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NEW AMERICAN ORCHARDIST,

1181

OR

AN ACCOUNT OF THE MOST

VALUABLE VARIETIES OF FRUIT,

ADAPTED TO CULTIVATION

IN

THE CLIMATE OF THE UNITED STATES,

FROM THE LATITUDE OF 25° TO 54°,

WITH THEIR USES, MODES OF CULTURE, AND MANAGEMENT; REMEDIES FOR THE MALADIES TO WHICH THEY ARE SUBJECT, FROM NOXIOUS INSECTS, AND OTHER CAUSES, &c.

ALSO

A BRIEF DESCRIPTION OF THE

MOST ORNAMENTAL FOREST TREES, SHRUBS, FLOWERS, &c.

BY WILLIAM KENRICK.



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TO THE HON. JOHN LOWELL, LL.D.

SIR,

I AM happy in being enabled to inscribe this work to a gentleman, whose name is so intimately associated with all the great improvements connected with Agriculture and Horticulture, during the last quarter of a century. The many valuable productions, — the donations from Mr Knight, and other sources, by you so extensively disseminated; your disinterested and distinguished zeal, to encourage and enlighten, in all useful pursuits, and especially those to which this work is principally devoted, are not only highly appreciated by cotemporaries, but posterity will know and acknowledge their value.

Please to accept this dedication, not only as an acknowledgment of the many favors received, but as an expression of my high estimation of your manifold and successful efforts in all that concerns the best interests of our country.

With the highest respect and esteem,

Your much obliged,

and most obedient servant,

WILLIAM KENRICK.

ERRATA.

- Page xv, 28th line, for from ten to two francs, read *from ten sous to two francs*.
- “ 68, middle of the page, for Maseau, read *Museau*.
- “ 78, 8th line, for Groper, read *Grosser*.
- “ 85, 13th line, for Roland, read *Ronalds*.
- “ 88, 18th line, after the words M. Christ, erase the six next words which follow.
- “ 196, 23d line, for Pamsel, read *Panisel*.
- “ 214, 6th line from the bottom, for skinned, read *thinned*.
- “ 231, 1st line, for marbled read *marked*.
- “ 253, 20th line, for Pr coxæ, read *Præcox*.
- “ 259, 25th line, for Imperative, read *Imperatrice*,
- “ 260, 1st line, the same error again occurs.
- “ 267, 11th line, do. do. do. do.
- “ 263, 20th line, for Queen Gage, read *Green Gage*.
- “ 317, 23d line, for noon, read *soon*.
- “ 339, 26th line, for Oxycoccum, read *Oxycoccus*.
- “ 365, 18th line, for Porteau, read *Poiteau*.
- “ 368, 20th line, for equal to five degrees above the zero, &c, read *equal to from ten to fourteen degrees, &c*.
- “ 371, 20th line, for Lin-kiv, read *Lin-kio*.
- “ 374, 35th line, for Tarpa Natans, read *Trapa Natans*.
- “ “ 39th line, for Tuma, read *Tuna*.
- “ 384, 10th line, for Alianthus, read *Ailanthus*.
- “ 389, 15th line, Magnolia purpurea, &c, erase line.
- “ 396, for A singular shrub, rising, &c. read *A singular shrub, branching, &c*.

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INTRODUCTION.

HORTICULTURE is the most ancient employment of man. Its utility and importance have been acknowledged by all in succeeding generations. To the poor, its resources yield subsistence — to the rich, and to those spirits who cannot idly slumber, a pleasing occupation.

A science whose pursuits are alike so conducive to the health of the body, and of the mind — so calculated to render mankind useful, virtuous, and happy, has never wanted advocates.

It has found them, with the best, and the most enlightened of all ages — with every friend to his country, and to the human race. In our own country it has, and more especially of late, received that encouragement which its utility demands. This is sufficiently evinced in the simultaneous organization of the numerous societies for its promotion, and that of agriculture. With us, its progress has been only commensurate with the indefatigable zeal of a Lowell to enlighten and encourage, and a host in numbers, and renowned in intellect, to coöperate in its advancement.

The Massachusetts Horticultural Society deserve of me also, in this place, a particular notice. This Society, although yet in its infancy, has accomplished much. And to the unwearied researches and enlightened zeal of its president, General Dearborn, I am greatly indebted, for much valuable information which I have to him accredited in the following pages. Also to those numerous individuals whom I have elsewhere named.

England, by the exertions of their most intelligent and influential men, and by their societies, particularly the London Horticultural Society, and its excellent president, Mr Knight, has confessedly done a great deal for the advancement of the science; and we are greatly indebted to their luminous writers on these subjects; also to those of France and Belgium, and to the Horticultural Society of Paris.

In England however, they cannot duly appreciate the value of our native fruits, and those of other climates equally favored with us.

Their high northern latitude forbids it ; although they have done wonders in counteracting the hostility of their seasons and climate.

In their vast collection of fruits, which they have congregated from all climates, in their Horticultural Society's garden at Chiswick, I find by their Society's Catalogue for 1826, that they have at least fifty varieties of the native peaches of America — the selections from the extensive native orchards of this fruit, raised in the middle and western states for distillation. All these, so fine in our climate — so much admired by travellers, with but *two exceptions*, are rejected as "*worthless*" — not being adapted to their latitude, and not arriving to their full maturity and excellence, even on the walls to which their cultivation is confined.—[See Vol. 2. No. 54 of the *Pomological Magazine*.]

Other varieties of native fruit, so superior in our own climate, are by them almost as little noticed. The apples of America,—the fine selections during two centuries, from the innumerable native orchards.

The finest fruits of Italy, and of other countries, possessing a climate analogous to our own, seem in some measure to have shared the same disastrous fate. The Mela Carla or Pomme Finale, which is supposed to be the finest apple in the world, and which is cultivated so extensively as an article of commerce in Italy, proves in the climate of England a very ordinary fruit, as their writers inform us. On the other hand, it is very doubtful whether some of the native fruits of northern countries, do not lose a portion of that high reputation which they may have there acquired, when brought down to our own latitude, and compared with the native fruits of our own and other equally favored climates. — [See *Astracan*, page 87, also page 61.]

The temperature of our climate, on our extensive Atlantic coast, differs considerably from those parts of Europe and of Africa in corresponding latitudes.

The climate of a country is variously modified by its proximity to mountains and to the ocean. And it has been observed, that the *western coasts* of continents and large islands, possess a higher mean temperature than the *eastern coasts*. Our climate, therefore, on the shores of the Atlantic, must correspond nearly with that of the eastern coasts of China, Japan, and Chinese Tartary, and the islands on its coast. And our territory which is bounded on the Pacific Ocean, may correspond nearly with that of Europe on the coasts of the Atlantic, between the same parallels of latitude.

Elevation above the level of the ocean, has the same effect in lowering the mean temperature, as an increase of latitude. Mons. de Candolle, has ascertained by experiments on some mountains in France, that the elevation of one hundred and eighty or two hundred yards, affects the mean temperature in the same

proportion as a degree of latitude to the north, on that same meridian ; and in a similar proportion for any increase of height.

The olive and the vine may indeed grow within the tropics ; but we are assured they produce little or no fruit, except in the mountainous elevations. The cereal varieties of grain, the annual plant and productions, those most necessary to the subsistence of man, have by him been acclimated from the borders of the tropics, to very high northern latitudes.

Man himself has become habituated to all climates. The horse, the most noble of animals, and the ox, the most useful, seem under the guardianship of man, in some measure, alike constituted. The horse and his rider traverse the earth from the burning deserts of Sahara, to the frozen regions of Siberia, and the boundaries of the Arctic circle.

The location of a garden should if practicable, be on the south side of a hill in northern latitudes. It should be screened on the north and the east, either by high walls and fences, or what is far better, either by hills or a deep and dense border of evergreen and other forest trees, intermixed with fruit trees and shrubs of ornament, and of easy access to water. A walk within the border should surround the whole ; and where beauty and taste are to be considered, the irregular serpentine or gently waving line should be preferred. The straight line is too monotonous and artificial ; it is but too manifestly a perversion of nature. In certain cases, however, a very broad and straight avenue, suitably lined on both sides, has a very noble and striking effect.

ACKNOWLEDGMENTS TO AUTHORITIES AND CORRESPONDENTS.

The descriptions of the fruits contained in the following pages are drawn from the most authentic testimonies and authorities. Their names, I have generally designated at the head of each particular article. Although most of these fruits are already in our country, many of them are *new*, and of very recent introduction ; but a portion only of the new kinds have as yet produced fruit with us.

In the descriptions of the new foreign, and to us unknown kinds, I have sometimes adopted the accurate descriptions of the English for the exterior, while for the more important descriptions of the qualities and flavor of these same kinds, I have had recourse to the French authorities, or those possessed of climates analogous to our own.

Let me not be misunderstood. The descriptions which most

foreign authors have given us, are beyond a doubt true, as they have proved in former ages, and may still prove in some expositions, soils and climates; and they may prove generally true in our own age and climate — but not always — especially with regard to some old varieties. Once with us they might have been true, — perhaps with all. But that age has gone by, and we have now done with many of them.

My obligations to Mr Lowell I have elsewhere acknowledged — and my obligations to Gen. Dearborn, the President of the Massachusetts Horticultural Society. I am also under very particular obligations to Mr Manning of Salem, for the many descriptions he has afforded me. All those articles marked R. M., Esq. are described on his authority, and are such as he has proved them to be in our climate. Those marked S. H. S. are on the authority of Stephen H. Smith, Esq. of Providence, R. I. such have been by him approved as adapted to our climate. To him, therefore, I am particularly indebted. I have availed also of the valuable descriptions in the New England Farmer, of the following gentlemen: Messrs Downer of Dorchester; Bucl of Albany, N. Y.; and Floy, of the city of New York, in the London Horticultural Transactions. Also I have availed of communications from the following gentlemen. Messrs S. G. Perkins of Boston; John C. Gray, of Boston; Robert Carr, proprietor of Bartram's Botanic Garden near Philadelphia; B. V. French, of Boston; Micah Leland, of Sherburne; Gorham Parsons, of Brighton; Wm. Prince, and Wm. Robert Prince of the Linnæan Botanic Garden, Flushing, N. Y. These last named gentlemen are the authors of a work on Horticulture, also another on the Vine, and another on Fruits; Andrew Parmentier, late of the Horticultural Garden, Brooklyn, N. Y.; E. M. Richards of Dedham; John Prince, of Roxbury; Leonard Stone of Watertown; E. Vose, Jr. of Dorchester; A. D. Williams of Roxbury, and others.

LIST OF AUTHORS AND WORKS QUOTED OR REFERRED TO.

ADLUM. Mémoir on the cultivation of the vine in America, and the best mode of making wine, by John Adlum. 12mo. Washington, 1828.

ANNALES D'HORTICULTURE. Annales de la Société d'Horticulture de Paris, a valuable publication in monthly numbers, 8vo.

BARNET. Description of the great collection of Strawberries at Chiswick, in vol. vi. Hort. Trans. by James Barnet, occupying eighty pages quarto.

BON JARD. Le Bon Jardinier, edited by Messrs Poiteau and

Vilmorin, for the year 1828. Paris; a work annually published for nearly seventy years.

BOSC. Louis Auguste Guillaume Bosc, F. L. S. H. S.; author of several articles in *Nouveau Cours Complet d'Agriculture*, and other works.

COBBETT. *American Gardener*, by William Cobbett, a celebrated political writer.

COXE. *View of the cultivation of Fruit trees, &c, in the United States of America, &c*, by William Coxe, Esq. 8vo. Philadelphia, 1817.

CHEV. PARMENTIER. The Chevalier Joseph Parmentier of Enghein; description of various new Fruits in *Hort. Trans.*

DE CANDOLLE. L. A. De Candolle, author of several articles in *Nouveau Cours Complet d'Agriculture*. A celebrated writer on Botany, &c.

DOM. ENCY. *Domestic Encyclopædia* by A. F. M. Willich, M. D., edition of Dr James Mease. 5 vols. 8vo. Philadelphia, 1803.

DUH. O. DUH. *Traité des Arbres Fruitiérs* par Henri Lewis du Hamel du Monceau. 2 vol. 4to. Paris, 1768.

N. DUH. *Nouveau Duhamel ou Traité des Arbres, Fruitiérs, Nouvelle Edition, Augmentée, &c, &c*, formerly conducted by Dr Loisleur Deslongchamps, now still continued by M. M. Poiteau and Turpin, several vols. folio, with colored plates, Paris.

ED. ENC. *Edinburgh Encyclopædia*. American Ed. by Dr Brewster. The article on Horticulture to which this principally refers, was drawn up by Patrick Neill, Esq.

FES. AMER. GARD. *New American Gardener*, containing practical directions on the culture of fruits and vegetables, &c, by Thomas G. Fessenden, Editor of the *New England Farmer*, Boston.

FOR. *Treatise on the culture and management of Fruit trees, &c*, by William Forsyth, Esq., seventh ed. 8vo. London, 1824.

HOOKE. *Pomona Londinensis*, containing representations of the best fruits cultivated in British Gardens, by William Hooker, Esq. F. L. S. H. S. 4to. with colored plates.

HORT. SOC. CAT. *Catalogue of the fruits cultivated in the garden of the Horticultural Society of London, at Chiswick*, 8vo. 1826.

HORT. TRANS. *Transactions of the Horticultural Society of London*, 4to. 8 vols.

JEFFERSON. *Notes on Virginia, &c*, by Thomas Jefferson, late President of the United States.

MR KNIGHT. Thomas Andrew Knight, Esq. F. R. S. L. S. &c, President of the London Horticultural Society, and the author of nearly an hundred articles in the *London Hort. Trans.* &c, &c; and author of several works on Rural Economy.

LINDL. *A Guide to the Orchard and Kitchen Garden*, or an account of the most valuable fruits and vegetables cultivated in Great Britain; with calendars of the work required in the orchard and kitchen garden during every month in the year; by George Lindley, C. M. H. S. London, 1831.

LOUDON. *Encyclopædia of Gardening, &c.*, by John C. Loudon, F. L. S. H. S. &c, London, 8vo. 1825. A work of 1233 condensed pages, and several hundred engravings.

LOUD. GARD. MAG. *The Gardener's Magazine*, by the same Author. An excellent periodical work in semi-monthly numbers.

MICHAUX. *The North American Sylva, or a description of the forest trees, &c, &c.*, with 156 colored engravings, by F. André Michaux, 2 vols. 8vo. Paris, 1819.

MILLER. *The Gardener's and Botanist's Dictionary, &c.*, by Phillip Miller, F. R. S. 2 vols. folio. Revised by Professor Martyn, London, 1819.

NEILL. Patrick Neill, Esq. A. M. F. L. S. author of the article on Horticulture, in the Edinburgh Encyclopædia, and other works. Secretary of the Caledonian Horticultural Society, &c.

NOUV. COURS COMPLET D'AGRI. COURS COMPLET. *Nouveau Cours Complet d'Agriculture, &c, ou Dictionnaire raisonné et Universel d'Agriculture*, by the members of the section of Agriculture of the Institute of France, viz. M. M. Thouin, Parmentier, Tessier, Huzard, Silvestre, Bosc, Chassiron, Chaptal, Lacroix, De Perthuis, Yvart, De Candolle, du Tour, Duchene, Feburier, De Brébisson and Rosier, (R.) 16 vols. 8vo. Paris, 1823.

PHILLIPS. *Pomarium Britannicum*; an historical and botanical account of Fruits known in Great Britain; by Henry Phillips, F. H. S. &c, 8vo. London, 1823.

POITEAU. A Poiteau, one of the conductors of the *Bon Jardinier* and the *New Duhamel*: and author of many of the articles in *Annales d'Horticulture, &c.*

POM. MAG. *Pomological Magazine*, or figures and descriptions of the most important varieties of fruit cultivated in Great Britain, 3 vols. 8vo. London, a very late work.

PYRUS MALUS BRENT. *Pyrus Malus Brentfordiensis*, or a concise Description of selected Apples, by Hugh Ronalds, F. H. S. &c, with colored engravings.

QUINTINIE. Jean de la Quintinie, *Treatise on the Fruit Garden, &c.* Evelyn's Translation, London, 1693.

ROSIER. *Cours Complet d'Agriculture, theorique, pratique, economique, &c, ou Dictionnaire Universel d'Agriculture, &c.*, 15 vols. 4to. Paris, 1801.

DR PASCALIS. *The Silk Culturist, &c.*, published in numbers by Dr Felix Pascalis, Philadelphia.

SPEECHLY. William Speechly, a *Treatise on the Culture of the Vine, &c.*, 8vo.

DR THACHER. Author of the *American Orchardist*, and various other works on history, medicine, &c.

THOUIN. *Monographie de Greffes, ou Description technique*

de diverses sortes de Greffes, employées pour la multiplication des Végétaux, par le Chevalier de André Thouin, Professeur, &c, in the University of Paris. Paris, &c, &c, folio with plates.

VAN MONS. Dr Jean Baptiste Van Mons. Catalogue des Arbres Fruitiers, &c. Lovaine, 1823. Also, Pomographie Belgique Moderne, 4to. with plates. This work is still in progress, and but a small part has yet been received from him. They are in the Library of the Massachusetts Horticultural Society.

DR WILLICH. All thus designated, refer to the Domestic Encyclopædia; these were drawn, as I am informed, from the works of I. L. Christ, a clergyman of Kronberg, near Frankfurt on the Maine.

SECTION I.—OBSERVATIONS ON THE NEW VARIETIES OF FRUITS. MODES BY WHICH THEY HAVE BEEN PRODUCED.

ON THE DECLINE OF THE OLD VARIETIES.

The decline of many of the most valuable old varieties of fruit, has been noticed by several writers of different countries; and particularly by Mr Knight, the President of the London Horticultural Society. In the vicinity of Boston, it has been more especially observed in regard to the old Pears; for our best apples and some other species, are mostly native fruits, or of modern origin.

Let no one suppose that the intelligent Horticulturists here have never been acquainted with the best of the old Pears, which the intelligence and industry of ages had concentrated in France. Who is not aware, that in every good collection, a proportion of the very best are *always sent*?—How opposed alike to reason and to probability is the supposition, that even *one* of the best should have escaped.—They must have been here received, in the numerous and ever varying *selections*—in the unnumbered importations.

Rosier, in the original edition of his celebrated Dictionary of Agriculture, which was completed in 1801, has candidly informed us, that for his description of fruits, he is almost wholly indebted to the no less celebrated Duhamel Dumonceau; and from the whole list of Pears which he has described, he has recommended as their essence, for a moderate collection, fiftythree trees of nineteen varieties, in different proportions. These are every one of them known amongst us; and more than half of them, including the very best, are decidedly the kinds long since, from their defection, proscribed by those who cultivate for the markets of Boston. And of the list of twelve trees of nine varieties, which

he has recommended as the best of all, for a very small garden, three quarters of them at least, are of the kinds which have long since ceased to produce perfect fruit with those who cultivate for our markets.

We regret the circumstance, but have ceased to wonder at the cause — since the same complaints of defection have already reached us from other quarters — even from the capital of that country, for which those celebrated works were principally designed.

I shall in the following pages, designate some of those, in the class of old varieties, once the finest of all old pears, whose duration we had hoped, but in vain, to perpetuate. For except in the city, and some very few solitary and highly favored situations in the country around, they have become either so uncertain in their bearing — so barren — so unproductive — or so miserably blighted — so mortally diseased — that they are no longer to be trusted:—They are no longer what they were once with us, and what many of them are still described to be by most foreign writers.

The gentleman who prepared the article on fruits in *Fessenden's New American Gardener*, has warned us to beware respecting some of them. He is well known with us as first rate authority.

In the markets of the city which formerly abounded with them, they are no longer or but rarely to be seen:—The cultivators who furnish its supplies have given up their cultivation. Like the barren Fig tree they have been destroyed — but not without cause; for if they had not been accursed, their fertility and good qualities were gone; and they were no longer fruitful but as the sources of vexation.

The practice of renaming those unknown varieties, whose original names are lost, after these old kinds is objectionable, inasmuch as it is calculated to mislead — and to falsify the proofs of their mortality. From some fancied similitude, the barbarous names of antiquity are brought down upon us, applied to existing varieties.—From semblance of name alone, the ‘Gergon or Jargon’ of antiquity has reappeared, — it has been reclaimed, not merely as kindred, but as in all probability *identical* with varieties still existing.*

* See t. 103 of the *Pomological Magazine*, where the authority of Menage and Duchat, and of Merlet are brought forward to justify the supposition, that the Jargonelle, asserted by them, to be derived from Jargon, anciently Gergon, in Italian *Gergo*, in Spanish *Gericonca*, all corruptions of *Græcum*, and by the inference of Merlet the *Pyrum Tarentinum* of Cato and Columella, the *Numidianum Græcum* of Pliny, the *Græculum* of Macrobius; that all these, named or described near two thousand years ago, are but one and the same, and no other than the Jargonelle of the present day.

According to the theory advanced by Mr Knight and others, and confirmed by their experience, the different varieties of fruit have their periods of existence fixed by the laws of nature; and after a certain time, either sooner or later, comes on their decline and final extinction.

I shall offer some evidence to shew that the complaints of defection are not confined to us alone — they have reached us from other and remote quarters. In the markets of fruits and legumes at Paris, as M. Masson the Commissaire General has informed us in his report published in the *Annales d'Horticulture* for 1828, some of these same ancient, and with us once celebrated kinds, are no longer cultivated even with them. — He expresses astonishment at the *cause* — but the conclusion seems irresistible, that with them, as with us, they are no longer worthy of cultivation; and that out of that city, and in its vicinity, and the country around, these once famous fruits are at this day, as liable to blight, and as unworthy of general cultivation, as in the neighborhood of Boston.

The following are his words extracted from his report: 'One is astonished on viewing in the markets of Paris so very few melting Pears. We no longer see the *Sucre Vert*, the *Sucre Musqu* the *Bezi de la Motte* nor the *Bezi d'Airy*; [*Bezi d'Héri?*] very few *Chaumontelles*, very few *Culotte de Suisse*; no *Royale d'Hiver* [Royal Winter], no *Virgouleuse*, and what is to be deplored, no *Colmars*.' [Some of these expressions, it seems evident from what follows, were designed to be understood only in a general sense. K.] 'These three last species sell from ten to two francs each, [about forty cents] and their cultivation is neglected.

'The *Rousselet*, so perfumed, so sought after by the confectioners and distillers, is no longer of good quality. How different this *Rousselet* from that which they cultivate at the hamlet of *Cormontreuil*, at the gate of *Rheims*! At that place they cultivate the *Rousselet* almost exclusively, and these altogether on *espaliers*. These *espaliers* offer at the end of August a sight the most rich and beautiful.'

M. Poiteau when speaking of the decline of the old French varieties of Pears in the vicinity of Paris, and the urgent necessity of a renewal of the kinds, has informed us in the *Annales d'Horticulture* for May 1828, that notwithstanding the unwearied efforts which have been made in that country during several of the latter ages, by their most intelligent cultivators, in rearing new and valuable varieties from the seed; yet such attempts having been conducted on wrong principles, have resulted in '*absolute nothingness*.' They must, he asserts, look elsewhere for new varieties to replace the old:—*any where else but to their own country*:—even to *America*,—but more especially to *Belgium*.

The same writer further informs us, that the celebrated Duhamel, during the long course of his scientific career, planted the seeds of all the best fruits which were eaten at his table, without being able to produce a single fruit worthy of cultivation.

Others in that country — as the Alfroys, for a succession of generations, have adopted the same course, planting the seeds of the very best fruits, and with no better success.

It would thus appear that all the finest varieties of apples and pears having been raised in successive generations of fruit, from the original crabbed and worthless origin, that after the improvement has gone on for five or six generations, to the production of a perfect fruit, it can be carried no further; that exhausted nature, if urged beyond certain bounds recedes, and a retrograde course commences. For the seeds of the best fruits, which are sown, she generally gives back nought but the worthless. In illustration of the truth of this position, M. Poiteau has stated it as a fact, recorded by several authors, that the seeds of the Winter Bon Chretien always produce a detestable fruit. And Mr Knight has positively asserted, that the seed of the *wild pear*, fertilized by the stamens of the blossoms of an ameliorated one, will yield a better fruit than the seeds of an ameliorated pear.

The mode however adopted in Belgium, with such wonderful success, in procuring new and extraordinary varieties, differs very materially from the process of Mr Knight: for it appears that they commence by simply sowing the seeds, not of the best, but rather of the most austere and indifferent varieties, for a succession of a few generations, till the perfect sorts are produced.

It is asserted by Mr Knight, that generally, the old varieties of fruit begin to decay, first, in the colder latitudes; and that a fruit which there begins to decay, may yet be successfully cultivated in a more southern climate, or what is equivalent, in the confined and warmer atmosphere of cities. Those varieties therefore, which no longer succeed with us, may yet continue for a while to flourish in the milder regions of the Union, and especially in the interior, beyond the limits and influence of those cold eastern breezes from the Atlantic, which, rising with the diurnal appearance of the sun, visit us so regularly and constantly at stated seasons.

There are some however, who dissent from the opinions advanced by Mr Knight and others — opinions which seem justified by the experience of ages. — They do not indeed deny the *fact* of their decay, but they *deny the cause*. In their attempts to sustain the credit of the old fruits by rendering them immortal, they would ascribe their deterioration to *any other cause*; — to some supposed alteration of *climate*, and not of ours alone, but of the climate of all those countries where the same proofs of their mortality have appeared.

We await the proofs of such changes; — meanwhile in their

absence, I believe all will agree, that in adopting his theory, we adopt the safest course.

Mr Knight in England, and the Comte de Coloma of Malines and some others, have fortunately succeeded in rearing several new and valuable varieties of fruit, from the seeds obtained by the process of cross fertilization.

The following is the mode as described by M. Fries Morel : It is extracted from the *Annales D'Horticulture*, and is alike applicable to fruit trees, to trees of ornament, and to flowers.

[I adopt in this place with some abbreviation — the translation of the Hon. H. A. S. Dearborn as it appeared in vol. viii. No. 34, of the *New England Farmer* for May 12, 1830.]

* * * * 'The operation must be performed, before the blossom is entirely expanded. The corollas should be carefully opened, and the anthers immediately extracted with delicate scissors, great caution being taken not to wound the fillets which support them, or any other part of the flower. The favorable moment for executing this, is that which precedes the rising of the sun ; because at that time the pollen being humid, it is closely attached to the anthers.

Between eight and nine o'clock, the plan's being exposed to the full influence of the sun, the perfectly matured pollen from another variety must be taken with care and placed on the stigma of the flower or blossom which it is intended to fertilize, and from which the anthers have been extracted ; repeat this operation two or three times during the course of the day.

If the process has been successful the flower on which the experiment has been made, will wither and fade [if a carnation] in twentyfour or thirtysix hours ; on the contrary, if the fertilization has not been effected, the corolla will preserve entire for ten or twelve days and more, all its freshness and splendor ; it will then be necessary to repeat the operation, which should always be performed in dry weather ; and it is proper that the plant should be protected from the rain and mist, till a swelling is perceived in the ovary or germ.

By frequent waterings and exposing the plants to the north, the maturity of the pollen and the stigma may be retarded.

When the fertilization has really taken place, the pollen, which had been artificially placed upon the stigma, remains so closely attached, that it cannot be removed with a hair pencil ; it changes form and color, and soon disappears ; but this is not the case if the fertilization has not been perfect, and the pollen is easily detached from the stigma ; its color and form is not changed, and it remains visible, until the total destruction of the flower.

The greater the quantity of the pollen, the larger is the number of the seeds produced ; but the number of seeds produced by art, is never so great, as when the operations of nature are left to herself alone.

The plant which has been artificially fertilized yields seeds, which (if a flower) produce generally flowers formed like that from which the anthers were extracted, but the colors resemble that which furnished the pollen.' * * * And in the case of the new varieties of fruits thus produced, the new variety it is asserted, will inherit mainly the qualities of the kind which furnished the pollen, while on the other side it will acquire some of the constitutional peculiarities of the fruit which matured the seed.

The pollen of blossoms, and flowers according to Mr Lindley, when viewed through a microscope, is found to consist of extremely minute hollow balls, filled with a fluid in which swim particles of a figure varying from spherical to oblong, and having an apparently spontaneous motion. The stigma is of lax tissue, the intercellular passages of which have a greater diameter than the moving particles of the pollen.

When a grain of pollen comes in contact with the stigma, it bursts, and its contents are disseminated among the lax tissue upon which it has fallen. The moving particles descend through the tissue of the style until some of them find their way, by routes specially destined by nature, into a small opening in the integuments of the ovarium. Once deposited there, the particle swells, increases gradually in size, separates into radicle and cotyledons, and finally becomes the embryo of a seed or plant.

These observations of Mr Lindley are extremely curious. No cross fertilization, it is further stated, can take place between plants or fruits unless nearly related. None for instance, can take place between the pear, apple or quince : or between the plum, peach or cherry, &c.

I will now proceed to show another and different mode, by which the Belgians have, by experiments on a most extensive scale, succeeded in obtaining probably a far greater number of new and superior varieties than all that ever existed before.

The following is the mode, according to Van Mons, and is extracted from the *Annales d'Horticulture* for May, 1828, and M. Poiteau.*

[I adopt here the translation of the Hon. H. A. S. Dearborn, which was published in the *New England Farmer*, vol. vii. No. 28.]

The Belgians give no preference to the seeds of table fruits, when they plant to obtain new ameliorated kinds. When their plants appear they do not, like us, found their hopes upon individuals exempt from thorns, furnished with large leaves, and

* The English writers by some mistake, seem to have confounded the system which I have just described, with that which I am now about to describe.—It will readily be perceived that there is no similitude.

remarkable for the size and beauty of their wood;* on the contrary they prefer the most thorny subjects, provided that the thorns are long, and that the plants are furnished with many buds or eyes, placed very near together. This last circumstance appears to them, and with reason, to be an indication that the tree will speedily produce fruit. As soon as the young individuals which offer these favorable appearances, afford grafts or buds capable of being inoculated upon other stocks, these operations are performed; the apples on paradise, and the pears on quince stocks, to hasten their fructification. The first fruit is generally very bad, but the Belgians do not regard that; whatever it is, they carefully collect the seeds and plant them; from these a second generation is produced, which commonly shows the commencement of an amelioration. As soon as the young plants of this second generation have scions, or buds, proper for the purpose, they are transferred to other stocks as were the preceding; the third and fourth generation are treated in the same manner, and until there are finally produced ameliorated fruits worthy of being propagated. M. Van Mons asserts, that the peach and apricot, treated in this manner, afford excellent fruit in the third generation. The apple does not yield superior fruit before the fourth or fifth generation. The pear is slower in its amelioration; but M. Van Mons informs us, that in the sixth generation, it no longer produces inferior, but affords excellent fruits, intermixed with those of a middling quality.

Intelligent writers, those on whom we may rely, have assured us, that the new and numerous class of fruits which have arisen during the last forty years, is far more precious and inestimable in point of quality, than all previously known. They refer in this, more particularly to pears.

Highly satisfactory specimens of some of the new species which are described in the following pages, have been seen and exhibited amongst us; enough to convince us of the decided excellence of at least a portion of them; but as yet but a small proportion of the new foreign varieties here described have borne fruit in our country.

The unwearied labors of a Van Mons, of Knight, of Coloma, of Hardenpont, of Duquesne, of Nelis, of Liart, of Dorlain and others, have probably effected more during the last forty years, than all that had been previously accomplished during twenty centuries.

All these fruits are recommended as highly deserving of trial in our climate. — From them, we must make our selections at another day, of such kinds only, as prove on trial, alike adapted to our climate, the very best in quality, and the most productive.

* It has been asserted that such individuals as are here thus described and rejected, generally produce early and inferior varieties

SECTION II. — OF THE GROWTH OF TREES.

Trees derive their principal nourishment through their roots ; not however by their lateral surfaces, but by the extreme ends of their minute fibres, which are as so many innumerable mouths or spongelets. Their blunt points being formed of a spongy substance, through which they absorb or drink in their supplies of nourishment from the contiguous earth.

This nourishment or sap ascending, is distributed through the branches to the leaves. In the leaves it is elaborated ; the more aqueous parts pass off by transpiration ; it is now changed, and is quite another substance from the sap in its ascent ; it now descends peculiarly prepared to nourish and give flavor to the fruit.

SECTION III. — TRANSPIRATION.

The transpiration of trees and plants, has been found by experiments to be very great. When compared with that which takes place in the human system, it is found to be in very great disproportion. It has been stated on good authority, that there are some plants which perspire twice their weight in twentyfour hours.

SECTION IV. — TRANSPLANTING.

When trees are removed for the purpose of being transplanted, their roots should, if possible, be preserved fresh and entire. If these precautions have been omitted, their whole bodies and roots must be immersed in fresh water during twentyfour hours ; and their tops must be lessened in proportion to the loss their roots have sustained. The sources by which they derive the nourishment which they receive from the earth being diminished, the whole sap of the tree and even its vitality would otherwise pass off by transpiration.

October and November, after the first hard frosts have arrested their growth, is esteemed by many the best season for transplanting hardy trees. — The peach, the plum, and the cherry, and evergreen trees, are thought by many to answer best by being transplanted in spring. But any, even the most delicate of trees, answer well if transplanted in autumn, provided a little protection is afforded at their roots, during the first and most trying winter. This protection may consist of a few inches of litter from the stable, placed around their trunks and over their roots. Moss from the meadows or evergreen boughs are however preferable for delicate plants, as these substances, being almost incorruptible, never injure what they were designed to protect. It has been lately announced as an important fact, that the de-

struction of delicate plants which is sometimes occasioned by winter, is caused by the alternate freezing and thawing of the earth at the surface — that death commences at the *surface*, which this protection will prevent.

When trees are transplanted in Autumn, the earth becomes duly consolidated at their roots, and they are ready to vegetate with the first advancement of spring.

The holes for receiving the trees, should be dug from four to six feet in diameter according to the size of the trees usually transplanted, and eighteen inches deep; the yellow subsoil should be cast out to this depth and replaced at bottom with rich soil intermixed with a portion of manure. The tree should generally be set about two inches deeper than it stood before, but not deeper than this; the fibres should be spread horizontally in their natural position, and the soil intimately and compactly placed about their roots; manure may be placed above, and beneath, and on every side, but ought never to be suffered to come in contact with the roots, as it is liable in this case to corrupt and injure them: finish by treading the ground very hard. — When evergreen trees are set it is generally considered indispensable to pour at once a few gallons of water around the tree previous to treading hard the earth; finish earthing and tread hard an hour afterwards. This is an excellent and safe mode with regard to any tree.

SECTION V. — PROPAGATION.

Some trees are propagated by seeds, some may be propagated by layers and cuttings. In raising trees from the seed it is generally a good rule to plant or sow them as soon as gathered from the tree. Those seeds however which are enveloped in a pulp, must be first separated. Those of the hawthorn and many other sorts possessed of a gummy or resinous pulp, will not vegetate till the second year, unless first separated and subjected to the action of frost. The seeds of the locust, and others possessed of hard shells, require to be covered with boiling water, and set in a warm place till swollen; as they become swelled they are to be separated, and fresh boiling water poured over the remainder every twentyfour hours — seeds thus prepared quickly vegetate.

LAYERS are the limbs or suckers of trees bent down without being separated from the parent tree, and covered with soil; their extreme ends only being left out: thus buried they will soon strike root, generally. Some particular kinds of trees however, with extreme difficulty; such must be tongued, an operation which consists in cutting the layer half off, beneath the surface, and below an eye, and splitting it up an inch or more; the cleft to be kept open by a small wedge. This operation

should be performed in spring; and the plant when well rooted may be separated in the autumn or spring following.

CUTTINGS. There are many kinds of trees which may be raised from cuttings. Cuttings should generally be from eight inches to a foot in length, and cut off at bottom close below an eye, and planted in a humid soil two thirds of their length beneath the surface, and the ground trodden hard. With some particular kinds however it is necessary to square the bottom of the cutting, and to press it hard down on the bottom of a pot. Other kinds must be shaded from the sun till rooted — they require artificial heat in the soil, and a confined atmosphere; this last is effected by covering them with a bell glass, which moderates their transpiration.

SECTION VI. — INOCULATING.

Inoculating is the operation of transferring any particular and desirable variety of tree upon the stock of an inferior or wild variety. The operation is principally practised on small trees, and only during the time the sap flows freely, and chiefly during the months of August and September.

Select for the buds the ripest young twigs of the year, and cut off the leaves, leaving the foot stalk entire. Having selected a smooth place in the stock, make a perpendicular slit downward quite through the bark, an inch or a little more in length. Make a cross cut at the top of this slit, quite through to the wood, a little slanting downwards; next with the ivory haft of the knife, raise the bark on both sides from top to bottom, being very careful not to injure in the least the cambium or sap wood. Next, and with expedition, proceed to take off a bud; this is effected by entering the knife a little more than half an inch below the bud or eye, quite through the bark, and separating the bark from the wood to the same distance above the eye: always leaving a very thin slip of wood of about one third of the length of the bud; this thin slip of wood occupies the middle section of its length. The bud is to be immediately inserted in the stock to the bottom of the slit, and between the bark and the wood; and the top of the bud being squared even with the cross cut, every part except the eye, is firmly bound and covered with strong wet bass matting.

It is immaterial whether the cross cut is made at the top, or bottom of the slit: whether the bud is inserted downwards, or upwards; it generally succeeds equally in both cases. The mode of taking off the bud with a thin slip of wood occupying the middle section of its length, is called the *new* or *American* mode; as I find it described by no European author. It is the mode best adapted to a warm climate. But when the season is far advanced and the sap flows less freely, it is deemed

the surest mode to take out the whole of the wood, always leaving the root of the bud.

