interests of the merchants. Jamaica has already been mentioned (p. 15) as exporting oranges to the United States on a scale of great magnitude. The United States, by the way, annually import about three hundred and fifty millions of this fruit from the Mediterranean. Trinidad, after the same manner as Jamaica, is bidding fair to become a scene of immense and most lucrative orange-culture, the annual crop of West Indian fruit being ready for gathering at least two months before the crops in Europe are ready, a fact that should tell in regard to the English demand. Colonial oranges would be welcome indeed, especially as the arrival would be so early. One of the very best fields for the cultivation of this fruit is Brazil. Planted, in the first instance, on the River Plate, the orange soon multiplied a thousand-fold, chiefly through the aid of the parrots, and now, in certain localities, it grows as if wild, sometimes forming veritable forests. The banks of the lower Parana, and the islands which form its delta, are

* Yāphèh. The word employed in the *Song of Solomon*, v. 4 :
“Thou art beautiful, O my love.”

absolutely covered with self-sown orange-trees. Hereabouts the fruit is somewhat bitter, but further north it becomes deliciously sweet, as verified by samples which have reached Covent Garden, and which have been no less remarkable for their firmness and large dimensions. So vast is the Brazilian production that the river-steamers which ply between Buenos Ayres and the inland towns carry, in the season, huge piles of the fruit upon their hurricane-decks, free during the voyage to all who choose to partake. The Brazilian oranges are usually of a fine ruddy yellow, somewhat oval, like the Jaffas, and in one variety, preferred to all others, remarkably umbilicated on the summit, whence the provincial name. Oranges are likewise grown extensively in South Florida, where there are orchards of a hundred to a hundred and fifty acres, twelve-year-old trees bearing fifteen hundred apiece. The fruit from these has found its way to London, but until there are steamers direct to England, little, as from Jaffa, can be anticipated. Florida is the Italy of North America, and before long will become one of the most productive fruit-countries in the world, emulating even southern California, that wonderful region in which a single acre of ground can be made to yield as large a clear profit to the owner, by semi-tropical nut and fruit-culture, as twenty to fifty acres in the Eastern States devoted to common farming. Australia is not behind-hand. In 1883 the orange-gardens of New South Wales produced nearly a hundred millions of oranges, most of which were equal to the finest fruit of southern Europe.

Foremost among the remarkable varieties of the orange occasionally met with in the markets, are the Tangerine and the Maltese Blood-orange. Of the formêr there are two sub-varieties: the "large," about half the size of an ordinary Valentia orange; and the "small," an elegant little fruit, scarcely exceeding the dimensions of a walnut. The pulp in both is very agreeable; the rind is sweet and perfumed. The Maltese Blood or Red orange has the pulp irregularly mottled with crimson. Uninformed people believe it to have originated through grafting an orange upon a pomegranate. Were the story true—were it possible—the Maltese would graft *all* their oranges upon pomegranates, since these blood-stained fruits fetch a higher price than the plain yellow. In the flavour of the juice there is a trace of bitterness. The celebrated Clove or Mandarin orange of China seems to have sprung from the Bitter. This one is so flattened as to be much broader than long; in colour it is almost red; in flavour it is rich and sweet; the rind is so loosely attached that it separates spontaneously. A picture of the Mandarin, under the name of *Citrus nobilis*, is given in that fine old gallery of rare-plant portraits, Andrews' *Botanists' Repository*, pl. 608. A variety of the Bitter, called "myrtifolia," resembles the Tangerine in respect of its diminutive fruit, but the taste is displeasing. Greenhouses often retain it as a curiosity. It is figured in Edwards' *Botanical Register* for 1819, vol. iv., pl. 346.

The Bergamot orange, a result probably of cultivation, but of unknown history, is distinguished from the Bitter

and the Sweet, by the smaller flowers, their peculiar and ambrosial odour, and the pear-like figure of the fruit, which resembles that of the Bergamotte pear; say, rather, of one of the several varieties of the pear so called. The pear takes its name from Bergamo, a city about thirty miles north-east of Milan. Some consider that the Bergamot is more nearly allied to the Lime than to the oranges, and conjectures are not wanting as to its possibly having a double parentage. In colour the fruit is pale; the pulp is greenish, sub-acid, firm, and fragrant. The value of the Bergamot consists in the oil contained in the rind, from which it is extracted either by distillation or by heavy pressure. A hundred oranges yield about three ounces of the oil. Perfumers use it extensively, as do the manufacturers of eau-de-cologne. It is also employed by apothecaries to give an agreeable smell to ointments. The quantity imported into England is about 40,000 lbs. weight yearly. But much of this, Mr. Piesse tells us, is adulterated with lemon otto. The principal scene of the cultivation of the Bergamot in Europe is southern Calabria, near Reggio.



THE LEMON (*Citrus Limonum*).

PLACED in its rightful botanical position the lemon would follow the citron. Linnæus, whose grasp of true affinities was usually sound, considered these two fruits to be essentially the same. So, at the present moment, do Sir J. D. Hooker and Dr. Brandis, authorities next to

absolute, Dr. Brandis in the *Forest Flora of Central and North-western India*. The last-named is the district to which this fruit seems indigenous, wild lemon-trees, in many varieties, occurring upon the mountains to the height above the sea-level of four thousand feet. The stature rather exceeds that of the citron, but the habit of growth is similar, the branches springing from near the ground, and spreading irregularly. The leaves are ovate and pointed; the petioles are wingless; the violet-tinged white flowers are produced singly, or occasionally in twos or threes; the fragrance they evolve is similar to that of the orange, but more delicate and not so clinging; the fruit is specially characterized by the large nipple.

When brought from India to Europe is not known. Not the slightest allusion to the lemon occurs in the literature of antiquity, nor is there any certain mention of it till towards the close of the fifteenth century. Being sour it may reasonably be conjectured that this fruit would receive less attention than the citron and orange, though some think that the conveyance westwards was contemporaneous with that of the *C. vulgaris*. If so, the commerce of the time of Antonio's "argosies" would probably be the means of introducing it into Italy, some time during the early middle ages. When first seen in England cannot be told. Gerard, *temp.* Elizabeth, speaks of the fruit as something quite familiar, saying "in the shops, limones."

As a cultivated plant the lemon is now met with throughout the countries bordering on the Mediter-

ranean, also in the Canaries, the Azores, and most sub-tropical countries both of the Old world and the New, and in numerous varieties. The lemons brought to England come chiefly from Sicily, being shipped from Messina and Palermo. Malaga and Lisbon also furnish large supplies. During the twelve months ending August 31st, 1884, there were imported into Liverpool alone a hundred and twenty-one thousand packages, of the declared value of £73,000.

In constitution the lemon-tree is somewhat tender, decidedly more so than the orange, though upon the Riviera it better endures the sea-breezes. The exceptional warmth of the winter climate of Mentone, even for the Riviera, is proved by the one simple fact of the presence in that favoured spot of many groves of large and healthy lemon-trees. They occupy every sheltered ravine and warm hillside, provided there be a good supply of water; constant irrigation, both winter and summer, being to the lemon peculiarly indispensable. The anxiety of the owners, in winters of unusual severity, compares with that of the Lancashire gooseberry-growers when there is threat of a thunderstorm. They sit up all night, watching the thermometer; for a few degrees further fall, when already low, means certain destruction. Warm and sheltered nooks are the special delight of the lemon: then it can live to a great age, and occasionally attain dimensions truly surprising. A lemon-tree at the bottom of the quarry of Dionysius, at Syracuse, Sicily—an excavation sixty feet deep—growing where not a breath

of wind can reach it, is (if not destroyed) as large as an oak a century old. Flowers may be found upon the lemon-tree all the year round : the fruit is developed and ripened in much less time than that of the orange : as a rule there are four distinct annual crops.

The value and economic uses of the lemon need no comment. The juice ; the rind, both fresh and dried ; the oil, or essence, obtained from the latter ; all in turn subserve excellent purposes in connection with food, medicine, and perfumery. Lemonade, the most familiar, is often, perhaps usually, prepared by pouring boiling water upon sliced lemons. This is wrong. By so doing, a strong infusion is made of the peel, and this, being mingled with the juice, diminishes its refreshing properties and influence. The proper way is to squeeze the lemons into cold water, adding the cut-up rind of *one*, refined sugar to the amount needed, and, when procurable, a few crushed strawberries. The name is traceable to the Arabic *limun* or *limu*, and this, like the Arabic word for the orange, represents, in all likelihood, an earlier Aryan term. Seeing that both names are of oriental origin, it is curious that the Indian appellation of the citron never moved westwards.



THE LIME (*Citrus Medica*, var. *acida*).

THERE can be little hesitation as to the proper botanical place of the Lime, all the characters indicating very near affinity with the citron. The obtuse leaves, with wingless

petioles, the small flowers, and the irregular and straggling mode of growth all point this way: the essential differences are found only in the fruit, which is small and thin-rinded, and though variable in shape, often spherical. Attaining the height, in general, of not more than seven or eight feet, though capable of rising to fifteen or twenty feet, and the branches being crooked and spinous, it serves admirably for hedges, and is extensively so used in the West Indies. We in England, who by the wayside gather only blackberries, have little idea of the golden opulence and shining splendour of a hedge of limes. The application of the term is somewhat broad. The limes emphatically so called are intensely acid. These go also by the botanical names of *Citrus Lumia*, *C. Lima*, and *C. Limonellus*. There are other varieties called "sweet limes," not that they are really sweet, being simply insipid. These have for their Latin name *Citrus Limetta*.

The immense value of the lime, as said at the beginning of this chapter, consists in the abundance of citric acid in the juice. The fruit is now seldom brought to England in the fresh state, or just as gathered, though in bygone days it had great repute with those who enjoyed the punch-bowl, the flavour communicated being superior to that given by lemons. We see it, however, in the preserved state, usually in syrup, when it contributes delightfully to the witchcraft of the dessert. To this end the fruit is gathered while still green, so that the exquisite aroma of the rind shall in no degree be lost;

then packed in small kegs of about seven pounds weight. The import is perhaps exclusively from Brazil. Another very elegant mode of preserving the lime is to remove the pulp, then dry the rind, and encrust it with sugar, thus creating a sweetmeat that the gods might envy.

The Lime-tree gardens, *par excellence*, of the world are contained in the little island of Montserrat, one of the most charming and salubrious of the British West Indian colonies. The area is but forty-seven square miles, or considerably less than that of London, yet from this circumstance alone—the seat upon it of the lime—it may be regarded as almost priceless. The plantations, ten years ago, covered over six hundred acres of land, the trees numbering about a hundred and twenty thousand. To what degree the cultivation has been extended there is yet no report, but doubtless it has been steadily progressive, and there seems no reason why the entire island should not be devoted to this most important and rewarding industry. No sight more beautiful can be imagined, so we are told by visitors to Montserrat, than these lime-tree orchards when laden with their bright fruit, the glow being, if possible, even more brilliant than that of the orange-groves of southern Europe. The atmosphere, at the same time, is loaded with the luscious fragrance of the bloom. Even the leaves of the lime are so aromatic that they are commonly used throughout the West Indies to perfume the water in the finger-glasses of the dinner-table, and for toilet purposes of similar kind. The production of fruit is very large. When ripe, the

best and finest are selected and cut into slices by machinery moved by water-power. The mass is then heavily pressed, and the juice at once placed in casks ready for shipment. The inferior fruit, and the refuse from the pressing, is made to yield, by other treatment, citric acid, almost as valuable in the arts as the juice is in medicine. Crops are gathered at intervals nearly all the year round; the heaviest harvest occupies all hands for three months from September onwards. The lime exists in English conservatories, and has often borne fruit, as at Tortworth, Gloucestershire, the seat of Earl Ducie, the tree there cultivated supplying the specimen figured in the *Botanical Magazine* for 1884, pl. 6,745.

It is to be regretted that through indifference or something worse, the English name of the celebrated timber-tree, the *Tilia Europæa*, became corrupted about the year 1700 from "line" into "lime." "Line" itself is not the original, being a shortened form of the Anglo-Saxon *lind*, which is connected, in turn, with *lentus*, pliant, and refers to the usefulness of the inner bark as a material for string and cordage. All the old herbals have "line;" it occurs also in early verse, where it rhymes to "thine":—

"Now tell me thy name, good fellow, said he,
Under the leaves of lyne."

The corruption, intrinsically, is a matter of no great moment. But unfortunately it sometimes leads to confusion of the lime-tree of the park and the Citrus which supplies lime-juice.

THE SHADDOCK (*Citrus decumana*).

DĒCUMĀNA signifies plump, massive, buxom, portly; hence is well applied to the huge fruit in the vernacular called the Shaddock, the largest of the globular ones produced by any species of Citrus, as the citron is the largest of the elongated. The name is understood to commemorate a certain sea-captain who conveyed it from China to the West Indies, a doubt resting at the same time over the orthography, since at Bishops Lydiard, Somerset, with which village the family seems to have been connected, the spelling over the doors is Shattock. The tree producing it is thought to be a native of Java and Polynesia, carried thence to India, and from India dispersed to other countries near the tropics. The stature is about eighteen feet; the very large leaves are rounded, and have winged petioles, like those of the orange; the flowers are white; the rind is pale yellow and very bitter; the pulp is either white or red, and the juice sub-acid and sweet. A good mark of the growing tree is found in the pubescence of the young branchlets, and upon the undersides of the young leaves, all other species of Citrus being perfectly glabrous. Of the fruit, which is ordinarily about four times as large as an orange, sometimes almost the size of a man's head, there are many varieties, differing in flavour, and yet more markedly in substance, some being hard, others abounding in juice. The best kind seems to be that one called

the "pomolo,"* a fruit of less magnitude than the coarser ones, and which, unless cut open very carefully when serving at table, will quite flood any ordinary fruit-dish. The pomolo is a rather favourite fruit in the East Indies. The flavour reminds one of the muscatel grape: the thickness of the rind allows of its being preserved in good condition for a considerable length of time; hence it is that pomolos are brought to England even from China. The shaddocks imported from the Azores and the West Indies are decidedly inferior. The somewhat pear-shaped "Forbidden fruit," sometimes distinguished as a species under the name of *Citrus Paradisi*, appears to be scarcely distinguishable from the pomolo. The rind is less bitter; the flavour of the pulp is uncertain; the value seems to reside chiefly in its ornamental character. The so-called "Adam's apple," when certainly identified, may perhaps resolve into the same. Both names, foolish at any time, have been applied vaguely and inconsistently, and not uncommonly in the direction of some of the varieties of the citron.† Under one or another of the forms the *decumana* is occasionally met with in English conservatories, and fruiting well, as, for example, the Duke of Devonshire's at Chatsworth.

* Also written pomeloe, pummelow, pompelmousse, and pompel-mouse, but these names are also given to the large varieties.

† The fruit of the *Citrus Limetta* has also received these names. One of the bananas, the produce of the *Musa Paradisi*, is another "Adam's apple." A third "Forbidden fruit" is produced by the *Tabernamontana dichotoma* of Ceylon, the side seeming to have been bitten.

THE KUMQUAT (*Citrus Japonica*).

THE Kumquat is one of the prettiest and most graceful of its genus. It was originally introduced from China by the late celebrated Mr. Robert Fortune, in or about 1842. Mr. Fortune found that it was cultivated over a considerable extent of country, especially in the temperate parts. In winter it will bear ten to fifteen degrees of frost, so that irrespective of its flowers and attractive little fruits, about the size of a large cherry, and gold-coloured, it recommends itself as a most desirable glossy evergreen for the Winter Garden. The rind is sweet and delicately flavoured, but the pulp is rather bitter. It has many times ripened fruit in this country, as at Syon and Knypersley. Preserved in syrup, kumquats make their appearance now and then in "West-end" shops.



Amongst the minor species of the Aurantiaceæ which furnish pleasant and palatable fruits may be mentioned the *Glycosmis citrifolia* (also called *Limonia parviflora*) and the *Triphasia aurantiola*, also called *Limonia trifoliata*. The *Glycosmis*, a native of China, produces abundantly in greenhouses a very nice, sweet, and juicy kind of berry, the size of a large black-currant, but of a reddish-yellow colour. All parts of this desirable plant, leaves, flowers, and fruit, diffuse an agreeable perfume. The *Triphasia*, also Chinese, covers itself in the same

way, with nice little orange-coloured fruits. Here, also, may be mentioned the little-known fruit supplied by the *Casimiroa edulis*, a Mexican tree belonging to the same great tribe as the Aurantiaceæ, though technically in a different section. In figure and colour it resembles a St. Michael's orange, but is described as, when in perfection, in appearance more like a quince, whence the provisional name of "Mexican apple." This most interesting addition to our indoor dessert-fruits seems only to want attention in order to become a general favourite. It has ripened successfully at Kylemore Castle, Galway.*

* See, for further particulars, the *Gardeners' Chronicle*, October 13th, 1877.





Chapter Eighth.

ETÆRIOS; MULTIPLE, AGGREGATE, AND
COLLECTIVE FRUITS.

“’Tis a long lane that has no blackberries in it.”

Old Proverb.

“**E**TÆRIO” is the word, slightly altered in the spelling, and omitting the initial *h*, which the ancient Greeks used to denote communities, partners, colleagues, comrades, clansmen, etc. In Botany it has been ingeniously adopted as the technical name for some very curious forms of fruit, which, although simple in appearance, are constituted, in reality, of a multitude of little separate and independent fruits, every one of them perfect in itself, a pericarp containing a seed. Fruits of this description—etærios—are produced by buttercups, anemones, potentillas, and other members

of the Ranunculaceæ and the Rosaceæ, then resembling little heaps of dry seeds. Sometimes, instead of being dry and seed-like, the constituent elements of the etærio are juicy: they then resemble tiny plums, and receive the name of drupeolæ or drupels, literally "little drupes." Etærios formed of drupels are seen in the ranunculaceous genus *Hydrastis*, and in the raspberry and the blackberry among the Rosaceæ. Etærios are produced by simple and solitary flowers, or such as occur in the two orders that have been named, and only by such.

In other families it happens very frequently that scores and even hundreds of minute flowers are closely packed together, side by side, upon the surface of a broad round cushion, or upon the outside of some kind of column or conical pillar. The fruits which ensue from these are again either dry and seed-like, as in the sunflower and the scabious; or they may be juicy, as in the scarlet cluster of the wild arum, the "lords-and-ladies" of the country children.

Another curious condition is induced by the members of these little confederacies, when fleshy or juicy, coalescing so completely as to form a solid mass, tessellated upon the exterior. This occurs in the pine-apple and the *Benthamia*. In the hip of the rose (a solitary and independent flower) there is found yet another curious condition. The part which in the raspberry is white and conical, the drupels resting upon the outer surface, is inverted, becoming a sort of urn, within which the numerous little hard and stone-like fruits are completely

concealed. Illustrations of the same general idea, that of Community or Association, variously modified, are supplied by the strawberry, the fig, and the mulberry. It is further set forth, very elegantly, in maize or Indian corn. Association of many little fruits must be carefully distinguished from the idea of the Compound fruit. "Compound" fruits come of the lateral adhesion of a small fixed number of carpels, as shown in the orange and the apple. There is no common bond of botanical affinity among the plants producing these various kinds of aggregated fruits. The eatable ones are brought together in the present chapter purely for the sake of convenience in classification.



THE RUBI.