The string is to be taken off as soon as it begins to girdle the tree, which is generally in about ten days.

In spring, between the time the frost is out of the ground and the rising of the sap, cut off the stock a quarter of an inch above the bud — sloping downwards on the opposite side.

SCALLOPE BUDDING is performed by cutting from a small stock, a thin narrow scallope of wood, about an inch in length; and taking from a twig a thin scallope of wood of the same length; this is instantly applied and fitted perfectly at top and bottom, and on at least one of its sides, and firmly bound with wet bass matting. This mode may be practised in spring, and if it fails, a second chance will be offered in July. — The French are stated to practise this mode on roses.

The above are the principal modes of inoculating adopted in practice, although Professor Thouin has described no less than twentythree distinct modes of operation.

Dr Van Mons buds his roses in June, so that they grow and frequently blossom in the same year. He prepares the young and unripe wood by separating the leaves, leaving only their footstalks; in fifteen days after, their buds are swollen, and are now fit for insertion: the stock is cut off six inches above the insertion of the bud, at the time the operation is performed. They are bound with thin strings of bass matting, previously drawn through a solution of alum and white soap, and dried, which renders them impervious to water.

SECTION VII.—GRAFTING.

Grafting is usually performed in spring. Professor Thouin has described forty modes, but the following will answer for all general purposes.

WHIP GRAFTING or *splice grafting*. This mode is practised principally on small stocks; and it succeeds best when the scion and stock are of an equal size.

The scion, which consists of the young wood of the former years growth, is cut to the length of about four inches. This and the stock are each to be cut sloping for an inch or more, and tongued. Tonguing consists in cutting a slit in the middle of the slope of the stock downwards, and a corresponding slit in the scion upwards; both are now to be very nicely joined, so that one of the sides at least, if not both, shall perfectly coincide, and to be securely bound with a wet bass matting string, and covered with composition, or with grafting clay. As soon as the scion and stock are completely united, the string is to be removed.

CLEFT GRAFTING. This mode of grafting is usually practised

on stocks of from one to two inches in diameter. It is thus performed. The head of the stock is carefully sawed off at a part free from knots, and the top pared smooth; with a thin knife split down the stock through the centre, to the depth of about two inches, and insert a wedge to keep it open for the reception of the scion. The scion is to be prepared in the form of a wedge; with an eye if possible in the upper part of the portion thus formed perfect success is the more certain when this is the case. The scion is now to be carefully inserted, so that the inner bark of the scion and of the stock may both exactly meet. Large stocks require two scions; one on each side; sometimes four are inserted. The whole is now to be carefully covered with the composition, or grafting clay, except two or three eyes of each scion. This mode of grafting is equally applicable to very small stocks, but these being weak must be bound with a string of bass matting.

SADDLE GRAFTING. This mode of grafting is performed chiefly on very small stocks — it is much practised by Mr Knight. The upper part of the stock is prepared in the form of a wedge, by two sloping cuts, one on each side. The scion is prepared by splitting it upwards, and paring out the middle part on each side to a point. When the stock and scion are of equal size, the adjustment may be made perfect; but if unequal, one side at least must exactly meet. The whole is secured by a string of matting and covered with the composition, or clay. The string however is to be removed when a perfect union has taken place.

ROOT GRAFTING. This operation is often performed on grape vines, just below the level of the surface, by the usual mode of cleft grafting. It is also performed on portions or pieces of root where suitable stocks are scarce.

SIDE GRAFTING. This mode is sometimes practised on those parts of a tree where a limb is wanting. — There are two ways in which it is performed. 1st. The scion is prepared in the same manner as for splice grafting, and the bark and wood on the side of the stock is cut sloping, and the scion being adjusted as carefully as possible, it is bound on and covered with clay. 2d. The scion being cut sloping as in whip grafting, a cross cut is made in the side of the tree on the top of a perpendicular slit; the bark of the tree above the cross cut is pared down slanting to the wood. The bark is now raised as in inoculating, and the scion inserted, and bound fast, and covered with clay.

GRAFTING BY APPROACH. This is often practised on trees and shrubs which succeed with difficulty by other modes. The tree to be grafted must be growing very near the tree which is to furnish the grafts. — The limb or limbs of each tree which is to be thus united, must be pared with a long sloping cut of seven-

al inches, nearly to its centre; and the parts of each tree thus prepared, are to be brought together and firmly secured by a bandage of matting, so that the bark shall exactly meet on at least one side, and covered with clay or composition. When a complete union has taken place the trees are separated with a knife, by cutting off below the junction.

Grafting clay is made of one third part of fresh horse manure free from litter, one third of cow-manure, and one third of good clay, with a small mixture of hair, well beaten and incorporated several days before using.

Grafting composition is made of three parts of rosin, three parts of bees' wax and one part of tallow melted together; when well mixed, it is poured into water and worked up like shoemakers' wax by hand. This composition may be spread while in a melted state pretty thickly with a brush on very strong brown paper. This paper is to be cut into small strips of suitable size, and is very quickly applied. In cool weather it may be instantly warmed with the breath, so as to become adhesive.

SECTION VIII.—OF THE FRUITFULNESS OF TREES.

Modes by which they are by artificial means rendered productive.

Whatever operates in repressing the too vigorous growth of the tree, by obstructing the free circulation of its sap or juices, and by causing it to accumulate and become concentrated, has a tendency to render the tree fruitful.

While a tree is yet young and flexible, and exercised by every moving breath of wind, its pores continue open, and the sap is rapidly and uninterruptedly diffused; its whole juices are expended in the formation of *leaf buds*. But as they grow older, their consistence becomes changed and more inflexible; their bark also becomes more thick and rigid, and may therefore operate by compression; and the sap which before passed on uninterruptedly, is now retarded in its process; it accumulates and developes *fruit buds*, and the tree falls into bearing. To effect this object by artificial means, various modes have been adopted. 1st. Ligatures, or ringing, or girdling; variously termed decoration or circumcision. 2d. By bending their branches. 3d. By frequently transplanting and confining their roots to a very limited space, and diminishing their supplies of food. 4th. By careful and judicious modes of pruning. 5th. By dwarfing or engrafting on stocks of a very slow growth. Or lastly, by a combination of each and every mode as in the case of Chinese dwarf trees and the Quenouilles of the French.

Subsection 1st. — Girdling or Decortication.

Its effect in causing productiveness, increasing the size of the fruit, and hastening its maturity.

According to the theory and experiments of Mr Knight, which I extract from his writings in the London Horticultural Transactions, 'The true sap of trees is wholly generated in their leaves, from which it descends through their bark to the extremities of their roots, depositing in its course the matter which is successively added to the tree, whilst whatever portion of such sap is not thus expended sinks into the alburnum, and joins the ascending current, to which it communicates powers, not possessed by the recently absorbed fluid. When the course of the descending current is intercepted, that necessarily stagnates, and accumulates above the decorticated place; whence it is repulsed, and carried upwards, to be expended in an increased production of blossoms, and of fruit: and consistently with these conclusions I have found that part of the alburnum, which is situated above the decorticated space, to exceed in specific gravity, very considerably that which lies below it. The repulsion of the descending fluid therefore accounts, I conceive satisfactorily, for the increased production of blossoms and more rapid growth of the fruit upon the decorticated branch: but there are other causes which operate in promoting its more early maturity. The part of the branch which is below the decorticated space is ill supplied with nutriment, and ceases almost to grow; it in consequence operates less actively in impelling the ascending current of sap, which must also be impeded in its progress through the decorticated space. The parts which are above it must therefore be less abundantly supplied with moisture; and drought in such cases always operates very powerfully in accelerating maturity. When the branch is small, or the space from which the bark is taken off is considerable, it almost always operates in excess; a morbid state of early maturity is induced and the fruit is worthless.'

'If this view of the effects of partial *decortication* or *ringing*, be a just one, it follows that much of the success of the operation must be dependent upon the selection of proper seasons, and upon the mode of performing it being well adapted to the object of the operator.

'If the design of partial *decortication* be the production of blossoms, or the means of making the blossoms set more freely, the ring of bark should be taken off early in the summer preceding the period at which blossoms are required; but if the enlargement and more early maturity of the fruit be the object, the operation should be delayed till the bark will readily part from the alburnum in the spring. The breadth of the decorticated space must be adapted to the size of the branch: but I have never witnessed any

except injurious effects, whenever the experiment has been made upon very small or very young branches, for such become debilitated and sickly, long before the fruit can acquire a proper state of maturity. I have found a tight ligature, applied in the preceding summer, in such cases to answer in a great measure all the purposes of ringing, with far less injurious consequences to the tree.'

* * * 'I am not friendly to the process of ringing in whatever manner it may be performed; and I think it should never be adopted, unless in cases where blossoms cannot be otherwise obtained, or where, in very early forcing, the value of a single crop of fruit exceeds the value of the tree.'

I have quoted more at large from Mr Knight because this article was written by him from long experience. And at the distance of fifty years from the time when, at ten years of age, he made his first experiment.

Ringing or decortication is equally applicable to the vine as well as all other fruits, and operates in increasing its size and early maturity. It may be practised alternately on portions of the same tree in alternate years.

It thus appears from what is here stated that the most suitable time for girdling the tree to increase the size of the fruit and to hasten its maturity, is at the time the tree is coming into leaf. But when the design is the production and increase of blossom buds, for the production of fruit in the following year, the operation may be deferred till the last of June or beginning of July.

The operation consists in making two annular incisions quite round the limb through the bark, at the distance of about three eighths of an inch asunder, more or less, according to the size and thriftiness of the tree; making a perpendicular slit and remove the ring of bark to the wood.

Subsection 2d. -- Barking the stems of fruit trees and vines.

Mr Loudon has recorded (Mag. vol. vii. p. 662) a mode which has been declared by one of the best practical men in the Netherlands, a never failing method of greatly improving the quality and size of the fruit on apple and pear trees, and vines. At the winter pruning, which is given there in February, he cuts off with his common hooked pruning knife all the outer bark down to the liber, of every tree above eight or ten years old; not so deeply however with the young as with the old trees. It is asserted by those who have witnessed, that this man's practice has never failed of being successful. And another who has tried it in that country asserts, that since he had his trees *nettoyés*, he

has always had large and better flavored fruit. This practice, says, Mr Loudon, 'was brought into notice in Britain by Mr Lyon of Edinburgh about 15 years ago, and is not uncommon in England with apple and pear trees, and very general with regard to vines under glass.'

Subsection 3d. -- Of Bending the Limbs.

This appears to be the most simple, easy, and effectual mode of rendering trees productive. When judiciously performed, its effects are very extraordinary.

The effects appear to be perfectly understood by the Chinese in training their dwarfs. Its effects are also exemplified in the mode of training trees *en quenouille*, which I shall presently explain. Also on the vine, by which means prodigious crops are produced. [See the article on the cultivation of the vine at page 326.] Also in the fig, for by this mode Mr Knight has obtained eight crops in a year. (See this article at p. 334.) The system is equally applicable to every species of fruit tree. It consists in bending every limb, or twig, to a position below the horizontal, while it is yet in a vigorously growing state, generally the last of June; with some kinds which have a prolonged vegetation, it may perhaps with more advantage be deferred till July, as in the case of the peach. The effect produced in the first instance is a momentary stoppage in the growth; the juices are concentrated and form fruit buds for the production of fruit in the following year. But the growth of all parts of the tree must at the same time be restrained, and if shoots burst forth in other parts of the tree they must be nipped in to a few eyes as soon as they have advanced a few inches.

Subsection 4th. -- Of particular Modes of Pruning.

Mr Dalbret, Superintendent of the compartments in the Royal Gardens, devoted to the culture of fruit trees and economical plants, (near Paris,) has delivered a course of lectures on Pruning in the school of Practical Horticulture. He has practised on his theory for a number of years, and is therefore enabled to appreciate its value. 'Among the operations which are very rarely practised, and which are scarcely known at a distance from the capital, he has insisted, with propriety, upon the eradication of all useless buds, which occasion more vigor in the branches destined to produce good wood and fruit; and upon the necessity of not leaving too many lateral shoots or twigs which exhaust the tree; but few should be preserved for yielding fruit each year, and the others should be cut off within a half an inch of the branch, which will cause fruit spurs to appear. He has also demonstrated the utility of pinching or cutting off the ends of the shoots, particu-

larly of stone-fruit trees, to check the excessive vigor of the main branches, and to cause the branches which uselessly consume the sap, to yield fruit; this operation consists in cutting off these yet herbaceous, or young and tender shoots, when they have attained the length of six or eight inches, at a half an inch, or at most an inch above the old wood; if it is done later, the operation will be injurious, instead of insuring fruit for the third year.' [*New England Farmer*, Vol. 8. This is from an article inserted by the Hon. H. A. S. Dearborn from the *Annales d'Horticulture*.] For some further particulars, see Currant, p. 293. Also see Peach at p. 240.

Subsection 5th. — Dwarf Trees.

Grafting and its effects. — The effect of grafting in rendering trees suddenly productive is well known. This effect is produced on the principles before explained.

Dwarfs are extensively used in France for almost every variety of fruit tree, particularly those called *Quenouilles*. And they are asserted by them and the English writers to be not only admirably adapted to large fruits, as they are not so much exposed to high winds, but for pears more especially; they are declared to produce better fruit, to come into bearing earlier, and to bear more abundantly.

Dwarfing is effected by inoculating fruit trees on stocks of comparatively slow growth; the circulation is in consequence retarded, and the effect thus produced is somewhat like that produced by girdling. The apple is dwarfed by being inoculated on the Paradise or *Doucin* stock; — the peach on a slow growing plum stock; and the pear by being inoculated on the quince stock. I have elsewhere described a new mode of dwarfing the pear, and enumerated its manifest advantages over the usual mode. (See page 202.) It is asserted that the pear should be dwarfed only for the production of summer fruit. (See page 203.) As an argument to prove that the fruit of the pear thus produced, cannot partake of the austere quality of the quince, it is asserted that both the quince and pear are alike nourished from earth by the *same food*, in quality and substance — the leaves being exclusively the laboratory in which the juices are prepared which form the fruit. Even the difference in the varieties of fruit of the same species in taste and flavor, is supposed to be owing to no other cause than some different and peculiar formation or property of the leaf. The Chinese form their dwarfs on the most fruitful limbs of bearing trees: these when rooted are separated, and when the fruit is at maturity, being much in demand in China, they bring a price in proportion to the crop they bear; especially oranges, peaches, plums, grapes, &c. They even extend their practice to flowering and other ornamental trees.

The following is extracted from the account of John Livingstone, Esq. of Macao. See vol. iv. of the Lond. Hort. Trans.

In spring, at the time when the trees of fruit or of ornament are in blossom, they commence their operation by selecting only those branches which are most loaded with blossoms. They remove the bark quite round the branch, to the breadth of about half its diameter. This part is covered with a large ball of a composition similar to grafting clay. For large branches of elm, &c, a covering of straw or coarse cloth is used; but for the orange, peach, &c, the composition is of itself sufficient. No contrivance for the application of water is ever seen in this part of China. On this point I have made diligent inquiry among the best informed, and have always been assured, that the sap of the boughs is alone sufficient to keep up a proper supply of moisture.

When it has been ascertained that the roots formed are sufficient to preserve the living system, and this time varies from six weeks to three months according to circumstances, from the commencement of the operation, the branch is separated; the exuberance of growth is repressed by clipping the branches and leaves; and after being removed to pots, their branches are bent and contorted by wires and other mechanical means. * * * * * Their fruitfulness is preserved by cramping their growth; by confining their roots in very contracted earthen vessels; in carefully regulating and stinting their supplies of nourishment; in bending and contorting their limbs into many fanciful shapes; and confining them thus by wires. In the province of Fo-kien where the best dwarfs are said to be formed, to entice ants to destroy the heart wood, sugar is introduced into small openings made for this purpose.

The account of the mode of dwarfing trees in China, given us by Staunton in his account of the embassy of Lord Macartney to that country, differs little from that of Mr Livingstone. He states however, that straw is used with the clay, and a vessel of water is placed above, with an aperture sufficient to allow the water to fall slowly in single drops. This was the mode in some of the provinces.

Subsection 6th. — Quenouille.

This term is applied by the French to trees trained in a regular pyramidal form; from their resemblance to the ancient distaff; they term it *en quenouille*.

In the Department of Maine and Loire, as we are informed in the Annals of the Horticultural Society of Paris, they train their trees *en quenouille*, not only of the pear and apple, but of the peach, the apricot, the plum and the cherry, the vine, and

other fruits. The pears for this purpose are inoculated on the quince, and the apple on the Paradise stocks.

The trees they use are principally raised at Angers, where the soil is of such extraordinary fertility, that it is possible to raise a tree or quenouille, with all its lateral branches, in a single year from the bud.

There are some kinds of pears which do not incline to throw out lateral shoots. When therefore the tree has grown to a sufficient height for the first tier of branches, they pinch off the top for their production. When the vertical shoot has risen to a sufficient height for another set of branches, it is pinched off again, and another tier is produced. And thus the process is continued, till the requisite height is attained, and the tree is completely furnished with its branches, from the bottom to the top. When the lateral shoots incline to grow too fast, these must also be nipped in, that the equilibrium and perfect proportion of the tree may be preserved.

This is an operation which requires much judgment and experience in its application. It is observed that it always causes a momentary suspension of the growth. If the pinching or clipping off be too near the top, but one single and vertical shoot will be produced; if the top be shortened a little lower, two branches only will put forth; but if it be shortened a little lower still, three or four lateral shoots will put out just below, and a top or vertical one.

Mr Loudon in his Magazine has described, 'A long row of pear trees in the garden of Chiswick trained *en quenouille*, or more correctly as regards those of Chiswick, *en pyramide*, which with the additional feature of the points of the shoots tied down, has a very fine appearance.' * * * 'In short this single row of pear trees is the most interesting feature of the garden. The shoots of the current year are bent down *when fully grown*, and fixed in a pendant position by shreds of bass; in the course of the winter these shreds are removed, to admit of pruning, when the shoots are found to have taken *a set*. In the course of the summer such as grow too vigorously are again tied, the object being to check the vigor of the young shoots, and by impeding the return of the sap, to cause it to expend itself in those young shoots in the formation of blossom buds.'

These pear trees at Chiswick, as Mr Lindley informs us, are all inoculated on the quince; they are trained perpendicularly with a single stem, to the height of about seven feet; with tiers of branches at regular distances, each being generally about eighteen inches long, and the tiers from nine to twelve inches apart. * * * If the plant be strong and vigorous, it will throw out many more branches than are necessary; these must be thinned out, the best only being preserved; these are to be tied down, and their luxuriance being thus materially checked, they

are in consequence always well furnished with fruit bearing spurs; they are productive, and the fruit they produce is far superior to that which is produced on the common standard.



Representation of Quenouille training.

We are further informed that under such management Quenouilles require but little room, a square of four feet each way being deemed sufficient; their fruit being within reach may be easily thinned to enlarge its size; it is more secure against high winds; and being near the ground, the additional warmth it receives, materially insures its ripening in perfection.

SECTION IX.—PRUNING.

If the branches of a young tree issuing at and above the requisite height, be made by pruning to diverge from the trunk in every direction above the horizontal, and the interior of these be carefully kept from any interference with each other for a few years, little pruning will ever afterwards be necessary.

The complicated systems of the English for pruning the apple, pear, peach and plum are not in all respects so necessary for us; they are in part adapted exclusively to a cold climate. It is not necessary with us, to lay open and expose every part of the tree to the direct rays of the sun: the atmosphere being in our cli-

mate, generally, of itself sufficient to ripen the fruit. For particular modes, see each particular article.

SECTION X. — NOXIOUS INSECTS, &c.

Subsection 1st. — Aphis, Puceron, Vine Fretter.

Of this genus of insects there are many varieties; they prey on the leaves of different plants. — Various modes for their extermination have been successfully tried. Infusions of tobacco-water, or of aloes, or elder leaves, or of cayenne pepper, thrown on the leaves with a syringe is said to be effectual. Willis's syringe is the best known for this purpose. Sulphur dusted on them with a swandown puff has been highly recommended. Limewater answers in many cases and even soap suds. — Lastly, vinegar is a powerful application.

Subsection 2d. — Borer.

The borer is a destructive worm which perforates the wood of the apple and quince at the surface of the earth or a little below, where the bark is tender. If the insects have once entered the tree, they must be dug out, or destroyed by introducing into the aperture a sharp flexible wire, and the aperture must afterwards be filled with clay or mortar. The eggs which produce this insect are deposited from the last of April to the beginning of June. To prevent their attacks and secure the trees effectually, nothing more is necessary than to surround it, a little before the season when the eggs are deposited, either with a small conical mound of unleached ashes, or clay, or mortar, or with a wrapper of brown paper, as recommended for the peach. (See page 239.) For small trees, a solution of two pounds of good potash in seven quarts of water, applied with a brush, from the height of a foot quite down to the surface, is a very cheap, easy, and effectual mode of preserving trees from their attacks; provided the application is made at the suitable season.

Subsection 3d. — Curculio.

The curculio, in those parts of the country where it has gained a habitancy, is the most destructive of all enemies to fruit. The curculio is a winged insect or beetle which rises from its earthy bed, and chrysalis state, about the time the young fruit is forming in spring. They crawl up the trees, and when sufficiently numerous, they puncture, and deposit an egg in every fruit, particularly those possessed of smooth skins, as the apricot, nectarine and plum. They are stated to continue their work of destruction till autumn; the egg thus deposited soon hatches, and produces a worm, which preys on the fruit, causing it in most

cases to fall prematurely. With those fruits which I have just named the destruction is usually almost total, in those parts of the country where this insect abounds. Yet it is stated as a fact by Dr Tilton, that two trees frequently standing so near to each other as to touch, the fruit of one has been destroyed and the other has escaped; so little and so reluctantly do these insects incline to use their wings. After the fruit thus injured has prematurely fallen and gone to decay, the worms descend into the earth, there they remain during winter in their chrysalis state, till the warmth of spring again calls them forth to renew their depredations. The cherry, though equally liable to their attacks, yet from the multitude of fruits which they produce and their early maturity, usually escape with but a partial destruction; and the peach escapes in a great measure, from the rough and woolly nature of its skin. — The apple, although equally obnoxious to its attacks, frequently survives, although disfigured in its form and lessened in its size. The pear, although sometimes attacked, yet seems to escape the best of all.

Various modes have been recommended and practised to destroy this insect or avert its attacks. Some have recommended kindling small and numerous fires in the orchard by night, on the supposition that like the miller, they would be attracted by the light, and precipitate themselves into the flames. And some have asserted that the odor of tar annoys and disconcerts them; and have therefore recommended to suspend slips of shingles to various parts of the tree, which are to be frequently dipped in tar. — If the odor of common tar has indeed been found so efficacious as is asserted, I would recommend that the *coal tar*, which may be purchased at the gas works in all our principal cities, be tried with the same intent. This last substance has, it is asserted, an odor so lasting, and so powerful and annoying, that experiments are making by gentlemen in Nantucket, by covering with this substance the exposed plank of their ships which sail to the Pacific, to preserve them from the destruction caused by the sea worm.

It has been noticed, that trees situated in lanes and extensive yards, where numerous cattle are confined, generally escape the attacks of the curculio. This is supposed to be in part owing to the ground being trodden so hard as to render it difficult for the worm to enter the earth, and to the annoyance and fright to which this timid insect is subjected, by the cattle rubbing against the trees. The insects, according to Dr Tilton, in such cases of fright, roll themselves into a little ball, and fall to the ground, where they become liable either to be trodden to death, or devoured by the farm yard poultry as a delicious morsel. Poultry of all species have been recommended as very useful, from the multitudes of insects they devour, they being particularly fond of the beetle tribe.

A case is mentioned by Dr Tilton [see *Dom. Ency.*] of Col. T. Forest of Germantown, who 'having a fine plum tree near his pump, tied a rope from the tree to his pump handle, so that the tree was gently agitated every time there was occasion to pump water. The consequence was that the fruit on this tree was preserved in the greatest perfection.

Hogs are stated to be extremely useful in orchards, by devouring at once the fallen fruit and the insect which it contains. And provided the hogs are sufficiently numerous to devour every fallen fruit, they will shortly exterminate the insects from the orchard in which they are permitted to roam.

Paving the ground. This is said to be a most effectual mode of preserving fruit from the attacks of the curculio ; — by preventing its descent into the earth it finds no winter habitation. The ground should first be well manured, and the whole surface well paved with the common stones which so often encumber the fields. The trees in this case may be set very close. The excess of rain being carried off by the pavement, and their luxuriance being thus restrained, such trees must not only produce great crops, but from the effect of the sun on the naked pavement, the fruit must be of the finest quality. [See what is further said at page 326.]

Subsection 4th. — Slug Worm.

These insects sometimes appear on the upper surface of the leaves of fruit trees, especially those of the pear, in the month of July ; and sometimes they appear again early in Autumn. They are covered with a glutinous substance, and their destruction is easily effected, by simply sifting air slacked lime over them, dry ashes however answers equally as well. For large trees, an oblong tin vessel, perforated at the bottom with numerous small holes, and partly filled with lime or ashes, may be suspended by a string from a long, slender, and elastic pole. This being shaken over a tree, distributes the lime amongst the leaves, and the slugs are speedily destroyed. A man may go over a large tree in a few minutes. (*Fes. Amer. Gardener.*)

Subsection 5th. — Wasps.

Mr Bartram has recommended, for the destruction of Wasps which devour and puncture the grapes in vineyards, that shallow vessels, containing sugar and water, or molasses and water, should be placed on the windward side of the vineyard. The sweet perfume attracts them from a great distance from the leeward ; they are thus destroyed, by partaking inordinately of the liquid.

Mr Knight has informed us, that the wasps disappeared from his vine house after he had surrounded it in part with a hedge of the yew tree.

For the destruction of some other varieties of insects, see Apple at page 108 and 109. Also Pear at p. 203 and 204; — Peach at page 238; and plum at Page 271.

Subsection 6th. — The White Mealy Insect.

This insect is described by English writers as an insect of a most pernicious character, covering the trees and branches. It is little known. I must refer to them for the remedies.

‘Take half a peck of quick lime, half a pound of flour of sulphur, and a quarter of a pound of lamp black. Mix the whole together with as much boiling water as will form the ingredients into a thick paint. This composition is recommended to be applied to the stems and limbs of Apple trees which are infested with the *White Mealy Insect*, having previously removed the moss and loose bark by scraping them off with a strong knife, or some other instrument adapted to the purpose.

In using the composition, it will be most efficacious if applied in a warm state, or something more than blood heat.’ — *Lindley*.

On young trees, Mr Lindley further informs us, “vinegar will effectually destroy this insect; but would be too expensive to be applied when the trees are large.”

SECTION XI. — HAIL STORMS AND RAIN.

In France, where the vine is so extensively cultivated, they are subject to be annoyed by hail storms, which at once destroy the fruit, and the prospects of the husbandman. Hail storms have been successfully prevented by *paragres*, or electrical conductors, consisting of pointed wires, elevated on tall poles, and communicating with the earth. These are erected at suitable distances or stations of about 40 toises asunder, over some extensive tracts of vineyards in that country. And the clouds, which but for this expedient, would descend in electrified messengers of hail, now descend only in showers of rain. Those surcharged electric bodies, denominated thunder clouds, never being resolved into drops, or descending in rain, till an electrical communication is effected; either with the neighboring clouds or with the earth; either in the vivid and visible flashes of light, or in the invisible and secret though certain agency of the conductor.

RAIN has also in that country been prevented, according to the records of undoubted authenticity, which I have lately seen. This has been effected by kindling numerous fires over extensive tracts of country. And rain has been averted during their continuance.

SELECT DESCRIPTIVE LIST
 OF THE
 APPLES IN CULTIVATION
 IN THE UNITED STATES.

CLASS I.—SECTION I.

SUMMER FRUIT.

AMERICAN SUMMER PEARMAIN. R. M., Esq.

EARLY SUMMER PEARMAIN. Coxe.

This apple is of medium size; its color bright red, on the sunny side a little streaked or blotched with deeper red; a fine yellow ground is occasionally visible; on the opposite side a paler red; its form is oblong; the eye and stalk are both deeply sunken; the flesh very tender, very juicy, fine flavored and excellent. It ripens the middle of August. An excellent apple either for the dessert or for cooking; an abundant bearer and highly deserving of cultivation.

BENONI.

An apple of medium size; its color fine red; flavor good; it ripens the last of July and is one of the best apples in its season. This fruit originated in Dedham, Mass. and was lately introduced to notice by Mr E. M. Richards of that place: it is considered a valuable summer fruit.

CORSE'S FAVORITE. Corse.

This fruit originated in a pasture near Montreal and was named from Henry Corse, Esq. the gentleman who first introduced it to notice. He has described it as an apple of extraordinary flavor: 'it commences ripening in August, and has this singular peculiarity in maturing: it is six weeks from the time the first are fit for the table before the last are so; it should be perfectly matured on the tree and eaten immediately.'

EARLY BOUGH. R. M., Esq.

BOUGH, of Coxé. SWEET BOUGH, of some collections.

The size of this fruit varies from the medium to large; its color pale yellow; its form oblong; its skin smooth the eye and the stalk which is short are each sunken; the flesh is white, tender, juicy, sweet and excellent. An excellent dessert apple and one of the best of its season; it ripens the beginning of August.

EARLY HARVEST.

PRINCE'S EARLY HARVEST. Pr. Cat.
 PRINCE'S HARVEST, }
 EARLY FRENCH REINETTE } of Coxé.

An apple above the medium size; its color at maturity pale yellow; its form globular, somewhat compressed at its summit and base; its stalk long, the eye and stalk are each sunken; its flesh white, juicy, tender, rather acid, but pleasant. It ripens the last of July: good for cooking. It has been noticed at Salem, as Mr Manning informs me, that this variety begins to show evident symptoms of decay. Not very productive.

EARLY RED JUNEATING. Py. Mal. Brent. R. M.

EARLY RED MARGARET { According to the Pomological
 MARGARET APPLE } Magazine, and Lindley's
 RED JUNEATING } Guide.

EARLY STRIPED JUNEATING } According to the Pom.
EVE APPLE, of the Irish. } Mag. and Lind. Guide.

An apple below medium size ; its color deep red, with streaks on the sunny side ; on the opposite side a greenish yellow ; its form rather oblong ; its eye and its stalk which is short are each slightly sunken ; its flesh is white, juicy, pleasantly acid. It ripens the last of July. This is not the American sort of the same name.

MAIDEN'S BLUSH. Coxe.

This fruit is large and very beautiful ; its form flattened ; skin smooth, of a yellow color in the shade, finely contrasted with the bright red next the sun ; stalk short, this and the eye are deeply sunk ; flesh white, tender and sprightly ; remarkably light, which eminently qualifies it for drying. An apple for the table or cooking. It ripens in August and continues to the end of September. The tree is of a vigorous growth and uncommonly handsome ; it bears constantly and abundantly. A very popular apple in the Philadelphia markets.

PORTER. S. D., Esq.

The tree grows upright ; it is of medium vigor ; a good bearer. Fruit above the medium size ; its color light yellow, with an occasional blush on the sunny side ; its form oblong, and very regular ; its flavor sprightly and pleasant. It commences ripening the middle of August, and lasts a month. This native apple is a popular fruit in the Boston market. It originated at Sherburne, Mass. on the grounds of the Rev. Samuel Porter.

RED QUARRENDON. Py. Mal. Brent. Pl. 1.

DEVONSHIRE QUARRENDON.

‘ A much esteemed Devonshire apple of the middle size spherical form, [over three inches in breadth] but a good

deal flattened and hollowed at the eye, of a deep red color approaching to purple; of a brisk, pleasant and peculiar flavor, and is a very desirable dessert apple.'

'Season from Aug. to November. Tree grows large, spreads much and seldom cankers.' This variety is found very productive at Gov. Gore's.

SAINT LAWRENCE. Corse.

This apple it is presumed is an extraordinary fruit. According to the account of Henry Corse, Esq. who forwarded scions to the Massachusetts Horticultural Society in April, 1831, it originated in the vicinity of Montreal, and is of accidental origin; the tree bore fruit for the first time about a dozen years before. 'A large, beautiful and excellent fruit, ripens in September, and sells at Montreal readily for from fifty to sixty cents a dozen.'

SAPSON. S. H. S., Esq.

SAPSONVINE.

The fruit is of medium size; color bright red, deeply stained in its flesh, which is very juicy and pleasant. This is a very beautiful fruit, an abundant bearer and much esteemed. Ripe from August to October.

SOPSAVINE.

A very early summer fruit of medium size; covered with stripes of red on a greenish yellow ground. It ripens the last of July and is a pleasant fruit. We have not found this apple a productive variety.

SUMMER QUEEN. Coxé.

SWEET HARVEST. Coxé.

QUEEN, of Thacher's Orchardist.

According to Mr Coxé the Summer Queen is an apple of the finest quality and most beautiful appearance. The

fruit is large, contracted at the crown ; the eye surrounded by protuberances ; the stalk long, deeply inserted in the midst of projections. The color in the shade is fine yellow, striped with red, but next the sun a fine red striped with deeper red. The flesh is yellow, rich, sweet, perfumed. This beautiful fruit ripens in August and is alike suitable for the dessert or for cooking. The tree is a great and constant bearer ; the tree grows vigorous, its branches incline downward ; the leaves large.

SUMMER ROSE. Coxe. R. M., Esq.

HARVEST APPLE. Ib.

This fruit is of medium size ; its color a bright shining yellow, streaked or marbled with red ; its form rather flattened ; its stalk and eye each a little sunken ; its flesh juicy, sweet and of excellent flavor. It ripens early in August. A beautiful apple, and valuable either as a dessert fruit, or for cooking, for which last purpose it may be gathered late in July.

WILLIAMS APPLE. A. D. W., Esq.

The tree grows vigorous and upright, and is productive. The fruit is of medium size ; its color an uniform and beautiful red, on the sunny side a deeper red ; its form is oblong and very regular ; its flavor sprightly and very pleasant. It ripens the first of August and continues ripening till Sept. at Boston : where it is coming into much favor as a summer fruit. A native fruit found on the farm of Capt. Benjamin Williams of Roxbury.

CLASS I.—SECTION II.

AUTUMN FRUIT.

AMERICAN NONPAREIL. Coxe. R. M., Esq.

A beautiful apple of medium size; its color yellow, streaked and stained on the sunny side with bright red; its form oblong, a good deal contracted at its summit; its stalk deeply sunken; the flesh white, firm, juicy, and good. This apple ripens in October and November. A very fine fruit and externally resembles the Hubbardston Non-such. Mr Coxe has asserted that it is a fine market apple.

AUNT'S APPLE. Coxe. No. 59.

'This is a beautiful and large apple, of an oblong make, resembling the Priestley in shape; the skin smooth streaked with a lively red, on a yellow ground: the flesh is yellow, melting, and juicy; of an agreeable flavor but not rich. It ripens in November, and from its handsome appearance, is a valuable market fruit; the tree is small, its growth delicate, its fruitfulness great. It is extensively cultivated in several of the eastern counties of Pennsylvania.'

CATLINE. Coxe.

GREGSON. Ib.

The tree is small, of a regular form, a spherical head, the young wood slender and upright. The tree is a great bearer, and bears young. In full bearing the fruit is rather small. The fruit is flat; of a bright yellow color in the shade, a beautiful red next the sun, streaked with deeper red, with numerous dark spots scattered over its surface; the flesh is pale yellow, tender, juicy, sweet and rich. A dessert fruit from October to winter; a fine fruit. Mr Coxe states that it makes good early cider but is not sufficiently strong for bottling.

CORSE'S INDIAN PRINCE. Corse.

A seedling originated by Henry Corse, Esq. of Montreal. He states that it matured fruit for the first time in 1829; it is large and very handsome, and of very peculiar and good flavor.'

DARTMOUTH SWEETING. S. H. S., Esq.

This fruit is as large as the R. I. Greening, its skin is partially covered with thin russet with a faint blush next the sun; its flesh is sweet, with a slight and very agreeable acid. It ripens in October and November.

(R) DOWNTON GOLDEN PIPPIN. P. M. 113. Lind.

ELTON PIPPIN, KNIGHT'S GOLDEN PIPPIN } According to
KNIGHT'S PIPPIN, ELTON GOLDEN PIPPIN } Pom. Mag.

A tree of this variety was sent in 1823 by Mr Knight to the Hon. John Lowell, and buds or scions have been by him distributed to all who have applied. The fruit is rather larger than a Golden Pippin, cylindrical, flat at the ends. The eye is large, open and level with the top; stalk short, not deeply inserted; skin nearly smooth, yellow, sprinkled with numerous indistinct specks; flesh yellowish, crisp, with a brisk, rich, subacid juice. Ripe in October and November and will keep till Christmas. Raised by Mr Knight from the seed of the Orange Pippin, and the pollen of the Golden Pippin.

The Downton Pippin is a most abundant bearer, extremely well adapted for the market, and an excellent apple for cider. The trees come very soon into bearing. The specific gravity of its juice is 1.080.

DRAP D'OR OF FRANCE, of Coxe, and Ronald, but not of Duh. R. M., Esq.

CLOTH OF GOLD.

This apple is very large and handsome; its color a fine

yellow ; with occasional dark specks and faint blotches ; its form globular, a little compressed at the summit and base ; its stalk short and slightly sunken ; its flesh white, firm and good flavored. It ripens in September and lasts till November ; a fine fruit and a most productive variety and highly deserving of cultivation.