THE *etærio* has for its most interesting examples the fruits of the various species of *Rubus*, the genus of *Rosaceæ* which leads off in point of excellence with the raspberry. The number of species is considerable. They are diffused, more or less, over the whole world, North America claiming twenty-seven; Central America and the West Indian islands, twenty-one; South America, twenty-three; Australia, New Zealand, and Polynesia, nine others. Asia has its share, and so has Europe. How many there are in Britain is undecided, or depends, rather, upon the mental proclivities of the man who

counts them. He who loves unity, and to list the one sweet melody played in many keys, and with variations such as musicians delight in, finds, with the late Mr. Bentham, only five, really and substantially distinct. He who prefers to isolate, and likes a Latin name for every new expression, finds, with Professor Babington, *forty-five*. The large, rude, and very thorny ones are the Brambles of their respective countries, and in Britain are the donors of the Blackberry. "Bramble," in the bygone, had a wider signification than it holds to-day, denoting any kind of prickly shrub of the wilderness. In the A.V. of the Old Testament, in the famous apologue of the trees going forth to choose a king, it represents the Hebrew 'atādh, which probably denotes the Christ's thorn, *Paliurus Spina-Christi*. In the A.V. of the New Testament it represents the Greek βάρος, which, in addition to certain Rubi, certainly included the dog-rose, for Theocritus says that the flowers of the βάρος are not to be compared with those of the genuine rose (v. 92, 93). This last is the sense in which the English word is employed by Chaucer :—

" And swete as is the bramble-flower
That bereth the red hepe."

All the brambles are ligneous, the shoots limp and pliant, often many feet in length, the leaves usually ternate or quinate, the flowers white or pink, with many stamens and many pistils, the ripened ovaries of the latter becoming the drupels. A considerable number of the species appear to produce edible and palatable fruit,

which under cultivation allows of improvement. The student of vegetable homology will find it well worth his while to compare the cone of the etærio of the Rubi (called the torus or thalamus) with the long shaft in the middle of the geranium fruit, and with the spadix of the arum and the acorus.



THE RASPBERRY (*Rubus Ideus*).

THE Raspberry, universally relished, alike as served with dessert, in combination with other fruits in pie and pudding, when converted into jam, and in the summer beverage called Raspberry Vinegar, is remarkable not only for the peculiar and delicate flavour and fragrance which recommend it for these uses, but for the exceedingly fleeting character both of the taste and the odour. These in a few hours very perceptibly diminish; in three days they are almost gone; they endure scarcely longer while the fruit is still hanging upon the bush. To be enjoyed in perfection, gathering and eating should go together; and assuredly, on a sunny afternoon, no garden recreation is more delightful than plucking and eating raspberries, with kindly chat for the accompaniment.

In the wild state the raspberry occurs throughout Europe, from Norway and Sweden to Spain and Greece. It is found in Russian Asia; also, it is said, upon the Himalayas and in the north of Africa. The natural habitats are woods and thickets, bushy and uncultivated

recesses, rough-edged country lanes, where damp and somewhat shady, but not such as are exposed to the drip of rain. Exposure to the meridian sun is distasteful to it; of all known fruits the raspberry, in tastes and preferences, is the most violet-like. The leaves suffice to distinguish it, these being chiefly pinnate, though plenty are trifoliolate, and white underneath. The white flowers are insignificant, the least conspicuous perhaps of any found in its genus; the incomparable crimson of the ripe fruit is sometimes exchanged for the delicate shade of amber so well known in gardens. An excellent feature of the raspberry is, that although earlier to come in bloom than most Rubi, it is still so much later than fruiting-plants in general, that the crop is rarely or never spoiled by unfortunate weather. The mode of development of the stems is somewhat peculiar. The rootstock is perennial, but the stems are *biennial*; that is to say, a new set of young ones is thrown up every year, these to bear the flowers and fruit the following year. When their work is finished, they die away, and give place to their successors. Careful raspberry-culture in the garden includes the cutting out of all the old and spent stems as soon as the fruiting is over, thus giving every advantage to the new ones. Certain varieties of raspberry can be so manipulated as to secure abundance of good ripe fruit as late even as November, when a dish placed upon table with dessert gives challenge even to the grapes, and in the shooting season becomes, for one's guests, a very special treat. To obtain the late autumn

crop, remove, in spring, the stems that would fruit if they remained. The energy of the plant in these varieties then goes into the young shoots, and they blossom and fruit at the tips. Sometimes this happens spontaneously. Under cultivation, it must be remembered, that being fond of moisture, the raspberry revels in a heavily mulched border and an evening shower. It does not care to be much wetted, but loves an atmosphere that spares it from perspiring. The nature of the underground growth, which is always diffusive, prohibits the use of spade and fork ; all environing weeds should be removed by hand and not by hoe.

The origin of the name has not been satisfactorily determined. The early form, raspis-berry or raspise-berry, seems to carry an allusion to the rough appearance of the fruit, at all events when wild, the drupels retaining the bristle-like styles for a considerable time. When the exact culture began is not known. In all likelihood it would be about the same time as that of the currant and gooseberry. No fruit, probably, has so little taxed the ingenuity of the gardener, since no other so nearly approaches, while in the wild state, the condition desired for the table. All the fine varieties now in gardens have been derived from the wild raspberry of the woods. The best are Baumforth's Seedling, Carter's Prolific, Fill-basket, Red Antwerp, Fastolf, Hornet, Yellow Globe, and White Antwerp. A very elegant mode of training raspberries is to attach them to a wire trellis.

THE BLACKBERRY (*Rubus fruticosus*).

OF all our wild eatable fruits the Blackberry, though it may be somewhat plebeian, is unquestionably the most interesting to people in general. It holds the singular pre-eminence of being the only good fruit that is vexatious in the gathering, every tenth berry costing a prick or a scratch, joy and grief going hand in hand: still it is the fruit of all others bound up with the golden days of lang syne, the time when, despite the crimson sap upon the torn fingers, it was pleasantest of all, for was it not the fruit of travail and the holiday? Not only does it live in our ancient and most comfortable proverb—"Tis a long lane that has no blackberries in it"—picturesque paraphrase of the immortal truth that to the patient and the hopeful all things worth having come *some day*; it re-appears in the pathetic old nursery ballad:—

“Their pretty lips with blackberries
Were all besmeared and dy’d,
And when they saw the darksome night,
They sat them down and cry’d.”

The Children in the Wood.
Roxburghe Ballads, ii. 220.

Falstaff, in *Henry the Fourth*, says, “Give you a reason on compulsion? If reasons were as plenty as blackberries, I would give no man a reason on compulsion.” Further on, in the same scene, while joking with Prince Henry, the old knight exclaims, “Shall the blessed son

of heaven prove a micher, and eat blackberries?" To "mich" signifies to lurk out of sight, to hide one's self. Boys, playing truant from school, afraid to go home, and who wander up and down the lanes to escape observation, are still, in the south-western counties, said to "mooch." If we care to ask was any note taken of the blackberry in the classical ages, there is the picture in Ovid of the "golden world," when men were apt to "fleet the time carelessly."* Apart from the context, that *morum*, the word used in this fine passage, denoted with the ancient Romans the blackberry as well as the mulberry is shown by Pliny (xv. 27). The apothecaries of the middle ages called blackberries *mora rubi*. The common French name for them is *mûres de haie* or *mûres sauvages*. In Suffolk, to this day, they are "mulberries."

The blackberry occurs in woods, thickets, and hedges, in tangled wildernesses and waste places, over nearly the whole of Europe, and in Russian and Central Asia. But it does not ascend to alpine heights, nor in regard to latitude is it an arctic plant. Describing the productions of the Riviera, "There is a friend of our childhood," says Dr. Bennet, "the common Blackberry, which we are glad to welcome even at Mentone. In the warmest, wildest, and rockiest regions it grows as vigorously, as joyously, as in any quiet lane in England or Scotland; only, in such situations, it becomes an evergreen—in this sense, that it does not lose one set of leaves until it has got another. It is, in truth, a singularly hardy plant, with

* Met. i. 105. Compare *Fasti*, iv. 509.

a most singular power of adapting itself to circumstances. All climates seem to agree equally well with it—hot or cold, rainy or dry, maritime or inland, plain or mountain. I have never been to a spot in Europe where I have not found it, from Sutherlandshire to Mentone. I must, however, confess to a certain degree of surprise when I saw this favourite of our English shady lanes growing at Mentone with wild and determined luxuriance, filling up the beds of dry torrents, climbing up trees to a height of twenty or thirty feet, and choking passages between lemon-trees on the mountain-side; and that in regions where it often does not rain in summer for six months together, and under the glare of the fierce Mediterranean sun. Certainly it must have a mission to fulfil. Its sight is always welcome, as is all that reminds the sojourner in foreign lands of his native country, and of the haunts and pleasures of his early days.* The Blackberry is reported even from northern Africa.

The abundance of this plant in English hedges seems to have come very much of the pains taken in the sixteenth century to multiply it for the express purpose of use in fences. Old Tusser emphatically urges the farmer to mingle brambles with hawthorn when laying down "quicksets"—hedges, that is, of living as distinguished from dead material. Once introduced brambles generally hold their own, perhaps somewhat to the detriment of the hawthorns, which are liable to be overwhelmed, but the advantage of their presence quite compensates the

* "Mentone and the Riviera as a Winter Climate," 1861, p. 23.

hurt they may do: in any case were they now to be destroyed, the loss would be heavy. They propagate not only by seeds, but in a way very similar to that observable in the strawberry and the silver-weed. Most of the brambles may be regarded as a kind of gigantic strawberry, so far as regards power of self-extension. In autumn, in any shaded wood where brambles and decaying leaves abound, the process becomes quite plain to one's observation. The long shoots of the year bury their extreme ends among the litter, and there form semi-bulbous knobs. These during the winter months throw out roots in all directions, and in the spring develop strong shoots, capable, if removed, of an independent existence. We may learn from this how to propagate with ease those beautiful garden varieties of the blackberry which have large double white and double rose-coloured flowers; also that very interesting albino variety which has fruit of the colour of "white" raspberries, originally mentioned by Ray as growing near Oxford, and which has been noticed quite recently at Dundry, near Bristol, near Chelmsford, and near Penzance. "I met with it to-day," says a lady friend of the author, "when, after rambling over Pradannack Downs, dreaming delightfully among the waxen heath-bells, and musing over the ancient, time-worn cross, I neared the coast, by a tamarisk-fringed lake, and perplexed over a botanical darling, dear to me, came upon more treasure-trove in the shape of WHITE BLACKBERRIES!—white in the sense one speaks of white grapes, the ripe ones exactly resemb-

ling white raspberries. They were sweeter and richer in flavour than any of their ethiop brethren.* Wherever, in a large garden, the conditions and circumstances will permit, especially in districts where the wild fruit is not plentiful, the blackberry should be allowed a place. It has the peculiar value of going on ripening till the advent of serious frost. The first crop of fruit is usually accompanied, during "St. Martin's little summer," by a second flow of bloom, so that there is a succession of the shining jet all through that peaceful time when the gossamer, "le fil de la très-sainte Vierge," as the French prettily call it, flings its mimic barriers across our path. When no other small bush-fruit is to be had, the blackberry can still be held in reserve. There is no occasion to let it wander untidily. A row of blackberries fixed to stakes, with a slight rail or wire upon each side to restrain would-be stragglers, is a pleasing rather than a distasteful object. Better still when the plants are so trained as to form a little arcade. In a dry and sunny autumn the blackberry is a really excellent fruit. Those who would enjoy it in perfection should go to the hedgerows or the wilderness at mid-day, when the sun has been full upon them for some hours, select the "kings," and eat them *hot*. Not only is the fruit capital for pie and pudding, especially with admixture of sliced apple: it makes an excellent jam, and a very delicate jelly; the last-named, dissolved in warm water, gives a really delightful drink; and blackberry *wine*, all those who know how to make it

* Authoress of "Rostherne Mere and other Poems."

aright pronounce the most desirable after grape-wine. In sickness it is invaluable as a tonic, and nothing is found more trustworthy in complaints of the diarrhœa class. The art of manufacture is simple enough:— Measure your berries and bruise them, and to every gallon of the fruit add a quart of boiling water. Let the mixture stand for twenty-four hours, occasionally stirring; then strain off the liquid, adding to every gallon a couple of pounds of refined sugar, and keep it in a cask, tightly corked, till the following October, when it will be ripe and rich. “Blackberry cordial,” another preparation of singular merit, is made by expressing the juice, adding half a pound of white sugar to every quart, with half an ounce each of nutmeg and cloves, then boiling for a short time, and when cold adding a little brandy. With so many substantial recommendations, how regretful it becomes to see the blackberry left to decay, as it often is, to the extent of thousands of tons. Nowhere in the three kingdoms is it more plentiful or of finer quality than in the southern parts of Ireland. Yet there, this natural gift of the soil, untaxed, uncharged for, “without money and without price,” while it might be made a source of immense and permanent wealth to the poorer inhabitants, is left wholly untouched; and this when we are sending millions of money every year to foreign countries for fruits that have not half the intrinsic worth of the ill-requited *Rubus fruticosus*. In Hampshire the people are wiser. Owing to the great extent of Crown lands in that county, allowed as they are to remain in a semi-wild con-

dition, and partly to the hedgerows being allowed more freedom of growth than in most agricultural counties, brambles abound and produce very copiously. Many of the poorer inhabitants of the towns, as soon as the fruit is ripe, gain their livelihood for weeks together by collecting it for sale.



THE CLOUDBERRY (*Rubus Chamæmorus*).

AN inviting little fruit indeed is the Cloudberry, though known to few except the inhabitants of high northern districts. It is met with, in the wild state, upon the lofty moors between Stalybridge and Huddersfield, whence it is occasionally brought to Manchester for sale; also upon Ingleborough and in North Wales, rapidly increasing in quantity as we penetrate into Scotland, and becoming, in Scandinavia, one of the conspicuous elements of the Flora. It extends also into northern Asia and North America. In order to thrive it requires plenty of moisture, but not in excess, and prefers a peaty soil, though quite able to grow upon the face of a crag, in moist crevices, as upon the Breadalbane mountains. The epithet "Cloud" is generally supposed to refer to its elevated places of growth, as if among the clouds. Perhaps it may be an application of the geographical term preserved in "Thorpe Cloud," one of the two great mountain-sentinels at the entrance to Dovedale; and in "Cloud-end," the celebrated inland promontory in North Staffordshire—

“A green and gentle hill, the last
As 'twere the cape of a long ridge of such,
Save that there is no sea to lave its base,
But a most living landscape.”

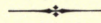
In this case it would simply mean “mountain-berry.”

A *Rubus* to all intents and purposes in flowers and fruit, this very interesting little plant has nothing about it in figure of the bramble, the ligneous portions being chiefly underground, and the flowering-branches rising above the soil to a height never greater than six or eight inches, and usually less. The leaves are roundish or kidney-shaped, though often five, seven, or nine-lobed. The large white flowers are solitary and terminal, and usually of only one sex, the staminate and the pistillate occurring in distinct patches, after the manner of the rose-lychnis and the white evening lychnis. Occasionally the two kinds are intermingled, the stems being united underground, which shows that the plant is monœcious as well as diœcious. It often covers expanses of many acres in extent, growing without any intermixture of other plants, a very pretty spectacle when in full bloom at the end of June. In the arctic regions it flowers immediately after the snows have passed away; and scarcely are the berries ripened, six weeks afterwards, before snow begins to fall again. Covering only midsummer, these “short and simple annals” render the life-history of the little cloudberry the briefest of any among the fruit-bearing plants useful to man. When ripe, the appearance of the great beds is again exceedingly pretty. The

drupels are large, green at first, then reddish and opaque, finally of a very delicate pink amber-yellow, and translucent. Though large they are not so numerous as those of the raspberry and the blackberry; the *etærio* is thus a very handsome one.

In flavour the cloudberry is both sweet and moderately acid, with something of the taste of tamarinds. It is nice to eat just as gathered, but better when made into jam. The Laplanders bruise and eat it with the milk of the reindeer. Travellers in Norway, where the cloudberry grows even by the roadsides, are regaled with *molta*, *moltebær*, or *myrebær*, a very pleasant preparation of it in cream. As an anti-scorbutic, it has proved to be scarcely inferior to the lime. In the "Voyage of the *Vega*," the two noble volumes in which Prof. Nordenskiöld has recorded his observations during a voyage round Asia and Europe by way of the north-east passage, a work of very different order from ephemeral books of travel, the author testifies to its value in terms of the highest praise. The entire ship's company was preserved from that great scourge of arctic sailors, the scurvy, by the sole use of it, or at most with the addition of a small quantity of rum, which appeared to increase the efficacy. Prof. Nordenskiöld expresses his belief that future polar expeditions, should they avail themselves of the cloudberry, will find it conduce more than anything else to health and comfort. A very interesting fact in botanical geography is that down in the antarctic regions, in the Falkland Islands and *Terra del Fuego*, there grows a

plant scarcely distinguishable from our northern cloud-berry, called, because of the likeness of the foliage, *Rubus geoides*.



THE DEWBERRY (*Rubus cæsius*).

THE Dewberry, a common inhabitant of quiet waysides and the borders of lanes, especially where the ground is dry and somewhat stony; frequent also upon the seaside sandhills; is in some respects so like the blackberry as ordinarily to be confounded with it. But the dewberry prefers to trail and keep below, rather than to mount into hedges, and woods and forests it seems afraid of. The flowers are few, and never properly paniculate: the drupels are large but very few; often only two or three are perfectly developed, or but a single one, then immense; in any case they never present the *beau-idéal* of the *etærio*; and lastly, so far from being jetty and lucid, they are covered, like some varieties of the plum and damson, with "bloom"—"shining dim . . . powdered with downy blue." The branches, instead of being so terribly resentful to the touch of naked fingers, are but thinly clothed with prickles, and these are but weak. All parts of continental Europe, as well as of our own country, are possessed of the dewberry. It extends also into Russian Asia, though not crossing the Arctic circle. The flavour of the fruit is estimated very differently. Some call it insipid; others think it very good.

Shakspeare would seem to have held the latter opinion, if the fruit of the *cæsius* be really intended, since he possibly used the name as more euphonious than "blackberry," or equivalent to it, as done by Lyte, in his old Herbal, a work which Shakspeare would have access to. Titania is giving her gracious behest to the four fairies :—

"Be kind and courteous to this gentleman,
Hop in his walks, and gambol in his eyes :
Feed him with apricocks and dewberries,
With purple grapes, green figs, and mulberries."

Midsummer Night's Dream, iii. 1.

The derivation of the name "dewberry" is uncertain. Certainly the first part is not referable in any degree to "dew," the morning moisture upon the grass. Nor does it appear, as conjectured by some, to be from the Anglo-Saxon name of the dove, an idea founded upon the colour of the ripened fruit. Dr. Prior's researches point rather to its being a sort of descendant of "theve-thorn," literally a low or inferior sort of bramble, the word employed by Wiclif in the apologue, *Judges* ix. 14. Over *cæsius* there is no difficulty. *Cæsius* is the Latin representative of the famous old Greek word γλαυκός, so rich in association, and which is so happily preserved in one of Kingsley's most delightful legacies to people who have learned that first and finest of the fine arts, the art of thankfulness to men of genius ; and in the appellation of that charming shore-plant, the *Glaucium luteum*, or "sea-side yellow poppy." The primary or fundamental sense

of the word would seem to have been a gleaming, as if with soft and silvery light. Then it became an epithet of the sea, as in *Iliad* xvi. 34. Then it moved on to the olive-tree; then to living creatures, as to the Nereids, the "sea-green sisters of the deep," who had bright pearls mingled with their beautiful hair, and whose sweet province it was to calm the waters when turbulent; then it moved on to eyes—eyes of the lovely and inexpressible hue which some poet has fittingly described as the "colour of gladness"—that rare and subtle combination of azure and grey which rejoiced men in Aphrodite's, which helped to gain for the Muses that most picturesque of descriptions, "Jove's nine azure-eyed flower-producing daughters," and which, thank God, has never been lost to the world. So delicious is the upgrowth in the signification of words that were cradled in poetic thought. And sweet is it to note how in the end they can fall back upon some simple object of wild nature, a term which transports the mind to the time of the bright fables of antiquity, settling down upon a little wayside fruit, our *Rubus cæsius*.

The fruit of the one other distinct species of British *Rubus*, the *R. saxatilis*, or Rock Bramble, corresponds with that of the dewberry in respect of the flowers and the various sizes of the drupels, but in this one they are scarlet, and in flavour agreeably acid. The habit of growth is peculiar, a few prostrate branches running to the length of a yard from the centre of growth, and a few others growing erect, to the height of ten or twelve

inches. In the axils of the upper leaves, mostly ternate, of the vertical branches, come insignificant greenish-white flowers, the aggregate forming little racemose clusters. The Rock Bramble grows in woods and stony ravines, also upon the stony banks of streams. It begins with South Wales, extends up the margin of the western counties to the northern ones, where it becomes common, and occurs also in Ireland and in Scotland.



THE ARCTIC RASPBERRY (*Rubus arcticus*).

LINNÆUS, in his fascinating first venture, the *Flora Lapponica*, in which he narrates all particulars connected with his celebrated northern tour, 1732, tells us that when sinking with hunger and fatigue his strength was recruited by the nectareous juice of the berries of the arctic raspberry. The cranberry may rival this plant in delicacy of leaf and blossom, but the fruit is, without compare, the very choicest produced in Scandinavia. Not that it actually needs an arctic latitude. It thrives at Kew and in Warwickshire—supplying yet another illustration of the wonderful constitutional elasticity which kind Nature has bestowed upon the majority of her children—and now and then has even ripened fruit in the Botanical Garden at Hull. There would seem to be no difficulty in the cultivation: upon a rockery the pretty flowers come out freely, and give the idea of a miniature sweet-brier. It

was one of the earliest plants figured in the *Botanical Magazine*, the picture appearing as far back as September 1790, vol. iv., pl. 132.

Jam made of the fruit of the arctic raspberry is, without question, the most delightfully aromatic that can be conceived, the odour being that of strawberry and raspberry combined. In England we know of it only as a singular dainty, sent by loving hands as a loving gift. Even where the plant most abounds, in Norway, Sweden, and Finland, it is a luxury by no means at public command. The difficulty and labour involved in the collecting of the fruit will always prevent its becoming an article of commerce. The drupels, like those of the dewberry, never all reach maturity. Very often only one or two get ripe, and as the plant grows only about three inches high, the collecting is like that of the scattered shells upon the sand. The arctic raspberry grows also in the most northerly parts of North America.



AMERICAN AND ASIATIC RUBI.

SOME of the native Blackberries of North America and of the far East bid fair to count with the "fruits of the future." America has set an example with regard to the culture of her own that in itself proves their independent value; and though little has yet been attempted in England, there is reason to believe that varieties superior

to any yet possessed on either side of the Atlantic may in course of time be brought into existence by skilful crossing of the best that grow wild in their respective countries. In New Jersey the native Blackberry has for many years been grown for market on a very extensive scale. In 1878 the crop yielded by the single township of Vineland, near Delaware Bay, was not much short of sixteen thousand bushels, with the market value of £6,200. In Burlington county an acre of ground has yielded a hundred and fifty bushels, the fruit selling for £120. Indifferent as we are in England to the blackberry, these figures may to many people be incredible, but the facts remain, and the returns appear to augment every season. One of the finest sorts is the Kittatinny, so named from its native region, the Kittatinny mountains in New Jersey. Unfortunately it would seem not to have quite enough of the ironclad about it to stand the severest winters. But in reference to this we have only to remember what has resulted from the crossing of the comparatively tender Indian *Rhododendron arboreum* with the almost impregnable *Ponticum* of Asia Minor. The *Rubus laciniatus*, or American cut-leaved Bramble, a very ornamental plant, is now common in gardens, fruiting with freedom every year.

For cultivation as a fruit-plant, especially in the manner recommended on p. 208, there is no blackberry, after all, equal, so far, to the "Wilson Junior," figured in *Garden Work* for March 7, 1885, an American variety brought out by Messrs. Viccars, Collyer, & Co., of

Leicester. It is stated to be a seedling from "Wilson's Early," already in high repute. In 1884 the crop in England was in the ratio of over a hundred and ten bushels per acre, and this year (1885) it is plainly going to be a hundred and fifty bushels. The robustness, the marvellous fecundity, and the ease with which plantations of the "Wilson Junior" may be established, leave nothing to wish for. The fruits are as large as mulberries, of the best of colours, and the best of blackberry flavours.

Some of the American Rubi lead off with distinguished beauty of blossom. Conspicuous among these is the *odoratus*, introduced about the year 1700, under the name of the Virginian Raspberry, a good town-plant, thornless, or nearly so, with great palmate leaves, and rosy-purple flowers the size of a florin. The red fruit, though not often seen, ripens in Cheshire. The white-flowered *Nutkanus*, from Nootka Sound in 1826, is another very desirable species, the fruit yellow or reddish, and excellent for tarts. One of the very handsomest is the *Rubus deliciosus* of the Rocky Mountains, the snow-white flowers two inches across, and resembling single roses. The name, unfortunately, is misleading, for the fruit, in reality, is poor and mawkish. The plant was originally discovered during the celebrated expedition of 1821. The stories related by explorers of inhospitable regions with regard to the fruits they have met with must always be received cautiously. Everything tastes good to the hungry man, and it is very plain that the description given to Torrey, who bestowed the name, told of the relish rather than

the actual value. The fruit of the *leucodermis*, from India, in 1818, that curious plant which seems to have had its stems whitewashed, is really good: so is that of the *phaenicolasius*, recently from Japan. Trained to a stake, this noble *Rubus* rises to the height of twelve or fifteen feet: the young shoots are covered with bright red setæ; the under-surfaces of the leaves are white as snow; the fruit, when ripe, is of many shades, from bright orange up to coral, and so abundant that the weight of the clusters gracefully bends down the shoots in a way almost fountain-like.

Whether in cultivation or not we do not know. If not, it may be worth while to look after the *Rubus nubigenus*, var. *macrocarpus*, from Bogota, described in *L'Illustration Horticole*, 312, as having red fruits two inches long, and of nearly the same width. The single-flowered form of the common double white *rosæfolius* of the Moluccas produces red fruits resembling raspberries.

THE STRAWBERRY.

THOUGH it has powerful rivals, still among the fruits of latitudes which will ripen anywhere without the aid of artificial heat, in respect of beauty, delicate flavour, and healthful service to the body, the Strawberry, were the matter put to election, would probably win. It has the rare merit of consisting almost wholly of matter which is soluble in the stomach, and does not undergo

acetous fermentation. Under cultivation it requires but little shelter; even in bleak and elevated places it is still a success. The odour is like the dappled pink of the tip-top sky at sunset; it comes, we must be quick, or it has faded away: a slight shower is often enough to spoil the promise of days. Like the raspberry, to be enjoyed in perfection, the strawberry should be the accompaniment of lingering and chatty stroll about the garden, eaten where it grows. In one form or another, it is diffused over many lands, growing wild throughout Europe and Russian and Central Asia, and northern America, and extending, both in the old world and the new, to the arctic circle. One of the varieties occurs as far away as Chili. It is found also in the island of Madeira. So calmly does the plant accommodate itself to varied surroundings, that near Malaga strawberries grow beside oranges and citrons, and there they are ripe by the end of April. Open woods, where dry, and especially upon mountains; green banks, weedy and turf-topped walls, are its delight. So fond is it of craggy slopes, that it might almost be called a rockery plant: the wood, nevertheless, is the chief scene of association:—

“One day as they all three together went
Into the wood to gather strawberries.”

Faëry Queene, vii. 34.

The ancient Greeks seem not to have noticed either the plant or the fruit: the ancient Roman writers speak only of the fruit, not of the plant, and of the former only in the plural, *fraga*, as when the Cyclop woos Galatea,

piling up imagery in a way scarcely paralleled before or since, every word a picture, every simile a petition :—

“Ipsa tuis manibus silvestri nata sub umbrâ
Mollia fraga leges.”*

When first established as an English garden fruit is not known. The name is the Anglo-Saxon *strewberige*, the first part referring to the resemblance of the runners to straws, or anything “strewed.” “Straberry ripe” was one of the cries of London in the time of the Tudors, but all the fruit then offered for sale was doubtless collected, after the manner of blackberries, from wilderness plants.

Botanically regarded, this fruit is one of the most curious known to science. It corresponds to the white cone of the raspberry, being the “receptacle” immensely enlarged, cells upon cells innumerable. The seed-like specks upon the surface are the genuine pericarps; every one of them contains a seed, and began life as a distinct and independent ovary. The strawberry is in a certain sense a raspberry *reversed*. In the raspberry the torus is dry, and the ovaries become drupels; in the strawberry it is the torus which becomes the soft and semi-juicy part, while the ovaries remain as they were. The name of “*etærio*” applies equally to both conditions. An honest and painstaking effort in the same direction is made by

* Met. xiii. 815. For other classical allusions to the strawberry, *vide* Met. i. 104, and Virgil, Ecl. iii. 92. All the allusions are to the *wild* fruit. There is no reason to suppose that the strawberry was ever cultivated by the Romans.

that very interesting pond-side plant, the water septfoil, *Comarum palustre*, sometimes called the water-strawberry. But in this the great torus never advances beyond the spongy and insipid stage, and the seed-like pericarps are packed so closely upon the surface as to form a perfect coat to it. Another very interesting and more successful aspiration towards the idea of the strawberry is seen in that lively little rockery plant, so well adapted for a hanging basket in the greenhouse, the yellow-flowered Indian strawberry, *Duchesnea Indica*, round crimson fruits abounding upon the pendulous branches almost always. The fruit of the so-called Strawberry-tree, *Arbutus Unedo*, is quite a different thing, as will be described by-and-by. The pretty little crimson beads of the strawberry-blite, *Blitum virgatum*, are strawberries yet more remotely, the juicy portion consisting simply of the perianth, which becomes succulent as the minute black seed-like fruits approach maturity.

In no genus of plants are the so-called "species" more like one another, thus more doubtfully genuine. "The great facility," says Mr. Bentham, "with which fertile cross-breeds are produced gives reason to suspect that the whole genus, including even the Chilian Pine-strawberry, may prove to consist but of one species." To refer any particular garden form to its proper "species" is now very difficult, and often impossible. Nearly all of the best cultivated strawberries are of double or hybrid parentage, and the utmost that can be done is to group them somewhat conventionally. M. Jacques Gay, who

has made the genus an object of long-continued and very minute study, classes all the known forms under the eight following specific names :—

THREE EUROPEAN :

1. *Fragaria vesca*.—The common English wood-strawberry. The most widely diffused of all, extending from Iceland to Spain, Sicily, and Greece. On the Alps bearing fruit at an elevation of over five thousand feet, and in Scandinavia beyond 70° N. Occurs also in Asia, in the north-east of the United States, upon the north-western coast of North America, and upon the highlands of Mexico. Many varieties exist, the *sempervirens* including the “alpinus,” so valuable as supplying an autumnal crop of fruit.
2. *F. elatior*.—The old “Hautboy” of continental Europe. Generally more or less staminate only, or pistillate, and even diœcious, so that individuals are often sterile.
3. *F. collina*.—The Green Pine. Widely distributed over Europe, and extending into Asia.

THREE AMERICAN :

4. *F. Chiloënsis*.—The Chili Strawberry, native of Chili, Valdivia, and elsewhere on the Pacific shores of South America. Said to have been originally brought to France and cultivated in the Royal Gardens at Paris, in 1715, whence it would be conveyed to England.

5. *F. Virginiana*.—The “Old Scarlet.” Introduced from North America about 1620. The best of all the primitive forms of strawberry.
6. *F. Gayana*.—Nearly allied to the *Virginiana*. A variety with shining leaves is called *F. lucida*.

TWO ASIATIC OR NORTH INDIAN :

7. The *F. Daltoniana*, and
8. The *F. Nilgherensis*, neither of them in cultivation.

Another classification, by Franz Göschkë, in a much esteemed German work upon the Strawberry, *Das Buch der Erdbeeren*, etc. (Berlin, 1875), places the garden forms under the names of—

1. The Forest Strawberry, *Fragaria vesca*.
2. The Monthly, *F. semperflorens*.
3. The Hautboy, *F. elatior*.
4. The Scarlet, *F. Virginiana*.
5. The Chili, *F. Chiloënsis*.
6. The Pine-apple or Large-fruited, *F. grandiflora*.

All of these have contributed more or less to the production of the inestimable modern strawberry of English, French, Belgian, and American gardens. The history of the various developments is not now within reach : we may be thankful that whatever calamities may befall other fruits, it must be something sad indeed that hinders the strawberry from deserving every year the matchless appellation of a fail-me-never, and, practically, our wisdom is to inquire which of the hundred sorts will

please best and be most prolific. The following are the most generally approved, and the most suitable for simple home-gardens:—

Early Varieties.—Amy Robsart, Keen's Seedling, Sir Joseph Paxton, Vicomtesse Héricart de Thury (also called Garibaldi and Duchesse de Trévisé). Very good early sorts are found also in Early Prolific, La Grosse Sucrée, Pauline, Black Prince, and Laxton's King of the Earlies.

Mid-Season Varieties.—British Queen, Dr. Hogg, Marshal MacMahon, Pioneer, President, Sir Charles Napier. To these may be added, when large assortments are desirable, Duke of Edinburgh, James Veitch, Lucas, Sir Harry, and The Countess.

Late Varieties.—Frogmore Late Pine, Enchantress, Souvenir de Kieff, Elton Pine, Rifleman, Oxonian. The very best is Aberdeen Favourite, distinguished as giving good crops as late as the middle of August, by which time, in the South, strawberries are generally "over." It was brought out in 1883 by Messrs. Cannon & Reid, nurserymen, of the northern granite city.

Which of all these sorts are the best for forcing, gardeners are not agreed, so many of them answer well. Opinions seem to run chiefly in favour of President, Black Prince, La Grosse Sucrée, and Vicomtesse Héricart de Thury. The best kind of fruit for preserving is the Elton Pine, and after this comes Eleanor. The cost of forcing, and

the profits, are kept secret. They may be imagined, perhaps, from the fact that in Covent Garden, in March, baskets of twelve berries apiece fetch four shillings, or at the rate of fourpence per berry.

The largest strawberry-gardens in the world are in the Cray Valley, Kent, where the Messrs. Vinson, of Swanley, devote to this fruit about five hundred acres of land, and gather in the season about a thousand tons. The value of the crop varies from £20 to £60 per ton for the best fruit, and from £15 to £20 for the inferior, used for preserving.



THE DOG-ROSE (*Rosa canina*).

LIKE the berbery and the mountain-ash, the Dog-rose claims a place among the fruiting-plants, not because of the eatableness of the produce as it comes from the bough, but for its value when in some way preserved. Every one knows the tremulous sprays and arching wreaths of this beautiful hedgerow plant, covered at midsummer with little pink calathi, their young hearts golden, and so fragrant withal;—so charming again, in late autumn, when the scarlet hips cast those magical points of bright colour amid the frosted browns and the overworn and fading green, keeping company in their lustre with the deep-hued Tamus, and made even brighter by the contrast of the feathered silver-grey of the wild clematis. When fully ripe, mellowed and softened by the touch of early frost, the hips of the dog-rose, after removal

of the hard seeds within, plenty of sugar being added, make a very nice conserve or confection. The Swiss and the Germans place it on table as an article of dessert. It makes also an agreeable substitute for tomato-sauce. In the time of Elizabeth, when certainly, good obtainable fruits were fewer in kind, the prepared pulp of these wild hips was held in no slight esteem. "It maketh," says Gerard, "most pleasant meats and banqueting dishes, as tarts and such-like." At the present day it is valued in England by the apothecaries, who employ it as a pill-basis, and in the making of electuaries.

The hip of the rose, like the strawberry, in its curious botanical nature, is almost without parallel. Here we have the thalamus, or receptacle upon which the ovaries are seated, shaped like an urn. The veritable fruits are the hard and hairy stones discovered in the interior of the hip upon tearing it open. Strange, yet perhaps not so strange, that the queen of flowers should thus modestly conceal from public gaze the little atoms that are to carry her loveliness abreast of Time.



THE FIG (*Ficus Carica*).

THE fig-tree, in all likelihood, supplied the fruit with which mankind has been longest acquainted; of which, at all events, mention is made very early in the oldest literature the world possesses. As an article of food it was probably resorted to at quite as early a period as the

date, and perhaps as the banana. Requiring scarcely any cultivation, it would certainly take precedence of any of the aliments obtained by tillage of the soil: the associations carry us back to the very dawn of civilized human experience upon our planet, to the days that preceded even the myths and the oldest traditions; it is the fruit of all others that deserves to be called the archæological. Antiquity so profound would seem to have ensured for the fig some kind of consecration. But of all fruits, with the inconsiderable modern exception of the medlar, it is the one which is referred to least frequently in literature. It is scarcely ever employed in symbolic art; it rarely appears in classical poetry; the place it holds is indifferent at the best; the traditions associated with it are uninviting. Romulus and Remus suckled by the wolf under the shadow of a fig-tree; the conveyance of the asp to Cleopatra in a basket of figs; the carrying of the fig in procession at the feasts of Bacchus; the employment of the wood for the manufacture of impure idols, are incidents, true and false, which have nothing in them to excite pleasing emotions. It is left for Scripture to deal pleasantly with the fig. Taking the Old and the New Testament together, this fruit is mentioned in more than thirty different places. The possession of the tree is a mark of joyful opulence; the appearance of the young fruit is in "the time of the singing of birds;" in parable and emblematically, the fig is cited again and again. "Whoso keepeth the fig-tree shall eat the fruit thereof; so he that waiteth on his Master shall be honoured."

The native countries of the fig reach from the steppes of the eastern Aral, along the southern and south-western coasts of the Caspian, through Kurdistan to Asia Minor. At the present day it grows apparently wild over the vast region of which Syria is the centre—that is to say, from the east of Persia, or even from Afghanistan, across the whole of the Mediterranean region, as far as the Canaries, though not ascending far up the mountains. As a rule, in Asia it stops at the foot of the Caucasus; and in Europe, at the foot of the rising grounds which limit the basin of the Mediterranean. But it has long since been conveyed to numerous distant parts of the world. In the southern United States—eastern Florida in particular—there are trees that yield twenty to thirty bushels of fruit every year. In Alabama the fig is considered to be the most prolific of fruit-trees. It holds the same reputation in Texas and in California. Plantations have already been made in some parts of Australia. The Atlas Mountains, in North Africa, are still noted for figs such as those praised by the elder Cato, when he threw them down in the Senate, saying, “The country where this fine fruit grows is only three days’ voyage from Rome,” uttering in these, the famous words which were the beginning of the downfall of once-glorious Carthage.

When first brought to England is not known, but in all probability, the original introduction took place under the Roman governors. Cardinal Pole, *temp.* Henry VIII., is accredited with the gift; what is related of him refers most likely to some new or superior kind. Almost as common,

at the present day, as the cherry-tree, in gardens in the south of England, usually under the shelter of a wall ; still it is upon the extreme margin of the island, where bathed by the English Channel, that the fig is seen, as regards our own country, in its highest perfection. It flourishes where the salt-laden atmosphere renders the culture of other fruits precarious, and where, because of the constant wind-beating, many other kinds of tree are short-lived. This helps to explain the vast abundance of the fig in the Greek Archipelago, and upon the shores of the adjacent mainlands. Near Gosport there are figs with trunks a foot in diameter, and that are probably the oldest ligneous plants in the parish. In the neighbourhood of Worthing, Sussex, there are orchards of fig-trees, grown as standards, all of large dimensions and great age. In an orchard at Tarring, there are not fewer than a hundred and twenty of these noble standards, the produce of which, in good seasons, amounts to upwards of two thousand dozen of fruit. A goodly sight, in sooth, is that of the luscious, blue-black harvest hanging aloft and around as one walks, as through a bower, below the green roof made by the interlacing boughs. The trees at Tarring are more than a century old ; they represent, in their generation, orchards of much earlier date, and the origin of which, according to tradition, was illustrious, the primitive one dating from the time of Thomas à Becket. Figs ripen well and plentifully also at Shoreham, Hastings, Arundel, Margate, etc. In good seasons they lie upon the ground, dropped from the tree, as thick as the apples

in a cider-orchard. No circumstance connected with the beautiful Tarring orchards is more interesting than that they are annually visited by the little fig-bird of the Roman Campagna. This pretty migrant arrives from Italy at the beginning of every September, enjoys itself, to the prejudice of the owner, and when satisfied, say, shortly before the first frost gives notice of winter, spreads its wings and goes home. The sorts grown in Sussex and Hampshire appear to be chiefly the capital old ones known as Brown Turkey, White Marseilles, and Green Ischia. In the northern counties, when good fruit is the object, the fig is grown under glass, though it ripens out-of-doors even in Fifeshire. At Balmuto, three miles from the sea, and three hundred and fifty feet above the sea-level, it yields a fairly good crop every year without any protection save that of a south wall. The fig is a hardier plant, indeed, than is generally imagined. To dwellers in towns it has the great recommendation also of being able to endure smoke and confinement among houses. Like the elder, it will grow in the hard-trodden soil of a back-yard; the growth under such conditions cannot be expected to be very luxuriant; still, like the Virginian Creeper, it can make itself quite happy. Wise plants are those which after the manner of the wise among mankind, if they cannot always have what they would like, adjust themselves to the liking of what they have. No town-gardener should ever forget to plant his fig-tree.