ENGLISH CODLIN. R. M., Esq.

CODLIN, of COXE.

Fruit very large, and handsome ; its color a fine yellow, a faint or deep red blush usually appearing on the sunny side ; its form is oblong, a little contracted towards its summit ; the stalk is short, it is sunken, as is the eye ; its flesh is white, tender and of an agreeable acidity. A good apple for the table and excellent for cooking. The fruit is fit for use from September till November. A handsome tree and a profitable sor for the market.

FALL PIPPIN. COXE. Pom. Mag. Lindley.

AMERICAN FALL. Py. Mal. Pl. xxxix.

REINETE BLANCHE D'ESPAGNE. Pom. Mag.

D'ESPAGNE, DE RATEAU, COBBETT'S FALL, CONCOMBRE ANCIEN. According to Pom. Mag.

This extremely valuable variety, is said to be the national apple of Spain, there called *Camuesar*. In quality it stands in the first class ; its firm, rich, high flavored flesh, its beauty, and capability of keeping, being hardly exceeded. Fruit very large, roundish oblong, ribbed on its sides, uneven and broad in its crown. Skin smooth, yellowish on the shaded side, becoming pale yellow ; brownish red next the sun, sprinkled with blackish spots ; flesh yellowish, crisp, tender, with a very rich sugary juice ; stalk very short. A free and abundant bearer. Ripe in November, and retains its good qualities till February. So the above authorities describe it. Mr Coxe agrees in substance with the above ; calls it one of the finest and most beautiful

apples of its season. It ripens in October and keeps well as a fall apple.

FAMEUSE.

POMME DE NEIGE.

This apple is of middle size, rather globular, somewhat flattened; the eye is small in a shallow depression; the stalk is short and sunk in a cavity — and scarcely projecting above the base. Skin light green, stained with bright red, with small streaks of darker red; of a deep red on the sunny side. Flesh white as snow, very tender, juice saccharine with a musky perfume. Ripe in October. A dessert apple of a most beautiful appearance, and highly prized by those who have cultivated it. This apple undoubtedly originated in Canada.

FRENCH NONPAREIL. S. H. S., Esq.

This fruit resembles the American Nonpareil, but is earlier than that variety, and a more superior fruit. This is a very productive variety, and a very saleable fruit.

GLOUCESTER WHITE. Coxe, No. 23.

The fruit is of medium size; its form inconstant, and varying from flat to oblong, a cavity at its summit and base; the color at maturity is a fine yellow, clouded with spots of black; the flesh is yellow, breaking, juicy, rich, and delicious. It ripens early in October. This apple according to Mr Coxe is not only a most excellent dessert fruit, but makes exquisite cider. The tree is of vigorous growth, of a beautiful form and very productive. My authority further states that this tree is much cultivated in the lower counties of Virginia where it has a high reputation.

GOLDEN RUSSET.

An apple of medium size and globular form; its flesh

rich, juicy, high flavored and excellent. A superior fruit, ripening in November. This variety I received of Mr David Towne of Topsfield in Massachusetts. There are several inferior varieties of this name.

GRAND SACHEM.

A very large and beautiful fruit ; its color a deep red on the sunny side ; on the opposite side paler red ; its form globular, flattened at its base and summit ; the stalk and eye are deeply sunken ; the flesh at maturity pleasant. It ripens in October and keeps till November. A new variety from Vermont, introduced by the Messrs Winship of Brighton.

GRAVENSTEIN. Willich. Hort. Trans. vol. iv. p.

216. Pom. Mag. t. 98.

The fruit is large, of a globular form, commonly a little flattened, but varying to a little oblong and angular at the crown. The eye is in a broad deep cavity, surrounded by projecting knobs. The stalk is very short and deeply sunk ; the skin is smooth, of a yellowish green or clear straw color, with broken or irregular red stripes on the side next the sun. The flesh is crisp, of a pale yellow, with a vinous and highly flavored juice. It ripens in Autumn and will keep till April. A dessert apple supposed to have originated at Gravenstein in Holstein, and is esteemed the best apple in Germany and the Low Countries.

I will now give Dr Willich's account of this superior fruit which he obtained from Germany, as he did most of his other descriptions ; it is better adapted to us. 'The Gravenstein apple, a species of Calville, (obtained from Italy) is an uncommonly fragrant, large, delicious fruit, and though its pulp be somewhat coarse, the sap is copious and

pleasing to the palate ; its color is a deep yellow, frequently marked with red on the south side. This apple is equally useful for the table and other purposes of economy ; as it not only affords excellent cider, but also when dry a very palatable dish ; it may be kept fresh during the greater part of the winter. The tree is of vigorous growth, and bears abundant fruit.' Gorham Parsons, Esq. has produced specimens of this capital variety. There are said to be two kinds of the same name. Gen. Dearborn, through Capt. D'Wolf of R. I., has introduced trees here from Copenhagen. The growth of this last indicates that it is identical with those received here from the Netherlands. The trees are vigorous and upright in their growth, the young wood dark shining red, the leaves dark shining green.

KENRICK'S RED AUTUMN.

The tree is of medium vigor, of compact form and very productive. The fruit is rather large, of a spherical and regular form ; the eye and the stalk are sunken ; the color pale green in the shade, but bright red next the sun, and streaked with deeper red ; the flesh white, stained more or less with red, is tender, juicy, rich, with an agreeable subacid flavor. It ripens in October. This variety is a native ; it originated on the farm of my father, John Kenrick, Esq. in Newton, Mass.

KILLAM HILL.

This apple has been highly spoken of by the late Hon. Timothy Pickering.

It is a large apple, its color of an almost uniform bright red interspersed with deeper and fainter stripes of the same color ; its form globular ; its stalk and eye sunken in deep cavities ; its flesh rich, juicy, a pleasant subacid and excellent. I received this fruit from Mr David Towne of

Topsfield, near Salem. It is one of the most popular and saleable apples in that market. It ripens in Oct. and Nov.

LADY HALEY'S NONSUCH.

A fruit of medium size ; its color pale red, interspersed with small broken stripes of pale yellow and deeper red ; its form globular ; its flesh tender, juicy, agreeably acid, and good. It ripens in September.

LYSCOM. R. M., Esq. L. Peters, Esq.

A large striped apple, of excellent quality, but little known considering its merit. It ripens in October and originated on a farm in Southborough formerly owned by Mr Lyscom. Specimens of this fruit were exhibited at the Hall of the Massachusetts Horticultural Society.

MONSTROUS BELLFLOWER. Coxe.

The tree is very strong, vigorous and upright in its growth ; the leaves remarkably large, of a deep green above, downy beneath. The fruit is very large and beautiful, of a pale yellow color ; its form very regular, oblong, contracted towards its summit. The flesh is tender, rich, juicy, a pleasant fruit ripening in October. Mr Coxe has however stated that its quality is exceeded by many excellent apples of its season ; an American fruit.

NEWARK KING. Coxe.

HINCHMAN. Coxe.

Fruit large, oblong, contracted towards the crown ; a beautiful fruit with a smooth skin of a red color dotted with yellow ; of a pleasant flavor. The tree is of vigorous growth and an abundant bearer, its branches very spreading. It ripens in autumn and keeps till into winter.

ORANGE SWEETING. S. H. S., Esq.

The fruit is rather large, flattened at its base and summit ; the color yellow or orange ; flesh very sweet and excellent. It ripens in September and keeps till December. This fruit is in high estimation at Providence where it is brought in sloops from Hartford, Conn.

Dr Mease in the Domestic Encyclopædia has given a similar description of a fruit called at Philadelphia *Yellow Sweeting*, brought there from the vicinity of Hartford.

PUMPKIN SWEETING, of New England.

A very large apple ; its color a yellow russet ; its form globular ; the eye and the stalk are sunken : its flesh very sweet and good ; a highly esteemed baking fruit, ripening in October and November. The trees of this variety grow very vigorous and upright, and the leaves are very large.

RAMBO OR ROMANITE. Coxe, No. 26.

This apple is much cultivated in Delaware, Pennsylvania and New Jersey ; taking its name from the families by whom it was introduced into notice. Its form is flat, the size middling, resembling the Vandevere in appearance, but is a more juicy fruit ; the skin a pale yellow, with faint red streaks towards the sun ; the flesh tender and sprightly ; it is much admired as a cooking apple — makes tolerably good cider, but not of the first quality ; and is a fine table apple. The tree grows large, it ripens in the fall and keeps for several months. — It is known by the name of *Seek-no-further*, in the Philadelphia market, where it is a highly popular fruit in the fall months.'

RAMBOUR FRANC. Cours Com. d'Agr. v. XII. p. 212.

RAMBOUR D'ETE, RAMBOUR RAYE, POMME DE NOTRE DAME. Ib.

RAMBOUR GROS, of the English.

Fruit very large, flattened at its summit and base ; color

whitish yellow, striped with red ; irregularly formed ; flesh acid, not very agreeable, but good cooked ; when too ripe it is insipid. Ripe the beginning of September to the end of October. The tree is vigorous and productive. Mr Coxe describes this as a large good cooking fruit.

RED AUTUMN CALVILLE. Bon. Jard. For.

The fruit is of medium size, of a conical form ; its color a deep red ; its flesh is stained with red, of a vinous and sweet taste and the perfume of violets. This variety loses its excellence if kept till February, becoming woolly or mealy. It is more beautiful on the doucin stock.

RED AND GREEN SWEETING. Coxe. Richards.

PRINCE'S LARGE RED AND GREEN SWEETING. Coxe.

This fruit is very large, some of the largest have weighed a pound ; its color yellow, striped with red, and partially covered with deeper red on the sunny side ; its form oblong, somewhat contracted towards the summit ; the eye sunken, the stalk short and deeply sunken ; the flesh tender and sweet ; a very fine fruit, ripening in September.

SAWYER SWEETING. S. H. S., Esq.

This fruit is as large as the R. I. Greening ; its color green in the shade, with a blush next the sun ; it is melting, and of a delicious flavor. The tree grows strong and healthy, and the fruit ripens in October and November.

SEEK-NO-FURTHER, of the Bostonians.

This fruit is large ; its form globular, inclining to oblong ; and contracted towards the summit ; its color at maturity, a pale greenish yellow, covered more or less throughout, with pale red stripes of a deeper red on the sunny side ;

the eye and stalk sunken; the flesh yellow, tender, rich, juicy and excellent. It ripens in October and is in use till November. The tree is a moderate bearer, its form rather low, its branches inclining to shoot horizontally.

SPICE. Coxe.

CUMBERLAND SPICE. Ib.

The trees of this variety are vigorous and productive. The fruit is large, rather oblong, contracted towards the summit; the stalk thick and short; color pale yellow, clouded with black near the base; the flesh is white, tender, and fine. It shrivels in the last stages of its maturity. A fine dessert apple, ripening in autumn and keeping till into winter. My authority states that this variety came from Cumberland county, New Jersey.

STRAAT, Buel.

Is an autumn fruit, it is stated to be tender, juicy, well flavored, and according to Mr Buel, in excellence it is not surpassed by any fruit in its season; a native.

TRIANGLE. Little.

This apple was here received of Henry Little, Esq. late of Bucksport, Maine, but now of Ellsworth in the same State: so named from its form, which approaches to triangular. He states it to be a good bearer and a dessert apple of great excellence. It originated on the grounds of Judge ——— near Bucksport.

VAN DYNE. Floy, in Hort. Trans. vol. vi. p. 417.

A very large fruit, much in its appearance like the Fall Pippin and often weighing from twenty to twentyfour ounces; in shape it is not so flat as the Fall Pippin and its flavor not so fine. It is however a beautiful fruit, and sells

well in the market on account of its size. It originated in New Jersey, opposite the city of New York, in the orchard of Mr Van Dyne, hence its name.

YORK RUSSETTING.

A very large apple ; its color a yellow russet ; its form rather oblong, swollen at the base, and contracted towards its summit ; its flesh pleasant, and agreeably acid. An excellent cooking apple and pleasant fruit. It ripens in October and keeps till December. The trees of this variety grow very vigorous and upright, and the leaves are very large. Well known about Boston.

CLASS I.—SECTION III.

WINTER FRUIT.

ÆSOPUS SPITZENBERG.

This fruit is large and oblong, of a bright deep scarlet or a crimson on the sunny side ; of a paler red on the opposite side, covered with numerous white specks ; the flesh is juicy, of a rich pleasant acid and high flavor. Season from Dec. to Feb. or March. This is one of the most beautiful and excellent varieties. Originated it is said at Æsopus in New York. It is a great bearer. Its young shoots are rather slender, of a dark color. It is distinguished not only by this, but by the form of its fruit, and its superior productiveness from the Flushing Spitzenberg.

BALDWIN.

This capital variety is a native of Massachusetts ; a large, beautiful and famous fruit ; its color on the shaded side is yellow ; but on the sunny side a bright deep red, which sometimes extends almost over its whole surface, and is occasionally interspersed with stripes of a deeper or a lighter shade ; its stalk and eye are sunken ; its flesh is yellow, juicy, rich, saccharine, with a most agreeable acid, and excellent flavor. The tree bears enormously every other year and in the interval, occasionally a moderate crop.

No apple in the vicinity of Boston is so popular as this, at the present day. It is raised in large quantities for the market. It ripens in November and may be preserved till February and March, and is recommended for extensive cultivation.

BALTIMORE. Hort. Trans. vol. III. p. 120.

A remarkably large apple raised by Mr Smith near the city of Baltimore. An apple sent to London as recorded in the Lond. Hort. Trans. vol. iii. p. 120. Its circumference was fourteen inches and three quarters, and height four inches. Its weight twentythree ounces and a half. Its form was flat ; skin a pale citron, with a faint blush on the sunny side. Flesh well flavored and close at the core. If this variety should prove a good bearer it will prove a valuable acquisition to our list of fruits. I have heard nothing said of its productiveness.

BEAUTY OF THE WEST. Buel.

This is said to be a large and beautiful fruit, of good flavor, ripening in winter.

BELFLOWER, of Coxe.**YELLOW BELFLOWER.**

A very large and beautiful apple, its color bright yellow, with an occasional blush on the sunny side ; its form oblong, contracted towards its summit ; the stalk rather short, and both this and the eye deeply sunken ; the flesh tender, juicy, rich and finely flavored, and is alike excellent for the dessert or for cooking. It ripens early in November and will keep all winter. The pericarpium containing the seeds is very large and at maturity the seeds are heard distinctly to rattle when the fruit is shaken.

Mr Coxe has stated that this fruit from its beauty and excellence is the most popular apple in the Philadelphia market.

BLUE PEARMAN. S. H. S., Esq.

This fruit [not uncommon near Boston] has much to recommend it. It is a large fruit, of a red color next the sun, and covered with a dense blue bloom ; it is good for the table, excellent for cooking, and ripens from October to January. The tree grows strong and healthy and is very productive.

CARTHOUSE or GILPIN. Coxe. R. M., Esq.

This fruit is small ; the skin very smooth ; its color a deep crimson, a few stripes of yellow are occasionally visible ; its form rather oblong ; the eye and the stalk, which is short are each deeply sunken ; the flesh at maturity is yellow, tender, and of good flavor. It is in eating from January till May. An excellent fruit and a great bearer.

Mr Coxe supposes this apple was brought from Virginia and observes that it is not only highly esteemed for its excellence as a table fruit in spring, but that it has the property of hanging long on the tree in autumn, and is a good cider fruit.

CORNISH GILLIFLOWER. Py. Mal. Brent. Pl. xix.

JULY FLOWER. CORNISH JULY FLOWER. Hort. Trans.
vol. III. p. 323.

CALVILLE D'ANGLETERRE. Baumann Cat.

‘ A very old variety, being included in Evelyn’s list. It is a little above the middle size, of oval shape, with irregular ribs; the eye small, the stalk short and prominent, color olive green streaked with dull red. The flesh light yellow, of a rich aromatic flavor and fragrant perfume. It bears at the extremity of the branches, but is not very prolific; it keeps through the winter.’ A tree of this variety was sent by Mr Knight in 1823 to the Hon. John Lowell and has been by him distributed to all who have applied.

COS APPLE. Buel.

This is of a large size; the surface smooth as if oiled, and striped with dull red and green; its flavor juicy, mildly acid and well flavored. A good keeping winter fruit; a native.

CROW’S EGG.

A fruit of medium size, of an oval form, in the shape of an egg: its skin is smooth, covered with irregular and broken stripes of pale red on a yellow ground; the flesh firm, juicy, of a rich and excellent flavor. This is a remarkably dense apple. I received this fruit of Mr O. Fisher of Dedham.

DANVERS WINTER SWEET. R. M., Esq.

EPPES’ SWEET. Ib.

This apple is large; its color yellow with a faint blush on the sunny side; fine for the table and baking; its flesh very sweet and excellent. It ripens in winter and keeps

till April. A native handsome apple, very productive ; a profitable apple to raise for the market ; and recommended for extensive cultivation. The original tree is now standing on the farm of W. P. Endicot, Esq., Danvers, near Salem.

DUTCH CODLIN. Py. Mal. Brent. Pl. xxxvi. Lind.

FRENCH CODLIN. Forsyth.

GLORY OF THE WEST, of some collections.

‘ Fruit very large, of an oblong figure, with five ribs extending from the base to the crown ; the three upper ones being the broadest, and the two lower ones the shortest and most acute, in the manner of the Catshead. Eye small and deep ; stalk short and thick ; skin yellow, but when fully ripe, of an orange color on the sunny side. Flesh white, rather dry, juice a little sugary or subacid. A culinary apple from Michaelmas to Christmas.’

FLUSHING SPITZENBERG.

This fruit is large and rather flat : color a deep scarlet or crimson on the sunny side ; on the opposite a paler red covered with numerous stripes and small white specks. Its flesh white, saccharine, subacid and of peculiar flavor. Season from December to May. The young wood of this variety is distinguished from the *Æsopus* by its stronger growth and reddish color. It is an ordinary bearer.

GARDNER SWEETING.

An apple above the medium size ; its color pale, covered with small specks, with a bright blush on the sunny side ; its form globular ; its eye and stalk sunken ; its flesh firm, very sweet and fine. An excellent fruit, ripening in December and keeping till March. This tree is of slow growth. An apple was sent from Philadelphia to the

Massachusetts Horticultural Society in November, 1831, under the name of Paradise Winter Sweet, which was to all appearance no other than this identical fruit.

GOLDEN HARVEY. Py. Mal. Brent. Pl. xxiii.

BRANDY APPLE.

‘A dessert apple not larger than the Golden Pippin; the eye broad; the stalk long and slender; color light yellow, with a flush of red and embroidered with a roughish russet. It is called Brandy Apple from the superior specific strength of its juice: is of remarkably close texture, very rich in flavor, and will keep till April or May. The tree is of slender growth, and does not bear well for the first two or three years, but after that, it seldom fails. Blossoms small: color lilac and white.’ Specific gravity of its juice 1.085. A tree of this variety was sent by Mr Knight to the Hon. John Lowell in 1823, and has been by him distributed to all who have applied.

GOLDEN PEARMAIN. Coxe. Py. Malus.

RUCKMAN'S GOLDEN PEARMAIN. RED RUSSET. Ib.

The tree is of vigorous growth and compact in its form. The fruit is of medium size, flattened; its skin is russeted, and of a dull red color next the sun; the flesh is tender, rich, but not abounding in juice. A great and constant bearer. This variety is according to Mr Coxe valuable for cider as well as for other uses.

GREEN NEWTOWN PIPPIN. Coxe and others.

This variety is said to have originated in Newtown, Queen's County, Long Island. It is of middle size, its form is rather flat, its greatest diameter being about two inches and three quarters. Its color is green, but towards spring it changes to a yellow. Its flesh is whitish and

firm; juice saccharine, with a brisk lively acid, and a flavor somewhat aromatic.

This apple is stated by Mr Coxe to be a great bearer; and to produce a large quantity of cider, not however of the richest quality. It is further stated to be regarded as one of the best winter apples by inhabitants of the middle states, retaining all its flavor and juices till June. Many fine varieties are said to have been raised from this. In the Northern States and especially Massachusetts this apple is not so extensively cultivated, there are several sorts much more popular than this, and much more profitable for extensive cultivation; with us it is beginning to decay, as I have understood from very good authority.

GREEN SWEETING. Thacher's American Orchardist, p. 143.

The account of this apple is partly from Thacher's American Orchardist and partly from a communication of Dr Thacher in the New England Farmer, vol. VIII. p. 121.

‘A large handsome apple, resembling in size and form the Tolman Sweeting, though it far surpasses that variety in good qualities, abounding more in rich syrupy juice. It possesses the valuable property of retaining its soundness and flavor till the middle of June or July. It is an excellent apple for baking, a good bearer, more uniform and abundant in its bearing than trees in general, and deserves to be more extensively cultivated. It is supposed to have originated in the old Plymouth colony.

HEREFORDSHIRE PEARMAN. Coxe. Py. Mal. Pl xxii.

WINTER PEARMAN. Syn. Coxe.

Fruit above the medium size, slightly ribbed at its sides: its color yellow, covered with bright stripes of red

throughout, but a deeper red next the sun; the flesh very juicy and high flavored. A beautiful and excellent apple either for the dessert or for cooking. October to April. Mr Coxe has added that this variety is supposed to be the most hardy and uniformly productive apple of the middle states. The tree grows handsome.

HUBBARDSTON NONSUCH.

A large apple, a capital fruit; its color in the shade is yellow; but on the side next the sun and indeed over most of its surface it is bright red, interspersed with numerous small irregular stripes of a deeper red; its form globular, a little depressed at its base and summit; its stalk and eye are each sunken; its flesh yellow, juicy, rich, sprightly saccharine and very superior. It is a great bearer, and by many esteemed even superior to the Baldwin, and very superior to any other fruit known here bearing the name of *Nonsuch*. A very superior and celebrated native fruit, and recommended for general cultivation. It ripens in February and lasts till April. Originated in Hubbardston, Mass.

JONATHAN. Buel.

This fruit is of medium size, resembling the *Æsopus Spitzenberg*: but rather preferable for the table, the flesh being more tender, less acid, and equally high flavored. A winter fruit.

LADY APPLE.

POMME D'API.

Fruit very small; its skin smooth and at maturity of a beautiful yellow, with a deep red cheek on the sunny side; its form rather flat; the eye and stalk sunken; the flesh white, firm, and of a pleasant taste: its fruit grows in clusters, it is a great bearer and in eating from November till

March. A beautiful and admired dessert fruit but not highly flavored. The tree does not come suddenly into bearing. It is a very saleable fruit on account of its great beauty.

MAMMOTH. Py. Mal. Brent. Pl. vii.

A remarkably large variety of the Newtown Pippin, of an oblong but irregular shape ; [the figure measures four inches and a half in breadth] ribbed at the eye, which as well as the stalk is deeply seated ; straw color flushed with light red : the flesh breaks easy and bakes well : it keeps till February or March. The tree grows upright, with broad leaves. Blossoms rose color and white. Nothing is said of the productiveness of this variety. This is believed to be an American variety.

MARQUISE. Dr Fiske.

The fruit is of handsome size, of a red color ; the flesh melting, juicy, and of very fine flavor. The tree is of upright growth, a good bearer, and the fruit keeps till April. This variety and the account of the fruit was communicated by the Hon. O. Fiske of Worcester, Mass., where this fruit lately originated. He states that in the opinion of good judges, this variety is one of the finest of apples.

MARIGOLD. S. H. S., Esq.

A very handsome fruit, striped on a yellow ground ; its flavor good. This fruit keeps till June. The trees of this variety being young, their productiveness is not yet satisfactorily ascertained. This may possibly be the synonym of a variety elsewhere described.

MICHAEL HENRY PIPPIN. Coxe.

The fruit is large and handsome, oblong, flattened at the base, contracted towards the summit ; its color bright

yellow at maturity; the flesh is tender, juicy, rich and high flavored. It ripens in November and keeps well all winter. The tree is upright and handsome, of vigorous growth. Mr Coxe has stated that it derives its name from that of a resident of New Jersey who brought it first into notice.

MONSTROUS PIPPIN. Coxe.

NEW YORK GLORIA MUNDI.

An apple of extraordinary size; an apple of this variety is understood to have weighed two pounds; its skin is smooth, of a yellow color, interspersed with numerous spots of white; its eye and stalk are each deeply sunk: its flesh white, tender, juicy, and good, but not high flavored; an excellent cooking apple. Its great weight and size render it liable to be blown down by high winds. On this account Mr Coxe has recommended that only a few trees of this kind should enter into a good collection: he also has stated that this variety originated on Long Island.

MURPHY. R. M., Esq.

Its wood is of a remarkably dark color. Its fruit is of very handsome size, or the size of the Baldwin; but of a darker red, covered with dark red stripes, numerous blotches of a darker red on the sunny side; its flavor is very good. Raised from seed by Mr David Murphy of Salem, Mass. It ripens in November and keeps till January.

ORTLEY. Hort. Trans. vol. vi. p. 414. Floy. in Ib.

Fruit and scions of this variety were sent to the London Hort. Society by Mr Floy who has given the following account of the fruit. Received of Mr Ortley from New Jersey, an excellent keeping apple, distinct from the New town Pippin, and of finer flavor; the tree grows more thrifty and is a free bearer. The following is the descrip-

tion given of the specimens sent by Mr Floy at the meeting of that Society 15th March, 1825. The apple closely resembles the Newtown Pippin, but is a little more oval. The eye is large and deeply sunk; the stalk slender in a deep even formed basin; skin bright clear yellow in the shade; but bright scarlet with a few spots of russet next the sun; flesh yellowish, crisp, and breaking, very juicy, with the same pine-apple flavor which distinguishes the Newtown Pippin.

PECK'S PLEASANT. S. H. S., Esq.

This fruit is one of the most saleable apples in the market of Providence; its skin is smooth, of a yellow color in the shade, with a blush next the sun; its flavor is pleasant and good; an excellent dessert fruit. It ripens from November to February.

PENNOCK'S RED WINTER. R. M., Esq.

PENNOCK, of Coxe.

This apple is very large and handsome; its color deep crimson, interspersed with small spots or blotches of a dark color on the side next the sun, with streaks of yellow indistinctly visible; its form generally flattened at its base and summit, which are both a little inclined; its flesh is yellow, tender, juicy, sweet, and excellent. It ripens in November and will keep till March. An excellent fruit, highly deserving of cultivation. The fruit has not been seen here so large as at Philadelphia. Mr Coxe has stated that this tree is a great and constant bearer, keeps well, and is a popular apple in the Philadelphia market, and that it is an American variety.

PICKMAN. R. M., Esq.

A fruit of a globular form, and of a straw color; its

flavor combined with a good portion of acidity, is very rich and good. A winter fruit, fine for the table or for cooking. A good fruit and very productive and deserving of cultivation. This is much cultivated by Mr Ware at or near Salem, who thinks it a native.

POWNALE SPITZENBERG. Buel.

So named from its native place, and its resemblance to the *Æsopus* Spitzenberg. It is a very superior winter fruit, and a native.

PRIESTLEY. Coxe.

This fruit is large; the skin smooth, of a dull red color, striped and spotted with pale green; its form oblong; the flesh is white, of a pleasant aromatic flavor; an excellent fruit for the dessert or cooking: the tree is a great bearer and the fruit ripens in December and keeps all winter. This variety originated according to Mr Coxe in Pennsylvania, and was first cultivated by a Mr Priestley.

RED CALVILLE. Bon. Jard. Lindley.

CALVILLE ROUGE, CALVILLE ROUGE D'HIVER. Bon Jard.

The fruit is large, its length is equal to its breadth, which is greatest near its base. The eye is deeply sunk and the stalk is inserted in a sunken cavity; the skin is a bright red; and on the side next the sun a deep crimson: flavor good. A beautiful apple, ripe in October and may be kept till winter. Tree grows remarkably upright.

(P) **REINETTE FRANCHE.** Cours C. d'Agr. v. XII. p. 215.

Fruit large, round, irregularly formed and very much pointed with brown; sometimes slightly red next the sun; the flesh is firm, yellowish white, sugary, agreeable. This

apple will keep a year ; and is, notwithstanding the excellence of the Reinette Grise and the Reinette du Canada, the best of all ; but it varies much in goodness, in size, and duration, according to the soils, expositions, seasons, &c. Mr Coxe speaks well of this fruit.

(P) REINETTE GRISE. Cours Com. d'Agr. v. XII. p. 214.

The fruit is of medium size, flattened at its summit and base ; the skin thick, rough, greenish yellow in the shade, reddish yellow next the sun ; the flesh is firm, yellowish white, sugary, high flavored, with a very fine and very agreeable acid. This is regarded as one of the best of apples ; but notwithstanding this, the Reinette Franche disputes the claim. It keeps long after winter. Mr Coxe speaks well of this fruit.

RHODE ISLAND GREENING.

JERSEY OR BURLINGTON GREENING, of Coxe.

A very large apple ; its color a yellowish green, covered with dark spots or blotches ; its form is rather globular, flattened at the base and summit ; its stalk and eye deeply sunken ; its flesh is yellow, tender, rich, juicy, of an agreeable flavor in which acid predominates. The fruit is at maturity from November to March. This tree is a most abundant bearer every other year, and has been on this account most extensively cultivated in Rhode Island and Massachusetts, and is here preferred for its productiveness to the Green Newtown Pippin.

(R) RIBSTON PIPPIN.

FORMOSA PIPPIN. Hort. Trans. vol. III. p. 322.

TAVERS APPLE. Hort. Trans. vol. III. p. 322.

GLORY OF YORK. Hort. Soc. Cat., according to Lind.

This apple is esteemed by the English as with us a very first rate fruit. This fruit is of middle size, form globular,

but somewhat flattened. Skin pale yellow, mottled thinly with red on the sunny side, a thin russet around the crown and stalk; the flesh is pale yellow and firm. The juice is saccharine, with a most agreeable acid, rich, aromatic and of delicious flavor. It ripens from December to February, and is rather an ordinary bearer.

ROXBURY RUSSETTING.

This capital old variety is a native of Massachusetts. It is a large fruit; its color a uniform brownish yellow russet, sometimes intermixed with green; on the sunny side an occasional blush; its form globular, flattened a little at its base and summit; its stalk and eye are sunken; its flesh white, juicy, rich, sub-acid and excellent; an old and famous variety in Massachusetts, a great and constant bearer; it seldom fails. Great quantities of this fruit are raised in the neighborhood of Boston for the market and for exportation, and although the Baldwin, the Hubbardston Nonsuch, and perhaps some other winter fruits, far exceed this variety in beauty and excellence of flavor, and at least equal it in productiveness, the Roxbury Russet surpasses them all in its property of long keeping. They are fit for use in winter and keep till June or July.

WINTER SEEK-NO-FURTHER, of Coxe, No. 50.

‘ This apple is a native of one of the Eastern States; it is a large fruit, of a round but oblong form; the skin smooth, of a yellowish green color; the flesh yellow, juicy, rich and tender; an agreeable early winter apple: the tree bears well, the trunk straight and tall, shooting its branches upwards in a regular form.

SWAAR. Coxe, No. 101.

‘ In the Low Dutch this name is said to signify a heavy

apple. It is a highly celebrated winter table fruit in some parts of New York, and New Jersey; it is a large green apple, of great and uncommon flavor and richness; highly deserving of cultivation in every collection of fine fruits.'

(R) SWEENEY NONPAREIL. Hort. Trans. vol. iv. p. 526. Lindley.

Raised by J. N. Parker, Esq. at Sweeney in Shropshire in 1807. This variety was sent by Mr Knight in 1822 to Hon. John Lowell and has been by him distributed to all who have applied. The tree is stated to be an abundant bearer and sometimes the fruit grows large; the largest ever produced was eleven inches in circumference and weighed $9\frac{1}{4}$ ounces; fruit rather large, in form of a Nonpareil; three inches in diameter but less in height; eye small, not deep; stalk in a cavity, wide but shallow; color green with white spots and patches of russet all over; sometimes a brilliant color next the sun. Flesh firm, crisp, with abundance of juice, in which a powerful acid is combined with much sugar. A dessert apple from November to March.

WINE APPLE. Cox. R. M., Esq. S. H. S., Esq.

HAYS APPLE. Cox. syn.

A very large and beautiful apple; its color bright red; a few small stripes and blotches of yellow occasionally appear on the shaded side; the form is globular, a little flattened at the ends; its stalk short, and deeply sunken; its eye in a deep cavity; its flesh rich and excellent. It ripens the last of October and may be kept till February or March. A very fine and productive apple and highly deserving of cultivation. An excellent judge of fruit in Rhode Island pronounces this variety one among the best of apples; Mr Cox. has stated that in New Jersey it is variously called *Large Winter Red* and *The Fine Winter*;

that it is not only an admired table fruit, but excellent for cooking as well as for cider ; that it bears abundantly, and is one of the most saleable apples sold in the Philadelphia market. The tree grows large and handsome.

WINTER SWEETING.

GRAFTON SWEETING, SEAVER SWEETING.

This apple is large; its skin smooth, of a bright yellow color, but on the sunny side a fine blush; its form oblong, a little contracted towards its summit, its stalk and eye sunken; its flesh yellow, juicy, sweet and fine flavored. A profuse bearer and very valuable either for baking or as a dessert fruit. It is at maturity from November till March. The trees are of vigorous and upright growth, leaves large.

WINTER WHITE CALVILLE. R. M., Esq.

CALVILLE BLANCHE D'HIVER. Duh.

BONNET CARRE. Ib.

This fruit is large; its color at maturity of a bright yellow, with a bright red blush on the sunny side; its form rather flat, and ribbed; its eye and stalk deeply sunken; its flesh white, tender and pleasant, but not high flavored. It is worth cultivation however. It ripens in November, and keeps till March.

YELLOW NEWTOWN PIPPIN.

LARGE YELLOW NEWTOWN PIPPIN. COXE.

Mr Coxe esteems this fruit in all its varieties the finest apple in our country, and probably in the world. He informs us, ' that it varies much in quality with soil, aspect, cultivation, climate, and age: although peculiarly adapted to strong high ground, it may be raised in great perfection in all good wheat and clover land; the better the soil, the better will be the fruit; for the growth is not vigorous,

and in every soil the bark has a rough appearance ; it ripens in November and is often kept till May and June : it is a superior table fruit and an excellent kitchen and cider apple. The tree does not arrive at maturity till twenty or twentyfive years of age.'

CLASS I.—SECTION IV.

CELEBRATED CIDER APPLES CULTIVATED IN THE UNITED STATES.

HARRISON. Coxe.

The most celebrated cider apple of Newark, New Jersey, where they make so much cider and some of the finest in the world : cider made from this fruit, according to my authority, when fined and fit for bottling frequently commands ten dollars per barrel at New York. It is cultivated more extensively there and particularly on the Orange mountain than any other apple. The tree is of strong, and vigorous growth, the wood hard, a certain bearer, and wonderfully productive. One tree in Essex county, New Jersey, produced one hundred bushels in a year. It requires ten bushels for a barrel of cider, which is so strong that it will produce fourteen quarts of distilled spirits. The fruit is below medium size, rather long, and contracted towards the crown ; stalk very long, (hence often called *Long Stem*,) deeply indented at the summit and base ; color yellow, covered with many black spots ; flesh yellow, firm, tough ; flavor pleasant, and sprightly, but rather dry ; cider rich, sweet, of great strength. The fruit falls about the first of November, is remarkably sound, and will keep well. It originated in Essex county, New Jersey.

TALIAFERO. Hon. J. C. Gray.

For this fruit and the information concerning it I am indebted to the Hon. John C. Gray, of Boston. The fruit is the size of a grape shot, or from one to two inches in diameter; of a white color in the shade, but for the most streaked with red; with a sprightly acid; not good for the table, but apparently a very valuable cider fruit. This is understood to be a Virginia fruit, and the apple from which Mr Jefferson's favorite cider was made.

VIRGINIA CRAB.

HEWES' VIRGINIA CRAB. Coxe, No. 86.

A very small globular shaped cider apple; its color a dull red, intermixed with streaks of pale yellow; the juice acid and austere. An old and celebrated cider apple. Mr Coxe states that the origin of this apple is satisfactorily traced to Virginia, where trees of nearly a hundred years of age were standing in an orchard, at the time he wrote.

CLASS I.—SECTION V.

VARIETIES FOR PRESERVING OR FOR ORNAMENT.

SIBERIAN CRAB.

A very small and beautiful apple, growing in clusters; its color at maturity bright scarlet; its form globular; its stalk long. Its principal use is for preserving, for which purpose it is much admired. The trees though of delicate growth are upright and handsome; the leaves shining

and beautiful ; they produce abundantly, and when at maturity rather resemble plums or large cherries at a distance, and have a beautiful aspect.

YELLOW SIBERIAN CRAB.

The appearance of this tree and its leaf are similar to the above ; its fruit is globular, and beautiful, the size of a middling plum ; its stalk is long, and the fruit grows in large clusters ; its color a fine clear yellow, or of a rich golden hue. This variety is yet rare with us ; it is a variety even more productive than the red ; and a tree loaded with its golden fruit, presents in autumn a beautiful sight to behold.

CHINESE DOUBLE FLOWERING. Cours Comp.
d'Agr. vol. xii. p. 221.

POMMIER DE LA CHINA. Ib.

The tree is handsome and upright, does not grow large ; the flowers are large, very double, and in clusters, and are beautiful, resembling small roses of, a delicate rose color. It is not uncommon with us ; when in blossom its appearance is superb. According to my authority it originated in China ; the fruit is small, but tolerable for eating.

SOUTHERN APPLES.