The dried figs of the grocers' shops are imported chiefly from Smyrna, whence their commercial name of

“Turkey figs.” The better qualities are distinguished as Elemë figs. Inferior sorts arrive under the name of “Greek figs.” Smaller quantities are sent from Spain, Portugal, and other countries; with, in addition, abundance of “fig-cake,” manufactured from the very poor descriptions of fruit, sometimes with intermixture of almonds, and wrought into the shape of small cheeses. The drying is accomplished either by exposure to the sun, or in ovens constructed for the special purpose. The average yearly import, of all descriptions, fig-cake included, is about 150,000 cwts. In 1883 it was 128,434 cwts., valued at £262,671. The Customs received, in the shape of duty upon figs, during the year ending March 31st, 1884, the sum of £33,990.

The botanical features of the fig are, as regards fruit-bearing plants, unique. The stature of the tree is fifteen to twenty feet, branches proceeding almost from the base, somewhat distorted, and exuding, when wounded, a milky juice. The leaves are petiolate, as a rule coarsely palmate, the lobes obtuse, about a span in length and breadth, and rough upon the upper surface. The pear-shaped body which, when ripe, becomes the fig, is a leathery receptacular bag, in some degree resembling the hip of the rose, but the latter is part of a *single* flower, whereas the fig is a hollow cushion, the inner surface lined with innumerable flowers. These flowers are so minute as to seem a mossy carpet; but every one of them has a little perianth of its own, and in the ordinary eatable fig, every one of them, except near the summit, is

possessed of an ovary, with style and stigma. The ovaries become the yellow grains found so plentifully in the fig when mature. Ripening consists in the conversion of this leathery green bag, milky at first, into one that is soft, succulent, pulpy inside, usually purple or bronze-green upon the outside, and of delicious flavour. The soft portion contains grape-sugar, to the amount of 60 or 70 per cent., and this, when the fruit is dried, partially effloresces upon the surface. So far, good. But where are the staminate flowers? The fig is very evidently dioecious; probably to some extent monœcious also. The staminate flowers appear to be contained in the figs which drop off while still small, green, and milky; and which (or the trees producing them) are in continental countries called "capriffs." The history of the process of "caprification," the fertilizing of the pistillate flowers, insect-agency having its place, and the general nature of the sexual apparatus of the fig, is far too large a subject to be dealt with in the present chapter. Here it must suffice to say that "caprification" is not necessary, much less indispensable, to the ripening of the fig, and that all figs which grow to be large and eatable are emphatically those containing female flowers wholly or chiefly.*

The variety in the complexion of the ripe fig is very considerable. So is the flavour, when properly matured. The dried fig of the shops gives no idea of it, especially

* *Vide*, for the particulars, the *Gardeners' Chronicle* for April 28, 1883, and subsequent communications from correspondents.

as enjoyed at breakfast-time in Italy, where the fig seems indeed a fruit of Paradise. The spicy odour of ripening figs, as perceived in the English orchard-house or vinery, is in its way no less delightful.

The best kinds for forcing are Negro Largo (the finest in cultivation), Brown Turkey, Black Marseilles, White Marseilles, White Ischia, and Early Violet.



THE MULBERRY (*Morus nigra*).

THE Mulberry supplies another example of the aggregate or collective fruit, every one of the purple bags of juice representing what was once a distinct and independent flower. The perianth consists of four pieces; these, as the ovary within progresses to maturity, become greatly enlarged, juicy, and finally confluent. Though so similar in appearance to the blackberry, there is thus no actual likeness, the grains of the blackberry being drupels; those of the mulberry, flowers transformed. It is produced by a tree which seldom exceeds thirty feet in height, the branches thick and rude, the general figure close and rounded. The rough, coarsely serrated, and dark green leaves, though usually cordate, are prone to curious changes, often becoming irregularly three or five-lobed. The staminate flowers are produced in separate clusters, yellowish green in colour, and, like the globular green heads of female flowers, contemporaneous with the young foliage. The tree is of great durability, and seems to be

wonderfully tenacious of life. It is tolerably hardy, deciduous, and one of the last to come into leaf. Afterwards it is remarkable for the density of the shade. Capable of enduring the smoke of towns, it is a capital tree for suburban gardens, and will thrive even in little corners among warehouses.

The fruit, quite familiar in the southern English counties, more sparingly produced in the northern, is distinguished for its sweet sub-acid taste, with a very agreeable aroma superadded. It is excellent for dessert; makes a very nice, though rather cloying preserve, and supplies material for a pleasant light wine. The quantity produced is often prodigious. Being apt to drop as soon as ripe, and very tender in skin, the tree should always be planted upon a lawn or other grassy surface, where the damage received will be of the slightest.

The native country of the mulberry is uncertain. But that the original seat was south-western Asia is eminently probable. At the present day it is found apparently wild in the Caucasus, also in Persia and Asia Minor. Thence it would be conveyed westwards at a very early period, but there is no exact knowledge of the time or by what means. No reference to it occurs in the Old Testament, though mentioned in the New, under the Greek name of "sycamine." (*Luke xvii. 6.*) The ancient secular Greek writers speak of it both as the sycamine and the *moron*, as Dioscorides, B.C. 25. With the Romans the latter word became *morus*, the tree having reached Italy some time prior to, though not very long before, the Christian

era. Horace praises mulberries as immensely conducive to health if gathered before the heat of the day, and eaten as dessert after dinner. In Virgil, *Æglë*, the playful shepherdess of the sixth *Eclogue*, paints the eyelids of the sleeping poet with the purple juice.

When originally brought into England is also unknown. Seeing that the Anglo-Saxons had a name for it—*mor-beam*, literally *morus-tree*, it may have been introduced by the Romans, whose appellation would have in the Saxon a lingering echo. Or as Charlemagne, that great patron of the useful, ordered it to be grown upon all the imperial farms, it may have been during his reign, say about A.D. 812, that this tree was first carried across the English Channel by Saxon visitors to the Continent. “*Mor*” got changed into “*mul*” by a process of permutation of sounds exceedingly common in the annals of language; and “*beam*” would very naturally, in the case of a fruit-tree, give place to “*berry*,” though the Saxon is retained to this day in *horn-beam* and in *white-beam*.

The object with Charlemagne in planting his mulberries was to establish the home-production of silk, by providing plenty of food for the worm. The effort was imitated by Henry IV. (of France), and then, immediately, by English James I., who imported ship-loads of young mulberry-trees from the Continent, and caused them to be diffused all over the country. The scheme, like many other plans laid by the unfortunate first of the Stuarts, died in its infancy. Praiseworthy, and for a time promising, in the end it proved utterly unsuccessful. A certain pathetic

interest clings to the record of it, since of the hundred thousand young trees said to have been planted in England, under the royal patronage, it is believed that some few are still in existence, though decrepit, at Syon, to wit, and at Oxford. Compared with other edible fruits, the mulberry is remarkable for the large quantity of its sugar, being excelled in this respect only by the fig, the grape, and the cherry. The yield of the fig has just been mentioned as 60 to 70 per cent. The grape contains 10·6 to 19, and the cherry 10·79. Then comes the mulberry with 9·19, followed by the currant, 6·1, the strawberry 5·7, and the raspberry with no more than 4 per cent.



THE PINE-APPLE (*Ananas sativa*).

THE Pine-apple, like the mulberry, comes of the very curious coalescence and amalgamation of a large number of separate and independent fruits, understanding by this term the ripened ovary, with its adjuncts, of a perfect and independent flower. As many different flowers go to the foundation of it as there are "pips" or projections upon the surface of the mass when mature. The flowers are three-parted, lavender-blue in colour, and lodged in the axils of great scales or "bracts," so disposed upon a fleshy axis as to form a kind of spiral girdle. When they wither, the ovaries, the bracts, and all other parts gradually acquire a condition of extreme succulence, and at last the entire mass becomes consolidated into the great

juicy so-called "apple." In the wild state, seeds are produced, but under cultivation, owing, it would appear, to the yet intenser degree of succulence then induced, none of the ovules ripen. The spiral arrangement of the bracts, with their flowers, is almost exactly similar to that of the scales of a fir-cone; spiral flower-girdles, not unlike, occur also in various Australian Myrtaceæ, but in the latter everything remains permanently dry, and there is no consolidation. The vegetative part of the plant consists of a great tuft of radical leaves, in substance thick and leathery, two or three feet long, and two or three inches broad, edged with short close prickles, sharply pointed, and in colour somewhat glaucous. The flower-stem proceeds from the centre of the tuft, and after developing its spiral girdle of flowers, goes on growing vertically, so as to produce the elegant tuft or crown of smaller leaves upon the summit of the fruit. The crown when wrenched off, and planted in the ground, takes root like the leafy extremities of shoots called "cuttings." Propagation may be effected, and very generally is, by means of it, though more extensively by means of the suckers which emerge from near the base of the plant, these corresponding, in a certain degree, with the little round progeny that creep out from the rosette of the houseleek. It happens sometimes that *two* crowns are produced; also that the suckers produce fruit while still attached to the parent; and far more curiously that instead of flowers, followed by "pips," there is an out-growth of a crowd of miniature suckers. A very beautiful variety with variegated leaves

is grown for decorative use. The name of the fruit was most naturally suggested by the resemblance it bears in figure, dimensions, and sculpture, to the cone of the *Pinus Pinea*, before the scales have begun to fall asunder. It had already been given to different kinds of pine and fir-cones, as in the old verse :—

“Stormes rifest rende
The sturdy, stout pine-apple tre.”

The first instance of the current application seems to be in Parkinson's *Theatrum Botanicum*, 1640, p. 1626. Previously it was known as the “ananas,” a Portuguese modification of the Brazilian or Peruvian “nana.” It was from Brazil that the fruit was first brought to Europe, the native countries being tropical South America, Mexico, and the West Indies. Oviedo was the first to describe it, in 1535. After him, we find it mentioned in every successive writer upon the vegetable productions of South America. Holland possessed it long before England, apparently about the middle of the seventeenth century. Accounts differ as to the time of the exact appearance in our own country, but it was probably some fifty or sixty years afterwards. In 1716 Lady Mary Wortley Montagu, dining at a great house in Hanover, saw, she tells us, what she had never even heard of before, a pine-apple for the first time.

Long since carried to Asia, in some parts of India the pine-apple has become widely naturalized, and presents all the appearance of an indigenous plant. Happy only where the temperature is very high, almost equatorial,

and requiring a good deal of moisture, the area of the successful outdoor culture is still somewhat limited. Hence we hear little or nothing of it from countries which, although they may be warm enough for it, are comparatively dry, such as Spain. It does not care, either, to live above the level of the sea, and mountains it will have nothing to do with. In the Malayan Archipelago, where all the conditions are favourable, the fruit attains a prodigious size; the pine-apples of Java and Sumatra are reputed the best in the world. The cultivation in the western tropics is now something enormous. In San Salvador there are fields of pine-apples extending from twenty-five to sixty acres, every acre yielding, in good seasons, about eight hundred dozen. In the Bahamas there are spots where as many as twelve hundred thousand growing plants can be seen at a single glance, the ground being covered with them just as in English farms often with turnips. Great pains are now taken with the cultivation, because so lucrative an article for export, and the same in the Azores. The produce of the islands named has realized very considerable profits in the English markets, and henceforwards it would seem that this grand fruit will be placed within the reach of the poorest of the people. "Pine-apple a penny a slice" is a cry that carries more than a simple statement of fact for the time being. The enormous importation has even now profoundly affected the home-culture. The wealthy amateur will no doubt continue to grow his own pine-apples for private pleasure, especially as the imported

fruit, having to be cut before it is quite ripe, so as to sustain the voyage, can never become a successful rival of the hothouse product in respect of richness. But those who raise pine-apples for sale, the dealers and the fruiterers, find the competition press very heavily. First-class home-grown pine-apple is still worth five shillings per pound, but nothing like as many pounds of it are wanted as in days gone by. Slicing is all well enough for the streets, but it spoils the fruit when before us on the table. The legitimate way to eat a pine-apple is to grasp the stem in the left hand, remove the crown, then, with a silver fork, to dig out the constituent fruits, as severally indicated by the sculpture outside, and enjoy them, like strawberries, without losing a single drop of the juice. The most approved varieties for English culture are Queen, Enville, Charlotte Rothschild, and Montserrat.

THE MONSTERA (*Monstera deliciosa*).

MINGLING, nowadays, with the special favourites of the warm conservatory, are constantly seen examples of plants remarkable less for their flowers than for the grandeur or the rich colouring of their leaves. In the leaf-beauty of nature as a whole we have a feature consummately charming, and in variety exhaustless. Still there are leaves which in artistic qualities eclipse all others. These, of late years, have come distinctly into fashion, for there is fashion in gardening as well as in

dress, and the complexion they give at all seasons is, without question, one of the highest finish, as well as intensely suggestive to the philosophic mind. One very marked set of these "foliage-plants" comprises different species of Anthurium, Pothos, Alocasia, Caladium, Dieffenbachia, etc., the huge leaves often reminding one of the shields of the time of the tournaments; or they are arrow-shaped, and dappled with bright colours. They represent the great family called the Araceæ, illustrated in England by the little "lords-and-ladies" of the hedge-bank and shady wood, but having its chief development in tropical countries. The flowers, individually, are insignificant, but being aggregated in great numbers into a finger-shaped body called a "spadix," the latter becomes, usually, conspicuous, especially if coloured. While young, the spadix is enclosed in a huge leaf-like cover called the "spathe," green, scarlet, purple, or white, and which gradually rolls back, so as to disclose the "spadix." The fruits are berry-like and densely crowded; they are often acrid and poisonous, and must always be regarded with distrust.

Many of the Araceæ, denizens of tropical forests, live a kind of aerial life, scrambling up the trees, and sending out from their cord-like stems, snaky roots, the thickness of telegraph wires, and that run to the length of many yards in search of food and drink. One of them, singular to say, belongs to the company of the fruiting-plants—an extraordinary Mexican, common in hothouses, and often introduced into large ferneries. The older catalogues

call it *Philodendron pertusum* and *Scindapsus pertusus*; the newer ones, *Tornelia fragrans* and *Monstera deliciosa*. The leaves, a yard in length and two feet across, are full of great holes, quite natural and proper to them, but with the appearance of having been designedly cut out with knife or scissors. The spathe is simply astounding, being quite a foot in length, a beautiful oval cradle, copied, one might suppose, from some glorious Indian shell, cream-white, and externally as smooth and soft as satin. The spadix inside, corresponding in colour, is composed of several hundred little flowers, spirally disposed, and that when in perfection become viscid. Coalescing as they approach maturity, the ovaries form the "fruit," which when ripe is twelve or fourteen inches in length, a couple of inches thick, slightly curved, deep sage-green, changing to creamy yellow, and giving the idea of a cob of Indian corn, only that instead of grains there are hexagonal meshes. The time taken to swell and ripen is about twelve months. When ready to eat, it diffuses odour far and wide, not very different from that of pine-apple; and when placed upon table, behaves like an enchantress. The meshes, which are the heads of the ovaries, are easily removed, and then, underneath, there is a delightful, soft, vinous, aromatic pulp, supported by the somewhat woody axis of the original "spadix." Unfortunately the pulp abounds with raphides, little acicular crystals which cause a pricking sensation in the mouth and throat; at first not worth mention, but that does not pass away for several hours. These little

needles would seem to be lodged chiefly just under the meshes, and to be less troublesome the riper the fruit, so that by careful removal of the meshes, and not eating too soon, the annoyance is much lessened. Barring this drawback, the *Monstera* makes a very interesting addition to our list of hothouse fruits. The plant presents, at any time, a very curious spectacle, alike in the foliage and in the long-extended searching of its roots for water. It will grow almost anywhere, but the true place for its prosperity is over or near a tank, to which the roots dart as if gifted with instinct. Once in the water, they produce great circular radiating brushes of rootlets, after the manner of many true aquatics, then recalling the beautiful old picture of the thirsty hart.



THE CUSTARD-APPLE (*Anona squamosa*).

IN the winter there is found in the shops, imported from Madeira, a curious green fruit resembling an artichoke, only that the scales are as closely compacted as those of a young pine-cone. It is about three inches long, and the same in diameter. Every scale, as in the pine-apple, represents a distinct ovary. Internally it is a mass of rather solid pulp, with many rather large black seeds: the taste is like that of raspberries and cream.

This is the celebrated "Custard-apple," "Sugar-apple," or "Sweet-sop" of the tropics. It is produced by a tree growing about fifteen feet high, with laurel-like foliage,

and greenish flowers an inch across. A very old inhabitant of our hothouses, with careful management there is no difficulty in getting it to ripen, if kept in a small pot, and in a constantly high temperature, with exposure to all the sunshine that may be possible.



THE BENTHAMIA (*Benthamia fragifera*).

THE *Benthamia* is an evergreen tree of the order *Cornaceæ*, introduced in 1825 from Nepal; in Cornwall and the south of Ireland attaining the stature of twenty to forty feet, and both when in bloom, at midsummer, and when the fruit is ripe, in October, presenting one of the loveliest sights the garden affords. The leaves are opposite, narrow-elliptical, entire, and of a peculiar silvery-grey colour. The flowers grow in dense round heads, and in themselves make no show. But, as in many species of *Cornus*, they have an involucre of about five cream-white bracts, strikingly ornamental, not only from the width, over two inches, but the profusion. The fruits, when ripe, coalesce into a nearly spherical succulent mass, an inch and a half or two inches in diameter, of a delicate yellowish strawberry colour, and elegantly tessellated. Inside there are as many rather large stones as there were flowers. The taste is insipid, and not such as to recommend the fruit for table. But it may be susceptible of improvement. In the presence of objects so beautiful as a *Benthamia* in full bearing, one cannot but reflect

with admiration on that excellent feature of vegetable life—its willingness to submit to the authority of man. There is often a sweet and pretty make-believe of delay and resistance. But seeing what has been accomplished in converting the crab into the apple, there may be reason to hope that here too, by-and-by, there will be translation into graceful and loyal compliance, and the Benthamia become as good to eat as it is charming in countenance. At St. Austell the boughs seem as if they would break down under the weight—the tree thirty-six feet in height and as much in diameter, the lower branches resting on the turf.





Chapter Ninth.

N U T S.

“ So rich a shade, so green a sod,
Our English fairies never trod ;
Yet who in Indian bower has stood,
But thought on England’s ‘ good green wood ’ ?
And bless’d, beneath the palmy shade,
Her hazel and her hawthorn glade ;
And breathed a prayer (how oft in vain !)
To gaze upon her oaks again ! ”

Bishop Heber.