THE following are stated to be some of the most esteemed varieties of native apples of Virginia. Part are described from the authority of Mr Coxe, and part on the authority of a Virginian, which I extract from that highly valuable Journal, the *New England Farmer*, vol. viii, No. 1. The account of these was thus communicated to the public by Wm. Prince, Esq. proprietor of the Linnæan Botanic Garden, Flushing.

BEVERLEY'S RED. A Virginian.

The fruit is very large, the skin smooth, of a crimson color; flesh very white of a pleasant flavor. A winter fruit.

CARHOUSE OR GILPIN. Coxe.

Described in a former page.

CURTIS. A Virginian.

The skin is smooth, of a red color; flesh juicy and pleasant. Ripe middle to end of August.

GLOUCESTER WHITE. Coxe.

Described in a former page as an apple of high reputation.

LIMBER TWIG. A Virginian.

Branches drooping or pendant; the fruit is a greenish color, with a blush next the sun; the flesh very juicy, and very pleasant at maturity, which is not till into winter. It keeps a long time.

PRYOR'S RED. A Virginian.

The fruit is very large; color brownish red; its flesh at maturity juicy, and very fine. A winter fruit.

RAWLE'S JANETT. A Virginian.

The form is globular, flattened at the summit and base; the color red and green; flesh very fragrant, more juicy, and of superior flavor to the Newtown Pippin, and keeps equally as well.

ROYAL PEARMAN. Coxe.

Fruit fine, of a large size, flattened; skin rough, of a fine russet color, but red next the sun and faintly streaked with russet: flesh a rich yellow, firm, but at maturity tender, sweet, and of very sprightly flavor. A good table apple; excellent for cider; and highly esteemed by the planters of Virginia near Richmond, from whence Mr Coxe states he procured it. Tree tall, and upright, of

regular form; foliage luxuriant. It bears uniformly and abundantly. It ripens in October and will keep till February or March.

STRIPED JUNE APPLE. A Virginian.

The fruit is as fragrant as a pine-apple melon. It ripens the last of June and beginning of July.

SUMMER CHEESE. A Virginian.

Brought from Old Jamestown seventyfive years ago; a delicious fruit.

VIRGINIA GREENING. A Virginian.

The fruit is of medium size; color green, striped with red; flavor very superior. A winter fruit.

WAXEN APPLE. Coxe.

The fruit is large, its form flattened and inclined; the color yellow; stalk short; eye deeply sunk; flesh firm, breaking, juicy, rich, sprightly. It ripens in December and is much esteemed in Virginia.

CLASS II.

SELECT FOREIGN VARIETIES OF APPLES DESERVING TRIAL IN THE CLIMATE OF THE UNITED STATES.

SUCH AS MAY PROBABLY SUCCEED WITH US.

The following list consists of celebrated French, German, and a few Italian apples. Also the principal part of those sorts which Mr Ronald states are rendered exquisite

on their walls: Such, evidently need our climate to bring them to their full maturity and excellence. I have great confidence in the judgment and experience of Mr Ronald. Mr Loudon I think has stated, that he had eight hundred varieties of apples in bearing. Except these, I believe I have brought down to our latitudes but eight other varieties of English apples; all celebrated for their excellence, either for the dessert, or for cider; and four of these were originated, if not sent us, by Mr Knight. Also two highly celebrated Russian apples. I have, however, I must confess, the greatest hopes in those very sorts, which, like some of our best American varieties of fruit, prove good for nothing in England, except on their walls, and perhaps not even there — I mean the celebrated Italian apples, for reasons I have stated under the head of *climate*. Also for other reasons stated at the head of Class III.

As to those recommended by Poiteau as the best known in cultivation for *them*; I have only to hope that he does not refer in particular to the latitude of the North of France; (I have under 'CLIMATE' attempted by evidence to show, that the climate of Paris is not a parallel in many respects even to that of Boston.) Gentlemen of intelligence and judgment who have resided both at Paris and in England, have assured me that the apples of those places are not comparable to ours. The late Governor Eustis, I have good authority for stating, expressed the same opinion. A gentleman of the greatest intelligence near Boston who has made trial of a great many celebrated varieties of English apples, has lately stated to me, that he has been disappointed in them.

R. Sorts particularly recommended by Mr Ronald as being rendered exquisite on walls and highly deserving such a situation.

P. Sorts designated by Poiteau as the best in general cultivation in France, and by him particularly recommended.

W. Sorts described by Dr Willich from the selections (as I am informed) of the celebrated German writer M. Christ.

CLASS II.—SECTION I.

SUMMER FRUIT.

CALVILLE ROUGE DE MICOUD. Hort. Trans.

From the 5th vol. London Hort. Trans. p. 242, I extract the following account of this very extraordinary fruit. It is from a communication of M. Thouin. This tree produces three crops of fruit annually: the first flowering is in April, and abundant; the second is in June and less abundant; the third takes place in August, September, October and November. The tree originated on the farm of the Baroness de Micoud, near La Charité sur Loire, in the department of the Nièvre, and bears three thousand apples annually. The tree is striking in its appearance; 'the dense, dark green, shining foliage during three fourths of the year, enamelled with numerous branches of delicate rose colored blossoms, and scattered over with fruit of a diversity of color, renders it a most interesting object of cultivation, especially as an ornament to our lawns and shrubberies, producing an effect not less novel than agreeable.' The fruit of the first crop is globular, depressed at its summit and base; its height two inches, its diameter nearly three; it is divided from its base to its summit by three or four ridges, which give it an angular appearance, the eye and the stalk are each sunk in a cavity; the color is a deep dull red next the sun, but lessened in the shade, interspersed with stripes and spots of pale red. The flesh is yellowish white, fine, breaking, juicy, a sweetish acid, and agreeably perfumed, with a crystalline appearance. It commences ripening the middle of July and the fruit is mostly ripe in August and continues ripening till Novem-

ber. The crop of the second flowering is fit for the table in the end of October; they are the size of hens' eggs and are of equally good quality with the first. The crop of the last flowering are small, no larger than the Pomme d'Api; they are checked in their growth by frost; but will ripen in doors, and may be eaten raw, but if roasted or stewed they acquire a sweet and delicate flavor.

(W.) STREAKED ROSE APPLE. Dr Willich.

POMME ROSE PANACHE'. Ib.

' A very early, and beautiful summer fruit, of a delicious flavor and taste; it is of a middling size, rather oblong than round; of a fine red color, mixed with yellow on the shaded side, streaked with a deeper red on the southern aspect, but everywhere marked with deep yellow dots. Its pulp is of a glossy white, tinted with rose colored streaks about the core and beneath the skin; mellow and uncommonly mild; the fruit ripens in August; and the tree does not attain a large size.'

CLASS II.—SECTION II.

AUTUMN FRUIT.

(R.) BRADDICK'S NONPAREIL. Hort. Trans. vol. III. p. 268. Lindley. Py. Mal. Pl. xxxiv.

Fruit globular, flattened, three inches broad, not quite so deep; not much diminished towards the eye, which is in a deep basin, and russetted around; skin smooth, yellowish brown in the shade, but brownish red next the sun. Flesh

yellowish; sweeter and more melting than the old Nonpareil; juice sugary, rich, aromatic: a valuable dessert apple, ripe October till Christmas, raised by John Braddick, Esq.

(R.) BRINGEWOOD PIPPIN. Lindley. Py. Malus.

Fruit small, globular, flattened at the crown; eye small, open; stalk half an inch long but protruding beyond the base; color bright golden, full of pearly specks, a few russety stripes next the sun; flesh very firm, breaking, somewhat dry; juice saccharine, highly perfumed, aromatic. A most excellent dessert apple from October till March. Raised by Mr Knight from a seed of the Golden Harvey and pollen of the old Golden Pippin.

(R.) DELAWARE. Py. Mal. Brent. Pl. xxxviii.

TRUMPINGTON.

‘It is of medium size and flat form, has five prominences round the eye, which is seated in a broad cavity. It is of a rich golden color, blotched with deep red, and has a very unique and striking appearance on the tree when ripe; the flesh is firm, rich and highly flavored: this is a very desirable article for the dessert from October till Christmas; the tree grows diffusely and bears well; the blossoms are white with lilac. This sort is believed to be from America.’

DUCHESS OF OLDENBURGH. Py. Mal. Brent.
Pl. vi.

A Russian apple of middle size; shape globular, about three inches and a quarter in breadth; color golden, richly streaked with bright red. This is a very beautiful sort, of pleasant flavor, with enough of acid; it is valuable either for the table or for sauce: ripens in September and Octo-

ber; grows freely and bears well. The flowers lilac with white.

EMPEROR ALEXANDER. Hort. Trans. vol. II. p. 407. t. 28. Lindley.

ALEXANDER, APORTA.

The trees of this Russian variety while young, grow strong and upright, afterwards more irregular. It is an abundant bearer, the fruit hangs on till a late period. A specimen was sent from Riga in 1817 measuring $5\frac{1}{2}$ inches in diameter, 4 inches deep, and 16 inches in circumference, and weighing 19 ounces. Fruit very large, cordate, narrowed at the crown; eye deeply sunk in a broad cavity; stalk short, sunk to the level of the base; greenish yellow, slightly streaked with red in the shade, but beautifully marbled and streaked with bright red and orange next the sun; flesh yellowish white, crisp and very tender, juicy, rich, sugary, of an aromatic flavor. Ripe in October and will keep till Christmas. A valuable and excellent dessert fruit. This fruit will probably ripen here in September.

(R.) FRANKLIN GOLDEN PIPPIN. Py. Mal. Brent. Pl. XVIII.

‘ It is of American origin; considerably larger than the old sort, of an oblong shape, diminishing towards the eye, which is a little flattened, of an agreeable yellow color mixed with a greenish hue, and freckled with dark points; the flesh has a brisk flavor with more acid than any other of the golden pippins; the tree is also more robust, bears well and is but little subject to canker. The diameter of this apple according to the figure is two inches and a half.

P.) GALO BAYEUX. N. Duh. Pl. cciv.

A beautiful apple, cultivated at Vire, in the department of

Calvados, not known in the environs of Paris. They hesitate not to declare it is well worthy to occupy a distinguished place. The tree is of medium vigor, upright, of a handsome aspect, and very productive; the fruit is large, very regular, and constant in its form; the large fruit is flattened: when overloaded the fruit is small and lengthened; its medium size is 3 inches in diameter and $2\frac{1}{2}$ in depth. The eye is small, the stalk short and fleshy, and each in a regular cavity. The skin is rough, washed almost throughout with red on a yellow ground, interspersed sometimes with dark spots: the flesh slightly yellow, savory, agreeably perfumed; the juice pleasant and sweet: pleasant as the Fehnouillets, but with a peculiar and indescribable flavor. One of the most beautiful and best of dessert apples; it ripens 15th September. Mixed with a certain proportion of acid apples, it makes superior bottling cider.

GRANGE. Py. Mal. Brent. Pl. xxxii.

‘For this excellent variety, as well as many others, we are indebted to Mr Knight, president of the Hort. Society. It is of medium size, a rich golden color, embroidered with some russet, and light and dark specks; of a globular shape, rather flattened, and without any inequalities of surface; the eye is large and prominent: the flesh is yellowish, close in texture, of a pleasant flavor. It is excellent either for the dessert or for cider, and is in use from October to Christmas. The tree grows well and is little subject to canker.’ Specific gravity of its juice 1.079.

GROSSE PIGEONET. N. Duh. Pl. cxciii.

This fruit is the largest and most beautiful of all the Pigeonets; its form regular, oblong, contracted towards its summit; its height three inches, its breadth two; its

eye and stalk sunken ; its skin fine with gray specks ; its color in the shade yellow ; but of a beautiful red on the side next the sun, the whole covered with a blue bloom ; its flesh white, breaking and very fine ; its juice abundant of a very agreeable acid. This fruit ripens in October and keeps to the last of November.

(R.) KING OF PIPPINS. Py. Mal. Brent. Pl. xxxviii.

‘ Is of middle size, and oblong shape, the eye a good deal depressed ; of a clear golden yellow color, with a flush of fine red, a little striped on the exposed side. The fruit is rich and juicy, equally adapted to the table or kitchen use ; this is a first rate sort which no garden should be without. It is of upright growth and bears well, but like other superior kinds is rather apt to blight in unfavorable seasons.’ Late autumn.

(R.) KIRKE’S GOLDEN REINETTE. Py. Mal. Brent. Pl. xii.

‘ Is an improved variety of the old Golden Reinette. The fruit is in general more clear and beautiful, the flavor equal. The tree bears as well, and is more healthy in its growth.’

NOBLE PIPPIN. Dr Willich.

PEPIN NOBLE, of the catalogues.

‘ An exquisite fruit for the table : of an oblong shape, tapering towards the eye, smooth, bright yellow, with a few red streaks on the southern side. This apple ripens early and remains sound till the end of April. The tree though not growing tall, bears ample fruit, even in those seasons which are unfavorable to the blossoms ; it thrives in situations where other trees will not prosper.’

(R.) PADLEY'S PIPPIN, Pom. Mag. t. 151, Lind.

PADLEY'S ROYAL GEORGE, of Ronald?

The fruit is rather small, and flattened; eye very small in a shallow depression; stalk slender, projecting beyond the base, and in a slight cavity: skin pale dull yellow, but tinged with orange next the sun and mostly covered with rough russet. Flesh greenish yellow, breaking, saccharine, with a very pleasant aromatic flavor. A very excellent apple in November and December, raised about 1810.

(P.) PIGEONNET. Bon. Jard.

CŒUR-DE-PIGEON. Ib.

MASEAU DE LIEVRE. Ib.

The fruit is of medium size, its form oblong; its color is red, striped with deep red next the sun; its flesh is fine, pleasant, and agreeable: it ripens in autumn and keeps till December.

PINE APPLE RUSSET. Lindley.

HARDINGHAM RUSSET. Ib.

Fruit about the medium size, roundish ovate, angular at its sides; its height nearly equal to its breadth; eye small slightly depressed; stalk in a cavity; color greenish yellow, on the opposite side yellow russet; flesh very pale yellow, crisp, short and tender; juice more abundant than in any other apple I have ever met with; saccharine, with that just proportion of acid which characterizes our most valuable fruits, and of a spicy aromatic flavor, with a high perfume. A dessert apple from the end of September to the middle of October. Lindley further adds that this most valuable apple has taken its name from the abundance of its juice which somewhat resembles that of a pine-apple, and that it is undoubtedly one of the best apples of the season, and highly deserving of cultivation.

POMME ALEOSE. N. Duh. Pl. cccx.

The fruit is very large, contracted towards the crown; its diameter $3\frac{1}{2}$ inches, its height $2\frac{1}{2}$. The stalk short, and thick, in a wide cavity; the eye slightly depressed in a narrow cavity; its color yellow in the shade, dull red next the sun, and striped with deeper red, sometimes dark stripes almost approaching to black. Flesh greenish white, very tender and fine, of a peculiar flavor; juice slightly acid, not abundant. August till January.

(P.) POMME PRINCESSE. N. Duh. Pl. viii.

The tree is of medium size; irregular in its growth, its young wood is strong; its leaves are oval, serrated, deep green above, pale and downy below; the fruit is of medium size, 3 inches in diameter, $2\frac{1}{2}$ in height; its stalk short, in a slight cavity; the skin is fine, of a beautiful yellow in the shade, striped with red next the sun; and covered with brown irregular points; its flesh is yellowish white, fine, and excellent; its juice not abundant, but agreeable and sweet. This excellent apple ripens in October and keeps till January. It is one of the best species of Reinettes; it was not known to Duhamel and is even rare at this day.

(W.) PRINCE'S TABLE APPLE. Dr Willich.

LOS KRIEG.

A delicious autumnal fruit vieing with the pear renet: it is of the Calville family; moderately large; somewhat oblong; whitish and covered on the south side with red streaks. The tree does not rise to a considerable height.'

(R.) RED INGESTRIE. Py. Mal. Brent. Pl. i.

'A first rate dessert apple of medium size, color a bright

golden yellow, tinged on the sunny side with bright scarlet ; form somewhat globular, about two inches deep and two inches and a half in diameter ; eye and stalk sunken ; flesh very juicy, crisp and high flavored. In perfection through September and October.' Tree of wide spreading growth. Raised by Mr Knight from the Orange and Golden Pippin united.

(P.) REINETTE DE BRETAGNE. Bon. Jard. p. 245.

The fruit is beautiful, its color a deep lively red, dotted with yellow ; its flesh is firm, sweet, slightly acid, and excellent. This is a late autumn or November fruit.

(P.) REINETTE GRISE DE GRANVILLE. Cours Complet d'Agriculture, vol. XII. p. 215.

Differs little from some of the other Reinnettes, but appears to be more hardy. It has resisted the severity of those seasons which destroyed the fruit of the other Reinnettes. Calvel.

(R.) SCARLET PERFUME. Py. Mal. Pl. xxxvii.

COLE APPLE. Ib. and Pom. Mag.

'It is a new sort, moderately large, flattened at the eye and stalk, nearly globular, with slightly projecting ribs ; if divided transversely one line across is longer than the other, giving the fruit the appearance of being flat sided ; the color of three fourths of the apple is a rich deep red, very little striped ; the flesh is juicy and rich, with a little spicy flavor ; very desirable for the table ; but from its size is fitter for culinary purposes. It is ripe in September and October.

(R.) WYKEN PIPPIN. Lindley. Loudon.

Fruit below medium size, flattened at its base and sum-

mit; eye small in a shallow basin; stalk short, not deep sunk; color yellowish green with specks of gray, but pale dull brown next the sun. Flesh greenish yellow, firm, breaking, sugary, with a little musky perfume. A dessert apple from October to December. Raised from a seed brought by Lord Craven from his travels in Holland or France. A great favorite throughout the whole country of Warwick. All the cottages around Wyken have from two to twelve trees each of this apple in their gardens.'

CLASS II. — SECTION III.

WINTER FRUIT.

BARCELONA PEARMAN. Pom. Mag. t. 85. Lind.

SPECKLED GOLDEN REINETTE, GLACE ROUGE, KLEINER CASSELER REINETTE. According to Pom. Mag. and others.

REINETTE ROUGE, REINETTE ROUSSE, REINETTE DES CARMES, of various collections according to Lindley.

I will not vouch for the correctness of the last synonyms. But this is not the *Reinette Rousse* or *Reinette des Carmes* of the Cours Complet d'Agriculture, which is very different from the fruit I am about describing.

Fruit of medium size, oval, not angular, rather long; eye small, not deep sunk; stalk short, rather thick; covered with numerous irregular russet spots; a brownish yellow in the shade, but deep red next the sun; flesh firm, yellowish, with a rich aromatic but slightly agreeable acid. A dessert apple from November till February. A good bearer and deserves to be more extensively cultivated.

(R.) BEACHEM WELL SEEDLING. Pom. Mag. t. 82. Lindley.

MOTTEUX'S SEEDLING.

Fruit below the medium size, roundish, depressed; the eye small, slightly sunk; stalk short, rather thick; color pale yellow, but slightly tinged with red next the sun. sprinkled with brown spots. Flesh yellow, tender, juicy, and pleasant. An excellent dessert apple from November till April. Raised by John Motteux, Esq. of Beachemwell. The tree is hardy and a very good bearer

BLENHEIM ORANGE. Py. Mal. Pl. xxxi. Lindley.

BLENHEIM PIPPIN, WOODSTOCK PIPPIN. According to Lindley.

The fruit is large, of a globular form, broadest at the base; its diameter 3 to 4 inches, its depth $2\frac{1}{2}$ to 3; the eye hollow and open, of a yellow color in the shade, but dull red next the sun, with streaks of deeper red; flesh yellow, breaking, sweet, juicy, extremely pleasant and high flavored. This is one of the largest varieties of dessert apples and lately originated near Blenheim. Its season from November to March.

(W.) (P.) BORS DORFER. Dr Willich. Bon. Jard. Lindley.

RED BORS DORFER, of Dr Willich.

BORS DORFF, of Lindley.

POSTOPHE D'HIVER. Bon Jard.

BORSTORF. Ib.

The two first authorities I name, describe this fruit as a delicious German apple, of a large size, beautiful as the Canadian and in size and form like the Victorious Reinnette, and almost excelling the latter variety; its form globular, slightly narrowed at its crown, and indented at its summit and base; yellow in the shade, but for the most part a fine glossy red; dots of yellow and sometimes warts dispersed over the whole. Its flesh uncommonly white, tender, juicy

sweet, partaking of the odour of roses. The core is encompassed with a bright red vein. It ripens about Christmas, when the Borsdorfer begins to decay. The tree comes early into bearing and bears abundantly every year; and the vernal blossoms resist the severity of night frosts. The leaves are more level, more round and shining than other species. The Bon Jardinier has designated this as one of their best varieties. This variety is here, but I doubt whether it has yet produced fruit.

BRABANT BELLE FLEUR. Py. Mal. Brent. Pl.
XXXI.

IRON APPLE. Ib.

‘Received by the Horticultural Society of London under the name of Iron Apple of Mr Booth of Hamburgh, — probably so called from the weight and solidity of its fruit. It is very large and handsome, rather conical in shape, slightly ribbed, yellow colored, with red stripes. It is a capital sauce apple, juicy, and of very pleasant flavor; in use from December till April.’ This may improve its character in our climate, and be what it probably was in Brabant.

(P.) CANADIAN REINETTE. Pom. Mag. Bon Jard.

REINETTE DE CANADA of the Bon Jard. p. 343.

GROSSE REINETTE D'ANGLETERRE of Dub. According to Lindley.

REINETTE DE CANADA BLANCHE. Hort. Soc. Cat.

REINETTE GROSSE DE CANADA. Hort. Soc. Cat.

REINETTE DE CANADA A CÔTES. Hort. Soc. Cat.

REINETTE DE CAEN

PORTUGAL APPLE

MELA JANUERA

} According to Pom.
Mag.

The tree is large and very productive; the fruit is very large and beautiful; its form is globular, flattened at its summit and base; its eye is in a middling cavity, with projecting ribs extending thence half way down its sides; its stalk is short, inserted in a wide cavity: its skin is yellow

in the shade, slightly red next the sun ; its flesh is yellowish white, firm, juicy, with but little acidity, and very good. It has cavities at its centre and it keeps till February and March.

(R.) CHRISTIE'S PIPPIN. Py. Mal. Brent. Pl. XII.

Raised by a Mr Christie at Kingston. It is about the size and shape of a Nonpareil, the eye very neatly placed in an open cavity: lemon colored, with a very little faint red striping. This is a very nice dessert apple: the pulp is soft, with an agreeable sweetness and enough of acid ; in eating from November till January. The tree bears abundantly, but is of delicate growth.'

COURT PENDU PLAT ROUGEATRE. Py. Mal. Brent. Pl. XII.

An estimable dessert apple of Nonpareil size [small] ; very flat in shape, and the eye much sunk in a wide cavity ; the color yellow, a good deal covered with full red ; it is of high saccharine flavor and of close consistence ; the fruit keeps till February or March. The tree grows upright and bears well ; the flowers are pink and white.'

(R.) COURT OF WICK OR RIVAL GOLDEN PIPPIN. Py. Mal. Brent. Pl. XII.

'A dessert apple from Somersetshire, which vies with the Golden Pippin in richness of flavor, and much excels it in other respects ; it is rather larger [about two inches and a half in diameter according to the figure] of a golden hue with red stripes, very handsome. This is esteemed the finest Christmas apple we have ; keeps well till February or March. The tree is of wide spreading growth, seldom cankers, and never fails bearing. Blossoms white with a little light pink.'

D'ASTEMS. Py. Mal. Brent. Pl. xxxi.

STRIFLING D'HIVER.

'A noble kitchen fruit, large, and of a globular shape; a little flattened at the eye, which is large, and deeply sunk; green, with some dull red streaks chiefly on the top of the fruit. It is a first rate sort, firm, with rich flavor, and dresses well; will keep till March or April.' Evidently a southern fruit, may recover even a better character with us.

DUTCH MIGNONNE. Pom. Mag. Py. Mal.

DUTCH MINION. Py. Mal. Brent. Pl. xxvi.

REINETTE DORE'E, of Mayer

COPMANTHORPE CRAB

CHRIST'S GOLDEN REINETTE of the Taschenbach.

According to the Pom. Mag.

The fruit is over medium size, a little flattened and diminished at its crown; the eye small, the stalk rather short and slender; they are both deeply inserted; the skin is greenish yellow in the shade, but on the side next the sun light red, striped and marbled with deeper red. The flesh is firm, crisp, juicy, sub-acid, aromatic. An excellent sauce apple and dessert fruit. Season November to April. Tree strong and healthy, an abundant bearer.

(W.) EASTER or PASQUE APPLE. Dr Willich.

'The Easter, or Pasque Apple, is one of the principal and finest of the Calvilles: it is large, with high projecting ribs, and of a bees-wax color; has a white, tender, juicy pulp; and emits a very grateful odor, similar to that of roses. The tree bears abundance of fruit, but does not attain a large size.'

(R.) FEARN'S PIPPIN. Py. Mal. Brent. Pl. xii.

'A middle sized table apple, globular, a little flattened, yellow colored, about three quarters covered with deep

red ; the eye rather prominent. This is generally ranked among the first rate dessert apples at Christmas : it is of close texture and rich flavor ; ripening December, January and February. The tree grows and bears well. Blossoms white, with a little pink.

(W.) (P.) FENNOUILLET GRIS. Bon Jard. Lindley. Dr Willich.

FENNOUILLET GRIS of Duh. } according to Lind.
 ANIS. Ib. }
 CARAWAY RUSSET. Hort. Soc. Cat.
 BROWN APPLE, OF BURNT ISLAND. Ib.
 WINTER ANISE RENNET. Dr Willich.
 SPICE APPLE, Hort. Soc. Cat.
 ROOK'S NEST APPLE. Ib.

The tree is of medium vigor and very productive ; the young wood and the leaves are whitish. The fruit is under medium size ; of a globular form, depressed and conically indented at its summit and base ; its stalk short ; the skin is yellowish gray, or of a gray fawn shade, covered with thin russet and sometimes warts, and a slight brown next the sun ; the flesh at maturity is tender, and has the peculiar aromatic flavor of anise. December till February.

(P.) FENNOUILLET JAUNE. Bon Jard. Lindley.

EMBROIDERED PIPPIN. Lindley.
 DRAP D'OR. Bon Jard.
 CLOTH OF GOLD.
 POMME DE CARACTERE. Bon Jard. and Duh.

The tree is of a large size and very productive. The fruit is of medium size, globular, inclining to oblong, a little contracted towards the summit, and very regular in its form ; its eye is slightly depressed and its short stalk is deeply sunk ; its skin is a beautiful yellow, marked with fine russet lines resembling letters ; hence its name *Pomme Caractère*. Its flesh is firm, delicate, saccharine, and excellent, with the flavor of the Fennouillet or Annise. It is in eating from December to February.

FENNOUILLET ROUGE. Cours Complet d'Agriculture. Lindley.

BARDIN, COURT-PENDUE DE LA QUINTINE.

Fruit of medium size, globular, flattened; of a deep gray color in the shade, streaked with brown, red next the sun; the flesh very firm, sugary, high flavored, musky. This very excellent apple keeps till March: it requires a light warm soil, and cannot be too much multiplied. So states my first authority, Lindley adds, that it is a very handsome apple.

(M.) GREEN NONPAREIL. Py. Mal. Brent. Pl. xxxiv.

PETWORTH NONPAREIL.

'Raised at the Earl of Egremont's; larger than the old Nonpareil, but of nearly the same shape; its color green. This is a valuable apple for the table; crisp, juicy, and high flavored; it will keep till February or March. It is a good bearer, and of stronger growth than the original.' The figure of this fruit is of middle size measuring three inches in width.

HUBBARD'S PEARMAN. Lindley. Pom. Mag.

GOLDEN VINING, of Pom. Mag.

Fruit small, ovate, or globular, regular in form; eye small, slightly depressed; stalk short; yellowish green in the shade, but orange or pale red next the sun. Flesh yellow, firm, rather dry, juice sweet, rich, of a most highly perfumed aromatic flavor. A dessert apple from November till March or April. A real Norfolk apple, well known in the Norwich market. The merits of the Hubbard's Pearmain as a table apple, Lindley adds, are unrivalled, and its superior from the commencement of its season to the end, does not, in his opinion, exist in that country. Tree small, hardy, an abundant bearer.'

(P.) JERUSALEM. Bon. Jard. p. 344.

POMME PIGEON. Ib.

The tree is of medium vigor and very productive. The fruit is small, its form conical ; its color that of the changeable rose ; its flesh is fine, delicate, granulous, and very good. It ripens in February.

(W.) LARGE BEEN APPLE. Dr Willich.

GROPER BOHNŒPEL.

BEEN APPLE. Dr Willich.

‘ A very valuable fruit for economical uses, and likewise for the table. It is of the larger kind ; bulky towards the stalk and tapering towards the head, of a yellowish white cast, with red flame colored streaks on the south side. Its pulp is white, tender though firm, and of an agreeable taste ; the apple being edible in December, is easily preserved till the next crop. When dried in slices, it affords delicious food ; and also a fine dish when preserved in a fresh state. The tree is of pyramidal form, rises to a considerable height ; has a durable wood, does not shed its blossoms ; and is very productive, so that it seldom fails of being fertile for a single season.

(W.) LONG CARTHUSIAN APPLE. Dr Willich.

‘ Is a capital domestic fruit, frequently of a large size, with irregular angles, and acquires a fine yellow shade on the floor. It may be preserved till the succeeding summer ; and maintains the first rank for boiling or baking, in the various dishes of pastry, where it becomes sweetly mellow, and has a delicate taste. When other apples, (that of Borsdorf excepted) lose their flavor by culinary preparations, the Long Carthusian is greatly improved by the action of heat. The tree is of an ordinary size.’

(R.) MARGIL. Lindley. Hooker's Pom. Lond.

Fruit small, ovate, its length exceeding its diameter; eye small, angular; angular at its sides; stalk short; color bright orange, streaked and mottled with rich red and brown, occasionally slightly russeted; flesh yellow, firm, breaking, juicy, sweet, of a highly aromatic flavor. November till March. A very excellent dessert fruit, a hardy tree and very excellent bearer.

R.) MARTIN NONPAREIL. Hooker. Lindley.

This fruit is thus in substance described by Mr Hooker and Mr Lindley, and is figured in *Py. Mal. Brent.*

'This fruit is small, rather cordate, tapering very little towards the eye, flattened at both extremities; the eye small, and sunken; the skin light dullish green, a tawny yellow on the sunny side, the whole surface covered with a portion of russet brown; sometimes it is tinged with red; the stalk short, not deeply inserted; the flesh yellowish, compact, of excellent flavor, sweet, with a fine acid; the core is very small. A new sort, remarkable for long keeping; they have been kept a year. This is not a handsome fruit. A dessert apple from December till May. Mr Lindley calls this 'a great bearer, and highly valuable to those who cultivate fruit for the market, as it is in perfection till a very late period.'

(R.) MELA CARLA. Hort. Trans. vol. vii. p. 259.
Lindley.

MALCARLE. Hort. Trans. and Lindley.

CHARLES APPLE. Hort. Trans.

POMME FINALE. *Ib.*

The fruit is rather large, its form inclining to globular, but slightly ovate; its eye, and its stalk, which is about an inch in length, and slender, are each inserted in small deep cav-

ities. Its beautiful waxen skin is without a spot, except being a little marbled with a very faint green near the eye; its color in the shade is a pale yellow which unites rather abruptly with the flaming crimson with which it is covered next the sun. The flesh is white, tender, delicate, sweet, with the fragrant perfume of roses. It ripens in September and will keep till spring. This apple is a native of Finale in Liguria; it is cultivated extensively in the territories of Genoa as an article of export and commerce to Nice, Barcelona, Marseilles and Cadiz. A far famed fruit. In the climate of Italy this is supposed to be the best apple in the world. But in England their writers state it is a very ordinary fruit; they indulge the expectation however that it may prove good on their walls. It is highly deserving trial with us, in our climate.

(W.) MELA DE ROSMARINO. Dr Willich.

WHITE ITALIAN ROSEMARY APPLE. Ib.

‘A very beautiful species of Calville, having no ribs, but a most glossy skin which resembles the finest virgin wax; is on all sides marked with clear white dots, and on the south somewhat red; of an oblong figure and the size of a goose egg. Its flesh is white as snow, uncommonly tender and yielding a saccharine juice of a slightly aromatic flavor. Its large pericarpium contains twenty kernels in five cells; the fruit becomes eatable about the middle of November, and remains sound until February. The tree is of low growth.

NOBLESSE DE GAND. Py. Mal. Brent. Pl. xxv.

‘A large sauce apple, straw colored, without stripes, nearly globular, but contracted towards the eye. It is a firm weighty fruit, rich in flavor, with a due proportion of acid.’ A very excellent new sort, in use January and Feb-

ruary; evidently a southern fruit, may recover even a better character with us.

NORFOLK BEAUFIN. Py. Malus. Pl. xxxiii. Lind.

NORFOLK BEEFIN.

[For *drying and preserving*. This species or description of fruit may improve with us.] ‘Fruit rather large, flattened, rather irregular, obtuse angles extending from the base to the crown; eye large and deep; stalk short, fleshy, deeply sunken; deep green in the shade, but nearly the whole surface covered with livid red, but deepest next the sun; flesh very firm, subacid, not very juicy. A cooking apple from November till May or June. A fruit of great merit, independent of what has been stated, furnishing a luxury at table during winter. These apples are dried by the bakers of Norwich, annually; and sent in boxes to all parts of the kingdom, where they are universally admired.’

(R.) ORANGE PIPPIN. Py. Mal. Brent. Pl. xvi.

MARIGOLD. Hort. Soc. Cat.

ISLE OF WIGHT ORANGE. Ib.

ISLE OF WIGHT PIPPIN. Ib.

} According to Lindley's Guide.

‘In shape, size, and color much like a middle sized orange; a very pretty apple, of pleasant flavor and juicy, equally desirable for the dessert or for sauce; in use in December and January; a good grower and bears well.’ Specific gravity of the juice 1.074. Mr Lindley calls it a very beautiful apple, and according to Mr Knight, it is an excellent cider apple. ‘Supposed to have been brought from Normandy to the Isle of Wight.’

(W.) PEAR RENNET. Dr Willich.

REINETTE POIRE, of the catalogues.

‘Both an autumnal and winter fruit, presents a capital yellow apple, of a tender yellowish pulp, the juice of

which has the acidulous flavor of Rhenish wine ; it is sufficiently mellow in the beginning of November, and may be preserved through the greater part of winter. The tree is of slender growth.

POMME D'API GROS. Py. Mal. Brent. Pl. xx.

A globular apple of middle size, flattened at the eye which is moderately sunk in a broad cavity ; the stalk deeply inserted : it has a grass green color till about Christmas, when it changes to a pale yellow. This is a valuable sort, either for the table or for the kitchen ; is of an agreeable flavor and will keep till March. The tree grows in an unusually compact form, and is an exuberant bearer. Blossoms pink and white.

(R.) POMME GRISE. Py. Mal. Brent.

Fine — Description not at hand. Believed to be of Canadian origin.

POMME DE LESTRE. Bon. Jard. p. 344.

This apple was found in the department of Vienne in 1813, and has been preserved during three years. It is highly esteemed.

(W.) PUNCTURED RENNET. Dr Willich.

RÉINETTE PIQUE'E.

'A smooth reddish apple, approaching to a chesnut color ; in shape and size resembling the largest Borsdorfer, covered with white punctures, each of which is surrounded with a green edge : its pulp is firm, mellow, and of an excellent vinous flavor ; being eatable in February and March. The tree becomes of a tolerably large size.'

(W) (P.) REINETTE DORE'E. Dr Willich. Cours Complet d'Agr. vol. XII. p. 213.

REINETTE JAUNE TARDIVE. Cours Complet d'Agr. Dr. Willich.

LATE YELLOW REINETTE. Dr Willich.

Fruit middle sized, a little flattened, of a deep yellow color in the shade, with specks of gray; but reddish next the sun; the flesh is white, firm, saccharine, high flavored, a little acid. This apple is equal in goodness to the Reinette Franche, and is nearly gone when this last begins to be fit for use. Thus far has the second authority described it. Dr Willich differs little from this, except he describes it as 'mellow, juicy, and of a very agreeable, saccharine and vinous taste; at maturity at Christmas and lasts till March.'

REINETTE GRISE DE CHAMPAGNE. Cours Complet d'Agriculture, vol. XII. p. 215.

Fruit of medium size, flattened; of a gray fawn color, blotched with red next the sun; flesh breaking, little perfumed, mild, sugary, very agreeable. This apple is excellent, and may be preserved a long time. It is preferred to the other Reinettes by those who dislike their odor and their acidity. Calvel.

LA REINETTE PRINCESSE NOBLE. Cours Complet d'Agriculture, vol. XII. p. 215.

Fruit of medium size, oblong, of a yellowish green color, pointed with brown; the flesh is a little acid and very agreeable. It keeps through part of the winter. The tree is very vigorous.

(R.) SCARLET NONPAREIL. Pom. Mag. t. 87. Lindley. *Pyrus Malus*, Pl. xxxiv.

Fruit middle sized, three inches broad, not quite so deep;

roundish, not angular ; eye depressed ; yellowish green in the shade, deep red next the sun, streaked, sprinkled with pale brown dots. Flesh firm, yellowish white, juicy, rich, and excellent. A dessert apple, ripe from November till March. Raised in 1773 and extensively cultivated and admired in England for its beauty and excellence.

(R.) SYKEHOUSE APPLE. Hooker's Pom. Lond.
Pl. XL.

SYKEHOUSE RUSSET. Hooker.