F all the terms applied to parts of plants having their proximate origin in the flower, the most comprehensive is NUT. Fruits, in the full and perfect sense of the word, portions of fruits, seeds, kernels, all take it in turn to be called Nuts ; and when the esculent kinds have been counted, there are many more which are “ nuts ” only with the botanist. Strictly speaking, nuts

are only such fruits as the filbert and the chestnut. They are always seated in some kind of "cupule" or cup-like husk; the *beau-idéal* of the former presenting itself in the fruit of the oak-tree. Walnuts and coconuts, as placed upon the table, may be compared to plum and cherry-stones; juvias and sapucajas are only seeds, with intensely hard integuments. Charged with carbon and with oil, nuts are highly nutritious, though with some persons, on account of the abundance of the oil, not easily digestible. In addition to their suitability for food, and their agreeable flavours, being insusceptible of bruise or wound, and usually keeping good for a considerable length of time, they have the great advantage over most of the juicy fruits in allowing of easy transfer from place to place. In England we are apt to think of nuts only as pleasant additions to the established bill-of-fare: many people would never miss them were they cast out of sight. Very different is it in foreign countries. No further away than in southern Europe, a staple is found in the chestnut.

The etymology of the word "nut" is not precisely determined. It seems to have come from the same source as "knot," meaning a hard round lump, Latin *nodus*. Some botanists extend the name of nut to the seed-like fruits of the Labiatae, the Boraginaceae, the Cyperaceae, and the Polygonaceae. Popularly, it is applied also, after the manner of the French *pomme* to the potato, to various tuber-like parts of plants, as when we speak of pig-nuts, the tubers of the *Bunium flexuosum*.

In North America the *Apios tuberosa* is called the earth-nut. The absurdly so-named "Zulu-nuts" of the shops are the tubers of the *Cyperus esculentus*.



THE HAZEL-NUT (*Corylus Avellana*).

THE simple mention of this pretty name brings with it an odour of bygone romance. It goes shares, in association, with that of the blackberry, carrying one back to days long since left in the rear, those shining ones when life seemed to offer no greater blessedness than the filling one's satchel with the brown gold; the holidays, sweet September afternoons, which, after all, it is quite possible, though forty years have sped away, to renew to one's self in other fashion. For holidays are not made by statute or the time-table, but come from within—tranquil realizations to one's spirit of the much-contenting fact that joy and repose are found not in places, but in persons, the nuts now transmuted, perchance, into bryony, the blackberries into lotus or "listening wheat." No pleasures are so sincere and so enduring as those which come late in life through renewal of one's youth under the agency of a happy direction of heart, nor are any so thankfully enjoyed.

A moment's pause, and then, like Disraeli, with the mention of the hazel, we are back among our first-known poets, the inestimable friends from whom we learned how to feel and to see:—

“Kate, like the hazel-twig,
Is straight and slender; and as brown in hue,
As hazel-nuts, and sweeter than the kernels.”

Are we to think of Baptista's shrewish daughter as gipsy-faced? Was she another “Nut-brown mayde,” that faithful creature to whom good fortune and evil were alike indifferent, so that she could share the fate of the man she loved, even in the wilderness? Never mind. We should gain nothing if we knew. To Petruchio it was enough that she was Kate. To the man who loves, whatever the colours, they are the right ones.

The hazel-nut is diffused, as a wild and indigenous plant, all over Europe and Central and Russian Asia, growing spontaneously in woods and thickets, and fond, specially, of dingles and tree-clad ravines. Able to become a small tree, still it is seldom anything more than a great bush, many long and flexible stems arising from the base. The leaves are roundish ovate, deeply serrate, and usually provided with a point, developed not as usually in leaves, but suddenly and abruptly. The centre of the blade often bears an irregular purplish spot; in autumn, before falling, the foliage changes to a fine light yellow.

None of our native fruit-trees are more interesting in regard to their flowers, these being monœcious, and developed long before the leaves. The stamens are contained in catkins, put forth as far back as September, while the nuts of the current year are scarcely ripe. By Christmas they become conspicuous, and in February

they attain their full length, two or three inches, and then hang from the bare brown branches in the most beautiful manner, heralds of the coltsfoot and the crocus. On a fine sunny forenoon,

“While yet the wheaten blade
Scarce shoots above the new-fall’n shower of snow,”

a hazel-nut in a youthful wood presents one of the loveliest spectacles then afforded by awakening nature. Every catkin is ready with its pollen, and a slight shake brings down a mist of glittering particles. The female flowers, contained in minute lateral buds, are indicated by their tufts of protruding crimson stigmas. Shortly after fertilization there is a very curious change. The bud grows out into a shoot, carrying the rudiments of the nut at the apex. The nuts are thus projected to a distance of several inches from the point where they were generated. While they are forming, the minute scales which enclosed the pistils, enlarge, and at length we have the husk or “involucre” of the nut. Another curious fact in the history of the development of the nut is that it seems to come impromptu. The infants never show themselves.

Under cultivation there have arisen many varieties. Foremost among these is the Filbert, *Corylus Avellana*, var. *tubulosa*, distinguished by the great elongation of the nut, with corresponding enlargement of the involucre. In one of the sub-varieties, called the Red filbert, the pellicle which covers the kernel is crimson-red; in another, called the Cosford, the shell is remarkably thin, and

elegantly striated. The next best, the Cob-nut, *Corylus Avellana*, var. *grandis*, is marked by its short and ovoid figure and very thick shell. To get good crops the trees must not be left to themselves. An excellent mode of culture, practised in Kent, is to rear the plant, in the first instance, from a sucker, allow it to grow without restraint for three years, then to cut it down to within a few inches of the ground. New and vigorous shoots are soon produced; these are shortened to a third of their length, and a hoop is placed inside, to which the shoots are made fast, the result being the formation of a goblet, seldom more than six feet high, of the same diameter, and very fruitful. The cultivated varieties are apt to be deficient in catkins. Hence, when the bushes are in bloom, it is useful to cut branches loaded with catkins from the wild hazel, and to suspend them in such a way that the pollen may fall upon the awaiting stigmas. Both in the wild and the cultivated plant the catkins of the *Avellana* are prone to be ready to discharge their pollen before the pistils make their appearance. This would seem to indicate that a degree of temperature lower than is needed by the female flowers suffices for the staminate ones. When the spring becomes suddenly warm, it is very interesting to observe how much less time intervenes between the full development of the two forms of flower, the staminate and the female, and how much heavier is the subsequent crop of fruit.

Besides the *Avellana*, we have in cultivation in England, as a curiosity, the Byzantine or Constantinople hazel,

Corylus Colurna, a plant very different, since in the Levant it often grows sixty feet high. The leaves are softer and more angular; the catkins are longer and very handsome; the involucre are deeply lacinated and fringed, and the points are recurved. Fine old specimens of the *Colurna*, the source of the "Smyrna nuts" of commerce, may be seen at Kew, at Syon, and in the Oxford Botanic Garden. Another species, the Algerian hazel, *Corylus Algeriensis*, from the Atlas mountains, produces a singularly large, full, and well-flavoured nut, and well deserves to be made an object of culture.

The best of the imported hazel-nuts are the "Black Spanish." The "Barcelonas" have been submitted to the operation of kiln-drying, and are thus much spoiled in flavour, though allowing of being kept longer. The latter come chiefly from Catalonia, a province of eastern Spain. So prolific are the trees in that country, that a nut-wood has been known to afford sixty thousand bushels in a single season. Hazel-nuts are received also from Italian and other Mediterranean ports, the total quantity, it is estimated, approaching three hundred thousand bushels annually.

Over the derivation of the various names there hangs considerable uncertainty. "Corylus" occurs in Ovid, and the adjective derived from it, *colurnus*, in Virgil. "Avellana" is from an ancient geographical name. "Hazel" is Anglo-Saxon and Scandinavian. "Filbert," in the face of various conjectures, still waits satisfactory explanation.

THE SWEET OR SPANISH CHESTNUT

(Castanea vesca).

THE Sweet Chestnut, called also the "Spanish" because the best of the imported fruit comes from Spain, counts with the world's vegetable patricians ; it is noble in aspect, generous in deed, long-lived as Hope. One of the very oldest trees in Britain of any description now existing is a chestnut—that famous one at Tortworth, Gloucestershire, which began to put forth its leaves in the Saxon times, saw the Danes come and go, and the Normans arrive, and which to all appearance intends to maintain, for many years, the *viridis senectus* always so delightful to contemplate alike in man and the forest monarchs. The Tortworth chestnut is called by this name in a boundary description of A.D. 1135. The trunk of the original tree is hollow and much decayed, but around it have sprung up so many stout suckers, that, like the phoenix of antiquity, it may be said to have risen again out of its own ashes. The circumference, at three feet from the ground, is about fifty feet, or seventeen yards ; the spread of the branches, either way, is eighty-six feet. Flowers still come out on the upper branches. We never grow too old to partake of noble enjoyments : after the same manner, it seems as if not only the chestnut, but the old tree of any kind, never becomes too weak to produce flowers bright as those of its youth. The Tortworth chestnut is probably the first tree that was ever planted in this country by man. There

may be yews of greater age, and perhaps oaks, but the latter would be self-sown, or the acorn would be hidden in the earth by some provident squirrel; and the old yews arose in all likelihood from berries eaten by Saxon thrushes: the Tortworth chestnut came in any case from a human hand, no trees of its kind having existed in our island before the time of its occupation by the Romans. There are plenty of other grand chestnuts in England. Throughout the whole of the charming tract of hill and valley lying between Redhill and Guildford, chestnuts are quite at home. In that portion of the domain at Goodwood which once formed a separate park, attached to Halnake House (now a ruin), there are chestnuts with a girth of eighteen to twenty feet. Similar trees may be seen at Dartington Hall, near Totnes: in Windsor Forest there is one that at a yard from the ground measures over thirty-four feet.

Asia Minor seems to have been the region from which, in ancient times, this tree was originally conveyed to Europe. Certainly it existed there in plenty in the time of Xenophon, since chestnuts were the food of his entire army during the retreat along the borders of the Euxine. Possibly it may have grown spontaneously also in south-eastern Europe. How far westwards it may have extended, there is no evidence to show. For centuries it has now constituted entire woods in many of the mountainous parts of southern Europe, reaching through Dalmatia, Italy, the south of France, and Spain, even into Portugal. In Germany, also, there are extensive

chestnut forests. Some again of the finest in the world are found in the island of Corsica, where the rich and fertile central zone which reaches from the base of the mountains to the coast, is known as La Castagnicia, or the "chestnut-land." The highest elevation at which the chestnut occurs is upon Mount Etna, where there are some fine trees at a point not much short of four thousand feet above the sea-level. It was from the ancient Pontic city of Kastanea that the tree received its name.

Northern China and Japan are also possessed of the chestnut, though in the last-named country the foliage is so variable that Blume considered it a distinct species, bestowing the name of *C. Japonica*. The markets of Hong Kong and Canton, near which city the tree is largely cultivated, are as well supplied with chestnuts as those of London. Mr. Fortune tells us that there are two different sorts, a large one, quite equal in quality to the Spanish, and a small one, about the size of a hazelnut. Under a scarcely different form, the chestnut exists also in North America, whence the fruit is sometimes imported in small quantities.

No tree growing out-of-doors in England is more easily distinguished than the chestnut. The leaves are six to twelve inches long, symmetrically lanceolate, glabrous on both surfaces, and provided with strong veins that reach from the midrib to the margin, beyond which they extend as prickles. The flowers come at midsummer, and, as in the hazel, are of distinct sexes. The staminate ones constitute those innumerable erect

and slender clusters, six to eight inches in length, which, when the tree is in full bloom, make it seem overlaid with straw-coloured lacework or embroidery, visible across the greensward, and delightful to look at, as far as the eye can reach, lovelier still when seen beyond smooth water, as at Crewe Hall. The female flowers are green and sessile, and enveloped in filiform bracts, which, coalescing, form the husk or involucre. In course of time, the woody fibres partially disengage themselves, gradually enlarge, and at last become those curious spiny tufts which render the chestnut a veritable *noli-me-tangere*. Many ovules are embedded in the ovary-cells while young, and sometimes as many as six or seven will grow ripe, but usually only two or three come to perfection, and frequently there is only one, then of matronly fulness of outline. When three ripen, the middle one is flattened upon each side. The withered styles remain upon the summit, proving every individual chestnut to be a genuine "fruit," and not a mere "seed." A nut-like seed is at any time distinguishable from a genuine fruit, by having only one scar—this, at the base, where it was attached to the lining of the ovary: a true fruit is always told by having *two* scars, the basal, and another at the summit, the relics of the style or stigma. Omit not to pass the finger over the lining of the involucre when the chestnuts have fallen out; no satin was ever so soft: a very lovely feature of all the works of God is that they are finished as exquisitely upon the *inside* as well as the outside, often more so.

The chestnut, when ripe, possesses a fine creamy flavour. Roasted, it becomes almost aromatic. The scent is then the key to another of the treasured recollections of the lang syne, for now we have before us the Christmas of the olden time, the home-circle round the ruddy fire, the chestnuts, carefully crossed with the knife, so that they shall not burst and tumble into the ashes, steaming in their joyous rows upon the well-swept bars. Of all known nuts, this one is the most farinaceous and the least oily, hence more easy of digestion than any other. To mountaineers it is invaluable, serving where the cereals cannot be cultivated, as a capital substitute for wheat. On the Apennines and the Pyrenees, the chestnut-harvest is the event of the year. Walk which way you will during October in their lofty woods, companies of women and girls are busy, bags made of sack-cloth slung around their waists, and in their hands rough wooden pincers, with which they open the thorny cases. Now comes to their aid some strong and friendly man, who mounts into the nearest tree, beating down the fruit, which falls in showers. All day the whole party keep at work, then at eve move homewards, unsubdued by their loads, carried often upon the head, for these peasant women of the mountain-forests have about them a rich and almost Roman ease of strength, fascinating to contemplate, and are proud of their powers. The chestnut-harvest lasts for about three weeks. When all has been got indoors, the fruit is spread upon a frame of lattice-work overhead, and a fire kept burning underneath.

When dry it is boiled, or steamed, or roasted, according to taste and desire, or ground into a kind of flour, of which puddings are made, and an excellent description of bread. A portion of the stock is kiln-dried, so as to be kept in reserve in case of scarcity. Analysis of the Italian chestnut-cakes, called *necci*, shows them to contain no less than 40 per cent. of nutritious matters soluble in cold water, a circumstance which seems to recommend chestnut-flour, properly prepared, as a very eligible children's food. A very nice way to dress chestnuts is to boil them for twenty minutes, and then place them for five minutes more in a Dutch-oven.

Our market supplies are drawn from Spain, Italy, and France, this to the extent of many thousands of tons annually. The earliest to appear are usually English, but in England this fruit ripens well and plentifully only when the summer is exceptionally warm.

Edible nuts are yielded also by the *Castanea chrysophylla*, from the Pacific coast of North America. Apart from its value as a fruit-tree, no plant of recent introduction is more desirable for ornamental purposes, especially for isolation upon the lawn. The leaves, four or five inches long, are covered on the under-surface with golden-yellow powder, reminding one of the "golden ferns" of the hothouse-fernery, thus presenting a combination of colours rarely seen in tree-foliage, and singularly effective when the boughs are swayed by the wind. The *chrysophylla* has the great merit, also, of being evergreen. In California it is often only a bush, but it can attain, as

it does also in Oregon, the stature of thirty up to a hundred feet. In England the great merits of this beautiful tree are only beginning to be realized. Time will show what it may become as regards chestnuts.

THE WALNUT (*Juglans regia*).

THE Walnut-tree, like the chestnut, is a forest-patrician, supplying not only an admirable fruit, but presenting in mien and figure the highest type of beauty, grandeur without ostentation, simplicity without defect, grace and truthfulness intermarried. In the landscape the walnut is always a tree of mark. In substance and in crown it is a fit associate of oaks and elms. While the foliage is young it supplies, in the peculiar warmth of its hue, a delightful foil to that of other trees. The great pinnate leaves, formed of five to nine ovate leaflets, are so smooth and glossy as to be washed clean by every shower. They abound in an aromatic secretion which renders them proof against the attacks of insects; when slightly rubbed they evolve a rich balsamic odour—the quality, so excellent wherever found, which probably recommended the walnut to King Solomon, so distinguished alike for his magnificence, his enterprise as a horticulturist, and his love of perfumes. “I made me,” says the old monarch, “gardens and orchards, and I planted trees in them of all kinds of fruit” (*Eccles.* ii. 5). The “garden

of nuts," specialized elsewhere (*Song*, vi. 2), seems clearly to have been one of walnuts, 'ēghōz, the Hebrew word, anticipating the subsequent use by the Greeks and Romans, of κάρνον and *nux*, which terms, when employed without an adjective, always meant the walnut, the nut *par excellence*. The walnut has the further recommendation of never giving a shade so dense as to do harm to the grass below; and of never being so thick in foliage as to hinder the descent of the rain, so that there is no tree under which grass will grow more freely. The tap-root is usually strong, and gives the tree a powerful hold upon the soil, so that it is less liable to be torn up by tempests than any other. The preacher who takes for his text *Prov.* xii. 3, "The root of the righteous shall not be moved," could not do better than adduce the walnut as nature's own illustration of perennial steadfastness. Prudent and wary as to frost, it is one of the last trees to come in leaf; sensitive when the cold returns, it is soon dismantled again. So weighty is the produce that the yield of fruit in good seasons is enough to pay the rent of the land in which the tree is anchored; and with trees of four-score it would be possible to purchase the freehold. Unlike almost all other fruit-trees, the walnut has the final merit of furnishing valuable timber.

The native countries of the walnut begin with Persia and Armenia, and extend thence to the Himalayas. It abounds especially in Cashmere; in Asia Minor and in Greece it looks like a native. When carried westwards is not known. A tree in every way so worthy could not

fail to attract the notice of the early cultivators of plants, and in all likelihood it had reached Italy long before the beginning of the Christian era. The Romans called it by the name still allowed to this tree by science—*Juglans*, literally “Jupiter’s Nut,” under which appellation there are allusions to the fruit in their literature, though the usual terms are *nux* and *nuces*. Ovid has left us a charming little poem, “Nux Elegia,” “the Complaint of the Walnut-tree,” in which he represents it as protesting against men’s unkindness, being pelted with stones and beaten with sticks, in return for the munificence with which it bestows its milk-white produce.

The introduction into Britain is almost certainly attributable to the Romans, though the name it has always borne in this country is Germanic, coming from the Anglo-Saxon *wealh-knut*, literally “foreign-nut,” *i.e.* the exotic or beyond-seas nut, in comparison with the indigenous hazel. No exotic tree ever took more kindly to British soil and the British climate. In the south it occurs not only in pleasure-grounds and gardens, but by the waysides, especially in retired villages. In the north it is rather rare, and found chiefly near old halls. At Mentmore, the palatial seat of the late Baron Mayer de Rothschild, now of Lord Rosebery, there is a walnut nearly seventy feet high, the girth, at four feet from the ground, three yards, and the circumference of the spread of the branches two hundred and seventy feet. One at Downland House, Liphook, Hants, has a circumference of spread exceeding three hundred feet. Very handsome

walnuts, of vast dimensions, may be seen also in Scotland, as at Edmonstone, near Edinburgh; Gordon Castle, Banffshire; Blair Drummond, Perthshire; and Eccles, Dumfriesshire. Seedlings begin to bear at ten years old, and every year, as it approaches maturity, like the orange, this tree increases in fecundity. How long it can live is not known, but the potential longevity is certainly very great. In the Baidar Valley, near Balaclava, in the Crimea, there is, or was recently, a walnut believed to be a thousand years old.

The flowers of the walnut-tree, like those of the hazel and the chestnut, are of separate sexes. The staminate ones form large, green, massive, very handsome, pendulous catkins; the females, two or four together, are sessile at the ends of young shoots, and have beautiful recurving styles. They accompany the young foliage, and are in perfection about the time of the blooming of the purple rhododendron.

Who is there that has not noticed the singular love of rooks for things that men like, and their neglect of things that men neglect? The love of the nut-hatch for the fruit of the hazel is well known; so is that of the cross-beak for the pine-cone; the rook has no less earnest an affection for the walnut. As soon as there is a kernel worth eating, the rook finds it out. While upon the tree the bird is powerless, so brings it to the ground. It has not the power, either, to break the shell when hardened; it goes to those nuts only which are sufficiently soft to be penetrated.

Many varieties of the walnut exist—one, very ornamental, with the leaflets finely lacinated; another, called from its weeping habit, *pendula*. In the fruit, also, there is diversity. The variety *macrocarpa*, or “double French,” ripening well near London, and fetching six shillings per dozen in the markets, furnishes the handsome shells used in France for making ladies’ glove-cases, and by the jewelers for jewel-caskets. The “Titmouse walnut” is that pretty tender-shelled one so greatly appreciated by the titmice. Having either more skill or a lighter task than the rooks, they pierce the husks and shells while the fruit is still seated upon the bough, eating the contents then and there, and leaving the residue behind. The titmouse walnut is the most delicate of all sorts; it is more oily and keeps longer, but the produce of the tree is less abundant. The import of walnuts, which takes place chiefly from France and Holland, is believed to be about eighty thousand bushels per annum.



THE HICKORY-NUT AND THE PECUAN-NUT.

In the shops are commonly seen the nuts produced by two other species of the Juglandaceæ—Hickory-nuts, furnished by the *Carya alba*, and Pecuan-nuts, the fruit of the *Carya olivæformis*. The Caryas, ten in all, are deciduous trees of the banks of the Ohio, the Mississippi, and other great North American rivers, growing also

throughout the Alleghanies, attaining the stature of sixty to ninety feet ; the trunks slender, though able to acquire a girth of twelve feet ; the pinnate leaves never less than twelve, and often twenty inches long. Being very ornamental, they may be met with now and then in parks and arboretums in the south.

The Hickory-nut, as exposed for sale, is sold at once by its form and very light colour. It is smaller than even a moderately sized walnut, imperfectly globular, with three or four strong longitudinal ridges. The shell is extremely hard ; when got at, the kernel is remarkably sweet, the finest in flavour of any of its race.

The Pecuan-nut, also called the pecan, pacane, and Illinois nut, and most inconsistently, in the shops, the "Japanese walnut," is oblong, not unlike a common English acorn, of a light reddish-brown colour, and with a shell only just too hard and thick to be crushed between the fingers. The kernel of this one is also very good.



THE BUTTER-NUT.

OF the genus *Juglans* there are six or seven North American species, in addition to the renowned *regia* of the eastern world ; and some of these yield eatable but inferior nuts. The only one of which we ever see the produce exhibited in England is the Black Walnut, *Juglans nigra*, the nuts being occasionally ripened in the

southern counties, and sometimes, to a small extent, imported. Externally, the Black walnut is double the size of the genuine, but the kernel is much smaller in proportion, and more oily, as expressed in the popular name "Butter-nut." The nuts of the *Juglans cinerea*, often sent to England as a curiosity, are oblong-ovoid, very rough with prominent and irregular longitudinal ridges, and acutely pointed at the upper extremity.



THE COCO-NUT (*Cocos nucifera*).

THE number of coco-nuts now annually imported amounts to about three millions. They come chiefly from Jamaica, British Guiana, and Honduras; some, also, from the west coast of Africa. Nearly all are retained for home consumption; the confectioners use a few; in the fresh state no fruit brought from a foreign country is destined so emphatically, not for grown people, but for the children.

The tree producing this famous nut is one of the splendid order called the Palms, by Linnæus styled the Princes of the vegetable kingdom—plants in the aggregate of their fine characters truly royal, and in the aggregate of their varied usefulness unrivalled. Instead of possessing boughs, twigs, and innumerable leaves, usually small, the palm is a living pillar, slender, cylindrical, and erect, and capable of attaining, in one species or another, the stature of sixty, eighty, a hundred, even

a hundred and ninety feet. Not a single sideways shoot ever breaks the upward line till the summit is reached, and then at last we have the leaves—leaves as large as branches, and constituting a prodigious and evergreen crown. Usually they are pinnate, sometimes fan-shaped; when pinnate, the exterior half-dozen are prone to arch elegantly outwards and downwards. New leaves are constantly rising from the centre of the crown. The older ones die, though slowly, and the young ones take their places, the column, under the hands of its green artificers, steadily ascending with measured and majestic pace. To a European visiting any tropical country where palm-trees grow, the spectacle of a palm-grove, or even of a single palm, is always one of supreme interest and attractiveness. The great radiating coronet of leaves and the lofty pillar stand out so distinctly from all surrounding vegetation as to catch the eye at once. The flowers of the palm-trees are fashioned upon much the same plan as those of lilies. Individually they are trifling and unattractive, but the abundance is so vast that a cluster contains, in many kinds, hundreds, and even thousands. The bunches are developed from the very apex of the stem, sometimes standing erect, and constituting an immense thyrus; more usually hanging down from among the bases of the leaf-stalks. In respect of their fruit the palms vary more than in any other particular; the prevailing disposition is towards the hard and nut-like; sometimes it is soft and succulent. In point of habitation they are essentially tropical plants, though a few

occur in temperate latitudes. In hot countries they take the place in the landscape which in cold countries is held by the Conifers. The frontiers of their respective empires now and then overlap, but each race, in respect of the other, stands proudly aloof. Hence these splendid plants are in England seldom seen out of conservatories. One or two of the minor kinds, Spanish and Japanese species of *Chamærops*, with fan-shaped leaves, are hardy enough to endure the open air north of the Channel, and many kinds do well in the temperature of the dwelling-house, but most of them require summer warmth. Even when sheltered by glass, as at Kew and Chatsworth, palms under cultivation give but a faint idea of the grandeur they acquire in the lands where it is "always afternoon." The supreme comfort to the cultivator is that they are cheerful at all seasons, and that being strongly knit, and having leaves of dry and rigid texture, they can live and thrive where many less glorious things would speedily perish. Not that all palms attain the stature above-mentioned. In many species a stem is scarcely developed. These suggest the idea rather of certain kinds of ferns, and while young are consummately beautiful objects for indoor decoration. So, indeed, are the loftiest, while striplings: a young palm well chosen as to kind, is an object never out of place, never inconsistent or superfluous. Of all plants known to Botany, young palms compare the best with the white marble goddesses that tell of the piety of twenty-five hundred years ago.

The Coco-nut palm attains the height of sixty to a hundred feet ; the pinnate leaves are about twenty feet in length, and sixteen to twenty in number. The flowering branches are five or six feet long, enclosed while young in a great sheath or "spathe." A bunch of nuts is produced every month, so that ten or twelve are generally to be seen upon the tree at once, every bunch consisting of eight or nine up to twenty. The production commences when the tree is about eight years old, and continues for seventy or eighty years. In its perfect state the fruit is a brown three-cornered lump, larger than a man's head, about half of it consisting of fibrous husk, in the heart of which, nearer to the lower extremity, is lodged the nut. In the rudimentary state the ovary is three-celled. A memorandum of this is preserved in the corresponding number of scar-like depressions at the extremity of the shell ; one of them soft, and allowing of penetration with the knife, so that we can draw off the milk without cracking the shell ; the other two hard and impervious. That such is the real history becomes quite plain on comparing the coco-nut with its near ally, the coquilla-nut (the fruit of the *Attalea funifera*), this being either three-celled, or two-celled, or only one-celled. In estimating the so-called "uses" of natural productions, we should always remember that the true idea of use is threefold. First there is the animal use, in which the brutes go shares with ourselves. Then the charming usefulness realized only by the heart and the intellect, the use of beauty. Lastly, there is the supreme usefulness subserved, as

in the present instance, by the coquilla-nut, *i.e.* that of being an Interpreter, helping us to resolve problems and enigmas.

The three scars suggested the name borne by the coco-nut. This is often said to be "derived from the Spanish name of the monkey, because of a fancied resemblance to the head and face of that animal." But coco is *not* Spanish for "monkey." The primary sense of the word is that of an ugly bugbear, of any kind, adapted to frighten children, the meaning it still holds in Portuguese. The application to the nut dates from the time of the original visits to India by the Portuguese, as described in the celebrated "History of the Conquests of Portugal in Asia and Africa," by Joaõ de Barros, the first volume of which was published in 1552.* The addition of a final *a*, needless and improper, came of confusion of *coco* with *cacao*, the native name of the beverage-plant, now also corrupted into "cocoa."

The "milk," so called, is a portion of the natural albumen of the nut, unconverted into white kernel. During the germination of the embryo, which is lodged in the soft scar, it becomes entirely absorbed, the cavity of the nut then becoming almost filled with a curious egg-shaped body, spongy and uneatable. It is well, perhaps, sometimes not to know too much. Coco-nut milk, as we have it in England, is little better than a weak mockery of the delicious crystalline liquor it is in the tropics. There it is called coco-nut *water*; it is resorted

* Dec. III., book 3, chap. vii.

to as the most refreshing of forenoon beverages, and (at all events in the West Indies) is employed by the ladies as a cosmetic. They believe that bathing the cheeks in this more than Castalian spring restores the freshness and bloom of youth. Alas for Rejuvenescence, if it is to be found only in the juice of a palm-nut !

The original seats of the growth of the coco-palm appear to have been the south of Asia and the islands of the Indian Archipelago. Thence it has made its way to every part of the littoral of the tropics, conveyed, doubtless, in great measure, by the waves. The peculiar nature of the fibrous envelope, and the thickness of the shell, enable the nut to remain in salt water for considerable periods without any injury accruing to the germ. The triangular form, a keel always undermost, facilitates the sailing. Once afloat it never rests, tossing about until cast ashore ; then, if the landing-place be congenial, it at once takes root, and a new province is soon added to the broad dominions. Let us not forget that this throwing ashore comes of the intense and everlasting love of *cleanliness* on the part of the ocean. Emblem of the Infinite, type of all that is supreme, it refuses to tolerate the least atom of impurity ; the simplest relic of weed or straw is cast far as it can reach ; even the coco-nut is allowed only on sufferance, and must go. Like the sea-convolvulus and the eryngo, the coco-palm is essentially a sub-maritime plant. It will grow inland and even thrive ; but never is it so happy as when near the sea. In the Indian islands, the smaller and lower they are, thus

the more open to the sea-breeze, the more extensively does it prevail, and the more powerfully attract the attention of approaching voyagers. In some parts of Trinidad, all along the shore, in the very sand of the beach, it constitutes an almost continuous fringe or border. Ceylon is perhaps the most distinguished of the many abiding places of the coco-nut, in respect of the immensity of the number of trees. Meyen tells us that "in the south of Ceylon there is a forest of the coco-palm which stretches along the sea-shore for twenty-six English miles, is several leagues broad, and contains about eleven millions of full-grown trees."* Here they grow so near to the sea, as to be often washed by the surf. In this loveliest of islands, the Isle of Wight of Hindostan, the coco-palm is a domesticated tree. The natives have a saying that to ensure its prosperity, you must walk under it, and talk under it, the sense being that it needs guarding, since, otherwise, in the wilder parts of the country, it is sure to be thrown down by the elephants. In Queensland, on the Pioneer river, upon a low-lying sandy seaside deposit, there is a grove of planted coco-palms, so verdant and so promising that the colonists look upon it as if on the discovery of a new gold-mine.

Eminently nutritious, it may be worth mentioning that coco-nut kernel, broken up small, makes not only very palatable little biscuits and macaroons, but the kind of tart that invites one to come again.

* "Outlines of the Geography of Plants," Ray Society, 1846, p. 332.

The coco-palm exists in English hothouses, but, although easily raised from the nut, especially from one that has begun to germinate while upon the voyage, it is difficult to preserve beyond eight or ten years. Two fine young plants at Kew give better promise than usual. At Syon, in 1863, a ripe nut was obtained, this by means of hand-fertilization.

JUVIAS (*Bertholettia excelsa*).

JUVIAS, in the shops commonly called "Brazil-nuts," sometimes "Pará-nuts," and in their native country also "Castanha-nuts," are the produce of one of the most majestic trees of the South American tropical forests. The stature attained is from a hundred to a hundred and fifty feet; the smooth and cylindrical trunk is two, three, or four feet in diameter, and nearly bare till near the top, where it distributes its magnificent crown of boughs. The leaves, crowded at the extremities of the branches, are about two feet long, and six inches in width, bright green above, inclined to be silvery below. The cream-coloured flowers, formed of six unequal petals, are followed, not by the nuts, as exhibited for sale, but by globular capsules, resembling cannon-balls, six to twelve inches in diameter. Inside of these, the so-called "nuts," properly the *seeds*, are arranged after the manner of the carpels of an orange, only that there are two distinct tiers of them, an upper and a lower, the sharp extremities

neatly dove-tailing, and the entire mass forming a sphere. There are generally, in all, about eighteen to twenty-four. When ripe, the capsules drop from the trees, and are collected in heaps by the natives, who call themselves *castanheiros*, and with whom the annual gathering is like the harvest of corn-countries or the vintage of the wine-lands. They often tell of the dangers they run of a fractured skull through the unlooked-for descent of one of these vegetable *aërolites*. Laet, in a geographical work published in 1633, in which the first mention of this fruit appears, says that when the falling is thick and fast, the men protect their heads with a sort of wooden helmet. The pericarps being intensely hard require to be broken open with an axe; the seeds are then despatched by canoe to *Pará* (the chief city or port of the Amazon, seventy or eighty miles up the stream), and thence they eventually get transmitted to Europe and the United States. The entire cargo of vessels of considerable burthen often consists wholly of *juvias*. The annual import into our own country is about six hundred and fifty tons. The kernel of the *juvia* is a very wholesome one. When fresh, it is as good as the best Jordan almond, and may be partaken of, in moderation, by the most delicate. Nothing in nature gives a better idea of the energy of vegetable life in the tropics than is supplied by these wonderful capsules, often casually imported with the nuts. In fifty or sixty days a shell is formed harder than the hardest timber ever produced in temperate countries in years.

SAPUCAJAS (*Lecythis Zabucajo*).

IN the fruit-shops are often seen baskets of nuts, about two inches in length, three quarters of an inch wide in the middle, slightly curved, irregularly grooved, pale brown, and bluntly pointed. These are Sapucajas. The shell is brittle, and easily broken, allowing of easy extraction of the pale-brown kernel, the flavour of which is mild, mellow, somewhat creamy, very pleasant, and by many persons considered superior to that of the juvia. The sapucaja is believed also to be more digestible ; it is certainly a much worthier fruit for the table.

The tree producing the sapucaja is, like the Bertholettia, one of the forest-ornaments of tropical South America, growing especially in Venezuela, Guiana, and Brazil. The trunk attains the height of eighty to ninety feet, and is covered with hard rough bark, like that of the oak ; the flowers and the huge and glossy leaves in figure resemble those of the Bertholettia ; the seed-pod (for sapucajas, like juvias, are not "nuts," but only seeds) is an extraordinary kind of urn, a foot in depth, and in the middle six or seven inches in diameter ; the substance so hard as to be beyond the power of any hammer to affect. When ripe, it opens naturally by cracking all round near the summit, so that the upper fourth or fifth portion of the urn drops off like a lid, and the seeds, the sapucajas, tumble out. The idea is delicately anticipated in the seed-pods of several of our little

English wild-flowers, as the scarlet pimpernel and the wayside plantains, so true is it that no marvel of the far-away is without a presignifying miniature in Old England. The sapucajas exposed for sale all come from Pará.

The first mention of the *Lecythis* and its wonderful urn appears in Piso's "Account of the Medicinal and other Plants of Brazil," published at Leyden, in 1648. After that it seems to have been left unnoticed by travellers till the time of Aublet, who, in 1775, gives some particulars in the "Histoire des Plantes de la Guiane Française," and names the tree "*Lecythis grandiflora*." Another species, the *Lecythis Ollaria*, is in most respects similar to the *Zabucajo*, but the kernels are not so palatable, leaving in the mouth a sense of bitterness. It was upon this one that Linnæus would seem to have founded the genus, *ollarius* being the Latin word for anything made or kept in a "pot," the special feature of the plant as made known to him by the writings of Piso. Miers, in his monograph of the order to which these trees belong, the *Lecythidaceæ*, distinguishes the *Bertholletia* by the name of *nobilis*, and the sapucaja-tree as *Lecythis usitata*.



THE CASHEW-NUT (*Anacardium occidentale*).

THE Cashew-nut is produced by a tree usually about sixteen feet in stature, in general appearance not unlike a walnut, and growing spontaneously, in great abundance,

in tropical South America, especially Guiana and Brazil, where it occupies very large areas, preferring hot plains in situations fully exposed to the blaze of the sun. Long since conveyed to tropical Asia by the Portuguese, it is now naturalized in the forests of British India. The name is of Brazilian origin, as indicated by Piso and other early travellers in South America. In Jamaica it is pronounced *kushoo*.

The leaves of the *Anacardium* are alternate, several inches long, oval, obtuse, and entire; the flowers, borne in panicles, are rose-coloured and fragrant, small, but very pretty; the pedicels of a portion of them, as soon as the flowering is over, swell in a manner so remarkable that, excepting in the somewhat analogous expansion of the torus of the strawberry, they seem, in this respect, to have no parallel in nature. They assume the figure and dimensions of a small pear, the skin acquiring a fine crimson or yellow colour; the ovary, meanwhile, ripens into a kidney-shaped "nut," an inch or more in length, nearly as broad, somewhat compressed, ashy-grey, smooth and polished, and which stands on end, as it were, upon the summit of the pear. The shell is thin; below it there is a layer of viscid oil, intensely caustic, and so highly inflammable that when a cashew-nut is held by means of a fork, in a candle-flame, it very soon ignites and burns furiously, fire jutting out spasmodically in all directions. The burning roasts the kernel, the flavour of which is then very agreeable, though somewhat pungent, and recommends it for use in the manufacture of chocolate,

and in the preparation of *entremets* such as epicures love. Broken up, and put into wine, especially old Madeira, roasted cashew-nuts impart to it a *recherché* and lingering aroma; the fumes produced by the roasting, it must be remembered, are dense and acrid, painfully affecting the nose and eyes, so that it must be managed by special process and with due precautions. The pear-like pedicel, never seen in England, is eaten, both fresh and when stewed. Candied and preserved, it is better still.

THE PISTACHIO-NUT (*Pistacia vera*).

THE nut called the Pistachio is the first of which mention occurs in history. When, after the detention of Benjamin by Joseph at the court of the Egyptian monarch, Jacob despatches his elder sons to beg that the lad may be released, "Take," he says, "of the best fruit in the land, . . . and carry the man a present, a little balm, and a little honey, spices, and myrrh, *botnīm*, and almonds" (*Gen.* xliii. 2). The A.V., as in the case of 'ēghōz (the walnut), contents itself with "nuts." The Revised allows the marginal alternative "pistachio-nuts," and in so doing is right. The tree producing them is of the same genus as the terebinth and the lentisk. It grows twenty feet high; is well clothed with pinnate leaves, two or three inches in length, the three or five leaflets oval and entire; and produces abundance of little racemes of minute and brownish-green flowers. The fruit

is an ovoid drupe, about an inch in length, concave upon one side, of a rather deep red, the pulp of the same colour, the stone brown and rugged. The kernel is large, fat, oleaginous, and yellowish green, the peculiar colour giving to this nut the secondary commercial name of "green almond." The flavour is sweetish, and greatly improved by partial drying of the nuts.

In England we see but little of the pistachio, the import, chiefly from Sicily and Aleppo, being on behalf of the Greeks and Turks who reside in our country, and who employ pistachios in their cookery. In southern, and more particularly in south-eastern Europe, the consumption is immense: in Constantinople the ground of the numberless open-air cafés and public gardens is literally strewn with the broken shells. The native countries extend from Syria to Afghanistan and Bokhara. The name is in origin either Arabic or Persian.