The trees grow freely, are of erect habit, and when well established bear fruit abundantly. The shoots are slender and very downy at their summits.

'The fruit is small, roundish, depressed at its summit and base ; the eye is open, irregular and sunk deep in the fruit. Stalk short, deeply inserted. Color green with a good deal of Russet, but in a good season it becomes a handsome apple, with some red next the sun. The flesh is greenish yellow at maturity, rather firm, but of pleasant flavor and extraordinary richness. It ripens in January and is justly regarded as one of the best dessert apples at present known.'

(W.) VICTORIOUS REINETTE. Dr Willich.

REINETTE TRIOMPHANTE.

'An uncommonly fine, large, and well formed apple, which on being deposited on the floor, acquires a deep yellow tint, marked with starry points, and frequently brown rough spots, or large warts ; its eye represents a regular star ; its flesh beneath the tender skin, is yellow, firm, though delicate : yielding abundance of juice, that possesses a pleasant aromatic flavor ; it ripens about Christmas and may be kept till March. The tree grows luxuriantly, and becomes of considerable size.'

LA VIOLETTE. Cours Complet d'Agriculture, vol. XII. p. 220.

POMME DE QUATRE GOUTS. Ib.

Fruit of medium size, oblong ; color deep red next the sun, yellow striped with red in the shade ; the flesh is fine, delicate, saccharine, having a little of the perfume of the violet ; reddish beneath the skin, greenish towards the centre. This variety is one of the best of apples and keeps till May. The tree is vigorous and bears much resemblance to the Calville d'Été.

(R.) *Also to the above list all NONPAREILS and all GOLDEN PIPPINS not described, are to be added on the authority of Roland.*

CLASS II.—SECTION IV.

FOREIGN CIDER APPLES DESERVING TRIAL IN THE UNITED STATES.

THESE WOULD BE LIKELY TO ANSWER WELL IN CANADA.

FOXLEY. Lindley.

This apple was raised by Mr Knight from the Siberian Crab and Golden Pippin. It is described as a very small apple, growing in clusters, of a bright gold color.

Specific gravity of its juice 1.080. According to Mr Knight this is a very hardy variety.

SIBERIAN BITTER SWEET. Lindley.

This fruit was raised by Mr Knight from the Siberian

Crab and Golden Harvey; and was sent by Mr Knight to the Hon. John Lowell and distributed by him to all who have applied. Its size is small, not much larger than the Siberian Crab, of a yellow color with a blush on the sunny side. It is supposed to contain a larger proportion of saccharine matter than any other apple known. It does not abound in juice and it is supposed would be a most valuable variety to mix with the more austere sorts. The trees are most abundant bearers.

SIBERIAN HARVEY. Lindley.

This fruit, which was raised by Mr Knight from the Siberian Crab and Golden Harvey, is stated to be a small globular fruit, of a bright gold color, stained with deep red on the side next the sun: the fruit growing in clusters on slender branches: the juice exceeding sweet, ripe the middle of October. Specific gravity of its juice 1.091.

CLASS III.

SELECT FOREIGN VARIETIES OF APPLES DESERVING TRIAL IN NOVA SCOTIA AND CANADA.

BESIDES these, all the apples described from the English authors in the second class; also all of Russian, and all of Canadian origin, and those which succeed best in New England of the first class.

I have assigned this list to high Northern Latitudes, for

the reasons which are contained in the first article in this class. [ASTRACAN.] Also for other reasons which are contained at the head of Class II. and for those reasons which I have stated under the head of CLIMATE, in the former part of this work. Under the serene skies, and aided by the powerful sun of a Canadian summer, it is to be hoped they may prove an acquisition, and fully equal to what they are described.

CLASS III.—SECTION I.

SUMMER FRUIT.

ASTRACAN. Pom. Mag. Dr Willich.

WHITE ASTRACAN, Pom. Mag. Lindley.

GLACE DE ZE'LANDE,

TRANSPARENT DE MOSCOVIE, } According to Pom.

PYRUS ASTRACANICA, } Mag.

RUSSIAN ICE APPLE, of Dr Willich.

ASTRAKHAN APPLE, }

POMME D'ASTRACHAN, } According to Dr Willich.

TRANSPARENT, }

The fruit is of medium size ; with red streaks next the sun ; of a globular form, with angular sides ; plaited at the eye, which is slightly depressed ; the stalk is short, the skin smooth, and covered with pale bloom ; the flesh is white as snow, semi-transparent. * * * * * This fruit is said to grow wild about Astracan. I subjoin Dr Willich's account ; the observations therein contained may be novel to some and are deemed worthy recording. ' This is unquestionably one of the most eligible summer fruits, provided the situation and climate be proper for its growth,

that is not under 49° of polar elevation. In such a region it acquires a saccharine juice, which is so copious, that in an apple weighing 4½ ounces, there will on expression be found 3½ ounces of liquor, and but one ounce of pulpy fibre. It is one of the most smiling fruits, yellowish white with fine red flaming streaks on the side exposed to the sun; and may be eaten at table or converted into cider. There are two varieties of this apple, a larger and a smaller, but neither of the trees grow very tall.'—*Domestic Encyclopedia*, vol. iv. p. 179.

In the latitude of Paris, M. Poiteau informs us that this fruit is but at mediocrity as to quality. And a gentleman here who well knows, has informed me that in our latitude it is several degrees below mediocrity. Dr Willich informs us his descriptions were taken from a '*German Orchardist*;' and a gentleman here on whom I can rely has just informed me it was from the writings of the celebrated M. Christ. It was probably from the *Taschenbach*. *The authority is good.*

BOROVITSKY. Pom. Mag. t. 10. Lindley.

Fruit of medium size, roundish, angular; the eye and stalk are sunk in deep wide cavities; color pale green in the shade, but pale red next the sun, striped with deeper crimson red; semi-transparent; flesh white, firm, juicy, with a sweet, brisk, sub-acid, very pleasant flavor. Ripe mid-August. An early beautiful dessert apple sent from the Taurida Gardens near St Petersburg to the London Horticultural Society.

BROWN'S SUMMER BEAUTY. Py. Mal. Brent.
Pl. II.

'Is a seedling raised by Mr Brown at Slough, of medium size, oval shape, straw color, with a flush of unmixed red, both eye and stalk prominent: the flesh delicate and

full of richly flavored juice. This is a first rate table apple, ripening in September, a great bearer, and being recently raised from seed grows freely without canker.'

CARLISLE CODLIN. Py. Mal. Brent. Pl. III.

'This apple is much esteemed in the North as a kitchen fruit ; it is also acceptable in the dessert: it is of moderate size, oval shape, and a straw color: makes excellent sauce, and of fine flavor. In use from August till Christmas, and is a profuse bearer. The tree grows freely in an upright form.'

EARLY CROFTON. Py. Mal. Brent. Pl. VIII.

PEACH APPLE.

'An Irish apple of the middle size and flattish shape of an olive green color much variegated with red, has a rich saccharine flavor, ripens in August ; it is most esteemed for the dessert, but excellent also as a sauce apple. The tree grows well, and like most Irish sorts, keeps free from canker. The flowers are large, pink and white.'

EARLY JULIEN. Lond. Hort. Trans. vol. v. p. 267.
Lindley.

A very superior variety of Scotch origin, exhibited by Mr Ronald, 17th August. Fruit larger than the Golden Pippin, irregular in its form, angular on its sides, prominently ribbed round the eye ; skin glossy, pale yellow or cream color ; flesh yellowish, firm, crisp, with a fine brisk juice. The tree grows freely, is productive, the fruit grows in clusters.

KESWICK CODLIN. Lindley. Py. Mal. Pl. III.

Fruit rather large, obtusely ribbed from summit to base ;

obliquely formed ; the eye large and deep ; the stalk short and sunk to a level with the base ; the skin pale yellow ; juice plentiful and sub-acid. Originated at Keswick ; the young fruit answers for tarts even in June. The young trees are vigorous, and these as well as the older are excessively productive. Lindley states that this and the Hawthornden are the most useful of all apples for the poor cottager's garden.

RED ASTRACHAN. Py. Mal. Brent. Pl. v.

'Is of medium size, nearly globular, of a rich crimson color, with a fine bloom covering nearly the whole of the fruit. This is a new and very early apple, ripening frequently in July, when it has few competitors. The flesh is white, crisp, juicy, and of agreeable flavor ; the leaves are singularly long and partake, with the branches, of a purple color.' The figure of this eminently beautiful fruit was taken from an imported specimen, and measures three inches and a half in breadth and is stated to be too large.

RIVELSTONE PIPPIN. Lond. Hort. Trans. vol. iv.
p. 522. Lindley.

'Received from Scotland ; it is an abundant bearer as a standard. The fruit is of middle size, somewhat angular at the sides ; the angular projections uniting round the eye in large knobs ; the stalk is short and thick, inserted in a very regular cavity ; skin greenish yellow, thickly sprinkled with yellowish russet spots, and neatly covered with bright red ; flesh yellow, firm, rather dry, but sweet and of very good flavor. Ripe in August.'

SACK AND SUGAR. Py. Mal. Brent. Pl. i.

'A dessert apple, below the middle size, a whitish apple.

Form a little conical, an inch and three quarters in depth and two inches and a quarter in diameter ; eye sunken ; very juicy and of an agreeable flavor. Ripens from the middle to end of July.' Tree free and of spreading growth ; a profuse bearer.

SUGAR LOAF PIPPIN. Pom. Mag. t. 3. Lindley.

DOLGOI SQUOZNOI. According to Pom. Mag.

Fruit ovate or oblong, generally contracted towards the eye, which is much hollowed : stalk medium length, in a regular deep cavity : color a clear light yellow with green dots ; yellow next the sun, nearly white at maturity ; flesh whitish, firm, crisp, very juicy, with a most agreeable, lively, sweetish, sub-acid flavor. An excellent summer apple, ripe early in August, but if kept ten days it becomes mealy. A Russian apple sent from the Taurida Gardens near St Petersburg to the London Horticultural Society under the name of Dolgoi Squoznoi, the first signifying *long*, the second *transparent*.

WORMSLEY PIPPIN. Py. Mal. Brent. Pl. iv.

KNIGHT'S CODLIN.

'A large globular apple ; the eye much sunk ; [about three inches in depth and three inches and an half in diameter ;] the color straw, thick set with dark specks : the flesh is juicy and perhaps unrivalled in the richness and excellence of the sauce it produces ; but there is a tenderness in the fruit which causes it sometimes to blight. Ripe beginning of September. The tree is of robust growth and naturally bears well.'

CLASS III. — SECTION II.

AUTUMN FRUIT.

ALFRISTON. Hort. Trans. vol. iv. p. 218. Lindley.

Fruit very large, some have weighed 23 ounces. Raised by Mr Shepherd, is thence sometimes called *Shepherd's Apple*: closely resembles the *Reinette Blanche d'Espagne*. Valuable for its beauty, size, and long keeping. Fruit large, narrowed towards the crown, broadly ribbed at its sides; eye in a cavity, stalk sunk deep; yellow at maturity in the shade, but orange next the sun, and slightly russeted. Flesh yellowish white, breaking, tender, very juicy, saccharine, combined with a smart acid. A fine cooking apple from October to Christmas.

BEAUTY OF KENT. Py. Mal. Brent. Pl. xv.

'A large apple of a pyramidal shape, with ribs enlarging towards the eye; its color yellow, enriched with bright red stripes, and irregular discolorations on the sun side. This is a beautiful and much esteemed sauce apple, in use through November, December, and January. A strong spreading grower, but apt to canker if not in congenial soil.'

DEVONSHIRE QUEEN. Py. Mal. Brent. Pl. xxv.

'A beautiful apple; rather large, straw colored, enriched over three fourths of its surface with bright red stripes. It is an excellent apple, juicy and high flavored, fit either for the

table or for sauce, but particularly the latter. Ripe in October. It is a general favorite in the West of England.

DOWELL'S PIPPIN. Hort. Trans. vol. v. p. 268.

'In size and form this apple resembles the Ribston Pippin, but is more pointed at the head, and the eye is sunk in a more confined and deeper cavity; the skin is green, nearly covered with a clear thin russet, and a slight tinge of brownish red on the sunny side; the flesh is rather of a finer texture than that of the Ribston Pippin, but in color and flavor closely resembles it.' An excellent dessert apple from October to Christmas. Raised in the garden of Stephen Dowell, Esq. at Braygrove, in Berkshire.'

EDGAR. Py. Mal. Brent. Pl. iv.

'This apple is of medium size, globular shape, yellow, laced with some bright red striping. It is a beautiful fruit, and excellent either for the dessert or for kitchen use: in perfection throughout November and December. It grows well and is a good bearer.'

FLOWER OF KENT. Py. Mal. Brent. Pl. xv.

'A large and elegant fruit; [the figure measures four inches and a half in width] globular, but rather broadest at the base; the eye is large and open; color yellow, flushed with bright red; the flesh is well flavored with plenty of acid and juice; bakes well, and is in use through November and December. The tree grows well and is hardier than the Beauty of Kent.' Blossoms white with blush.'

FRENCH PIPPIN. Py. Mal. Brent. Pl. xxix.

FRENCH RUSSET. Ib.

'A sauce apple above the middle size, of globular shape;

the eye small and prominent : its color is a yellowish green, the sun side faint red ; about half the apple is generally russety. It has a pleasant flavor, but is rather light in substance, for which defect it makes ample amends by a vigorous growth, ample produce, and seldom suffering by canker or blight. Its season is from November till January.'

GOLDEN BURR. Py. Mal. Brent. Pl. xxxix.

BURR KNOT.

' So named from knots or joints on the shoots, which renders it easy to be grown by cuttings. It is a large apple, of globular form, smooth glossy surface, yellow, with a flush of red ; this is a very useful fruit in November and December, and a profuse bearer. The tree grows in a close compact form, and seldom cankers.'

HOLLANDBURY. Py. Mal. Brent. Pl. xl.

KIRKE SCARLET ADMIRABLE.

' A very large and beautiful sauce apple ; tankard shaped ; with four or five slightly projecting ribs ; both eye and stalk deeply seated in a narrow cavity : it is of a straw color, three fourths covered with unmixed crimson. The fruit has a very elegant appearance on the tree for some time before gathering, but liable from its weight to be blown down in tempestuous weather. The tree is diffuse in its growth, and the leaves unusually small for so large a sort ; it is a good bearer, and in use from October till Christmas.'

[The figure of this beautiful fruit measures over four inches and a quarter in its breadth.]

KENTISH BROADING. Py. Mal. Brent. Pl. xxiv.

'Is very large, [the figure measures four inches in

breadth, broadest at the base, and rather flattened in form; the eye a little depressed and angulated; the stalk small and deeply inserted; rather russetty and slightly striped. This is a noble apple for kitchen use, very rich and juicy and bakes well. In perfection in November and December. It is a tree of free growth, and is a good bearer.'

KENTISH FILL BASKET. Py. Mal. Brent. Pl. ix.

'A very large noble apple of a globular shape, [the figure measures four inches and a quarter in diameter] color pea-green with some red blotching; the eye rather deeply sunk; it is a very excellent apple and useful from its size and abundance in bearing. The tree grows large and free.'

KERRY PIPPIN. Pom. Mag. t. 107. Hooker's Pom. Lond. t. 20. Hort. Trans. vol. III. p. 454. Py. Mal. Brent. Pl. iv.

'Is of Irish origin, and perhaps altogether the best of our summer dessert apples; a little larger than the Golden Pippin, of an oblong form; a rich golden color, faced with bright red; the stalk is small and prominent, and generally attended by a small protuberance; the flesh is firm, of a rich saccharine, yet poignant flavor: in perfection through September, October and November. The tree grows freely, seldom cankers or blights, and bears plentifully, chiefly in clusters at the extremity of the branches.'

LEWIS'S INCOMPARABLE. Py. Mal. Brent. Pl. xxx.

'A fine large kitchen apple, nearly globular, but terminating in a small contracted eye; straw color, variegated with scarlet streaks; the flesh is white, juicy, and agreeably flavored. The tree grows large, and bears plentifully.'

LONDON PIPPIN. Py. Mal. Brent. Pl. xiv.

FIVE CROWNED PIPPIN. Ib.

‘So called from the five protuberances round the eye, which is prominent. It is of the medium size, straw color, with crimson covering the greatest part of the fruit. This is a very useful sauce apple from December till March. The tree grows large, is very durable, and bears plentifully.’

[The figure of this fruit measures near four inches across.]

LUCCOMBE'S SEEDLING. Py. Mal. Brent. Pl. xiv.

‘A fine large globular apple, with slightly projecting ribs ; pea green color, lightly streaked and dotted with red. It is a noble sauce apple, ripe in November, December and January, very juicy, with a rather spicy flavor, and bakes well. The tree grows spreading and healthy.’

[The figure measures four inches in diameter.]

POTTER'S LARGE SEEDLING. Py. Mal. Brent.
Pl. ix.

‘A very large sauce apple, being frequently fourteen and fifteen inches in circumference ; rather oblong, with some irregular projections ; of a lemon color, with a little red on the exposed side ; it is well tasted, and dissolves to a fine pulp in dressing : mature in November, December and January. The tree grows luxuriantly, and bears well.’

RAWLINS' FINE REDSTREAK. Py. Mal. Brent.
Pl. x.

‘In form nearly globular, of middle size, has some slight irregularity of surface ; lemon colored, streaked nearly all over with brilliant red ; the flesh is sugared and juicy : it is

an excellent sauce apple and bears well. Ripens in November and December.'

RYMER. Py. Mal. Brent. Pl. xli.

'This fruit is large, of a globular shape, a rich crimson color on a yellow ground: it ranks very high as a sauce apple, is juicy, and high flavored; a great bearer, and appears very rich and beautiful on the tree, which grows strong and healthy: it is in use from October till Christmas. Blossoms pink and white.'

[The figure of this fruit measures nearly four inches in breadth.]

SALOPIAN PIPPIN. Py. Mal. Brent. Pl. v.

'A shropshire apple, middle size, lately introduced to the neighborhood of London by Mr Williams, its shape globular, a little compressed [three inches and a quarter in its breadth,] a pea green color; with a slight flush of pale red, and sprinkled over with brown spots: it has great merit as a sauce apple, as it dresses well, is juicy, and well flavored: in use from October till Christmas. The tree grows in a compact form, and is a constant bearer.'

SCARLET CROFTON. Hort. Trans. vol. III. p. 453.
Lindley.

The fruit is of medium size, flattened; its diameter $2\frac{1}{2}$ inches, its height being less, angular on its sides; the eye wide and but slightly depressed; stalk short; yellowish in the shade, but bright red next the sun, and slightly russeted all over. Flesh firm, crisp but never mealy, juicy, and of a rich saccharine flavor. An Irish dessert apple from October till Christmas.

SOPS OF WINE. Py. Mal. Brent. Pl. 11.

‘An apple of moderate size, nearly globular, [three inches in breadth] of a crimson or purplish color, deepest on the exposed side, richly striped, dotted with yellow, and covered with bloom like a plum: the flesh is of a pinkish hue, suffused with a rich vinous juice. It is a valuable dessert apple. Ripe in October, and keeps till December.’ The tree is of wide and open growth.

Nothing is said of the productiveness of this variety.

STRIPED MONSTROUS REINETTE. Py. Mal.
Brent. Pl. xxxvi.

‘A large globular apple, [the figure measures over four inches in diameter] having irregular ribs, terminating in strong wrinkles round the eye. It is finely variegated with red stripes, or blotches on a greenish yellow ground; the stalk small and rather long. The flesh is tender, juicy, and of an agreeable flavor. A very useful kitchen fruit in October and November.’

YELLOW INGESTRIE. Py. Mal. Brent. Pl. 1.

‘Fruit small, shaped much like the old Golden Pippin. Eye very small, flat. Stalk half an inch, rather deeply inserted just protruding beyond the base. Skin bright gold, with a few pearly specks imbedded. Flesh yellowish white, very tender and delicate. Juice plentiful, rich, and high flavored. A beautiful little dessert apple in October and November. Raised by Mr Knight of Downton Castle.—*Lind. Guide.*

CLASS III. — SECTION III.

WINTER FRUIT.

AROMATIC RUSSET. Py. Mal. Brent. Pl. viii. Lind.

‘Fruit middle sized, a little conical, but flattened at both the base and crown; eye small, a little depressed; stalk very short, deeply inserted; skin green, covered with thin grey russet, and a little tinged with dull red on the sunny side; flesh greenish white, firm, crisp, but tender. Juice saccharine and perfumed. A dessert apple from November to February. The wood of this tree is straight and rather slender; an excellent bearer.’

BEDFORDSHIRE FOUNDLING. Py. Mal. Brent.
Pl. xxviii.

‘A fine, large oblong kitchen apple, pea green with a slight tinge of red: the flesh is firm, sweet and juicy; it bakes excellently, and is a very valuable sort: for use in December and January.’

BURRELL’S RED. Py. Mal. Brent. Pl. xlii.

‘It is above the middle size, of a conical shape, wrinkles encompassing a small, shallow eye; the stalk is deeply inserted; it is of an entire beautiful red color approaching to scarlet. The flesh is juicy, rich, with an agreeable acid. This is a very desirable apple through November, December and January. It is a robust grower and bears well.’

CLAYGATE PEARMAIN. Hort. Trans. vol. v. p.
269 and 402.

Discovered in a hedge by Mr Bruddick at Claygate, a hamlet in the Parish of Thames Ditton ; a fruit of excellent quality ; the tree grows spreading and drooping, is not a strong grower, but bears freely. A large and very handsome pearmain ; of a dull yellow color, nearly covered with broad stripes of deep red ; flesh yellow, rather dry like all apples of this class, but sweet and rich. Keeps till March and April. A valuable addition to our stock of table apples.

COCKLE PIPPIN. Py. Mal. Brent. xxiii.

‘ An excellent apple, of middle size, much cultivated in Sussex. It is of an oval form, rather tapering to the eye, pea green color, a good deal embroidered with russet : a compact, long-keeping sort, juicy and high flavored ; estimable either for the table or kitchen use. Grows in a spreading form, is in general healthy, and bears well.’
November till May.

CORNISH AROMATIC. Py. Mal. Brent. Pl. xix.

‘ A kitchen apple, said to have been cultivated for some centuries in Cornwall. It is a large apple, of a light yellow color, three fourths covered with red stripes, contracted at the eye which is prominent, and encircled by projecting plaits. In use from November till January ; an excellent sauce apple but with very little of the spicy flavor which its name imparts. The tree grows well and is a good bearer.’

COWARNE'S QUEENING. Py. Mal. Brent. xxv.

NORTHERN GREENING.

‘ A large, oval shaped apple, of a golden color, with some

unmixed red on the outward side. It is an excellent sauce apple, in use from November till January. The tree grows in an upright compact form, and is a free bearer.'

DEVONSHIRE GOLDEN BALL. Py. Mal. Brent. Pl. XLII.

'It is large and of globular shape, straw colored with a flush of unstriped carmine. A very beautiful sauce apple, juicy, with an agreeable acid; it is a very useful apple in January and February. The tree grows well and bears freely.'

DUKE OF WELLINGTON. Py. Mal. Brent. Pl. XIX.

DUMELOW'S SEEDLING. Ib.

'A capital kitchen apple, above the middle size, of a globular shape; clear yellow color, with a bright cherry cheek, without streaks or any unevenness of surface. It is a weighty apple, of crisp consistence, and sweet, with a due proportion of acid. In use from November till March. The tree grows large and spreading.'

HAMBLEDON DEUX. ANS. Py. Mal. Brent. Pl. XLII.

'A large noble apple, globular, straw colored, with a little russet near the stalk, and bright red stripes over the greatest part; the eye and stalk very little depressed. It is richly flavored, but rather deficient in juice; keeps well through the winter, and is on the whole a useful sort.' It would probably be still more deficient in juice in the climate of the United States.

HAWTHORNDEN. Py. Mal. Brent. Pl. III.

'It is a little above the middle size, of globular shape, light straw color, with frequently a flush of scarlet on the sunny side: the fruit is brisk and juicy. This is perhaps

the most useful kitchen apple we have, and which Scotland has the merit of producing. The tree preserves a bushy form, and never fails bearing a good crop.'

KIRKE'S LORD NELSON. Py. Mal. Pl. xiv. Lind.

Fruit above medium size; 3 inches in diameter but less in height, of a very regular form; much like the Emperor Alexander, and like that narrowed at the crown. The eye is open in a moderate deep basin; clear pale yellow in the shade, but red towards the base; and a vivid red streak with deeper red next the sun; flesh yellowish white, firm, very juicy, of a pleasant aromatic flavor. A beautiful dessert cooking apple from November to January.

LEMON PIPPIN, Py. Mal. Brent. Pl. ix.

'An old and much esteemed kitchen apple, of middle size and oval shape, much like a lemon both in form and color, having generally a small protuberance at the stalk: it is of a firm texture, brisk flavor, juicy and with plenty of acid; will keep excellent till March, is a good bearer; and the tree generally thrives well. Blossoms pink and white.'

MARMALADE PIPPIN. Py. Mal. Brent. R. xxviii.

WELSH PIPPIN. Ib.

'An oblong apple of middle size, flattened at the eye; of a lemon color, singularly mottled with whitish spots. It is a good sweet juicy apple, a great favorite in Wales; of hardy growth and a profuse bearer, and will keep till February. Blossoms white with a little pink.'

NORFOLK STORING. Py. Mal. Brent. Pl. xxxiii.

'A little larger than the Norfolk Beuffin, and of a lighter red color; the flesh is tenderer, more juicy, and of richer flavor. It ripens in December and January. Grows vigorously and bears well.'

STRIPED HOLLAND PIPPIN. Py. Mal. Brent. Pl.
xiv.

‘ A Fine, large, firm apple, of an oblong shape, yellow color, richly striped with bright red; the flesh highly flavored, and dissolves readily in baking: this sort keeps well through the winter. The tree spreads much, grows freely, and bears plentifully. This is a very desirable kind. Blossoms early, deep red.

WALTHAM ABBEY SEEDLING. Hort. Trans. vol.
v. p. 268.

Raised by Mr John Barnard of Waltham Abbey from a seed of the Golden Noble, [which is a large fruit] it resembles it, but is much larger.

Form globular, sometimes contracted at the crown; eye in a shallow basin; stalk short, deeply sunk; color yellow at maturity, but dull scarlet next the sun; flesh yellowish, soft, juicy, and very sweet. Most excellent cooked, retaining a high flavor. Keeps well till January. The tree bore its first fruit in 1819 — and the specimens were exhibited in 1821. The tree is a free grower and bears abundantly

YORKSHIRE GREENING. Py. Mal. Brent. Pl. xi.

‘ A very valuable large kitchen apple, flattened in shape, and ribbed irregularly: [the figure measures four inches in diameter] of a green color with dark red stripes: it has a pleasant flavor, is juicy and bakes excellently. The tree is of robust, hardy, bushy growth, seldom cankering or failing to bear. This is reckoned a first rate sort in the North.’ November to April.

CLASS III. — SECTION IV.

CIDER FRUIT.

HAGLOE CRAB. Lindley.

This old cider apple, is described as a small ill-shaped fruit ; yellow on one side, and red, mingled with russet on the other. Specific gravity of its juice 1081.

The most famous cider in the world was formerly made of this fruit.

This apple has been many years in the United States ; but we hear nothing of the superiority of any liquor made from it in our latitude, it may deserve trial in Canada.

All the English cider apples described in the 1st and 2d class will probably succeed in Canada.

CULTIVATION.

The seeds or Pomace of the apple should be sown in autumn in a rich soil. — When the young plants appear in spring they should be carefully thinned to the distance of two inches asunder, and kept free from weeds by carefully hoeing during the remainder of the season, or till of sufficient size to be removed.

At one or two years of age they are taken up, their tap roots shortened that they may throw out lateral roots, they are transferred to the nursery, set in rows about four feet asunder — and at one foot distance from each other in the row. In the summer following they are inoculated, or they are grafted or inoculated the year following.

SIZE AND AGE FOR TRANSPLANTING TO THE ORCHARD.

An apple tree, when finally transplanted to the orchard, ought to be at least 6 or 7 feet in height, with branches in proportion, and full two years from the bud or graft, and thrifty ; apple trees under this size belong properly only to the nursery.

DISTANCE.

The distance asunder to which apple trees should be finally set when transplanted to the orchard, depends upon the nature of the soil, and the cultivation to be subsequently given. If the soil is by nature extremely fertile, 40 feet distance may be allowed, and even 45 and 50 feet in some very extraordinary situations : for before the trees become old, they will completely shade the ground. If however the soil is not very extraordinary by nature or so rendered by art, this distance would be too great ; for the trees would become old and their growth would be finished, before the ground could be covered by their shadow ;— 30 feet only may therefore be allowed in land usually denominated of good quality, and but 20 to 25 feet in land of ordinary quality.

The quincunx mode is recommended for close arrangement.

The size to which an apple tree may attain, and the ground which should be allotted to it, depend also, in some measure, on the particular variety of apple ; some sorts being well known to attain to a much greater size than that of others.

The period of growth or the duration of the apple tree is comparatively limited ; this is sufficiently evident from the perishable nature of its timber. Those species of trees only, will continue living and growing for numerous centuries, whose timber may be preserved incorruptible during the lapse of a long succession of ages.

SOIL AND SITUATION.

A rich soil, rather moist than dry, is that adapted to the apple tree, but what is usually termed a deep pan soil is to be preferred.

On such a soil, whether on the plains, or in the valley, or on the sides and summits of our great hills, which almost always consist of good land, and even in situations the most exposed, the apple tree will flourish.

One of the most productive apple orchards in this immediate vicinity, is situated on the North and Northwest sides of a hill, the most exposed to cold winds. The soil of great hills is generally of far superior quality to that of the plains, and it is a very mistaken opinion which seems adopted by some, that the soil of all hills must of necessity be dry and deficient in moisture. It is the plains and the knolls that are but too generally thus deficient, not the great hills, which almost always abound in springs.

Land half covered with rocks and incapable of being cultivated with the plough, is in some respects admirably suited to the apple tree. For in such situations they are not liable to suffer from drought: they receive nearly a double portion of moisture from the rains that fall, and a greater degree of heat by the reflected rays of the sun.

They may even flourish on sandy plains; if, where the tree is to be placed, an excavation is formed 6 or 8 feet in diameter, and 3 or 4 feet in depth: and if half filled either with useless small stones intermixed with rich loam, mud from the low grounds, clay, or gravelly clay, or mixtures of any of these substances, with a portion of manure, and the remainder of the excavation filled to the surface with rich loam.

MANAGEMENT OF THE LAND.

If the ground intended for the orchard cannot conveniently be kept wholly in a state of cultivation during the first years, a portion at least ought to be.

A strip of land to each row of 8 or 10 feet in width, well manured, may be kept cultivated, and the vegetables, which may here be raised will amply repay the expense and labor bestowed during the 4 or 5 first years. After this if the trees have grown well, as they probably must have done, cultivation at a distance in the intervals becomes even more important than within the limited distance of a very few feet from the trunk of the tree.

For on examination it will be found that the small fibres or sponglets, by which alone the tree derives all the nourishment it receives from the earth, are now remote from the trunk of the tree ; they are now to be found seeking pasture beyond the limits of its shade, and it becomes necessary that the whole ground should be kept in a high state of cultivation for the 4 or 5 following years ; after this period it may be occasionally laid to grass, which however should be broken up at frequent intervals, the land being always kept in good heart.

PRUNING.

The most suitable season for pruning is that interval between the time the frost is out of the ground in spring and the opening of the leaf.

Trees ought not to be pruned in February and March at the time the frost is coming out of the ground. This is the season when most trees and particularly the vine and sugar maple bleed most copiously and injuriously. It causes inveterate canker, the wounds turn black, and the bark for perhaps several feet below, becomes equally black, and perfectly dead in consequence of the bleeding.

I have given directions for pruning the trees while young under the general directions in the former part of this work, and will add, that when those directions have been followed, when large and profitable crops are desired, our cultivators generally avoid robbing their trees unnecessarily, of a particle of bearing wood.

Those limbs which interfere with other limbs by galling, the suckers and dead wood are alone removed: for they consider that the warmth of the atmosphere is of itself sufficient in our climate to ripen the fruit, without attempting to admit the sun to every part of the tree.

These directions are to be more especially observed in regard to old trees in their declining years — their trunks being too old for the reproduction and sustenance of a crop of new and fruitful wood, — nothing should be taken away but the dead branches and suckers. We have seen old trees whose branches were annually loaded with fruit, despoiled at once by the hand of man of half their bearing wood, under the mistaken idea that the destruction of the one half of the tree would confer a benefit on the remainder, and render them still more productive. We noticed however that the effect thus produced was directly the reverse, as their total destruction usually followed as a consequence, not long after.

INSECTS.

The apple tree has four destructive enemies. The caterpillar, the borer, the canker worm and the curculio.

The *caterpillar* usually makes its first appearance with the opening of the leaf of the apple tree: they are readily and easily destroyed if taken in season. They are brought down either by the hand or by the excellent brush invented by the late Hon. Timothy Pickering which must be attached to a pole. They should be taken early in the morning before they leave their nests. When brought

down they must be destroyed. The trees should be examined a second time not long after.

The borer. The modes of preserving apple trees from the depredations of the borer may be found in the former part of this work.

Of the canker worm. In the immediate neighborhood where I reside the canker worm is unknown—I must therefore avail of the experience of others.

The canker worm, after it has finished its work of destruction in spring, descends to the earth, which it enters to the depth of from one to five inches. After the first frosts of October, or from the 15th or 20th, those nearest the surface usually begin to rise from their earthy bed, transformed to grubs or millers. They usually rise in the night and invariably direct their course to the tree, which they ascend and deposit their eggs on the branches, which are hatched in April or May. They frequently rise during moderate weather in winter, when the ground is not frozen, and in March, and till towards the end of May. When the ground in spring has been bound by a long continuance of frost, and a thaw suddenly takes place, they are said sometimes to ascend in incredible numbers.

Here, then, at the bottom or trunk of the tree, it is necessary to arrest their progress and prevent the ascent of the grub or miller.

The usual mode, or the mode generally adopted in practice, is tarring. With this design the bark around the circumference of the trunk is scraped smooth, and the crevices where the application is to be made, are filled with clay or mortar: over this a strip of canvas 3 or 4 inches in width is to be bound around the tree, the lower band to consist of a large tow cord to prevent the running down of the tar, and its consequent pernicious effect on the tree. On this strip the tar is laid with a brush. The operation must be performed every afternoon a little before sunset,

when the weather is moderate, and the surface of the earth not frozen, from the first hard frosts which commence in October and during winter till about the last of May. For the tar, by the heat of the sun, or by dry winds or other causes, sometimes becomes dry on its surface in a very short time, and in such cases it offers no obstruction to the passage of the insect. Dr Thacher in his American Orchardist, has recommended that a small portion of soft grease or train oil should be mixed with the tar to preserve it from drying. It should be observed that the insect on finding its passage obstructed, frequently deposits its eggs in great numbers near the base of the tree in the cracks and fissures of the bark. These may be destroyed by the solution of potash. But the tar does not at all times afford a perfect security, for when vast numbers arise at once from the earth, a bridge over the tar is speedily formed of the carcasses of those which first attempt the ascent, and over these an innumerable host may safely pass, and the labor of tarring, previously bestowed, is lost for that season.

The tarring process is a tedious one, requiring constant attention during a long period ; the omission of a single night favorable to the ascent of the grubs, may prove fatal to the trees for that season, and the labor previously bestowed is lost.

Various other modes have therefore been proposed with the design of preventing their ascent : but however ingenious or effectual they may have proved, they have not to my knowledge yet been introduced to general practice.

Dr Spofford of Bradford, Mass., has recommended as a simple and effectual remedy, that after scraping smooth the bark around the tree, a strip of list, an inch or two in width, should be closely secured around its circumference, and over this a small quantity of the mercurial ointment or unguentum, is to be applied. This appears to be extremely

simple, cheap, and easy ; as it is said to require but a single application during the season, and to become, by the oxygen it imbibes from the atmosphere, more poisonous — some time after it has been applied. The Hon. H. A. S. Dearborn in the course of his experiments on the canker worm, which are recorded in vol. viii. of the *New England Farmer*, Nos. 23 and 48 — has informed us that the application above described, totally failed with him — it offered no obstruction whatever.

What the particular causes of the failure in this instance were, provided it has in other instances proved effectual, we cannot conjecture ; unless we suppose that the insects passed over while the mercurial preparation was yet in a new and fresh state ; and before it had time to imbibe that portion of oxygen from the atmosphere, which Dr Spofford has asserted, renders its poison more active and effectual.

The Hon. John Lowell has stated in vol. iii. No. 4, of the *Mass. Agr. Repository*, that he caused the ground around 60 apple trees to be dug to the depth of four inches, and to the distance of two or three feet from the roots ; it having been ascertained by Professor Peck that the insect seldom descended into the ground at a greater distance than three or four feet from the trunk. The ground being laid smooth, three casks of *effete* or air-slacked lime were spread over the surface thus prepared, to the depth of about an inch. These trees were tarred as well as the others, and although grubs or worms appeared on most that were not limed, not a single grub was to be perceived on the trees limed.

Mr Lowell has spoken of the result of the experiment as of a single trial, and the first of the kind to his knowledge on record, and expresses his hopes that it may induce others to pursue still further the experiment ; for while tarring is injurious to the tree, and expensive in its application, the lime, which may consist of sweepings of the lime-store, is comparatively cheap : — it requires

but a single application in a season, it is not only destructive to animal substances but is useful as a manure.