The pistachio-tree was introduced into this country in 1770. Being tender it is scarce, even in the south, and though it blossoms it never sets fruit. In the autumn the green of the leaves changes to a dark purplish red.



THE KARAKA-NUT (*Corynocarpus lævigatus*).

BOTH the cashew and the pistachio belong to the order Anacardiaceæ. Another tree of this family, indigenous to New Zealand, produces the rather celebrated Karakanut, a fruit of no importance as regards our own country,

but interesting, at the present moment, in the circumstance of its having ripened in the open-air, in the Tresco Abbey gardens. The height attained is thirty to fifty feet; the leaves are oval, about four inches long, entire, and glossy; the small white flowers grow in terminal clusters; the fruit resembles a small yellow plum.



THE SOUARI OR SURAH-WA-NUT

(*Caryocar nuciferum*).

THE Souari-nut is one of those very desirable additions to the dessert which unfortunately reach this country in quantities so small that to the public in general they are unknown. It never remains in the shops for many days, being at once taken up by purchasers acquainted with the fine qualities. In dimensions the souari stands next to the coco-nut, measuring about four inches by three. The shape is peculiar, being somewhat that of a wedge, rounded at the back, two flat sides, and a long straight narrow base. The entire surface is covered with close-set roundish protuberances; the colour is a deep reddish brown. Souari-nuts are, after all, only seeds, coming out of a pericarp the size of a child's head, and which usually contains four, though often only two or three. The kernel is pure white, soft and fleshy, the mild flavour approaching that of almonds. The tree to which we are indebted for it is a native of tropical South America, abounding especially in Essequibo and Berbice.

The trunk rises like a column to the height of eighty feet before it branches. The leaves are opposite and trifoliate, the leaflets six inches long; the immense flowers are of a deep purplish-brown colour. The vast altitude may perhaps account for the infrequency of the appearance of the souari in the shops, to clamber up for them being a task even the natives do not care to undertake. The souari is also called the Demerara-nut, and sometimes the Butter-nut.





Chapter Tenth.

VARIORUM.

“He that hath light within his own clear breast
May sit in the centre, and enjoy bright day.”

Milton.

THE POMEGRANATE (*Punica Granatum*).



THE history of the Pomegranate reaches almost as far back as that of the pistachio and the almond. It comes to the front in Scripture as one of those delightful orientals which at all points touch the earliest recorded life of civilized man. That it was a familiar and valued fruit in the earliest of the historic times is shown not only by the frequent references to it in the Old Testament; this is proved also by the frescoes of ancient Egypt, and by the sculptures of Nineveh and Persepolis.

When growing, in its natural manner, the pomegranate is usually of inconsiderable stature, more of a great bush than a tree, not unlike an unmolested hawthorn, very branchy and very twiggy, disposed to be spinous, and seldom found with a clear and pillar-like stem, unless the lower branches have been removed. The leaves are lanceolate, usually about two inches in length, entire, and of a fresh, bright green, which in autumn, before they fall, gives place to pink and deep amber. The superb flowers are produced at the extremities of the young and leafy shoots. Individually they consist of a deep scarlet calycine tube or ovary-case, an inch in length, with, at the summit, usually five great fleshy lobes, between which there are seated as many petals of the most brilliant crimson rose-colour, a crowd of crimson stamens projecting from the centre. No wonder that the young Hebrew ladies in the time of the patriarchs employed the opening flower-buds as ear-drops. The snowdrop is the *beau-idéal* of the chaste and maidenly as an ornament for the feminine ears; the pomegranate-bud is the *beau-idéal* of the rich and massive, comporting peculiarly well with raven tresses. The nearest approach to the colour of the petals among plants better known in England is found in the common corn-poppy, *Papaver Rhœas*, the specific name of which brilliant wild-flower is based upon the ancient Greek one of the pomegranate.

The ovary, when ripe, becomes somewhat globose, ruddy and tawny, or deep golden tinged with red, three to five inches in diameter. The calycine lobes are per-

sistent, and form a crown to it, at first bent down and almost flattened, but eventually erect. The tough and leathery rind encloses an immense quantity of seeds resembling wheat-grains, embedded each in a little transparent bag of rose-coloured juice. The cells containing the seeds are built together in a manner so remarkable that, botanically considered, as a form of fruit, the pomegranate stands alone. There are two rows of carpels, one placed above the other, the lower series consisting of three or four, the upper one of five to ten. Chiefly by reason of this singularity, the place of the pomegranate as to family was long unsettled. Some put it with the myrtles, though unlike in essentials; others made it the type of an independent order, consisting of only its own genus. Hooker and Bentham regard it as an anomalous member of the Lythraceæ.

Many varieties of flavour occur. Some pomegranates are sweet, with soft and pleasant acidity, others are decidedly sour, others are bitter and astringent. The juice of the sweet ones, which alone are imported, pressed out in quantity and sweetened, assuages thirst in the most delightful manner. Scarcely anything is more suitable to the feverish. Scented with rose-water, it is the true and original "sherbet." In classical mythology, when it was desired to express the utmost possible suffering produced in the nether world by thirst, the imagery was a pomegranate just out of reach.

The places of the aboriginal growth of the pomegranate appear to be north-west India and the countries

south and south-west of the Caspian, away to the borders of the Persian Gulf and the Indian Ocean. It became established in south-eastern Europe at a very early period; and was conveyed to the coasts of northern Africa by the Phoenicians, eight or nine centuries before the beginning of the Christian era. It was from Carthage, probably, that the Romans received it, their name for this fruit having been *Malum Punicum*. All sub-tropical countries, in both hemispheres, are now possessed of it, and wherever it occurs, when in flower and fruit, it is one of the most striking ornaments of the soil. The introduction to our own country took place about three hundred years ago. Planted against a wall, in sheltered corners, it endures the winter, but seldom blooms, except in the south. When very fortunately circumstanced as to artificial warmth from behind, it will ripen fruit every season, as at Clevedon Court, Somerset, where, fifty or sixty feet high, it leans against a broad old-fashioned chimney. It fruits also when under glass.

The pomegranates so plentiful in the shops towards Christmas, and during the winter, are imported chiefly from Spain and Portugal.



THE BANANA (*Musa Paradisiaca*).

THE Banana is the produce of one of the most splendid plants in the world. Underground there is a substantial root-stock, of long duration, from which arise stems six

to nine inches in diameter, to the height even of yards, branchless, like those of palms, and carrying upon the summit half a dozen superb leaves, six to nine feet long by two or two and a half in breadth, of a rich and lucid green, and which arch away from it on their long petioles, magnificently. The veining of the leaves is of that very rare and elegant kind which has been fittingly called feather-like, innumerable lateral veins flowing from the midrib, in a curvilinear manner, towards the margin. The stem is composed, in reality, of no more than the sheathing and closely compacted bases of the older petioles, in the heart of which, near the ground, the flower-bud is generated. This, in due time, develops itself from among the youngest leaves as a huge pendulous raceme, constituted of crimson bracts, which protect innumerable though rather trifling flowers, followed, again in due time, by the well-known fruits—cylindrical, six or eight inches long, an inch or more in diameter, slightly curved, and when ripe, pale yellow. The clusters of fruit are often four feet long, and weigh from twelve up to sixty or eighty pounds, as may be learned even in the shops, where they are frequently suspended to attract attention. In the tropics it is said that two plants will grow anywhere, the castor-oil plant and the banana. This is not only true, but it may be added with equal justice, that no plant furnishes man spontaneously with supplies so vast of a pleasant and nourishing food. In countries where the mean heat of the year is never lower than seventy-five degrees, the banana is the bread of the

poor, and this all the year round. Literally "yielding her fruit every month," no wonder that the plant got its Latin appellation of *Paradisiaca*, the "City" of the Apocalypse being the renewal of the Garden of Eden. The garden and the city are everywhere the scene and the emblems of human progress, which begins in the one, is completed in the other. The people who find their staple in the banana, are not to be congratulated, though it comes in profusion so vast, and without labour. Civilization demands the tilling of the ground, digging, sowing, reaping, baking bread.

Tropical Asia was the original home of the banana. Now it is in every country where the temperature will allow. No Indian fruit ripens more readily in Britain, enabling those who cultivate it with success to judge of the natural flavour, imported bananas being only what crabs are to golden pippins. There are many varieties. The best for the English hothouse is the Chinese *Musa Cavendishii*, which grows only six feet high and will thrive and fruit in a vinery. Another species, the *Musa sapientum*, distinguished by having the stem striped and spotted with purple, also bears excellent fruit, rounder and more plump than that of the *Paradisiaca*, and this, in truth, would seem to be the veritable banana, the produce of the *Paradisiaca* being more properly the "plantain." The Abyssinian *Musa Ensete*, the *rosea*, the *coccinea*, and others of this splendid genus, are valuable only as decorative plants.

THE DATE (*Phoenix dactylifera*).

WE are indebted for the Date to another of the palm-trees, one of the same general character as the coco-nut, the stem rising to the height of sixty or eighty feet, and supporting a vast crown of pinnate leaves, but in figure, though still imposing, less graceful. Anything it may lack in respect of beauty is more than compensated by the value of the produce to mankind in countries where agriculture is impracticable, and where culinary vegetables are the fewest and of the poorest kinds. Such are the districts in that great portion of northern Africa which includes the Sahara, reaching from the edge of the Atlantic right away to Egypt: such, also, are the extreme south-western parts of Asia. These, it is very evident, from proof in the greatest variety, were the original seats of the tree, the zone of indigenous growth lying between 19° and 30° N. South of the equator the date-palm does not occur truly wild. It was conveyed at a very early period into southern Europe; and in the Morea, Italy, and Sicily it flowers freely, but the fruit seldom becomes sufficiently saccharine to be worth eating. At Elche, on the south-eastern coast of Spain, there is quite a forest of date-palms, many miles in circumference, but the fruit here is very different in substance, being farinaceous instead of sugary. A few miles east of Mentone, date-palms are also very plentiful, being cultivated for the sake of the "branches," in Italy so much

used in Palm-Sunday ceremonials, though deprived of their natural form by being tied up into wisps. The date-palm is emphatically the tree of the desert, writing, moreover, upon the far horizon, for the traveller across the flat and weary sand, that near it are "wells of water," since no tree, not even the willow, is fonder of water or more dependent upon it for prosperity. The Arabs say that for the palm to flourish its feet must be in the water and its head in the fire. The date is the palm, universally and exclusively, of Scripture; the palm of legend, song, fable, and tradition; the palm that art has delighted to honour; the palm that has fixed itself metaphorically in language. Let us not forget, either, that it is the tree of Palmyra, that wonderful city in the wilderness, the cherished of Solomon, the home and capital, in a later age, of proud, chaste, literary Zenobia, "Queen of the East," which has for ages existed only as a skeleton, yet in its enormous ruin is so magnificent, sorrowful, and romantic, as to constitute the finest sepulchre of human labour in the world.

The flowers of the date-palm, like those of the coco, are individually insignificant, but produced in vast numbers, lying at first in a great sheath or "spathe." The clusters are developed, again like those of the coco, from among the bases of the leaf-stalks, hanging down when ripe, something like huge bunches of grapes. They are cut when near maturity, and laid in the sunshine to get dry. Fifty full-grown trees yield about a ton of good and eatable fruit. The best of the dates

offered for sale in England are said to be brought from near the Persian Gulf. There is certainly a large export from the edge of that famous water, both to Europe and the United States. The best of those ordinarily purchaseable are the Tafilat, imported from Morocco, loose, and in boxes. The second-best come from Tunis, and are at once distinguished by the intermixture with them of fragments of stalk and branch. Inferior qualities are also imported in the form of cake. The arrivals, at all events of the superior qualities, are chiefly by way of the Thames. The very best dates in the world, according to Gifford Palgrave, are produced in central Arabia. He purchased, he tells us, in the narrative of his Arabian travels, a large handkerchief full for three farthings, hanging it up from the ceiling to preserve the fruit from the ants; thence "it continued to drip molten sweetness into a sugary pool on the floor below, for three days, this before we had demolished the contents, though it figured at every dinner and supper during that period." All date-palms producing the best descriptions of fruit are subjects, more or less, of some kinds of culture—manuring, stirring of the earth, and irrigation. They require also that half the bunches (in number originally about twenty-four) shall be removed while young, in order to ensure the prosperity of the remainder. Prudent men in England always get a friend to do their fruit-thinning for them: whether or not the Arabs follow suit is not known. Peculiar interest attaches to the date from the dessert

point of view, no other fruit being so exactly intermediate between the productions of tropical countries and temperate ones. Long since brought to England, the date-palm may often be seen in conservatories where space can be afforded, but it is seldom more than a tuft of huge leaves.

THE LITCHI OR LYCHEE (*Nephelium Litchi*).

LITCHIS are those curious fruits of the better-class shops which in figure and dimensions remind one of the strawberry, only that they are brown, dry, rather more heart-shaped, and covered with wart-like protuberances. Lightly squeezed between the fingers, they are found to consist of a very thin and brittle shell, enclosing a mass of prune-like black sweetmeat, with a large brown stone inside of all. Two often grow side by side; stalk they have scarcely any; the shell has often been driven in more or less during conveyance from their native country. In the dried state, or as we have them in England, litchis, it must be confessed, offer very little to eat, and the great stone adds still further to the deceitfulness of the external promise. But when fresh from the bough it is scarcely possible to imagine a fruit more delicious. The rind is then of a glowing red colour, and the entire cavity is filled with a sweet, white, and perfumed pulp, the aroma of which remains, and constitutes the recommendation of the litchi as an article of dessert.

The tree producing this fruit is a native of southern China, from which country we receive our supplies. It is very generally cultivated throughout the Malayan Archipelago, where it is esteemed not more for its bounty than for the beautiful appearance. The stature is about twenty feet; the leaves are abruptly pinnate, the leaflets, (two or four pairs,) about three inches in length, laurel-like and shining; the foliage, as a whole, dense, rich, and handsome. The flowers are but trifling, but being produced in large panicles, at the extremities of the twigs, when the bunches of fruit are ripe, depending elegantly, the *ensemble* is enchanting. The Chinese birds are of the same opinion, so that the trees have to be protected with nets. Some idea of the appearance may be gathered from that of the arbutus. The litchi was introduced to this country by the celebrated Warren Hastings, and is now not uncommon in greenhouses where space can be spared for curiosities.



THE OPUNTIA (*Opuntia vulgaris*).

IN late autumn there comes to England, chiefly from the Azores, and countries touched by the Mediterranean, a fruit commonly called the "Indian fig" or "prickly pear," and sometimes the "Barbary pear." It is easily recognized, being about the size of an ordinary breakfast-egg, but more barrel-shaped, the summit remarkably depressed,

so as to be almost saucer-like, and the delicately tinted pinky-yellow surface spirally dotted at half-inch distances with little scars. Internally it is of the substance of a strawberry, but crowded with small black seeds. The flavour is pleasantly sweet, the amount of saccharine matter being considerable; there is also an agreeable touch of acidity. "Fig" and "pear" are names so very inappropriate, that it would be better to discard both, and call the fruit by the name of the plant producing it.

This is the *Opuntia vulgaris*, one of the very curious order called the Cactaceæ, everywhere represented in conservatories, either by the brilliant crimson cereuses, or by the rosy epiphyllums, indispensable for decoration in early spring. Admirers of the quaint and grotesque are glad also of mammillarias and "melon-thistles," overlooking the terrific prickles for the sake of the charming coronets of crimson bloom. Many of the species of this order, American in every instance, produce eatable and decidedly nutritious fruits of the same general character as the opuntia, but they do not come to England.

The plant before us, a native of Mexico, was one of the first conveyed to Europe by the Spaniards of the time of Columbus. They desired, we may be sure, to show to their friends at home a vegetable production so totally unlike anything they had ever beheld before. It very soon got naturalized in the south of Europe, Africa, and southern Asia. In Sicily it has spread over expanses of volcanic sands and ashes, where there is not a particle of ordinary soil, and in many warm countries is employed

for living fences. In English greenhouses it is by no means uncommon, and often produces plenty of young fruit, which usually fails, however, to ripen. There is no mistaking the plant after once seeing it, the portions which answer to stem and branches consisting of oval and flattened lumps, several inches in length, sprouting fantastically hither and thither; clusters of prickles dispersed in plenty upon the green skin, and yellow flowers upon the upper edges. The ovary, below the flower, has similar clusters of prickles, which, being rubbed off when the fruit is collected, leave the scars above-mentioned. The plant grows as fairly erect as the odd configuration will permit, attaining the stature, when favourably circumstanced, of nine or ten feet.



THE FIG-MARIGOLD (*Mesembryanthemum edule*).

SCARCELY inferior in point of quaintness to the Cactaceæ are the curious succulent garden and greenhouse plants, chiefly from the Cape of Good Hope, which, because of their usually brilliant many-rayed flowers, and the similarity, in some few, of the fruit, are called by the composite name of Fig-marigolds. Two or three of them have become naturalized in the Scilly Islands, the *M. edule* in particular. At Tresco the curving shore above high-water mark is in many places marked by broad patches of this beautiful plant. From May to August it is decked

all over with golden flowers, followed, in due time, by the so-called "figs," which resemble, in some degree, the fruit of the opuntia.

THE GRANADILLA (*Passiflora quadrangularis*).

THE common blue Passion-flower has been mentioned above as one of the choicest ornaments of a house-front in the south of England, when dressed, in October, with its golden berries like large plums. Several species of its famous genus yield fruits of far greater magnitude, and that are eatable. These are "granadillas;" the name, bestowed by the early Spanish settlers in the West Indies and South America, referring to the similarity of the pulpy inside to that of the pomegranate. Chief among them is the common granadilla, a fruit resembling a citron, but more oblong, often reaching a length of fifteen or sixteen inches, with a diameter of five or six, greenish yellow externally, internally purplish, and abounding in seeds. The pulp is rather watery, but sweetish, slightly acid, fragrant, and very agreeably cooling to the palate. It should be eaten after the same manner as an egg, a little wine and some sugar being first introduced. It ripens in our hothouses; as do the fruits of the *incarnata*, occasionally; of the *maliformis*, or "sweet calabash;" and of the *laurifolia*, or "water-lemon." The last-named and the fruit of the *macrocarpa* are both in fine condition this year (1885) at Cherkley Court.

THE GUAVA.

GUAVAS are the produce of three or four different species of *Psidium*, small myrtaceous trees of the West Indies and other tropical countries. The leaves are in all of them two or three inches long, opposite, and glabrous; the flowers are white, axillary, solitary, and almost sessile. When ripe, the fruit resembles a little apple with many seeds; usually it is sweet and aromatic, sometimes acid and astringent. In the West Indies, the yellow or pear-fruited guava, *Psidium pyriferum*, is used for the celebrated "guava-jelly." In England, both this one and the claret-red or apple-fruited guava, *Psidium pomiferum*, bear freely in the hothouse, and supply a pleasing addition to the table. Better than either of the original kinds is the purple-fruited *Psidium Cattleianum*, introduced from China about 1817. Like the banana it does well in a vinery.



THE EUGENIA (*Eugenia Ugni*).

THE Eugenias, very numerous, are also myrtaceous shrubs and small trees. One of them is an eminently deserving fruit-plant for south-country English gardens, and for conservatories in the north. This is the Chilian species with the odd native name Ugni, a pleasing little bush two to five feet high, myrtle-like in foliage and flowers, and in due time studded with berries resembling

black-currants, with flavour that seems a mixture of sweetness and spice. The berries of the *Ugni* make an excellent tart; or the juice may be expressed and mixed with water, for a delicious cool drink, with odour of rosemary; or they may be made into jam. So penetrating is the aroma, that it clings to the fingers after gathering.



THE MANGO (*Mangifera Indica*).

THE Mango is essentially a tropical fruit, and considered one of the very finest in the world. In form it is somewhat apple-like, but more kidney-shaped: usually about two inches in diameter, very variable in colour and substance, with, in the heart, a large curiously flattened stone, the surface of which is covered with fibrous filaments. The taste is sweet and luscious, but when the fruit is over-ripe, strongly suggestive of turpentine. It is produced by a tree of thirty or forty feet in height, branchless till taller than a man, then affording a peculiarly grateful shade. The leaves are large, lanceolate, smooth and shining, and evolve a sweet resinous odour. The flowers, small individually, and in colour reddish white or yellow, come out in clusters of such a character as to render the tree, when in full bloom, not unlike a Spanish chestnut. The mango has often ripened in England, notably at Chatsworth, Kew, and in the Regent's Park Botanical Gardens.

THE MANGOSTEEN (*Garcinia Mangostana*).

THE Mangosteen is also essentially tropical, belonging by birthright to Borneo and the adjacent islands. In figure the fruit resembles an orange, but the colour is dark brown, curiously spotted with green. It has cells like those of an orange, and these contain a snow-white pulp which combines the flavour of the pine, the grape, and the apricot, and in addition the inexpressible one of the mangosteen itself. Like the mango, it is the produce of a handsome tree, laurel-like in complexion, and with flowers that seem single crimson camellias. Several cases of its ripening in England are upon record. It seems to need only hand-fertilization, but the temperature must be of the highest, and the humidity considerable.



THE PERSIMON (*Diospyros Virginiana*).

THE Persimon is the produce of a tree indigenous to the United States, whence it was brought to this country in 1629. The leaves are alternate, ovate, four to six inches long, entire, and glabrous. The inconspicuous yellow flowers are axillary and solitary; the fruit resembles a small yellow plum. After attaining full maturity, it softens, like the medlar, becoming somewhat glutinous, and acquiring a sweet and agreeable flavour, though somewhat austere. It ripens fairly well in the southern

English counties, but never to the same degree as in its native country, where it is called by the duplicate name of the "Virginian date-plum."

Another species of the same genus, the *Diospyros Kaki* of eastern Asia, promises to supply a good orchard-house fruit, as soon as attention shall be expressly devoted to it. Near Paris it grows freely out-of-doors, and ripens fruit the size of a small orange, and of the same colour, but covered with a delicate "bloom." The flavour resembles that of the apricot, with inclination towards the austerity of the medlar, and when the fruit is not gathered too soon, is decidedly pleasant. It would thrive, in all likelihood, wherever the *Eugenia* prospers.



SOLANACEOUS FRUITS.

THE large and very important order named after the Nightshade is noted for the frequent occurrence in it of narcotic and poisonous plants. Such, among many others, are the Belladonna, the henbane, the stramonium, and the tobacco-plant. This renders the fact so much the more interesting that, as in the parallel case of the Umbelliferæ, it contains other plants, not alone harmless, but that are donors of excellent fruits. Foremost among these last we have the tomato or "love-apple:" then come the tree-tomato, the aubergine, and the so-called "Cape-geeseberry."

The TOMATO (*Lycopersicum esculentum*) is a native of Peru, from which country, bringing its native name *tamate*, it was introduced into Europe in the beginning of the sixteenth century. England received it earlier than even the potato, a very curious circumstance, since, while the latter has been a national aliment for quite two centuries, the tomato, until quite lately, has been almost neglected. The introduction of the tomato, in this our own current age, to the middle and lower classes of the people of England, as a staple article of food, may unhesitatingly be pronounced one of the greatest boons they have ever received from horticulture. No esculent is placed upon table of more distinctly excellent dietetic qualities; and before long, it is to be hoped that as much use will be made of it as upon the Continent and in the United States, where a dinner is scarcely served up in which the tomato, in some shape, does not appear. The plant, like many others of its race, is somewhat of a straggler, though, when trained, tidy enough, and then branching to the height of several feet. The leaves and the flowers are both fashioned upon the type of the potato, only that the petals are yellow. Many capital varieties have already come into existence. In some the fruit is yellow; in some it is no larger than a red-currant; in Jersey, tomatos are grown to weights over a pound. Those in which the flowers are disposed in long zigzag racemes appear to be the best for cultural purposes; those in particular which are of dwarf habit of growth, and which will succeed out-of-doors. In the very front

of these last seems to stand the variety called "Laxton's Open-air Tomato." That the nearer the fruit of a plant is to the ground, the more may be expected of it in point of size and excellence, was remarked in Chapter VI. in connection with pears and gooseberries; and in "Laxton's Open-air" we have another proof of this very intelligible fact. Another capital sort is that one called "Chiswick Red," very vigorous, immensely productive, and requiring less heat than many of the varieties which, although producing larger fruit, have the disadvantage of being tender. A very pretty variety is that one named *pyriforme*, the "grape" or "fig" tomato, the fruit only an inch or so in diameter, thus well adapted for pickling, or for eating fresh, since it is not only when stewed or baked, in sauce or in soup, that the tomato is so valuable an article of food; it is excellent also as a sort of salad-substitute, and with sugar. The freedom with which the tomato grows under glass makes the culture so simple that any spare corner will do for it, let it only have plenty of *light*, and be carefully and regularly watered. It is a curious fact that the quicker and better the tomato is grown, the fewer will be the seeds discoverable in the pulp. That it has yet to become popular is no doubt true; many people, especially the poor, scarcely know what it is; once made plentiful, every child would soon learn to relish a fruit so wholesome. "Love-apple" (one of the ancient appellations of the renowned mandrake) is said to be the French *pomme d'amour*, this being, in turn, a mistaken representative of the Italian *pomi dei*

Mori, "apples of the Moors," or of Morocco, from which country the tomato was originally thought to have been received.

The TREE-TOMATO (*Cyphomandra betacea*), also South American, is a very much larger plant, resembling in habit and in its great leaves, a Brugmansia. The flowers, as in the *Lycopersicum*, are star-shaped, but of a soft pink-lilac colour. They come in clusters of six or seven, and are followed by large and handsome ovoid berries, usually orange-colour, sometimes red, and even vermilion. It is easily raised from seed, and after about two years old bears fruit abundantly, even till winter, the harvest thus coming in most usefully at a season of the year when the supply of ordinary tomatos slackens. Being more tender than the *Lycopersicum*, it requires to be treated altogether as an indoor plant. In Jamaica, upon the mountains, it flourishes where the mean annual temperature ranges from 63° to 72°. Supplies of this fruit come occasionally from the Azores to Covent Garden. It ripens in the Great Temperate House at Kew.

The AUBERGINE (*Solanum Melongena*) in its common form, the "egg-plant," is well known to all who care for pretty and engaging garden curiosities. In autumn it is hung all over with white berries just like breakfast-eggs, though rather smaller, and these, when perfectly ripe, are excellent for cooking, either as an ingredient of soups and stews, or independently, then cut into thin slices and fried. Many fine varieties have been raised upon the Continent, where aubergines are greatly esteemed, the

colour deepening into violet-purple, and the dimensions reaching to eight inches in length, by over two inches in diameter. Imported from France, it is these which we chiefly see in the shops and market-places, sometimes under the Indian name of Brinjals. India is probably the native country of the Melongena, but the plant is now so widely naturalized in the tropics, both of the east and the west, that doubt still exists. It is now naturalized also in the south of Europe. Aubergines may be used in almost as many different ways as the tomato, and in merit are scarcely inferior. A very capital way of dealing with them, little known, is to scoop out the pulp by means of an opening made at one end, season and otherwise enrich it, then replace in the leathery shell or skin, and bake in a brisk oven with a small quantity of butter.

The "CAPE-GOOSEBERRY" (*Physalis Peruviana*) is that very pleasing little fruit of the greenhouse and cool vinery, a yellow berry enclosed in a cage, which at once, except in colour, recalls the still more interesting scarlet though not eatable alkekengi. Like the tomatos, it is South American by birthright, the common English name coming of its popularity at the Cape of Good Hope. Few kinds of fruit make a nicer tart: it is excellent also for preserving, as certified by the offer in some of the metropolitan shops of "Cape-gooseberry jam." The stature of the plant is about a yard: it is downy in every part, has ovate leaves, and pretty yellowish flowers an inch across, the centre with five large purple spots.

THE CUCURBITACEÆ.

WHAT the Cucurbits are is at once plainly realized to the mind by thought of the melon, the cucumber, the gourd, the vegetable-marrow, and the pompion or "pumpkin." Succulent stems, running to the length of many yards, and almost invariably provided with tendrils, the natural tendency of the plants being to climb into trees; large, broad, rough leaves, and yellow flowers, are the prevailing characteristics; the fruits, when they arrive, are in dimensions unapproached, and very often huge. They vary considerably both in colour and in form; the qualities are also various, some being inexpressibly bitter. Three or four of them are not only esculent, but delightfully so, and for these we have to thank the East Indies.

The MELON (*Cucumis Melo*) runs wild both in British India and in Beloochistan. From Asia it was conveyed to Italy about the beginning of the Christian era, and thence, about 1570, it was brought to England. Of all the fleshy fruits, whether large or small, it is the richest and the most diversified, alike in form, colour, and taste. Whether or not one of the most wholesome is perhaps an open question, though to be asked only in cold countries, where, in any case, it is prudent to ward off any possible hurt by the use of warm and stimulating food of other kinds. The melons exposed for sale in the shops, in quantities so vast, all through the autumn, come chiefly from Spain and Portugal.

The CUCUMBER (*Cucumis sativus*) speaks for itself. In north-western India it has been cultivated for over three thousand years. Possibly it is the outcome of some ruder species, after the manner of the apple from the crab. This is the only fruit which in England we eat while still green without cooking.

The VEGETABLE-MARROW (*Cucurbita succada*) is of uncertain origin. Most probably it is a variety of the common pompion, *Cucurbita Pepo*. The bees are so fond of diving into the golden caverns of the cucurbit flowers, that there can be little doubt that they promote the origination of hybrids or "crosses," and to their influence it is quite likely that the marrow may be in part attributed. We have had it only since the beginning of the present century, when it is believed to have been introduced from south-western Asia. This excellent fruit, as it deserves, is now more generally cultivated than any other of its tribe. Hardy, prolific, adapted not only for the dinner-table, but for conversion into a sweetmeat, and demanding of the gardener only the very minimum of trouble and attention, of all vegetable productions in which the ideas of fruit and vegetable unite, it is unquestionably the most valuable, a production that none can afford to despise, and, best of all, the poor man's friend. One of these days perhaps we shall see our miles of unoccupied railway-slope utilized in some degree for the culture of a plant that can never be an interloper, and is always welcome to some one. When ripe, the vegetable-marrow is superior to all the other gourds, even the

famous Americans, for pie. The last-named, commonly called "squashes," are the produce of the *Cucurbita Melopepo*. In form they are always flattened, with prominent lateral angles or ribs, as in the crown or Turk's cap marrow, occasionally cultivated, for variety's sake, in our own country. The fruit of the *C. Pepo*, the common pompion, is also good and nutritive when gathered young and properly dressed.

The renowned "WATER-MELON" (*Cucurbita Citrullus*), the inside of which resembles pink snow, fast dissolving, belonged originally to tropical Africa. This was the melon of the ancient Egyptians, so missed by the wanderers in the desert. To-day it is universal in the warmer parts of the eastern world. In England grown only, now and then, as a curiosity.

Not only, in their produce, do the Cucurbits blend the popular conceptions of "fruit" and "vegetable;" they unite also, above all other families, the ideas of esculent fruits and decorative ones. Upon the borders of large gardens, where space can be allowed, and even in small ones, where arrangements can be made for training upon trellises or other supports, no plants are more interesting or more impressive than the so-called "ornamental gourds." The variety they offer is truly wonderful; many also, after gathering, keep sound all through the winter, and are thus of singular value at Christmas-tide for the embellishment of halls, etc. Among these, again, are found the best illustrations of the prodigious magnitude attainable by cucurbit fruits. Green and golden

spheres, somewhat flattened at the poles, six feet in circumference, and weighing from a hundred up to a hundred and eighty or ninety pounds, are by no means rare. A pompon exhibited in Paris in the autumn of 1884, acknowledged to be the "emperor," weighed a hundred and thirty kilogrammes, or about two hundred and eighty pounds. In conservatories the ornamental cucurbits are, if possible, still more effective, as shown in the water-lily house at Kew, these including the marvelous Snake-gourd, six or eight feet long, the Bottle and Trumpet gourds, and the Luffas—those which supply us (from Egypt, their native country) with the curious skeletons sold in the apothecaries' shops for use as flesh-brushes.



Of Decorative or purely ornamental fruits, not esculent, though in some cases, perhaps, with latent capacity to be rendered so, the company is large, and, through introduction of curiosities from foreign countries, yearly increasing. Some of them were mentioned on p. 7. It may not be amiss here to indicate a few others as priceless where the conditions are favourable for the ripening, or where fruiting may be induced by skilful treatment. Among trees and shrubs there are none which in their autumnal fruit-richness excel the spindle-trees, the *Euonymus latifolius* in particular; the *Lycium Barbarum*; the common laurustinus, so commended by Ovid;* the *Spiræa opulifolia*; the *Desfontainea spinosa*, the scarlet

* "Et bicolor myrtus, et baccis cærulea tinus."—*Met.* x. 98.

flowers of which are followed by yellow fruits resembling little gooseberries;* and the Japanese apple-rose, *Rosa rugosa*. Would that the arbutus were as good to the palate as to the eye: it is "strawberry-tree," alas, only in name, though the crimson harvest is made available in Spain and Corsica for the manufacture, by distillation, of a simple wine. No less remarkable, in their own ways, are the Bladder-senna, *Colutea arborescens*, and many of the Acers, none excelling the red-winged variety of the common sycamore. A very distinct and striking garden ornament, when individuals of both sexes can be procured, is supplied by the silvery-leaved Sea-buckthorn, *Hippophaë rhamnoides*, the branches of the female tree being thickly covered, in the way of holly, with yellow and long-enduring berries. The value of the common Butchers' broom, *Ruscus aculeatus*, as a winter red-berried plant, is well known in the south of England. The *Skimmia oblata* is not less brilliant than the aucuba. The little *Skimmia Japonica* is invaluable as one of the hardiest of all red-berried evergreens. The *Pernettyas* are good, not only out-of-doors, but for the winter-garden.

Among hardy climbers, in the southern counties, may be mentioned, as specially interesting, the *Actinidia Kolomikta*, that beautiful Japanese evergreen, with fruits again like gooseberries, the flavour between pine-apple and strawberry; the *Stauntonia latifolia*, also evergreen, the fruits resembling eggs; and the *Akebia quinata*, the purplish pods of which, three inches long, no doubt are

* As at Rocklodge, Monkstown, Ireland.

produced but seldom, but probably only wait persuasion to become plentiful. Hardy herbaceous plants do their part well in the purple *Phytolacca decandra* and the *Podophyllum Emodi*, not to mention the pæonies and the gladwyn. Under glass we have the *Nertera*, the *Bucelia*, and the *Coccocypselum*, again not to mention the papaw, and two or three species of Clusiaceæ, notably the *Xanthochymus pictorius*, the yellow berries of which are no less pretty than nice to eat. Capsicums, in their many varieties, red and yellow, are singularly ornamental when in fruit, and have the additional recommendation that they serve, eventually, for pickling.



The number of SEED-PODS and of SEEDS resorted to in this country as articles of food, but which do not come under the popular appellation of "Fruit," is considerable. Still more are in constant request for employment in medicine, various arts and manufactures, and for miscellaneous uses, such as bird-feeding. To describe them is no part of the plan of the present volume; it may be interesting, nevertheless, to mention the names.

Resorted to as staple aliments:—

Wheat,	Peas,
Barley,	Windsor beans,
Oats,	French beans,
Rye,	Haricots,
Rice,	Lentils,
Italian millet,	Coffee-seeds,
Maize or Indian corn,	Cocoa-seeds.

Employed in the shape of pickles, or as condiments and flavouring agents :—

Olives,	Vanilla,
Capsicums,	Nutmeg,
Radish-pods,	Allspice,
Pepper,	Caraways,
Mustard-seed,	Coriander.

Used for art-purposes—in the manufacture of toys, and for ornament. These are all from the tropics :—

Coquilla-nuts (*Attalea funifera*). The hard, thick, brown shell, susceptible of high polish. Umbrella handles, egg-cups, beads, etc.

Ivory-nuts (*Phytelephas macrocarpa*). Parasol handles; articles for ladies' work-boxes.

Areca-nuts (*Areca oleracea*). Necklaces and bracelets.

Brahmin-seeds (*Eleocarpus Ganitrus*). Brown seeds the size of marbles, rough and corrugated. Necklaces and bracelets.

Job's Tears (*Coix Lacrymæ*). Grey beads as hard as flint. Necklaces and bracelets.

Leucænas (*Leucæna glauca*). Resembling apple-pips. Very pretty for workbags and bracelets.

Rosary-peas (*Abrus precatorius*). Scarlet, with a black spot.

Ormosias (*Ormosia dasycarpa*). Similar to the preceding, but four times larger.

Soap-berries (*Sapindus Saponaria*). Globular, black, half an inch in diameter. Excellent for necklaces.

Peacock-seeds (*Adenantha pavonina*). Double-convex, dark rich red, a third of an inch in diameter.

Bonduc-seeds (*Guilandina Bonducella*). Grey or yellow, the size of marbles. Very suitable for bracelets and rosaries.

Lavo-nuts (*Entada scandens*). Circular, flat, nearly two inches across, rich red brown. Excellent for conversion into jewel-boxes.

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French millet,	Myrobalans,
Buckwheat,	Carobs,
Persian berries,	Ground-nuts.

To carobs and ground-nuts pertains an interest peculiarly their own. What peaches, and pine-apples, and grapes, are to the wealthy, these are to the poor little creatures whose playground is the street, and who know what farthings will buy. Their needs are not forgotten, think of the medium as we may please: "That Thou givest them they gather: Thou openest Thy hand; they are filled with good."

Carobs, the fruit of the *Ceratonia Siliqua*, also called "Locusts" and "Locust-beans," are the odd-looking purplish-brown and somewhat glossy pods, three to ten inches in length, an inch in width, a third of an inch in thickness, flattened, and often curved, which we see in the very lowest class fruit-shop windows. They contain a considerable quantity of saccharine matter, with some mucilage, and hence are eligible in the manufacture of artificial cattle-food, which owes to them its greenish tint. Freshly gathered they are soft and pulpy, and in all the Levantine countries, also in Spain, Malta, and the north of Africa, are given as food to almost all kinds of animals of draught and burden. They are the *κεράτια* or "husks" which appear in the parable of the Prodigal Son. The tree producing them is a fine evergreen, about thirty feet high, with pinnate leaves, and racemes, about four inches long, of little pink flowers. When in full bearing it yields a weight of about nine hundred pounds annually. The name is the Arabic "al-khârub," whence, in the first place, the Spanish "algaroba." The seeds were the original "carats" of the goldsmiths.

Ground-nuts, by the pavement-children called "monkey-nuts," are the legumes of the *Arachis hypogæa*. Every one knows them by sight—buff-coloured, an inch and a half in length, roundish, obtuse, obliquely contracted in the middle, and having the surface netted. Inside the very brittle shell are two or three seeds resembling hazelnut kernels, tasting like dried peas, and heavily charged with oil. The oil is of considerable value commercially,

and for the sake of it the plant is cultivated in various warm countries to an immense extent. The import into England is chiefly from the west coast of Africa. In the United States, the seeds of the *Arachis*, there called "pea-nuts," are much used for the manufacture of artificial chocolate. The plant itself is a pretty annual, easily raised in the greenhouse, with pinnate leaves and yellow pea-like flowers. After fecundation, the stalk supporting the ovary lengthens out remarkably, bends downwards to the soil, and buries it beneath the surface, where maturation is completed, and from which, when ripe, the pods have to be dug up like potatoes.





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