Professor Peck has recommended that the ground should in October be carefully inverted with a spade to the depth of five inches, and as far as the branches extend; the clods broken, the surface raked smooth, and rolled with a heavy roller; the rolling to be repeated in March. Lime reduced to an impalpable powder, he thinks, might be with advantage applied to the surface thus smoothed, not only as being adapted to close the openings which may appear, but useful also from its caustic qualities.

On the lands of my father, John Kenrick, Esq. in Newton, a single canker worm has never been seen; yet in view of the magnitude of the evil he has in some of the publications recommended that, instead of the mode of inverting the soil, as recommended by Professor Peck, the whole infested soil beneath the tree be removed to the necessary depth with all the grubs which it contains, and carted to the barn-yard in October, and replaced either with compost, or rich soil intermixed with manure.

Other modes of *tarring* have been suggested; two boards have been recommended to be nicely adjusted to the tree by cutting a semicircular portion from each; and tar is recommended to be applied to their under surfaces, where it is supposed it may retain its fluidity much longer by not being so much exposed to rain and the influence of the sun.

P. J. Robbins of Roxbury, has recommended as an effectual remedy; that a strip of sheet-lead of $4\frac{1}{2}$ inches in width, be formed into a tube or gutter by bending over a wooden cylinder; this is again bent round the tree by passing a rope through it. After being adjusted to a level it is secured by nailing its inner edge to the tree. This being soldered at the ends, is filled in autumn with winter strained oil, spirits turpentine, or other liquids, and above this is

placed a strip of oiled sheathing paper, cut in proper form as a screen from the falling rain.

The plan invented by Mr Abel Houghton of Lynn, and said to have proved effectual, differs from the above, as the circular gutter is formed of thick pasteboard painted and it is filled with oil, and a pasteboard screen projects from above covered with painted canvas, to shield it from the rain.

On similar principles Mr Briggs of Bristol, R. I. has successfully stopped the ascent of the grub by gutters formed of tin. Four straight gutters are connected by soldering at their corners; these being adjusted to a level are supported on strips of boards nailed to the tree; the inner edge of the gutter is so bent as to project over the outer edge to shield it from rain. The space between the gutter and tree being filled with swingling tow properly secured, and the gutter being filled half full of water, a quantity of thin whale oil is added, and the security is supposed to be complete.

The Hon. H. A. S. Dearborn has further suggested that gutters formed of earthen Danvers ware, laid on the earth around the tree, might perhaps prove cheaper; and these being filled with a fluid might be equally as effectual.

Lastly, we would recommend for *experiment*, on the supposition that some one of them may prove effectual, the application of the following substances. For more particular account of them all, see the article *Insects* in the former part of this work.

1. *Chloride of lime*, to be placed around the roots of the tree in a circular gutter formed of any material and screened from rain.

2. *Cinders* from the blacksmith's forge applied in a similar manner, which have been found by Professor Thouin so effectual in obstructing the march of the *wire-worm*.

3. The application of *coal tar*, instead of *common tar*, to prevent the ascent of the grub. This substance as has al-

ready been stated, possesses either qualities so poisonous or an odor so powerful, that its application is now said to be effectual in preventing the ravages of the worm which is so destructive to the plank of the ships which navigate the ocean in warm latitudes.

4. The *garden compound*, sold at the bookstore of Mr Ives in Salem, and at the seed-store of Mr Russell in Boston, is understood to possess powerful qualities.

When the canker worms have once gained possession of the tree, it is by no means deemed an easy task to dislodge them. Dr Richardson of South Reading, however, informs me, that he is confident from his experiments, that they may be dislodged and destroyed with but little trouble or expense, by a showering of a strong decoction of tobacco water with *Willis's syringe*. Attempts have been made to destroy or dislodge them by fumigations of oil, sulphur, &c, but the accounts of the inefficacy of such attempts are contradictory.

Curculio. For an account of the various modes adopted to avert the ravages of this destructive insect, see the article *Insects* in the former part of this work.

THE APPLE, [*Pyrus Malus*,]

Is a spreading tree with a spherical head. In its wild state it is denominated a *crab-apple*, and is a thorny tree, with small leaves, and a small, unpleasant acid fruit; and from the crab-apple it is supposed all our finest varieties have been produced by cultivation. The apple is supposed to have been introduced into Britain by the Romans; and although Mr Bartram has described a crab-apple, a native of our country, the *pyrus coronaria*, a globular formed, beautiful yellow fruit, an inch in diameter, excellent for preserving, with blossoms of a gay and beautiful appearance in spring, yet it is supposed that our stock of apples originated not from this, but from Europe.

USES.

Apples when well ripened, form an extremely wholesome food in their raw state ; and from the qualities which they possess, their habitual use according to Mr Knight, destroys the artificial appetite for strong fermented liquors and the preparations of alcohol. They abate thirst, and boiled or roasted, says Loudon, 'they fortify a weak stomach and are excellent in dysentery, and equally efficacious in putrid and malignant fevers, with the juice of lemons and currants. Scopoli recovered from a weakness of the stomach and indigestion by using them.' Dr Willich has also informed us (*Dom. Ency.*) that, 'In diseases of the breast, such as catarrhs, coughs, consumptions, &c, in their roasted, boiled, or stewed state, they are of considerable service. They may also be usefully employed in decoctions, which, if drank plentifully, tend to abate febrile heat, as well as to relieve strictures in pectoral complaints.' The usual modes of cooking or preparation for common use are too well known to need describing.

'Dedit of Mazeris [Philips] has found that one third of apple pulp, baked with two thirds of flour, having been properly fermented with yeast for twelve hours, makes every excellent bread, full of eyes, and extremely palatable. In perfumery the pulp beat up with lard forms pomatum,' 'and Bosc observes, that the prolonged stratification of apples with elder flowers in a close vessel, gives the former an odor of musk extremely agreeable.' (*Loudon*). An excellent *jelly*, says Mr Fessenden, (*New Amer. Gard.*) is thus prepared from them. They are pared, quartered, and the core removed, and put in a closely covered pot without water, in an oven or over a fire. When well stewed, the juice is to be squeezed through a cloth, a little white of an egg is added, and then sugar; and lastly, it is skimmed, and by boiling reduced to a proper consistence.

Apples are preserved by drying; for this purpose they are pared by machinery constructed for this purpose, quartered, deprived of their core and either strung on twine or laid in shallow boxes with bottoms formed of laths at suitable distances, and the drying is effected in the sun or in ovens; in this state they may be long preserved: they answer equally well for cooking, and form a profitable article for stores, and for sea exportation.

Mr Knight in his treatise on the apple and the pear has informed us, that the juice of both these fruits may be used advantageously on long voyages. He has often reduced it by boiling to the consistence of weak jelly; and in this way, although intentionally exposed to the atmosphere at different temperatures, he has preserved it for several years without the slightest change. In this concentrated state it has been supposed that a few pounds added to a hogshead of water might form a good liquor, similar to perry or cider. It might also, as he supposes, answer as a substitute for the rob of lemons and oranges, and at much less expense.

The late Hon. Timothy Pickering has related the account of the efficacy of sweet apples in the cure of a sick horse: it is also stated that horses, cattle, and swine fatten in a remarkably short space of time when fed on sweet apples. It is true, cattle may have been injured by breaking into orchards and devouring at once an inordinate quantity of the forbidden fruit: but this is equally true, when they have broken into cornfields; yet neither are injurious when used as regular food. And it is thought by many that the earliest fruit, the windfalls, may be more profitably consumed by permitting cattle and swine regularly to range the orchards, than by being gathered for the purposes of distillation.

The unfermented juice of sweet apples is sometimes by boiling converted into molasses in those places where this article is not easily obtained. But for the manufacture of

molasses it is not altogether improbable that the potato, from some late experiments, may offer in future a much more profitable resource.

GATHERING AND PRESERVING THE FRUIT.

Various theories have been offered for preserving apples in a sound state for winter use or for distant voyages. Some have proposed gathering the fruit before it is ripe and drying it on floors before it is put up; this has been tried; the apples lose their sprightly flavor, and keep no better than by some less troublesome modes. Dr Noah Webster has recommended that they should be put down between layers of sand which has been dried by the heat of summer. This is without doubt an excellent mode, as it excludes the air, and absorbs the moisture, and must be useful when apples are to be shipped to a warm climate. But apples thus preserved are liable to imbibe an earthy taste.

Chopped straw has also been highly recommended to be placed between the layers of fruit: but I have noticed that the straw, from the perspiration it imbibes, becomes musty, and may probably do more hurt than good. When apples are to be exported it has been recommended that each be separately wrapped in coarse paper, in the manner oranges and lemons are usually put up. This is without doubt an excellent mode. And Mr Loudon has recommended that apples destined for Europe should be packed between layers of grain.

Great quantities of fine winter fruit are raised in the vicinity of Boston and put up for winter use, for the markets, and for exportation. The following is the mode almost universally adopted by the most experienced. And by this mode apples under very favorable circumstances, are frequently preserved in a sound state, or not one in fifty defective, for a period of seven or eight months. The fruit is suffered to hang on the tree to as late a period as

possible in October, or till hard frosts have loosened the stalk, and they are in imminent danger of being blown down by high winds; such as have already fallen are carefully gathered and inspected, and the best are put up for early winter use. They are carefully gathered from the tree by hand and as carefully laid in baskets. New, tight, well seasoned flour barrels from the bakers, are usually preferred; the baskets being filled are cautiously lowered into the barrels and reversed. The barrels being quite filled are gently shaken, and the head is gently pressed down to its place and secured. It is observed that this pressure never causes them to rot *next the head*, and is necessary, as they are never allowed to rattle in removing. No soft straw or shavings are admitted at the ends; it causes mustiness and decay. They are next carefully placed in wagons and removed on the *bulge*, and laid in courses in a cool airy situation on the north side of buildings near the cellar, protected by a covering on the top of boards, so placed as to defend them from the sun and rain, while the air is not excluded at the sides. A chill does not injure them, it is no disservice; but when extreme cold weather comes on, and they are in imminent danger of being frozen, whether by night or day, they are carefully rolled into a cool, airy, dry cellar, with openings on the north side, that the cold air may have free access: they are laid in tiers, and the cellar is in due time closed and rendered secure from frost. The barrels are never tumbled or placed on the head. Apples keep best when grown in dry seasons and on dry soils. If fruit is gathered *late*, and according to the above directions, repacking is unnecessary, it is even ruinous, and should on no account be practised till the barrel is opened for use. It has been fully tried.

When apples are to be exported Mr Cobbett has recommended that 'they should if possible be carried on deck: otherwise between decks.' — Between decks is the place, and in the most dry, cool and airy part.

CIDER.

Cider, or the fermented juice of the apple, constitutes the principal vinous beverage of the citizens of New England, of the middle states, and of the older states of the west. Good cider is deemed a pleasant, wholesome liquor during the heat of summer; and Mr Knight has asserted, and also eminent medical men, that strong astringent ciders have been found to produce nearly the same effect in cases of putrid fever as port wine.

The unfermented juice of the apple consists of water and a peculiar acid, combined with the saccharine principle. Where a just proportion of the latter is wanting, good cider cannot be formed; in the process of fermentation the saccharine principle is in part converted to alcohol. Where the proportion of the saccharine principle is wanting, the deficiency must be supplied either by the addition of a saccharine substance before fermentation, or by the addition of alcohol either before or after fermentation. For it cannot be disguised, that all good wine or cider contains it, elaborated by fermentation, either in the cask, or in the reservoirs at the distillery.

The strength of the cider depends on the specific gravity of the juice on expression; this may be readily ascertained by weighing or by the hydrometer.

I have described some of the most approved varieties of apples known. The density of their juices is designated by their weight, which I have stated; which is always in the proportion to the same measure and quantity of water, weighing 1000. According to the experiments of Major Adlum of Georgetown, District of Columbia, it appeared that when two pounds of sugar were dissolved in a gallon of rain water, the bulk occupied by 1000 grains of rain water weighed 1087 grains. From this it would appear that the juice produced by the best known apple, contains about two pounds of sugar in a gallon. Mr Marshal has

asserted that a gentleman, Mr Bellamy of Herefordshire, (Eng.) has by skill 'produced cider from an apple called Hagloe crab, which for richness, flavor, and price on the spot, exceeds perhaps every other liquor which nature or art has produced. He has been offered sixty guineas for a hogshead of 110 gallons of this liquor.' Newark in New Jersey, is reputed one of the most famous places in America for its cider. The cider apple most celebrated there is the Harrison apple, a native fruit: and cider made from this fruit, when fined and fit for bottling, frequently brings \$10 per barrel, according to Mr Coxe. This and the Hughs' Virginia crab are the two most celebrated cider apples of America. Old trees growing in dry soils produce, it is said, the best cider. A good cider apple is saccharine and astringent.

To make good cider the first requisite is suitable fruit; it is equally necessary that the fruit should be not merely mellow but *thoroughly mature*, and ripe if possible at the suitable period, or about the first of November, or from the first to the middle, after the excessive heat of the season is past, and while sufficient warmth yet remains to enable the fermentation to progress slowly as it ought.

The fruit should be gathered by hand or shaken from the tree in dry weather, when it is at perfect maturity; and the ground should be covered with coarse cloths or Russia mats beneath, to prevent bruising, and consequent rotteness, before the grinding commences. Unripe fruit should be laid in large masses, protected from dews and rain, to *sweat* and hurry on its maturity, when the suitable time for making approaches. The earlier fruits should be laid in thin layers on stagings to preserve them to the suitable period for making, protected alike from rain and dews and where they may be benefited by currents of cool, dry air.

Each variety should be kept separate that those ripening at the same period may be ground together.

In grinding, the most perfect machinery should be used to reduce the whole fruit, skin and seeds to a fine pulp. This should if possible be performed in cool weather. The late Joseph Cooper of New Jersey has observed emphatically, that '*the longer a cheese lies after being ground, before pressing, the better for the cider, provided it escapes fermentation until the pressing is completed,*' and he further observes, 'that a sour apple after being bruised on one side, becomes rich and sweet after it has changed to a brown color; while it yet retains its acid taste on the opposite side.' When the pomace united to the juice is thus suffered for a time to remain, it undergoes a chemical change; the saccharine principle is developed, it will be found rich and sweet; sugar is in this case produced by the prolonged union of the bruised pulp and juice, which could never have been formed in that quantity had they been sooner separated.

Mr Jona. Rice, of Marlborough, who is understood to be noted for his success in the manufacture of good cider, appears so sensible of the important effect of mature or *fully ripe* fruit, that provided this is the case, he is willing to forego the disadvantage of having a proportion of them quite rotten. Let me observe that this rottenness must be the effect in part, of bruises by improper modes of gathering — or by improper mixtures of ripe with unripe fruit. He always chooses cool weather for the operation of grinding: and instead of suffering the pomace to remain but 24 or 48 hours at most before pressing, as others have directed, he suffers it to remain from *a week to ten days*, provided the weather will admit, stirring the mass daily till it is put to the press. [See his communication in vol. vii. p. 123, of N. E. Farmer.]

The best cider is made, according to Dr Mease, by the following process. The liquor on coming from the press is strained through hair cloths, or sieves, and put into clean,

tight, strong hogsheads ; these are filled and the bung left out and placed in cool airy cellars or on the north sides of buildings where the air circulates. In a day, or sometimes less, according to the state of the weather and maturity of the fruit, the pulp begins to rise and flows from the bung for a few hours or a day or two at farthest ; at the intervals of 2 or 3 hours the hogshead is replenished, and kept full from a portion of the same liquor kept in reserve for this purpose, as it is deemed necessary that the whole pulp should overflow, that none may return again into the liquor. The moment the pulp has ceased rising, white bubbles are perceived — the liquor is in this critical moment fine or clear, and must be instantly drawn off by a cock or faucet within three inches of the bottom.

On drawing off the cider it must be put into a clean cask and closely watched, the fermentation restrained or prevented : when therefore white bubbles as mentioned above, are again perceived at the bung hole, rack it again immediately, after which it will probably not ferment till March, when it must be racked off as before and if possible in clear weather. As soon as safety will admit after the first racking, a small hole must be bored near the bung and the bung driven tight, this must be finally sealed and a spile inserted, giving it vent occasionally, as circumstances require. In March if not perfectly fine, it is drawn from the lees in a clear day and fined : this is usually effected by dissolving in a few quarts of cider three staples of isinglass, stirring it often ; this is poured into the hogshead. It must be drawn off again in ten or twelve days after, lest the sediment should rise ; if not fine now, repeat the fining again.

In Herefordshire, according to Dr Mease, (Dom. Ency.) the sediment of the first racking is filtered through coarse linen bags ; this yields a bright, strong, but extremely flat liquid ; if this be added to the former portion, it will greatly contribute to prevent fermentation, an excess of which will make the cider thin and acid.

The first fermentation in cider is termed the vinous; in this the sugar is decomposed and loses its sweetness, and is converted into alcohol; if the fermentation goes on too rapidly the cider is injured; a portion of alcohol passes off with the carbonic acid.

The design of the frequent rackings, as above mentioned, is principally to restrain the fermentation; but it seems to be generally acknowledged that it weakens the liquor. It is not generally practised, although the finest cider is often produced by this mode.

Various other modes are adopted with the view of restraining fermentation. Stumming by brimstone is thus performed. After a few gallons of cider are poured into the hogshead, into which the cider is to be placed when racked off, a rag six inches long, previously dipped in melted brimstone, is attached by a wire to a very long tapering bung; on the match being lighted, the bung is loosely inserted: after this is consumed, the cask is rolled or tumbled till the liquor has imbibed the gas, and then filled with the liquid. This checks the fermentation. Mr Knight, from his long experience and observation in a country, (Herefordshire, Eng.) famous for its cider, has lately in a letter to the Hon. John Lowell stated, that the acetous fermentation generally takes place during the progress of the vinous, and the liquor from the commencement is imbibing oxygen at its surface. He highly recommends that new charcoal in a finely pulverized state be added to the liquor as it comes from the press in the proportion of eight pounds to the hogshead, to be intimately incorporated; 'this makes the liquor at first as black as ink, but it finally becomes remarkably fine.'

Dr Darwin has recommended that the liquor, as soon as the pulp has risen, should be placed in a cool situation in casks of remarkable strength, and the liquor closely con-

fined from the beginning. This experiment has been tried with good success ; the fermentation goes on slowly, and an excellent cider is generally the result.

A handful of well powdered clay to a barrel is said to check the fermentation. This is stated by Dr Mease. And with the view of preventing the escape of the carbonic acid, and to prevent the liquor from imbibing oxygen from the atmosphere, a pint of olive oil has been recommended to each hogshead. The excellent cider exhibited by Mr Rice was prepared by adding two gallons of New England rum to each barrel when first made.— In February or March it was racked off in clear weather, and two quarts more of New England rum added to each barrel. Cider well fermented may be frozen down to any requisite degree of strength. In freezing, the watery parts are separated and freeze first, and the strongest parts are drawn off from the centre. I finish by adding the following general rules, they will answer for all general purposes, they are the conclusions from what is previously stated. 1. Gather the fruit according to the foregoing rules ; let it be *thoroughly ripe* when ground, which should be about the middle of November. 2. Let the pomace remain from two to four days, according to the state of the weather, stirring it every day till it is put to the press. 3. If the liquor is deficient in the saccharine principle, the defect must be remedied in the beginning, either by the addition of saccharine substances or alcohol. The cheapest if not the best for this purpose is the *neutral spirit*, which is a highly rectified spirit obtained from New England rum, and is devoid of the *haut gout* or any offensive flavor. 4. Let the liquor be immediately placed in a cool cellar in *remarkably strong, tight, sweet* casks ; after the pulp has all overflowed, confine the liquor down by driving the bung hard and by sealing ; a vent must be left, and the spile carefully drawn at times, but only when absolutely necessary, to prevent the cask from burst-

ing. The charcoal recommended by Mr Knight deserves trial.

VINEGAR

Is made of the best quality from hard old cider ; it must be placed under sheds in casks but two thirds full, with the bung out, and exposed to a current of air.

Sour casks are purified by pouring in a small quantity of hot water, and adding unslaked lime : bung up the cask and continue shaking it till the lime is slaked. Soda and chloride of lime are good for purifying. When casks are emptied to be laid by, let them be thoroughly rinsed with water, and drained, then pour into each a quart of cheap alcohol, shake the cask and bung it tight, and it will remain sweet for years. Musty casks should be condemned to other uses. Cider should not be bottled till *perfectly fine*, otherwise it may burst the bottles. The bottles should be strong and filled to the bottom of the neck. After standing an hour, they should be corked with velvet corks. The lower end of the cork is held for an instant in hot water, and it is then instantly after driven down with a mallet. The bottles must be either sealed or laid on their sides, in boxes, or in the bottom of a cellar and covered with layers of sand.

Dr Mease (Dom. Ency.) has stated ' that the apple flourishes in every part of the United States except the low lands of the maritime parts of Carolina and Georgia.' And good judges assert that the apples of England and of the North of France are not to be compared for excellence of flavor to those produced in our climate.

The process formerly adopted for obtaining new and excellent varieties of apples was, to plant only the seeds of the very best fruit, and to select from these only those individuals with large leaves and strong wood. Reason seemed to dictate this mode ; but reason united to experience has taught a different. See the first section in the former part of this work.

PEARS. — (*Pyrus.*)

OLD PEARS.—SECTION I.

SUMMER FRUIT.

AMBROSIA. Lindley.

EARLY BEURRE'.

Fruit of medium size, roundish, flattened, the eye sunken; skin smooth, greenish yellow, with small gray specks: tender, rich, sugary, juice perfumed. Last of August.

AUGUST MUSCAT. Various Authors.

AURATE, MUSCAT D'AOUT.

Small, turbinate, flattened; yellow, but light red next the sun; flesh breaking, saccharine, perfumed. Season last of July; it succeeds tolerably on the quince.

BEAUTY OF SUMMER. R. M., Esq.

SUPREME, of the French.

BELLISSIME D'E'TE'. Ibid.

SUMMER BEAUTY.

Fruit of medium size; color of a deep beautiful red next the sun, bright lemon color in the shade; form globular, inclining to pyriform: half melting, agreeable, but not of extraordinary flavor. Ripe the last of July. A fruit of middling quality, but beautiful.

BERGAMOTTE ROUGE. Different authorities.

Fruit rather small, short, turbinate, pale yellow, but red next the sun; tender, melting, juicy, sugary, high flavored. August. Succeeds on the quince.

CASSOLETTE. R. M., Esq.

PETITE CASSOLETTE. N. Duh.

LA CASSOLETTE, } of Quin. and

FRIOLETT, } the French.

MUSCAT VERD, }

LECHEFRIAND, }

GREEN MUSCAT, }

SMALL CASSOLETTE, } Of different Authors.

A small pyriform fruit, of a bright green color, slightly red next the sun; flesh breaking, of a sweet and musky flavor; ripens at the end of August and is a tolerable fruit.

EARLY ROUSSELET. Numerous authors.

ROUSSELET HATIF, PERDREAU, POIRE DE CHYPRE, of the French.

The fruit is small, turbinate; the skin smooth, yellow, but red next the sun; it is tender, juicy, sugary, perfumed. Last of July. It succeeds on the quince.

EPINE D'ETE'. Lindley. Bon. Jard.

FONDANTE MUSQUE', SATIN VERT, SATIN GREEN.

Medium size; greenish yellow at maturity; pyramidal; flesh melting, juicy, rich, musky. Ripe the middle of August. It succeeds on the quince.

FONDANTE DE BREST. Numerous authors.

INCONNUE CHENEAU.

Fruit of medium size; turbinate, but tapering towards the crown: skin shining, bright green, spotted, but red next the sun. Flesh white, breaking, sweet and agreeable. Beginning of August. It does not succeed on the quince.

GREEN CHISSEL.

Fruit small, nearly globular; skin green, but slightly brown next the sun; flesh gritty, saccharine, a little perfumed. Ripens the last of July. The tree is of feeble growth; the fruit grows in clusters, and it is productive.

GROSSE BLANQUETTE. Bon. Jard. Quint. Lind.

ROI LOUIS, BLANQUET.

Below medium size, turbinate or pyramidal; pale yellow, but red next the sun; half melting, saccharine and good flavored; middle of July. It succeeds on the quince.

GROS ROUSSELET. Quint. Lindley. Bon. Jard.

ROI D'E'TE'.

Tree well formed and pyramidal: fruit medium sized, pyramidal, turbinate, deep green in the shade, brown red next the sun and russeted all over: flesh half breaking, sweet, juicy, perfumed. Middle of August — it succeeds on the quince.

JARGONELLE.

GROSSE QUISSE MADAME, EPARGNE, ST SAMSON,
ST LAMBERT.

Fruit rather large, very oblong; color green, a little marbled with red next the sun; flesh melting, juicy, with a slightly acid, rich and agreeable flavor. It ripens early in August; is one of the most productive of all pears and the very best in its season. In the vicinity of Boston this excellent fruit is raised in large quantities for the market. It is for this purpose but too generally gathered when but half or two thirds grown and mellowed by being closely confined in large masses. I am sorry to add that the wood of this capital old variety begins to show symptoms of canker and decay at Salem.

LITTLE BLANQUET. R. M., Esq.

PETITE BLANQUETTE, } of the French.
POIRE A LA PERLE, }
BLANQUETTE, } of Miller and others.
MUSK BLANQUET, }

Fruit pyriform, very small; skin very smooth, yellowish white; flesh white, breaking and of a musky flavor; ripe

by the middle of August. A beautiful little pear, but a poor fruit.

LITTLE MUSK. R. M., Esq.

PETIT MUSCAT, of the French syn.
 PRIMITIVE, Pr. syn.
 SEPT EN GUEVILE, syn. of the French.
 SUPREME, of some Amer. and foreign coll.

Fruit very small, yellow, but brownish red next the sun ; roundish turbinate ; half breaking, of a musky flavor. It produces its fruit in clusters ; middle of July. This fruit is not recommended. It began to blast at Salem in 1830 and 1831. Quintinie called this a bad pear 140 years ago.

LONG STALKED BLANQUET. Bon. Jard. Quintinie.

BLANQUET A LONGQUEVE.

Fruit small, pyramidal, in clusters ; pale green, flesh half breaking, sweet and perfumed. July. It succeeds on the quince and bears well.

MADELEINE. R. M., Esq.

MAGDELEINE, }
 CITRON DES CARMES, } syn. of the French.
 EARLY CHAUMONTELLE,
 GREEN CHISSELL.

This pear is of medium size, pale yellow, with an occasional blush next the sun : form turbinate ; flesh white, melting, perfumed. End of July. A fine old fruit. This variety exhibits strong symptoms of decay.

MANSUETTE. Bon. Jard. Lindley.

MANSUETTE SOLITAIRE.

Fruit large ; its form varies from pyramidal to turbinate ; yellow in the shade, faint red next the sun ; flesh half melting, juicy, and of middling quality. August.

MUSCAT ROBERT. Var. authorities.

MUSK ROBINE, POIRE A LA REINE, POIRE D'AMBRE,
PUCELLE DE SAINTONGE, LA PRINCESSE, QUEEN'S
PEAR.

Small, turbinate ; the skin is smooth, yellowish green ; flesh tender, half breaking, juicy, musky. It ripens early in July and succeeds tolerably on the quince.

ORANGE MUSQUE'E. Var. authorities.

Medium size, round, slightly flattened ; color yellow, blotched with bright red ; rich, juicy, musky, pleasant. Last of July. It succeeds on the quince.

ORANGE TULIPEE. Bon. Jard. p. 304. Lindley.

POIRE AUX MOUCHES.

Fruit medium sized, oval, turbinate, green in the shade, clear red, marbled with gray next the sun ; flesh half breaking, juicy, agreeable. Last of August. It succeeds on the quince.

PRINCE'S PEAR. Ed. Enc. vol. x. p. 565. Lindley.

POIRE DE PRINCE, CHAIR A DAME, CHER A DAME.

A small roundish fruit, of a yellow color, but red next the sun ; turbinate ; flesh half breaking, juicy, high flavored. A good bearer and succeeds on the quince ; ripening the last of July.

QUISSE MADAME.

Oblong, pyramidal, compressed above the middle, yellowish green in the shade, dark dull red next the sun : flesh half beurré, very juicy, saccharine, a slight musky perfume. Last of July.

ROBINE. Quintinie.

AVERAT, ROYALE D'ETE, MUSCAT PEAR OF AUGUST,
PEAR ROYAL.

Fruit small, roundish, turbinate; its color yellow, a little spotted; the flesh white, half breaking, sweet, musky. It ripens the last of July, bears best on the quince.

ROUSSELET DE RHEIMS. Quint. Lind. Bon. Jard.

PETIT ROUSSELET.

Fruit small, pyramidal, greenish yellow at maturity, but brown red next the sun, with russetty spots; flesh half beurre, fine, very perfumed. Good to put in brandy and to dry. Ripens in August and succeeds on the quince.

ST. JOHN'S PEAR. R. M., Esq.

AMIRE JOANNET, O. Duh.

JOANNET, N. Duh.

PETIT ST. JEAN, } Of various authors.
EARLY SUGAR, }

Fruit small, yellow, pyriform; flesh tender, sweet, not high flavored, juicy, but soon turning mealy, one of the very earliest of all pears and the best of its season. In France it ripens at the period of St John's day: hence its name.

SALVIATI. Quintinie.

A medium sized nearly globular fruit, yellow, but red marbled next the sun; the flesh tender, juicy, rich, sweet. It will ripen early in August and does not succeed on the quince.

SKINLESS.

POIRE SANS PEAU.

FLEUR DE GUIGNES, of the French.

A small oblong pear; a smooth thin skin; pale green, tinged with red next the sun. Flesh half melting, of a sweet and pleasant flavor. A good fruit, ripe in August.

SUMMER ARCHDUKE. Var. authorities.

ARCHIDUC D'E/TE', OGNIONETTE, AMIRE ROUX, BROWN ADMIRAL, GREAT ONION.

Fruit medium sized; yellow, but reddish brown next the sun; form roundish turbinate; melting, juicy and good flavored. Early in July; it does not succeed on the quince.

SUMMER BERGAMOT. Lindley and others.

BERGAMOTTE D'E/TE', BEUVIERE, MILAN BEUVIERE, MILAN BLANC.

Below the medium size, globular, depressed; color greenish yellow, russeted and speckled next the sun; melting, juicy, saccharine and high flavored. August—it succeeds on the quince. Quintinie calls this a bad pear.

SUMMER BON CHRETIEN.

BON CHRETIEN D'E/TE', GRACIOLI, of the French.

Fruit very large, irregular, knobby; often four and a half inches long and three in diameter; skin smooth, pale yellow, but slightly red next the sun; flesh whitish yellow, firm and breaking; juice sweet and very agreeable. It ripens in August and soon rots at the core. Celebrated more for its great age and beauty than anything else. A poor bearer, and neither highly esteemed or recommended. Quintinie, 140 years ago, called it a bad pear.

SUMMER ROSE. Pom. Mag.

THORNY ROSE, EPINE ROSE, POIRE DE ROSE, ROSEBIRNE.

Below medium size, globular, depressed; skin yellowish, but next the sun bright red; flesh white, juicy, rich and sugary. A beautiful, excellent productive variety; its form that of an apple; it succeeds on the quince. Will probably ripen here the last of July.

WINDSOR. R. M., Esq.

CUISSE MADAME, of the French.

A middle sized oblong pear ; color green, but brownish red next the sun ; half melting, sweet, a little musky, rather coarse ; an indifferent fruit. Ripe early in August. Quintinie designates this as a bad pear.

OLD PEARS.—SECTION II.

AUTUMN FRUIT.

AUTUMN BERGAMOT. Pom. Mag. Quint. Lind.

COMMON BERGAMOT, YORK BERGAMOT.

Fruit small, globular, depressed ; the skin rough, yellowish green, but dull brown next the sun ; flesh pale, melting, gritty at the core, juicy, sugary, perfumed. This is stated to be one of the best pears of the season in September. It succeeds on the quince.

AUTUMN BOUNTY. R. M., Esq.

A large pear of a yellow color ; flesh coarse grained, but sweet ; middling for table use, good for baking, bears well and comes early into bearing. This fruit ripens in September, and is of middling quality.

BERGAMOTTE DE CADETTE. Lindley.

POIRE DE CADETTE.

Fruit middle sized, a little turbinate : stalk thick, a little sunk ; yellowish, but slightly red next the sun ; excellent.

and little inferior to any of the other bergamots. It succeeds on the quince. September.

BEURRE D'ANGLETERRE. Lind. B. Jard. p. 327.

ANGLETERRE.

The tree bears largely. Fruit middle sized, pyramidal; skin smooth, gray, tinged with red next the sun; flesh half *beurre*; but melting and juicy in dry soils, sweet and agreeable. September; it does not succeed on the quince.

BEZI D'HERY. Quintinie. Lindley.

BESIDERY, BEZI D'AIRY? of M. Masson.

An old medium sized pear, of an obovate form; skin smooth, yellow, stained with red next the sun; breaking sweet, musky, rather dry; an excellent baking pear in October and November. I suspect this pear is done. The *Bezi d'Airy* of M. Masson, which is without doubt the same, is no longer cultivated for the markets of Paris. Quintinie 140 years ago called this an indifferent pear.

BEZY DE MONTIGNY. Bon. Jard. Lindley.

Medium sized, pyramidal, compressed towards the summit; color yellow; flesh white, a little gritty; very melting; sweet, musky. It succeeds on the quince; middle of September.

BEZI DE LA MOTTE. Quintinie. Pom. Mag.

BIEN ARMUDI, BEURRE BLANC DE JERSEY, according to the Pom. Mag.

Fruit rather large and roundish turbinate; yellow at maturity, covered with russetty specks: flesh melting, juicy, rich, sweet and high flavored. Ripe the middle of October and keeps through November. An old variety; no longer or rarely seen in the Paris market, and evidently no longer worthy of cultivation there.

BROCA'S BERGAMOT. P. Mag. Ed. Enc. Hooker.

GANSEL'S BERGAMOT, IVES' BERGAMOT.

Fruit varying from medium to large; ovate, flattened; color dull brown, slightly red next the sun; flesh white, melting, sweet, rich, high flavored. It ripens in October. A delicious pear, but near Boston it proves a very bad bearer; seldom cultivated.

BROWN BEURRE'.

LA BEURRE, }
 BEURRE GRIS, } of the
 BEURRE DOIE, } French
 BEURRE ROUGE, }

BEURRE VERT,
 BEURRE, of Duh.

AMBOISE OR AMBROISE } of Quint. syn.

ISAMBERT,

GRAY BEURRE, of Fessen. New Amer. Gard.

GOLDEN BEURRE, of For. and others.

Fruit rather large, obovate, tapering to the stalk; greenish yellow, covered with thin russet, but occasionally dusky red next the sun; melting, buttery, rich, and excellent. October. One of the most ancient and once the best of all pears; in the gardens of the opulent in the city it is still productive and fair; but it is rarely if ever seen in the markets: with cultivators who furnish its supplies it has become an outcast, blasted, worn-out variety.

CRASSANNE. Quintinie. Ed. Enc. vol. x. p. 566.

BEURRE PLAT.

This pear, according to Quintinie, derives its name from *ecrase* (to crush,) others say from *crassus* (thick); fruit above medium size, roundish turbinate, greenish yellow, coated with russet; flesh tender and melting, with a rich sugary juice. Ripe last of September; succeeds on the quince; not to be trusted here; it is subject to crack and blast.

DOYENNE' GRIS. Hort. Trans. Pom. Mag. t. 74.

R. M., E sq.

GRAY DOYENNE, RED DOYENNE, } According to
DOYENNE ROUX, DOYENNE D'AUTOMNE, } the Pom. Mag.

Fruit medium sized, turbinate ; stalk very short, in a cavity ; color bright cinnamon russet, but red next the sun ; flesh yellowish white, melting, saccharine, rich, and of excellent flavor. Season, October. It succeeds on the quince. This once excellent variety is now as liable to blast at Salem as the St Michael.

ELTON. Hort. Trans. vol. II. Pl. I. Lindley.

A pear of medium size, oval form, broadest towards the crown : color greenish russetty gray, but russetty orange next the sun ; its stalk is stout, deep ; flesh breaking, of an excellent flavor, but grows meally if kept too long. An old variety, introduced to notice by Mr Knight. It ripens the middle of September and will remain in eating five weeks.

FRANCHIPANNE. Bon. Jard. Lindley.

FRANGIPANNE.

Fruit medium sized, pyramidal, turbinate, swollen in the middle, compressed between this and the stalk ; yellow, but red next the sun ; half melting, saccharine, with a peculiar perfume ; it succeeds on the quince. September.

GREEN PEAR OF YAIR. Hort. Trans.

Fruit middle sized, regularly formed and tapering towards the stalk ; skin green, slightly russeted ; flesh yellow, melting, sweet, with a very small core, almost free from grit. A Scotch variety of great excellence and extensively cultivated ; a great bearer. Ripens in September.

GREEN SUGAR. R. M., Esq.

SUCRE' VERT.

Fruit middle sized ; skin smooth, and even at maturity of a uniform green color ; pyramidal, inclining to globular, and very regular ; flesh melting, very sweet and juicy. It ripens the last of October. The French assure us that this pear has of late disappeared from the markets of Paris ; and it proves with us, at this period, an indifferent fruit.

GRISE BONNE, of Coxe.

SPICE CATHARINE, GREEN CATHARINE.

Fruit rather small ; regular, tapering towards the stalk, which is long ; swelled towards the crown ; the eye even with the surface ; skin green, covered with dark blotches ; flesh rather breaking, of a very musky, spicy flavor. It ripens the middle of August. The tree is a very great bearer.

HOLLAND GREEN. Coxe. R. M., Esq.

HOLLAND TABLE PEAR, syn. of Coxe.

This fruit is rather large, of an irregular or turbinate form ; color green, sprinkled with russet ; flesh greenish white, melting, juicy. It ripens in September and October, and is a pear of middling quality.

JALOUSIE. Bon. Jard. Lindley.

Fruit rather large, roundish, turbinate, swollen, compressed towards the stalk ; chesnut color, but dull red next the sun, thinly russeted, beurre, saccharine, high flavored. October ; it does not succeed on the quince.

LANSAC. Bon. Jard. Lindley. Quintinie.

DAUPHINE, SATIN, DOLPHIN.

Under medium size, nearly globular ; color yellowish :

flesh melting, saccharine, high flavored. It succeeds on the quince. October.

MARQUISE. Quintinie. Bon. Jard. Lindley.

MARCHIONESSE.

Fruit large, pyramidal, swollen at its crown; yellow, but faint red next the sun; flesh white, melting, buttery, pleasant, sweet. October. It succeeds on the quince.

MONSIEUR JOHN.

MESSIRE JEAN, Pr. Mil. Coxc. Quin.

WHITE MONSIEUR JOHN, } of various authors.

GRAY MONSIEUR JOHN, }

MESSIRE JEAN DORE, of Duh.

BROWN ORANGE, } of old authors.

CHAULIS,

Fruit short, turbinate; of medium size; of a yellow or sometimes gray russet color; flesh breaking, juicy, of a rich flavor, but subject to grittiness. It ripens late in October, is a good bearer, and by some much esteemed; by others it is thought a fruit of but middling quality.

MOORFOWL EGG. Ed. Enc. Lindley.

Fruit small, globular, ovate, swollen in the middle, orange brown next the sun, with spots of russet; flesh yellowish white, a little gritty, tender, mellow, saccharine, a little perfumed. This is a hardy Scotch fruit. September.

MOUTHWATER. R. M., Esq.

VERTE LONGUE, } of the French.

MOUILLE BOUCHE, }

GREEN MOUTH WATER, } of For. and Mil.

GROS MOUILLE BOUCHE, }

LONG GREEN.

This fruit is rather large, varying from pyramidal to turbinate; color dark green, skin smooth. Its flesh is melting, flavor rather sweet, rich and pleasant. Ripe the beginning of October; an old but esteemed variety.

MUSK SUMMER BON CHRETIEN. R. M., Esq.

BON CHRETIEN MUSQUE', BON CRETIEN D'E'TE' MUSQUE', but not of Coxe.

Fruit rather large, pyramidal, with occasional ridges or prominences ; skin smooth, yellow, tinged with red next the sun ; flesh white, breaking, sweet, and musky. Ripe early in September and liable to crack. An old variety, but little esteemed or cultivated.

ORANGE BERGAMOT. Coxe. R. M., Esq.

A large pear, of a yellow russet color ; its form inclining to turbinate ; flesh breaking and rather acid. It ripens in September and is not recommended for cultivation. Good only in some particular seasons. Leaves without serratures.

POIRE DU VITRIER. Lindley.

Fruit of medium size, swollen in the middle, tapering towards the ends : nearly as broad as long. Skin smooth, green, but red next the sun ; flesh white, juice agreeable. Season, November and December. It succeeds on the quince.

PRINCE'S SUGAR. R. M., Esq.

LOWRE'S BERGAMOT, of different catalogues.

A fruit of middle size, not very rich, but good. It ripens in September.

RED BERGAMOT. R. M., Esq. Coxe.

BERGAMOTTE ROUGE.

A round or turbinate, middle sized fruit ; color yellow, but on the side next the sun dull red ; flesh breaking, of a perfumed and good flavor. This fruit ripens early in November, and is a fruit of middling quality.

RED CHEEK.

ENGLISH RED CHEEK, ENGLISH CATHARINE.

Fruit middle sized; bright yellow with a deep dull red next the sun; bell shaped, sweet and pleasant, but soon turning mealy; not esteemed a first rate fruit, nor worthy of extensive cultivation. It ripens the beginning of September.

ROUSSELINE. Quintinie. Bon. Jard.

MUSCAT A LONGUE QUEUE DE LA FIN D'AUTOMNE,
RUSSELIN, LONG TAILED MUSCAT.

Small, pyramidal, turbinate; yellow, but bright red next the sun; half beurre, saccharine, musky, agreeable. October. It succeeds not on the quince.

SEPTEMBER ORANGE. R. M., Esq.

A fruit of a clear yellow color; pear shaped, with a long stem; quality indifferent, and may be a misnomer. It ripens in September.

SPANISH BON CHRETIEN. N. Duh. R. M., Esq.
BON CHRÉTIEN D'ESPAGNE, of the French.

A large pear, yellow at maturity, but bright red next the sun; the skin smooth; form pyramidal; flesh breaking, juicy and sweet. This pear ripens in November and December, and is esteemed an ordinary fruit for the table, but good for baking.

STRIPED LONG GREEN. R. M., Esq.

CULOTTE DE SUISSE, VERTE LONGUE PANACHE, SUISSE,
of the French.
STRIPED DEAN, VERTE LONGUE STRIPED.

A medium sized pyramidal fruit; skin smooth, green, but slightly red next the sun, variegated with yellow stripes on all sides; melting, juicy, musky and indifferent. Septem-

ber. The young wood, like the fruit, is striped; it has distinct dark veins. The trees seem declining with us. It was never deemed a profitable variety; it is almost gone from the markets of Paris; and is not recommended, except as a curiosity.

SWAN'S EGG. Lindley.

MOORFOWL EGG, of some American collections.

Fruit small, oval, turbinate; yellowish green, but a dull russetty brown next the sun; flesh tender and melting, with a rich, saccharine, musky flavor; an excellent fruit. This is stated to be a great bearer, and a great favorite in Scotland. The tree is very remarkable for its tall, upright, and vigorous growth.

VERMILION. Bon. Jard. N. Duh. Lindley.

BEAUTY OF AUTUMN, BELLISSIME D'AUTOMNE, PETIT CERTEAU.

Fruit medium sized, very long, pyramidal; the skin smooth, yellow in the shade, bright deep red next the sun; flesh white, breaking, half melting on some soils, sweet, high flavored. Ripens early in October and succeeds on the quince.

OLD PEARS.—SECTION III.

WINTER FRUIT.

AMBRETTE. Bon. Jard. Quintinie, (not of Coxé.)

AMBRE GRIS, BELLE GABRIELLE, TROMPE VALET, of Knoop, according to Lindley.

Tree thorny; a medium sized, round pear, fine, melting, saccharine; musky in warm soils and dry seasons. It

ripens from November to February. It succeeds on the quince.

ANGELIQUE DE BORDEAUX. Bon. Jard. Lindley.
POIRE ANGE'LIQUE, ST MARTIAL, ST MARCEL, GROS
FRANCRE'AL.

Fruit large, pyramidal, turbinate ; skin smooth, yellowish, flesh a little melting, pleasant, sweet. January and February. It succeeds on the quince.

ANGELIQUE DE ROME. Bon. Jard.

Fruit of medium size ; skin rough, pale yellow, but slightly red next the sun ; melting, sweet, very good. It ripens late in autumn or winter, requires a good soil and succeeds on the quince.

BELLISSIME D'HIVER. Bon. Jard. Lindley.

TETON DE VENUS.

Fruit large, turbinate ; skin smooth, yellowish brown, speckled, but fine red next the sun ; flesh tender ; good to cook. Its season, November to April.

BERGAMOTTE DE PAQUES. Bon. Jard. Quintinie.
Lindley.

EASTER BERGAMOT, BERGAMOTTE D'HIVER, BUGI,
LA GRILLIERE, PADDINGTON, TARLING, TERLING,
WINTER BERGAMOT.

Fruit rather large, short, roundish turbinate ; swollen at the crown ; at maturity yellow ; half beurre, sweet, good. December to May. It succeeds on the quince.

BERGAMOTTE DE SOLIERS. Lindley.

BONNE DE SOLIERS.

Fruit rather large, roundish turbinate, swollen in the middle ; skin smooth, greenish white, full of specks, brownish red next the sun ; flesh buttery, melting, juicy, sweet,

agreeable; it ripens in January and keeps till March. It succeeds on the quince.

BEZY DE CAISSOY. Quintinie. Lindley. Forsyth.

WILDING OF CASSORY, SMALL WINTER BUTTER PEAR, ROUSSELET, D'ANJOU; and according to Lindley, TERRENEUVAISE of Jersey.

Fruit small, round, flattened; yellow, faint red next the sun; flesh tender, buttery, rich, good. An extraordinary bearer, growing in clusters; ripe November till January or March. So much says Lindley and Forsyth, but Quintinie, 140 years ago, called this an indifferent pear.

BON CHRETIEN D'AUCH. N. Duh. R. M., Esq.

D'AUCH, but not of Forsyth.

Very large and beautiful; its color green, changing to yellow at maturity; its form an irregular pyramidal or calabash; and the whole fruit is covered with slight projections; flesh breaking, juicy. It ripens in November and December. Not recommended for general cultivation.

BON CHRETIEN DE VERNOIS. Bon. Jard. p. 326.

Size and form of the Winter Bon Chretien. The skin is thin, of a yellow color; it is more melting and superior to that variety and without grittiness. A gentleman here is persuaded it is the same as the Winter Bon Chretien.

CHAUMONTELLE. R. M., Esq.

BEZI DE CHAUMONTEL, O. Duh.
POIRE DE CHAUMONTELLE, N. Duh.
BEURRE D'HIVER, of some authors.

This noble old variety is a fruit varying in size from large to very large; its color at maturity yellow, tinged

with red next the sun; its form variable; flesh melting, juicy, sweet, musky, excellent. It ripens from December to January.

This fruit is still fine and fair in the city and some few sheltered situations; but has long since disappeared from its markets, and is rarely at this day to be seen in the markets of Paris. In this neighborhood it is so liable to blight and so unprofitable, that its cultivation is generally abandoned. It still answers, however, in Salem and its suburbs.

COLMAR.

POIRE DE COLMAR, N. Duh.

POIRE MANNE, Duh. syn.

BERGAMOTTE TARDIVE, } of Knoop according to
INCOMPARABLE, } Lindley's Guide.

This fruit is rather large; skin smooth, of a green color, changing to yellow at maturity, and occasionally a faint blush next the sun; form pyramidal, inclining to turbinate; flesh melting, juicy, saccharine and of excellent flavor. This fruit ripens in December and may be kept all winter. It succeeds well in the city and some very few sheltered situations near it: but owing to its decay, it has long since disappeared from the Boston market; and the French writers regret that this variety is no longer seen in the markets of Paris.

E/CHASSERY. Mr Lowell. R. M., Esq.

L'E/CHASSERIE,

AMBRETTE, of Coxé, of Fes. New American Gardener.

BEZÏ DE CHASSERY, } syn. of the French.

BESIDERY SANDRY, } syn. of Mil. and others.

WINTER LONG GREEN, }
BESIDERY LANDRY, }
TILTON, of New Jersey.

The leaves of the Echassery have serratures — the Ambrette none. A pear below the medium size, varying

from nearly globular to oblong ; its skin thick, rough, russet green, becoming a little yellow at maturity ; the eye on a level with its regular and rounded crown ; its flesh melting, juicy, and of a sweet, rich, musky flavor. It ripens in December, and will keep till March. The gentleman who wrote the article on Fruits, in Fessenden's New American Gardener, thus speaks of this fruit. ' It is an ordinary pear in its appearance ; a strong, vigorous, great-bearing tree. Not knowing its character, it was first eaten as soon as it was soft ; but accident obliging us to keep it longer, it proved to be one of the best winter pears grown in our climate. It has high praise in France. Its merit with us, however, is, that it bears our climate perfectly. One small tree imported in 1812, bore five bushels of fruit in 1826. It keeps well, owing to the defence of its coarse, thick, incorruptible skin.' The tree requires a dry, warm soil.

EPINE D'HIVER. Quintinie. Lindley.

WINTER THORN.

Fruit rather large and long, turbinate ; skin smooth, yellow at maturity ; melting, buttery, juicy, saccharine. It succeeds on the quince ; it ripens in November, and keeps till January.

FRANCRE'AL. Bon Jard. Quintinie.

FIN OR D'HIVER.

The tree is productive ; it succeeds on the quince ; leaves downy ; fruit globular, swollen in the middle ; yellowish green, but brownish red next the sun, and a little russetty ; good to cook from October to mid-winter.

GERMAN MUSCAT.

MUSCAT ALLEMAND, COXE. } Different authorities.
MUSCAT L'ALLEMAN,

This pear is rather large, of a greenish yellow color, at

maturity, but of a russetty red next the sun: form somewhat turbinate, swollen near the base, which is flat; flesh melting and musky. This is a winter variety, and does not appear to be in much repute.

HOLLAND BERGAMOTTE. Bon Jard. Ed. Enc.

BERGAMOTTE D'HOLLAND, D'ALENÇON.

Fruit very large, globular, but broadest at the crown, flattened; greenish yellow; half breaking, high flavored. It keeps till May, and succeeds on the quince.

IMPERIAL OAK LEAVED. Bon Jard. Lindley.

IMPERIAL A FEUILLES DE CHENE.

The tree grows large; its leaves resemble those of the oak; middle sized, oblong, turbinate; yellow; flesh half buttery, with a sugary, well flavored juice. It succeeds on the quince. January to May. [Lindley.] The Bon Jardinier calls it a fruit of inferior quality.

L'ORANGE D'HIVER. Coxe. R. M., Esq.

WINTER ORANGE.

The leaves are without serratures. Fruit the size of a small orange, globular, flattened; skin thick, of a dull russetty yellowish green; flesh melting, juicy and fine flavored. It ripens in November, and keeps till January; and is good only in particular seasons.

LOUISE BONNE. N. Duh. R. M., Esq.

GOOD LOUISE, AVANCHIE.

A large pear, of a pale green color at maturity, which sometimes approaches to white; its form long, and a little resembling the St Germain; flesh melting, juicy, and sweet on dry soils. This is a good fruit, ripening in November and December.

MARTIN SEC. R. M., Esq.**DRY MARTIN.**

Fruit middle sized, pyriform, tapering to the stalk, which is situated on its summit; of a russet color, changing to bright red next the sun; flesh breaking and sweet, but deficient in juice. An indifferent fruit, ripening in December and January.

MARTIN SIRE. Bon Jard. Forsyth.**RONVILLE.**

Fruit large, pyramidal, irregular; color fine green or yellow, but red next the sun; breaking, pleasant, sweet. Season, January; it succeeds on the quince.

MERVEILLE D'HIVER. Quintinie.**PETIT OIN, BOUVAR, ROUSSELLET ANJOU, WONDER OF WINTER.**

Fruit small, round, in shape of the Echassery; skin yellow, spotted, rough; flesh fine, melting, juicy, sweet, perfumed; in moist seasons and soils it is insipid. It ripens in November and December.

NAPLES. Lindley. Bon Jard. Forsyth. Quintinie.**EASTER ST GERMAIN, LENT ST GERMAIN,** of Lindley.

Fruit medium sized, formed like the calebasse; color yellow, but brown red next the sun; half breaking, pleasant. February and March. Quintinie puts this down as an indifferent fruit, 140 years ago.

NEWTOWN VIRGALIEU. R. M., Esq.

A large pear, of a yellow color, with a very short stalk; the tree grows very crooked, and of an irregular form, bending by the weight of its load of fruit; a middling fruit only for the table, but an excellent baking pear; a most

extraordinary bearer, and recommended for extensive cultivation.

PASTORALE. Bon Jard. Quintinie.

MUSETTE D'AUTOMNE, PETIT RALEAU.

Fruit large, very long, and in shape like the Saint Lezain; yellow, but red next the sun; half melting, a little musky, good; sweet on dry soils, in dry years, austere otherwise; Quintinie describes it, 140 years ago, as an indifferent pear. November to January.

ROYAL WINTER.

ROYALE D'HIVER, of the French.

This fruit is above medium size; skin smooth, yellow at maturity, but bright red or marbled next the sun; form pyramidally turbinate; flesh yellowish, nearly melting, juicy, rich, sweet, and well flavored. It ripens in December and keeps till March. An ancient and once celebrated variety; but now gone from both the markets of Paris and Boston. It is yet fair in our city, but is generally blasted and good for nothing in its vicinity.

SAINT AUGUSTINE. Quintinie. Lindley.

Fruit oblong, pyramidal, swollen, and rounded at the base; bright lemon color, but a blush of red next the sun; flesh tender, not buttery, saccharine, agreeably acid. December. It succeeds on the quince.

SAINT GERMAIN.

INCONNUE LA FARE.

This celebrated ancient fruit is large, of a green color, covered with russet spots; at maturity a yellowish cast; form pyramidal, tapering regularly from the crown to the stalk; its flesh very melting, very juicy, saccharine, slightly acid, and delicious. It ripens in November, and may be

kept till March. Such was the Saint Germain once with us. In the city it is even now uniformly fair, and perhaps, in some very few sheltered situations in its vicinity. This pear is no longer cultivated for the Boston markets; it is considered a worn out, and abandoned variety.

SAINTE PERE. Bon Jard. Lindley.

POIRE DE SAINT PERE.

Fruit large as the *Passe Colmar*. [But Lindley says, below medium size.] Turbinate; skin rough, yellow; flesh white, tender, astringent; better cooked than raw. February, March.

TRE'SOR D'AMOUR. Bon Jard. Lindley.

TRE'SOR, AMOUR.

Fruit very large, shaped like the *Gros Râteau Gris*, but more compressed towards the crown and stalk. Skin rough, yellowish, but brown next the sun; tender, juicy, very good to cook. Duhamel has stated that this is far preferable to either the *Catillac* or *Gros Râteau*. December till March.

VIRGOULEUSE.

CHAMBRETTE, BUJALEUF, POIRE DE GLACE, of various authors.

This fruit is rather large, skin smooth, of a deep green color; at maturity pale yellow; form obovate, inclining to pyramidal; flesh melting, juicy, rich, high flavored, and excellent. It ripens in November, and may be kept till February. This ancient and famous fruit is still good in the city, but is no longer cultivated for the markets of Boston or Paris. They brought in the markets of Boston, \$1 per dozen in the winter of 1831. But the cultivators will no longer suffer their ground to be encumbered with this decayed, and now worthless variety.

WINTER BON CHRETIEN.

POIRE D'ANGOISE,
 BON CHRETIEN D'HIVER, } of the French.

Very large, color at maturity yellow, with a slight stain of red next the sun ; form truncated, or pyramidal, tapering towards the summit which is narrow ; its crown large, sides angular, stalk very long, surrounded by protuberances ; flesh breaking, rather sweet and juicy. This variety often grows enormously large, a winter fruit, and may be preserved till May. This pear is very liable to crack, is not greatly esteemed either for its bearing or other qualities ; the pound pear is thought very superior to it in all respects.

SECTION IV.

OLD BAKING PEARS.

CATILLAC. R. M., Esq.

Fruit very large, rather turbinate ; pale yellow, but deeply stained with red next the sun ; flesh firm and breaking, its flavor astringent. A good bearer ; an excellent baking pear, in use all winter.

DOUBLE FLEUR. Quintinie. Bon Jard. Lindley.

ARME/NIA.

Fruit rather large, round ; at maturity yellow, but purple red next the sun ; breaking, juicy, good only for cooking. February till April. It succeeds on the quince. An ornamental tree for its double flowers ; but Quintinie calls it an indifferent fruit. There is another variety, the *Panuché*,

with striped young wood, variegated leaves; the fruit striped with green, yellow and red.

GROS RATEAU GRIS. Bon Jard. Quint. Lind.

BLACK PEAR OF WORCESTER, Lindley.

LOVE PEAR, PARKINSON'S WARDEN,

POUND PEAR, but not of Langley,

POIRE D'UNE LIVRE,

GRANDE MONARQUE,

GROOTE MOGUL. The two last of Knoop.

Fruit very large, roundish turbinate; skin rough, yellowish green, but obscure red or brown next the sun; flesh very hard, coarse, austere; but good baked or stewed. It does not succeed on the quince. November to February.

IRON PEAR.

Rather large; its color a yellowish or iron russet; form rather oblong, regular, narrowing a little towards the summit; flesh breaking, juicy and astringent. This pear keeps till May, is a good bearer, and an excellent baking sort.

POIRE DE TONNEAU. Bon Jard. Lindley.

BELLE DE JERSEY, UVEDALE'S ST GERMAIN,

PICKERING, UNION, UDALE'S WARDEN.

Fruit very large, oblong, tapering to the crown, but compressed between the middle and the stalk; in form of a cask; skin smooth, dark green, but brown next the sun; at maturity yellow and red; flesh white, hard, austere; juice astringent: an excellent pear to cook.

WARDEN.

Medium size, turbinate form, of a dark russetty yellow color; an autumn fruit and excellent for cooking. This is a very productive variety.

POUND. Coxe. Fes. New Amer. Gard.

One of the most valuable of our winter baking pears. It

is highly esteemed and is raised in considerable quantities and barrelled for the markets or for exportation. The trees are extraordinary for their vigorous growth and productiveness; the fruit is very large, oblong, pyramidal, rounded at the crown, diminishing towards the stalk, which is very strong; of a rusty green, but brownish red next the sun; firm, breaking, juicy, and astringent: most excellent for baking or preserving. It will keep till April or May.

It may not perhaps be improper here to subjoin a list of such still existing varieties, as M. Quintinie has in his day, in a more extensive and partly obsolete list, denounced and designated as *pears of indifferent quality*, and *bad pears*. I refer to the edition of Mr Evelyn, printed in 1693. I do not, however, assert that this list is to be considered an infallible guide, but I believe it to be generally so: and if true at that distant day, how much more reason have we for believing it is at least equally true now.

INDIFFERENT PEARS. Quintinie.

1. Besidery, [Bezi d'Hery.]
2. Bezi de Cassoy,
3. Brutte Bonne,
4. Caillot Rosat,
5. Chat Brûsle, or Cat Burnt,
6. Double Fleur,
7. Doyenné, [St Michael.]
8. Finor of Orleans,
9. Frangipane or Jasmin,
10. Musk Summer Bon Chrétien,
11. Naples, [Lent St Germain or Easter St G.]
12. Pastourelle,
13. Queen of Winter,
14. Spanish Bon Chretien,
15. Tuliped,

16. Winter Orange,
17. Winter Russett,

BAD PEARS.

1. Armenian,
2. Bellissime,
3. Bequêne, [Good for Baking.]
4. Cadet,
5. Catillac, [Good for Baking.]
6. Double Headed, [Deux Têtes.]
7. Gilogile,
8. Grise Bonne or Crapudine,
9. Jargonelle, [*not our Jargonelle, but of the French.
It is our Quisse Madame.*]
10. Love Pear, [Good for Baking.]
11. My God Pear, [Ah, Mon Dieu.]
12. Milan de Beuvriere, [Summer Bergamot.]
13. Red Orange, [Orange Rouge.]
14. St Francis, [Good for Baking.]
15. Sanguinole,
16. Supreme. July.
17. Swisse.

 NEW PEARS.—SECTION I.

SUMMER FRUIT.

BELLE DE BRUXELLES. N. Duh. Pl. cclxxxiv.

This new variety originated in Brabant, was introduced to Paris by M. Noisette.

The young wood is large, short, gray in the shade, red

next the sun; leaves small, oblong; fruit large, pyramidal, its stalk on its summit; skin beautiful, clear, yellow, but bright red next the sun. * * * The fruit is the largest and the most beautiful of the season, which is early in August.

CALEBASSE MUSQUE'E. Knoop, according to Lindley.

This fruit is four inches long, irregular, broadly angular, and knobby; its diameter three eighths of its length, compressed below the middle; the color deep yellow next the sun, and partially covered with thin orange gray russet; flesh breaking, a little gritty, juicy, very saccharine. This pear will probably ripen the last of August with us.

COLMAR D'E'TE'. Annales d'Horticulture.

The tree resembles the Colmar, but its bark is always creased; it is a great bearer. A very good species, originated by M. Noisette and but little disseminated. August and September.

DEARBORN'S SEEDLING.

This pear lately originated at Brinley Place, the mansion of the Hon. H. A. S. Dearborn, in Roxbury. The tree is about thirteen years old, and of vigorous growth; fruit of medium size; it is rounded at the crown, and regularly diminishes in a parabolic manner to the stalk, which is inserted in a small cavity; the skin is smooth, thin, green, sprinkled with russet points, and a fawn colored blotch around the stalk, which is short, and curved; at maturity the skin is a delicate yellow. This pear was examined by the committee of the Massachusetts Horticultural Society, in August, 1831. It was very melting and of the finest flavor, fully equalling in this respect the very ancient and once famous and delicious St Michael; and was named by them *Dearborn's Seedling*. The tree produced fruit for the first

time in that year, and promises to form a valuable addition to our stock of summer fruit.

EARLY BERGAMOT. Pom. Mag. t. 101. Lindley.

A medium sized pear, of a green color, tinged at maturity with yellow; streaked with brownish red next the sun; form roundish, flattened at its base; flesh yellowish white, very juicy, a little breaking and gritty, but very rich and sugary. Ripe in August.

A new fruit sent by M. Thouin to the London Horticultural Society in 1820. A most excellent early variety; an abundant bearer, and deserving of cultivation.

GREEN SUMMER SUGAR. Willich's Dom. Ency.

SUGAR PEAR OF HOYERSWERDA,
SUCRE D'HOYERSWERDA,

"An excellent new fruit, of moderate size, raised from the seed of the Green Sugar, (*Sucre Vert*) cultivated in Lower Lusatia; it is oblong, but arched towards the crown; of a grass green shade, spotted in every direction with green and gray dots; the pulp is mellow, without grittiness, and surpasses in taste all other summer pears. Its juice is of a vinous subacid taste, decidedly superior, at least in taste, to the Green Sugar. If it be suffered to ripen on the tree, it acquires a greenish yellow shade. Ripe from the middle to the end of August, and it can be preserved only a few weeks. The tree bears fruit every year; the blossoms resist the most unfavorable weather; and the wood remains sound in the severest winters.

INNOMINEE. Dr Van Mons.

The fruit is very large [the engraving sent by Dr Van Mons, measures over 4 inches in length, and nearly $3\frac{1}{2}$ in breadth;] and from the contraction of the short neck, it resembles the *Frederic de Wirtemberg*. The stalk is long,

large and straight ; skin clear green, but yellowish at maturity, marbled with pale brown ; flesh delicate, melting, saccharine, with an agreeable perfume. Although between a summer and autumn fruit, it does not become mealy. Scions of this new variety were received of Dr Van Mons, by the Massachusetts Horticultural Society, the last of August, 1831, but they had perished. — *New England Farmer*, vol. x. No. 7, being an extract from the translation of the Hon. H. A. S. Dearborn, from an article written by Dr Van Mons, in the *Revue des Revues*.

JULIENNE, of Coxe.

L'ARCHIDUC D'E'TE', SUMMER BEURRE', Syn. of Coxe.
SUMMER DOYENNE, SUMMER ST MICHAEL, so called near Boston.

BLOODGOOD PEAR, of New York.

Medium sized, smooth, bright yellow at maturity, with a faint blush next the sun: form rather obovate, tapering towards the stalk, which is short ; flesh perfectly melting, rich and juicy. The tree bears young, and most profusely, and ripens the last of August. This is one of the most beautiful and valuable fruits of its season, and deserving of extensive cultivation.

LAMMAS. Lindley.

Fruit rather small, pyramidal ; color pale yellow, but slightly streaked with red next the sun ; flesh melting, juicy, and of very good flavor. A very excellent sort for the market, being one of the very earliest ; a very good bearer, a profitable fruit, and a handsome upright tree. It will probably ripen with us in July.

LONDON SUGAR. Lindley.

This fruit is below medium size ; color greenish or pale lemon color, tinged with brown next the sun ; form tur-

binate, narrowed at the crown ; flesh tender, melting, saccharine, of a rich musky flavor. Ripe in July. The branches are slender and drooping. It is an excellent early fruit, and a great bearer. It is very plenty in Norwich market.

PREMATURE. Loudon's Mag. vol. III. p. 224.

A new pear, which very lately appeared at Edinburgh. A good bearer, about the size of the Crawford, but more juicy and delicious, and remarkably early ; it commands a good price in the market. Ripe early in August in that country ; reputed a most superior early fruit.

SABINE D'E'TE'. Lond. Hort. Trans. Lindley.

Raised in 1819, by Mr Sloffels, of Mechlin ; named for Mr Sabine. The form is pyramidal, terminating in a round blunt point at the stalk ; color yellow, but fine scarlet next the sun ; the whole surface smooth, regular, and polished ; flesh white, melting, juicy, and highly perfumed. It ripens early in August. The young wood is slender, it bears abundantly.

SEIGNEUR D'E'TE'. Lon. Hort. Trans. Lindley.

This pear has been known many years in Flanders. It is above the middle size, a blunt oval ; color fine orange, but bright scarlet next the sun, and marbled ; flesh melting, free from grit ; a rich and beautiful pear. It ripens the beginning of September, and will probably ripen here in August. The tree is handsome, and bears well.

SECTION II.

AUTUMN FRUIT.

IN this section are included all those new varieties whose period of maturity has not been ascertained.

ALEXANDRE DE RUSSIE. Lindley.

Fruit above the medium size, obliquely pyramidal, with an uneven knobby surface ; stalk short, thick, sunken ; skin greenish yellow, almost covered with cinnamon russet ; flesh almost white, gritty, but tender and mellow ; juicy, saccharine, with a slight musky perfume. It ripens in October, will probably ripen here in September. This new variety originated in Flanders. It is of the Bon Chretien shape, and uncommonly fine.

ALTHORPE CRASSANNE. Mr Knight.

'Very excellent, and rose flavored.' 'This variety,' Mr Knight has further stated, 'and the *Monarch* will not be excelled by any other variety in your climate, both grow rapidly and bear abundantly. November.' Scions of this pear were sent by Mr Knight in February, 1832, to Mr Lowell, and the Massachusetts Agricultural Society. It is new and was originated by him.

ANDREWS.

AMORY, GIBSON.

This pear derives its several titles from the circumstance, that the garden in Boston where the tree now stands, has been possessed by three different owners by the above names. A large fruit ; form inclining to oblong, melting, and of most excellent flavor. It ripens in September. We believe the tree to be an ordinary bearer.

ARCHIDUC JEAN D'AUTRICHE. Van Mons.

A new pear, lately originated in Flanders, which Dr Van Mons has characterised as '*admirable*.'

AUTUMN COLMAR. Lindley.

Fruit middle sized, oblong, shaped like a Colmar; but irregular in its outline; stalk sunken; of a pale yellow color, with much thin russet next the sun; flesh rather gritty but mellow, with a sugary and slightly perfumed juice. A new, hardy, Flemish variety, ripening the beginning of October. It will probably ripen here in September.

ASTON TOWN. Hooker's Pom. Lond. Pl. xviii.

The fruit is small, and somewhat resembles the Swan's Egg; it is of a greenish color, spotted with russet; the flesh is melting, highly flavored, richly sugared and perfumed; sometimes a little stony. It is in perfection early in November, but will not continue long; not a handsome pear.

BARTLETT.

WILLIAMS' BON CHRETIEN according to some.

The Bartlett Pear is undoubtedly an imported fruit, and so named for the gentleman in whose garden it was found, and who has so liberally extended the variety: Enoch Bartlett, Esq. of Dorchester, one of the Vice Presidents of the Massachusetts Horticultural Society. It is a very great favorite wherever known, and it seems capable of sustaining its character in a diversity of soil and climate. It flourishes at Malta. I must confess that the description of the Williams' Bon Chretien is so perfectly similar, and the tree and its leaf agree so exactly with this, that I am induced to believe them one and the same, and my description will answer alike for both. This last is

stated to have sprung from seed, about 1796, in the garden of a Mr Wheeler of Berkshire, England. It was subsequently extensively propagated by Mr Williams near London — hence its name. The Bartlett pear is large, oblong, irregular, turbinated, or somewhat truncated. The stalk thick, fleshy, an inch long; the eye not sunken; the color at maturity yellow, tinged with red next the sun; flesh whitish, very melting, delicate; juice perfumed, sweet and abundant. Ripe in September. A most productive and excellent variety, and recommended for general cultivation.

BELLE ET BONNE. Pom. Mag.

SCHÖNE AND GUTE, of the Taschenbuch, according to the Pom. Mag.

This very valuable variety was sent to the London Horticultural Society in 1826, by Messrs Baumann of Bollwiler — and much as our autumn pears have been improved, this ranks among the very best of them, being a delicious bergamot of the best kind. This fine, new pear has been erroneously cultivated in Europe, under the names of Charles D'Autriche, Belle de Bruxelles, and Bergamotte Crassanne, which are distinct fruits. 'A harvest pear, magnificent, very large, globular, depressed, the stalk long; skin greenish yellow, but next the sun yellow, with spots of russet; flesh white, sweet, exceeding rich and agreeable, perfumed. The tree is very productive. It ripens in September.'

BELLE LUCRATIVE. Lindley. Braddick.

A beautiful and hardy new Flemish variety, which Mr Braddick pronounces a first rate fruit. Fruit middle sized, roundish, tapering to the stalk; its surface a little uneven; of a pale yellow color, mixed with green and slightly russeted; flesh a little gritty, but very soft and mellow; very

juicy, sugary, with a slight musky perfume. Ripe the beginning and middle of October, but will probably ripen here in September.

BELMONT. Mr Knight.

'Very excellent here in November.' Scions of this new variety, which was originated by Mr Knight, were forwarded by him in February, 1833, to Mr Lowell, and the Massachusetts Agricultural Society.

BERGAMOTTE DES PAYSANS. Chev. Parmentier.

A middle sized pear; flesh melting, and excellent flavored. Ripe in September.

BEURRE' DE BEAUCHAMP. Van Mons. *Nouveau Cours Complet d'Agriculture*, vol. XII. p. 127.

Fruit nearly round; color yellowish green, speckled; flesh almost white, half melting, having a peculiar flavor which is very agreeable. It ripens in November. The tree is very productive, says Van Mons, who sent us the specimen. — *Bosc.*

BEURRE' BOSC. Van Mons. *Nouveau Cours Complet d'Agriculture*, vol. XII. p. 125.

Fruit very long, terminated by a crown three inches in diameter; skin gray fawn color, but yellowish at maturity; flesh white, melting, half buttery, excellent; ripe at the end of November. In its form and flavor, it much resembles the *Calebasse Marianne*. Figured Pl. 18, of the *Annales générales des Sciences.* — *Bosc.*

BEURRE' COLOMA. Chev. Parmentier.

This new Flemish pear is of large size; flesh melting; juice sugared, and of good flavor. It is ripe in autumn.

BEURRE' CURTET. Van Mons. Annales d'Horticulture.

Fruit oval, rounded ; its length three inches, breadth the same ; skin green, thin, striped, and stained with red next the sun ; flesh white, melting, full of sweet juice, quickened by an aromatic tartness, peculiar to the Bergamots. Last of September to middle of October. — *New England Farmer*, vol. x. No. 22, inserted by Hon. H. A. S. Dearborn. Obtained in 1828, by M. Simeon Bouvier, an apothecary of Jodoine, who has dedicated it to M. Curtet, a physician of Brussels.

BEURRE' DELBECQ. Loudon, from Bull. Univer., for Mar. 1826.

This is a new autumn pear, and is said to be a very superior fruit. The tree is more lofty and of handsomer form than any other variety. It was raised by Van Mons from seed sown in 1813.

BEURRE' DORE'. Willich's Dom. Ency.

GILDED BUTTER PEAR.

This is a luscious fruit nearly related to the White Doyenné, having a similar taste, and ripening about the same time, of a larger size, and possessing a finer coat than the latter ; its peel being glossy and smooth, resembles unpolished gold ; is occasionally streaked and marked with bright yellow spots. There is no red color on this pear, but its south side displays greater brightness than the opposite part which has been shaded.

BEURRE' DUQUESNE. Chev. Parmentier.

A large new Flemish pear, originated it is said, by Van Mons. Flesh melting, and of good flavor. It ripens in autumn.

BEURRE' DUVAL. Chev. Parmentier.

A pear of large size, the flesh melting, and flavor good. It ripens in November. This new variety was raised in Flanders by M. Duval.

BEURRE' KNOX. Mr Knight. Lindley.

This new variety was raised by Dr Van Mons. It was forwarded by Mr Knight in 1823, to the Hon. John Lowell, and has been by him distributed to all who have applied. Mr Knight describes it thus. 'Large, pear shaped, yellow; season November and December; an excellent pear.' Oblong, formed like the Brown Beurre. Of a pale, green color, thinly russeted next the sun. Flesh a little gritty, but mellow; juice saccharine, but without any peculiar flavor. Middle of October to last of November.

BEURRE' DU ROI.

This fine variety was imported in 1822, from France, by John Prince, Esq. of Jamaica Plain, in Roxbury. The tree was on a quince stock, and has proved a most extraordinary bearer, which may possibly be owing in part to this cause: I would hope otherwise. Mr Prince, however, is persuaded, it will produce larger fruit on a pear stock. A most capital variety from the middle of September to the first of December. A pear of very handsome size, form, appearance, and of excellent quality, and as such recommended for general cultivation. The name of this fruit and its sudden appearance seems involved in mystery. Its description and history cannot I believe be traced to any author. It is evidently *no old French pear*, but *new*: and some apprehend that it is no other than, identically, the *Urbaniste*, with a new title, usurped in honor of Charles X.

BEURRE' ROMAIN. N. Duh.

A middle sized pear as large as St Germain or rather larger; oval, obtuse, angular, swollen in the middle of its

height ; green, changing to yellow at maturity ; flesh fine, white, melting, perfumed. An excellent fruit. September.

BEURRE' DE SAINT QUENTIN. Annales d'Horticulture.

Fruit in form of the common Doyenné, not quite so long, and larger in circumference ; demi Beurre ; well calculated for large orchards, being a great bearer. Produced by M. Noisette.

BEURRE' SPENCE. M. Van Mons. Braddock.

According to the account published by Dr Van Mons in the *Revue des Revues* for March, 1830, this pear possesses a melting and delicious flesh, and merits a distinguished place in our gardens. It ripens in Belgium the last of September. This pear Dr Van Mons formerly pronounced the best of all he had ever produced ; a fruit to his taste inestimable and having no competitor. We have this on the authority of Mr Braddock, who coincided with him in this opinion ; and Mr Turner pronounced it the very best of all the new Flemish pears. This was the opinion Dr Van Mons had formed some years before he had made trial of a very considerable proportion of all his new sorts.

BEZI DE LOUVAINE. Van Mons. Nouveau Cours Complet d'Agriculture, vol. xii. p. 126.

Fruit long, its transverse diameter two and a half inches ; skin a delicate green, but brown red next the sun ; its stalk short ; flesh buttery, very agreeably perfumed. It ripens in October. Figured Pl. 101, of the *Annales générales des Sciences.* — *Bosc.*

BISHOP'S TUM. Lindley's Guide.

Fruit over medium size, very oblong ; it is twice as long as broad, and tapers to its summit. The stalk is long,

crooked ; color dark green, covered almost throughout with iron colored russet, but brownish red next the sun: flesh yellowish green, melting, juicy, rich, saccharine and high flavored. An excellent, but ordinary looking fruit, ripening in October.

BON CHRETIEN FONDANTE. Lindley.

A most excellent new Flemish pear. It is above the middle size, oblong, regular in its outline ; stalk short, stout ; skin pale green, mostly covered with deep cinnamon russet ; flesh yellowish white, a little gritty, but rich and buttery, and full of a highly saccharine, rich flavored juice. End of October to end of November ; with us it may be a month earlier.

BOURGMESTRE.

A very large pear ; some have weighed a pound : form oblong, irregular, pyramidal or truncated ; color a russetty yellow, with a blush next the sun. John Heard, Jr. Esq. of Boston, has sent specimens of this fruit to the Horticultural Society of Massachusetts, weighing 13 ounces ; but the opinions respecting its quality seem at variance. The Chevalier Parmentier, however, describes it as a melting and excellent fruit. A new Flemish variety ; season November to December. A beautiful fruit, and the tree is evidently a good bearer.

BROOME PARK. Mr Knight.

‘ A rather small, but excellent variety.’ This new pear was originated by Mr Knight, and scions were sent by him in February, 1832, to Mr Lowell, and the Massachusetts Agricultural Society.

BROUGHAM HALL. Mr Knight.

‘ An excellent variety here.’ This new pear was originated by Mr Knight, and scions were sent by him in Febru-

ary, 1832, to Mr Lowell, and the Massachusetts Agricultural Society.

BUFFUM.

A variety lately received from Warren, Rhode Island, where it is understood to be a native and in high estimation. The tree is vigorous, upright, very handsome; it does not suddenly come into bearing. Fruit medium sized, oblong or obovate, greenish russetty yellow, but slightly red next the sun; melting, juicy, and agreeable. It ripens in September.

CALEBASSE FONDANTE. *Nouveau Cours Complet d'Agriculture*, vol. XII. p. 124.

The fruit is very much lengthened, knobby; of a uniform red color; its flesh is melting, sugary, agreeable, so far as I could judge from the fruits sent me by Van Mons. It ripens the beginning of October, and grows soft soon after. — *Bosc.*

CALEBASSE MARIANNE. *Nouveau Cours Complet d'Agriculture*, vol. XII. p. 128.

Fruit very long, of an orange color, about three inches in its transverse diameter, rather narrowed in its length; stalk short; flesh white, melting, very sugary, and very perfumed. This is one of the best of all pears. It very much resembles in its form a calabash. The tree is thorny. This pear is figured Pl. 40, of the *Annales générales des Sciences*. — *Bosc.*

CAPIAUMONT.

BEURRE DE CAPIAUMONT, CASSIOMONT, erroneously.

This new variety was raised by M. Capiaumont of Mons. It was sent in 1823, by Mr Knight, to the Hon. John Lowell, and has been by him liberally distributed to all who

have applied. The tree is of vigorous and upright growth, it comes early into bearing and is very productive; the young wood is stout, and of a yellowish color; fruit large, oblong, pyramidal, tapering to the stalk, which is situated on its summit; its diameter is three quarters of its length, and is greatest at one fourth of its height. The eye is level with the surface; color yellow, tinged with fine red, or cinnamon next the sun; flesh yellowish, melting, buttery, very rich and high flavored. A most delicious and beautiful fruit. This excellent variety is said to be a great favorite in England, and deservedly so in the vicinity of Boston. It ripens in September.

CAPSHEAF. S. H. S., Esq.

HADLEY PEAR? supposed.

A large pear of a globular form, inclining to turbinate; a melting, buttery, sweet, and rich flavored fruit, of an orange russet color. September and October. Highly esteemed where cultivated. A valuable pear, introduced here by S. H. Smith, Esq. of Rhode Island.

CHARLES D'AUTRICHE. Lindley. Hort. Trans.
and other sources.

CHARLES OF AUSTRIA.

A fine and beautiful fruit, raised by Dr Van Mons. Mr Knight is confident it will be productive. We have seen the fruit; a genuine specimen, as here described, was exhibited in 1830, by S. G. Perkins, Esq. to the Massachusetts Horticultural Society. Fruit large, three and a half inches long, and three inches broad; oblong, contracted towards the stalk; greenish yellow, with brown spots, and partially russeted; flesh melting, white, very juicy, with a rich high flavor, but with little if any perfume: it will ripen here in October.

COLMAR SOUVERAIN.

A new pear, stated to have been raised by Van Mons. Specimens of this fruit were sent in 1830, by Mr Prince of the Linnæan Botanic Garden, to the Massachusetts Horticultural Society. A large oblong pear, color greenish russet, melting, juicy, and of excellent flavor. It ripens in autumn and its productiveness is not ascertained.

CUMBERLAND. S. H. S., Esq.

This native pear is stated by Mr Smith, to be extraordinary for its size and beauty; some specimens have weighed near a pound. The color is yellow or orange, with a bright blush of crimson next the sun; the flesh is rich, juicy and melting; little inferior to the old St Michael. The original tree was first shown to him in 1830, growing in Cumberland, Rhode Island. It is about 30 years old, apparently hardy, and free from blight. It ripens in autumn, and may be kept till into winter.

CUSHING. S. Downer, Esq.

This superior wilding was so named by the Massachusetts Horticultural Society. It originated about 40 years ago on the grounds of Col. Washington Cushing of Hingham, Massachusetts. The fruit is of medium size, oblong, contracted towards the stalk which is short; the skin smooth, light green, but brownish red next the sun; flesh whitish, melting and full of delicious juice, sprightly, and of first rate excellence. The tree is a great and constant bearer; and although growing in an uncultivated pasture, it has produced annually 14 bushels of fruit, and may be recommended with confidence, as one of our finest native varieties. Season middle of September.

DARIMONT. Lindley.

A new, hardy Flemish variety. The fruit is of medium size, oblong; in some specimens slightly pyramidal, taper-

ing a little towards the stalk, which is short and slightly sunken; color a yellowish gray russet; flesh white, gritty, but melting, with a saccharine, slightly musky, and somewhat astringent juice. It ripens in September and October.

DEARBORN. Dr Van Mons.

It is described by Van Mons as a new pear, which amateurs have pronounced exquisite, and which he has lately so named in honor of the Hon. H. A. S. Dearborn, President of the Massachusetts Horticultural Society.

DELICES D'HARDENPONT. Van Mons' Cat.

DELICES D'ARDENPONT. Lindley. N. Duh.

This last name I have put down as a synonyme, believing it a corruption. Dr Van Mons represents the Delices d'Hardenpont as very large. I extract from the *New Duhamel* the following description of the fruit, which was sent to them from Brussels. — '*Delices D'Ardenpont*. Raised by M. D'Ardenpont, amateur and proprietor near Brussels. Its height is three inches, diameter nearly the same; stalk fifteen lines. Skin a little thick, smooth green, but yellow at maturity; flesh white, nearly melting; juice pleasant, sweet, and abundant. It ripens at Brussels fourth of November.'

DIX. S. Downer, Esq.

This very fine native pear originated in the garden of Madam Dix in Boston. It sprung from the seed about eighteen years since. The tree is of medium vigor, the young wood is thorny. It is very productive. Fruit large, oblong: skin rough, thick, green, but yellow at maturity, with a fine blush on the side exposed to the sun; the stalk short and situated on its summit. Flesh melting, juicy, rich, and of fine flavor, and thought to be even superior to

the St Germain. It ripens from the middle to the last of October, and bids fair to be one of our very best autumn pears, and may with safety be recommended for general cultivation, for its beauty, fine flavor, and bearing.

DR HUNT'S CONNECTICUT. J. Prince, Esq.

The scions of this pear were received about a dozen years ago, of Dr Hunt of Northampton, who received it from a friend in Connecticut, without a name. 'The tree is of uncommonly vigorous growth, and a great bearer. A beautiful pear, of a good size, oblong form, yellow color, with a remarkably short stalk; it is tolerable for the table, and excellent for cooking in October.' This sort must be deemed a valuable and profitable variety for extensive cultivation.

DOYENNE PANACHE'. Hort. Trans. vol. iv. p. 177.

Formed like the Doyenne Gris; bright clear yellow, faintly striped with green and red; with small russet brown dots. The flesh is white, melting, sweet, and very agreeable.

DOYENNE SANTELETTE. Lindley.

A new, fine, handsome Flemish pear, raised by Van Mons; a hardy tree. Fruit above the middle size, pyramidally oblong, narrow at the crown, and compressed towards the stalk; skin pale green, thinly covered with specks of gray russet; flesh white, a little gritty, but tender; juice saccharine, with a slight musky perfume. Ripe the beginning of October, and will keep to the end. This may probably prove with us a September fruit.

DE RACHINQUIN. Annales d'Horticulture.

I extract from the translation of the Hon. H. A. S. Dearborn, inserted in vol. ix. No. 22, of the N. E. Farmer,

‘The fruit is round, compressed; skin rough and brown, like that of the Mons. Jean; flesh very melting, buttery and sugary, and high flavored. November and December. This variety merits dissemination for the beauty of the tree, and the quality of its fruit. It grows in clusters and was produced by M. Noisette.’

DOUBLE D’AUTOMNE. Lindley.

Fruit middle sized, round, in form of a Bergamot; skin a cinnamon russet: flesh white, breaking, a little gritty, but mellow, saccharine, very excellent, with a little perfume. A very handsome, new and excellent pear. It ripens in October.

DUCHESS D’ANGOULEME. Pom. Mag. Hort.
Trans. and various authorities.

ANGOULEME, DUCHESS OF ANGOULEME.

I have before mentioned, on the authority of M. Poiteau, the abortive attempts of the most distinguished cultivators in France, during the last ages, in raising new and valuable varieties of fruit from the seed. Such attempts seem to have failed, because conducted on principles adverse to success. Nature, however, has sometimes, unaided by art, accomplished in that country, more than man by false science and misguided effort was enabled to do. Such appears to have been the case in the *Duchesse d’Angoulême*, said to have been discovered growing wild in a hedge of the Forest of Armaillé near Angers, in the department of Maine and Loire. It was there found in July, 1815, on the return of the Bourbons for the second time to France. Hence its name. ‘A pear of first rate excellence, the finest of the late autumn pears, it is not less remarkable and distinct from others in its appearance, in its irregular, knobby surface, covered with broad patches of brown. It

arrives at a weight very unusual in dessert pears. Specimens from the island of Jersey have been seen weighing twentytwo ounces. Form roundish, oblong, tapering towards the stalk, with an extremely uneven surface ; stalk and eye deeply sunk ; skin dull yellow, covered with broad russet patches ; flesh rich, melting, very juicy, and high flavored, with a most agreeable perfume. The trees are stated to bear very early and with certainty ; it succeeds equally well on the quince stock or pear.' It will ripen here about the last of October. Specimens of this fruit have been produced by Hon. John Lowell, and S. G. Perkins, Esq. which have been pronounced of very first rate quality. Mr Loudon, another good authority, informs us, it is now well ascertained to be a great bearer.

LA BELLE DE FLANDERS. Pom. Mag.

FONDANTE DES BOIS, of Van Mons, and Lond Hort. Cat.
 IMPERATRICE DE LA FRANCE, } according to Lindley
 BRILLIANT. } and Pom. Mag.
 BOUCHE NOUVELLE, } according to Lindley and Pom.
 FLEMISH BEAUTY. } Mag.

This new Flemish pear is of the first rank in quality ; it is large, very beautiful, and bears abundantly as a standard ; and will without doubt, one day become a most important variety in the list of cultivators. Fruit large, [the engraving sent by Dr Van Mons is near four inches long and over three inches broad ;] obovate, obtuse at the stalk ; greenish yellow russet, but tinged with crimson red next the sun ; flesh rather firm ; yellowish white, sweet, rich, melting and excellent. It must be gathered while it adheres yet firmly to the tree. This is the only way to have it in the utmost perfection. It ripens in October, and will keep a month or two.' It will probably ripen with us a month earlier.

FORELLE. Mr Knight. Dr Diel. Pom. Mag. Dr Willich.

FORELLENBIRNE, Dr Diel.

POIRE TRUITE, OR TROUT PEAR, of the French.

A beautiful and excellent pear of medium size; form obovate; of a clear lemon color in the shade, a deep, rich, sanguine hue, and spotted next the sun; of a delicious aromatic flavor, and unusual fertility. Thus have the above first rate authorities described it. Its season is from October to December. Mr Knight, in 1823, sent this variety to the Hon. John Lowell; but it has not yet in our climate fulfilled expectation, and cannot be recommended till further trial. It is a native of Northern Saxony.

FORME DE MARIE LOUISE. Mr Braddick.

This fruit was raised by Dr Van Mons, and Mr Braddick, who received the variety from him, thus describes it. The tree is hardy; it is more vigorous, the wood is stronger than the Marie Louise. The fruit is melting, it is of a larger size, and of a flavor even superior to that excellent variety. It falls early into fruit, and is an exceeding great bearer. It ripens in October, and continues in eating for six weeks. [See *Marie Louise*.] — *Loudon's Magazine*.

FREDERIC DE WURTEMBERG. Van. Mons.

ROI DE WURTEMBERG.

A very large pear of great excellence, raised by Van Mons, and was so named by him, in honor of, and at the particular request of Frederic, King of Wurtemberg. It is five inches long, and four in diameter; of a globular form towards the base, very contracted towards the summit, which is very narrow and pointed.

FULTON.

The tree is stated to be a full and constant bearer. A

native pear, of a round or turbinate form, of medium size ; skin dark yellow russet ; melting, juicy, sugary, and of delicious flavor. It ripens the middle of September, and lasts a month. To have this fruit in perfection, it should be gathered a little before its maturity, and ripened in the shade. This fine native fruit was raised from seed, by Mrs Fulton of Topsham, Me. It is highly deserving the attention of cultivators.

GENDESEIM. Lindley.

Fruit middle sized, pyramidal, little uneven in its outline ; skin yellowish green, covered with specks and thin patches of gray russet ; flesh a little gritty, but mellow, and full of a saccharine, rich, and slightly musky juice. A new Flemish pear, and a hardy and productive tree. Ripe the end of September and beginning of October. With us it may probably ripen a month earlier.

GORE'S HEATHCOT.

A native pear, a capital variety, which deserves to be ranked with the Seckel and Bartlett ; raised by Mr Heathcot at the farm of the late Gov. Gore, from the seed planted in 1812. The tree is remarkably upright and handsome in its growth ; the young wood is red and thorny. The fruit is rather large ; its diameter is three fourths of its length ; contracted towards the stalk ; the color fine yellow or straw, tinged with red next the sun ; the flesh is rich, melting, and of most excellent flavor. Competent judges have decided upon this. It is a constant bearer, and the young tree produced in 1831, five bushels of pears according to Mr Toohey, who has introduced this pear to notice. It ripens in September, and is highly deserving of cultivation.

GROSSE ANGLETERRE DE NOISETTE. Bon
Jard.

This new variety was obtained from seed by M. Noisette. It is larger and later than the Beurre d'Angleterre.

GROS DILLEN. Hort. Trans. Lindley.

DILLEN. Lindley.

One of the new Flemish pears, so highly recommended by John Braddick, Esq. 'Fruit large, ovate, irregularly turbinate; about three and a half inches long, and three inches in diameter; eye flat; stalk short and thick; skin yellowish green, slightly speckled with brown; flesh white, with a slight musky flavor, and very little core. Ripe early in October, and will keep a few weeks. A fine buttery pear of the first order, and very handsome. Received from Dr Van Mons of Brussels, in 1817.'

GRUMKOWER WINTERBIRNE. Lindley.

Fruit of medium size, smooth; pale green, with russetty specks. Bon Chretien formed; obtusely ribbed towards the crown, and narrowed towards the stalk; melting, very juicy, saccharine, and very musky. This fruit will probably ripen with us in October.

HACON'S INCOMPARABLE. Lindley.

Fruit middle sized, turbinate, irregular; slightly angular near the crown; stalk stout; skin rugose; pale yellow, mixed with green, partially covered with orange russet; flesh yellowish white, slightly gritty, but very buttery and melting; juice abundant, very saccharine, extremely rich, and possessing a high musky and perfumed flavor. A very valuable and excellent pear, raised by Mr James Gent Hacon, of Downham market, in Norfolk. The tree sprung from seed sown in 1814, is sixteen feet high, with pendulous branches. It bears abundantly, and may justly be

considered one of the best pears ever raised in England. It obtained the silver medal as a prize in 1830, and is in perfection in November and December.

HARVARD.

L'EPERGNE, former name.

This fine native pear originated in Cambridge, Mass. The tree is of vigorous, upright and handsome growth; the young wood yellowish red, and thorny; fruit, above medium size, form very oblong, swollen at the crown; contracted towards the stalk, which is inserted in a cavity; the color a russetty yellow, tinged next the sun with russetty red; flesh white, juicy, melting; flavor like the combined flavors of the Seckle and Jargonelle. The tree does not readily come into bearing, but afterwards bears abundantly. It is ripe by the middle of September. This excellent pear is highly prized in the Boston markets, and is deserving of general cultivation.

HAZEL. Hort. Trans. vol. VII. p. 310. Lindley.

A small fruit, of a yellowish color and freckled; of an oval, turbinate form; flesh white, juicy and pleasant. Season, end of October to end of November. A Scotch fruit, and said to be extensively cultivated in Scotland for its good quality and abundant produce.

HENRI QUATRE. Lindley.

HENRY FOURTH. Ibid.

Fruit below the middle size, pyramidal, oblique at the crown; skin pale yellow, mixed with green, but orange brown next the sun, with russetty specks; flesh pale yellow, a little gritty, but very tender and melting; juice abundant, highly saccharine, with a slight musky perfume. A very excellent pear, a hardy tree; the fruit ripens the end of September, and will keep a few weeks. It was raised by M. Witzhumb, and may ripen here in August.

HENRI VAN MONS. Dr Van Mons.

The following is an extract of an article in the *New England Farmer*, vol. x. No. 7, translated by Hon. H. A. S. Dearborn, from the *Revue des Revues* : written for that periodical, by Dr Van Mons.

‘The fruit is very large ; contracted in proportion to its length, and swollen about one third of its height ; but the largest fruit often assumes a cylindrical form. The skin is smooth, and at maturity a greenish yellow, but of more or less brilliant red next the sun. The flesh is tender, buttery, sweet, slightly mingled with acid, which renders it very agreeable. It is an excellent autumn fruit, and its true pear flavor should make it in great demand. Named in honor of M. Henri Van Mons of Brussels.’ Scions of this fruit were forwarded by Dr Van Mons, to the Massachusetts Horticultural Society, but not arriving till August, 1831, they had perished.

GOLDEN BEURRE’ OF BILBOA.

I have adopted this name for a fruit which was exhibited at the Massachusetts Horticultural Society, in October, 1831, by Mr Hooper of Marblehead, the produce of a tree imported from Bilboa in Spain. It is evidently a new fruit with us, being unlike any other we have ever before seen. It is of medium size, oblong, contracted above the middle of its height, and tapering towards the stalk ; color a bright golden yellow, interspersed with patches of golden russet ; perfectly melting, and of fine flavor. A beautiful fruit, a great bearer, and highly deserving extensive cultivation.

JOHONNOT.

A native pear, originated by George S. Johonnot, Esq. of Salem. It first bore fruit in 1823 ; a medium sized fruit, of irregular form ; stalk very short and thick ; skin very thin, of a dull yellowish brown hue ; of good flavor, and ripe in September.

KEISER. Lindley.

A medium sized pear ; at maturity of a yellowish green, with spots of russet ; stalk short and thick ; form turbinate ; flesh greenish white, a little gritty, but melting, saccharine ; flavor not peculiar ; a hardy tree, an abundant bearer. It will probably ripen with us the middle of September.

LA COLOMA. Van Mons. Nouveau Cours Complet d'Agriculture, vol. xii. p. 127.

Fruit medium sized, oval, but swelled in the middle ; color yellowish green, but yellow at maturity, which is in November ; flesh melting, perfumed, and very agreeable, judging from the specimens of fruit sent us by Van Mons from Brussels. — *Bosc.*

L'INCOMMUNICABLE. Lindley.

INCOMMUNICABLE. *Ibid.*

Fruit above the middle size, oblong, pyramidal, compressed towards the stalk, which is stout and short ; skin pale grass-green ; flesh yellowish white, a little gritty but melting ; juice saccharine, with a slight musky perfume. A new Flemish variety ; it bears well and regularly, as a standard at Chiswick. Ripe middle to end of October. This fruit will probably ripen with us a month earlier.

LA VANSTALLE. Van Mons. Nouveau Cours Complet d'Agriculture, vol. xii. p. 127.

Fruit perfectly pyramidal ; high colored with red ; of medium size ; flesh granulous, becoming insipid, and finally soft ; it keeps till the middle of October. I did not find this fruit excellent ; it is however, better than the Doyenné, [St Michael.] — *Bosc.*

LODGE. Col. Carr.

A new seedling raised in the neighborhood of Philadelphia. A tolerably large pear, of a brown color ; melting,

juicy, and of delicious flavor; thought by some to be superior to the Seckel. It ripens early, but keeps well; and is thought to be highly deserving of general cultivation.

MARIE LOUISE. Pom. Mag.

A new and superior variety raised from seed by the Abbe Duquesne. Scions of this fruit were sent by Mr Knight, in 1823, to the Hon. John Lowell: and specimens of this fruit have been produced agreeing perfectly with the description. Fruit oblong, tapering towards both ends; size varying from medium to large; stalk an inch long; skin nearly smooth, yellowish green, interspersed with patches of cinnamon colored russet; flesh white, exceedingly juicy, melting, buttery, and rich. It ripens in October, and keeps till November, and is described as a pear of extraordinary excellence. The *Forme de Maria Louise*, although it has been confounded with this, is evidently distinct. It was so called after this, from its resemblance of form. In Dr Van Mons' catalogue for 1823, there are more than one unnamed sorts called *Forme de Marie Louise* — more than one, *Forme de Napoleon* — at least twenty unnamed varieties called *Forme de Doyenné*.

NAPOLEON. Pom. Mag.

ME'DAILLE. Hort. Soc. Cat.

SAUVAGEON LIART, of some, according to Van Mons.

This new and excellent variety was raised by M. Liart, and not as is stated in the Pom. Mag. by Dr Van Mons. Mr Braddick has stated that he found the Napoleon in every good collection on the continent; also the Maria Louise. This variety was sent in 1823, by Mr Knight, to the Hon. John Lowell, and has been by him distributed liberally to all applicants. And the fruit conforming to the descriptions has been produced among us. Fruit large, form of the Colmar, contracted in the middle; stalk half an inch long,

slightly depressed ; skin smooth, bright green, but at maturity pale green ; flesh very melting, with a most unusual abundance of rich agreeable juice. It ripens with us in September. Wood strong, dark yellowish green, with whitish spots ; leaves tapering to a point, widely serrated. This variety is stated to be a great bearer, and to succeed equally upon the pear or quince stock.

NAUMKEAG. R. M., Esq.

This pear lately originated in Salem, and derives its title from the ancient Indian name of that town. Fruit nearly round, or roundish oblong, stalk long ; color a yellowish russet ; a valuable pear, and a great bearer. Ripe in autumn.

NEW BRIDGE. Lindley.

Below the medium size, thinly russeted ; of a lively shining brown next the sun ; turbinate ; flesh melting, a little gritty ; the juice sugary, but without any peculiar flavor. This pear will probably ripen with us early in September.

NOIR GRAIN. Bon Jard.

BEURRE NOIR GRAIN.

This pear is of medium size, extremely productive, and highly esteemed in Flanders. Ripe in September.

PITFORD PEAR. Mr Knight.

'A rich melting pear, season November.' This new pear was originated by Mr Knight, and scions were sent by him in February, 1832, to Mr Lowell, and the Massachusetts Agricultural Society.

PREBLE'S BEURRE.

This name I have at present adopted for a pear, name lost, received some years since from the late Eben. Preble, Esq. It was selected from his extensive importations

from France, as a kind evidently unknown with us, heretofore. The tree is of medium vigor, compact in its form; the leaves are dark green above, very downy or woolly beneath; fruit medium size, turbinate; skin smooth, pale green at maturity; flesh white, melting, juicy, rich and excellent. Ripe in September. The tree is a very great and constant bearer; and is recommended as well deserving cultivation. It is evidently new, and Mr Manning has suggested that it agrees well with the description of the Francreal d'Été.

PRINCESSE D'ORANGE. Pom. Mag.

PRINCESS OF ORANGE.

The fruit is roundish turbinate, the size of the White Doyenné, [St Michael;] skin bright reddish orange russet; flesh yellowish white, sugary and rich, in some seasons perfectly melting, but occasionally a little gritty. From its great beauty, as well as the good quality of the fruit, this variety is highly recommended to notice, as a valuable autumn pear, ripening in October. Raised by the Comte de Coloma in 1802.

PRINCE'S SAINT GERMAIN.

The imperfect description of this fruit is from a specimen, sent by Messrs Prince, of the Linnæan Botanic Garden, Flushing, to the Massachusetts Horticultural Society, in 1830. It is understood to have been raised by him, from the St Michael and St Germain. The fruit was of a size rather large, form regular, inclining to oblong; of a yellow color, melting, and of excellent flavor. It ripens in autumn, and will keep till winter.

POIRE D'ANANAS. Braddick. Loudon.

This new Flemish variety, which Mr Loudon characterizes as '*excellent*,' Mr Braddick has recommended as of

first rate excellence, and nearly allied in appearance and flavor, to the *Passe Colmar* and *Present de Malines*. A winter fruit. Another account describes the *Poire d'Ananas* as of medium size, very handsome, melting, with a fine pine-apple flavor, [hence its name *d'Ananas* ;] ripening in November, and considered in Belgium as one of their very best sorts ; the tree of dwarfish habits, and flowering freely and at the extremity of the branches.

POIRE DE LOUVAINE. Lindley.

Fruit middle sized, pyramidal, uneven on its surface. Of a dull green color, mixed with yellow and spots of russet ; flesh very tender, slightly gritty, and full of a rich, very saccharine, musky juice. A very excellent pear, and hardy tree ; it highly deserves cultivation. Ripe the beginning of October, and fine to the end. In our climate this fruit will probably ripen a month earlier.

POIRE NEILL. Lindley.

This fruit is sometimes nearly four inches long, and three and a half inches in diameter ; pyramidally turbinate, tapering to the stalk ; sometimes obliquely formed ; the stalk is short and obliquely inserted ; skin pale yellow, intermixed with green, and mottled with thin gray russet ; flesh white, a little gritty, but very soft and mellow, abounding with a saccharine and slightly musky juice. A very fine and handsome new pear from Flanders, a hardy tree. Ripe the beginning of October, and good to the end. It will probably prove with us a September fruit.

POIRE SANS PEPINS. N. Duh.

SEEDLESS PEAR.

Size and form of the *Colmar* ; skin yellow, touched with green ; melting, a little coarse grained, abounding in sweet musky juice. It ripens in Normandy the beginning of October.

RAYMOND. R. S., Esq.

A middle sized pear, a little oblong, contracting towards the stalk ; of a greenish yellow color, and good flavor. It is expected this may prove a valuable fruit. Raised by Dr Joseph Wight of Raymond, Me.

RICHE DEPOUILLE. Lindley. Lond. Hort. Trans.

RICHE D'APPOIE.

This pear resembles the St Germain in size and shape. It is large, oblong, the eye prominent ; it tapers to the stalk, which is rather thick and long ; skin clear citron yellow, covered with numerous asperities, and rough like an orange or lemon, and tinged with scarlet next the sun ; flesh white, melting, not perfumed, but sweet and very pleasant. A new variety ripening late in autumn or winter ; it succeeds on the quince or pear.

SAINT GHISLAIN. Van Mons. Mr Downer.

SAINT GALEN, of the Bostonians.

This variety of pear was raised in Belgium by M. Dorlain. 'St Galen,' one of the new varieties sent from the Horticultural Society of London, to S. G. Perkins, Esq., size middling, color yellowish green, flavor sprightly, rich, sugary. It comes in eating from the middle of September to the first of October.

SECKEL.

A most delicious pear, size varying from small to medium ; form obovate ; color varying from yellowish to brownish russet, but generally red next the sun ; of a melting, spicy, and of a most extraordinary rich and delicious flavor. In this respect it is supposed to exceed any other native fruit. It ripens the middle of September, and lasts till the middle of October. The tree is of moderate growth ; upright, compact, and beautiful in its form. It is extraordi-

nary productive, and produces its fruit in clusters: it is recommended as indispensable in every good collection. The time when, or the place where this pear originated, is involved in obscurity. Dr Hosack has stated in his letter, recorded in the London Horticultural Transactions, that it was first introduced to notice near Philadelphia about 70 years ago. It was found either on the grounds of Mr Seckel or Mr Weiss.

SERRURIER D'AUTOMME. Annales d'Horticulture.

I adopt in this place the version as it appeared in vol. ix. No. 22, of the New England Farmer, of the Hon. H. A. S. Dearborn. 'M. Van Mons says the tree is tall and majestic; the leaves small, elongated, and apositely folded.' The fruit is very large, oblong, obtuse at both ends; skin of a delicate green, it becomes yellow at maturity. The flesh is white, tender, melting, full of very abundant, sugary juice. The epoch of its maturity is towards the end of October, and it may be preserved three weeks. Produced by M. Van Mons.

SIEULLE. Bon Jard. 1828.

Raised by M. Sieulle, at the seat of the Duc de Choiseul at Praslin. It first bore fruit in 1815. The fruit is of medium size, globular form, flattened at the ends, but swollen towards the base. A long stalk; skin fine, of a yellow lemon color, and slightly red next the sun; flesh half melting; juice sweet, rich, abundant and agreeable. It ripens October and November. The tree is vigorous and productive.

STRIPED BON CHRETIEN. N. Duh.

BON CHRETIEN PANACHE'. Ib. Pl. 115.

Introduced by M. Vanieville, from Metz, in 1810. The tree comes early into bearing, the young wood is striped;

the fruit is very large, and formed like the winter Bon Chrétien, irregularly striped with yellow on a green foundation; flesh almost melting, sweet, and very agreeable in its raw state. This interesting species merits to be extensively multiplied.

SUMMER FRANKREAL. Pom. Mag. p. 106.

FRANKREAL D'E/TE', Diel's Pom.

FONDANTE, Knoop Pom.

FRANCE CANNEL, Knoop.

GROS MICET D'E/TE', Pom. Mag.

The fruit is rather large; color pale yellowish green; form turbinate; stalk short and thick; flesh white, firm, juicy, buttery, melting, rich and excellent. It will ripen with us probably, the last of August. This is said to be a great bearer.

SYLVANGE VERTE. M. Pierard. Hon. J. Lowell.

A most superior pear. It originated at the village of Sylvange, near Verdun in France; at what period is uncertain. Scions of this variety were sent by Mr Knight in 1823, to the Hon. J. Lowell, and the fruit has been produced by him and Mr Parsons of Brighton, corresponding in excellence, to the description of M. Pierard — this variety has been by them disseminated widely with their wonted liberality. It is rather a large pear, varying in its form, irregular in its outline, swollen towards the middle, flattened at its head, rounded towards the stalk, or terminated by a very blunt point; bright green on the shaded side, dark green next the sun; the whole skin is rough, with spots or specks of a gray or black color. The stalk is short, slender, obliquely inserted; the eye small and but slightly depressed in a knobby cavity. The flesh is greenish near the skin, white in the centre, soft, saccharine, and of a peculiarly agreeable flavor. It ripens in October and will keep till December. Mr Lowell states that it proves an exuberant

bearer, even to a fault. Specimens were produced by him and Mr Parsons, weighing eleven and thirteen ounces; he further agrees with M. Pierard, that it is one of the very best of pears. M. Pierard adds that it requires a sheltered situation, and not a strong soil.

TILLINGTON. Lond. Hort. Trans.

This new variety was raised by Mr Knight at Tillington, a village near Hereford, from the Bergamot and Jargonelle; and scions were sent by him in 1823, to Hon. John Lowell. Size and shape of the Doyenne Gris, but more perfectly rounded at the head; stalk short and fleshy at its insertion; skin dull green in the shade, but dull brick dust red next the sun, the whole a good deal russeted. Flesh white, nearly Beurré, with a little grit at the core; particularly sweet and rich, though not very juicy. It ripens the middle of November.

URBANISTE. Hort. Trans. vol. v. p. 411.

A new and superior variety raised by the Comte de Coloma of Malines. It was sent by Mr Knight in 1823, to the Hon. John Lowell, and has been by him distributed to all who have applied. The fruit is pyramidally ovate, very even in form, about three and a half inches long, and two and three fourths in diameter; the eye slightly depressed; the stalk an inch long, obliquely and moderately sunk; skin pale green, inclining to yellow; greenish specks, and small gray russet patches dispersed over its surface. Flesh white, but reddish yellow next the core, which is large and a little gritty; it is quite melting, juicy and very sweet, with a little perfume. This pear is on good authority pronounced one of the most valuable of our autumn fruits, and it is suspected that the *Beurre du Roi*, is no other than the Urbaniste. It ripens from the middle of September to first of December.

WASHINGTON.

A medium sized native pear, of an oblong form, much compressed towards the stalk; very melting, and of delicious flavor. Thus it is described by Mrs Griffith of Charlieshope, N. J. who has sent this variety to Mr Parsons. An autumn fruit.

WILKINSON. S. H. S., Esq. Mr Downer.

This new and fine native pear, originated in Cumberland, R. I., on the farm of Jeremiah Wilkinson, brother to the celebrated Jemima Wilkinson, and was introduced here by Stephen H. Smith, Esq. of Providence, in 1829, and was so named by the committee of the Massachusetts Horticultural Society. The tree is healthy and a good and constant bearer; the size and form are those of the St Michael; the skin is dark yellow, with a brownish blush at maturity next the sun; the flesh is whitish, melting, flavor very peculiar, possessing the fine flavors of the old St Michael and St Germain combined, with a delicious sugary juice, sprightly and pleasant; having distinctly the flavor of the rose and aroma. This superior seedling will be a very handsome and great acquisition to our gardens. Season October and November.

WILLIAMS.

This new native variety originated on the farm of Aaron Davis Williams, Esq. in Roxbury, Mass., and is stated by him to be a good bearer. It is rather below the medium size; in form turbinate; the color is yellow with a deep blush next the sun; it is melting, juicy, and exceeding fine flavored. September.

WORMSLY GRANGE. Mr Knight.

A new pear sent by Mr Knight to the Hon. John Lowell. 'This pear requires to be gathered before it is quite ripe.

It is in Herefordshire a variety of first rate excellence, rivalling the Brown Beurre in its most perfect state.' This pear has not yet been sufficiently proved in our climate.

SECTION III.

WINTER FRUIT.

BEURRE' D'AREMBERG. Pom. Mag. Bon Jard.
Loudon. Knight. Annales D'Horticulture.

POIRE D'AREMBERG, }
DUC D'AREMBERG, } Pom. Mag.
COLMAR DESCHAMPS. }

BEURRE' D'AREMBERT, Bon Jard.

BEURRE' DESCHAMPS, Van Mons.

BEURRE' DES ORPHELINS, of Deschamps.

BEURRE' D'HARDENPONT, erroneously.

The English and French writers speak of this pear, as one of the very best of all in cultivation. And Mr Loudon has stated that it is one of the greatest bearers — comes early into bearing, and keeps well. It was raised by the Abbe Deschamps, in the garden of the Hospice des Orphelins at Enghein. Deschamps at first called it *Beurré des Orphelins*, and M. Van Mons soon after named it *Beurré Deschamps*. Others are stated to have called it *Beurré D'Hardenpont*, and finally *Beurré D'Aremberg*. M. Noisette is stated to have sent to England the Gloux morceau, another fine pear but larger, for this variety, which has led to mistakes there, if not in our own country. Mr Knight who commends this as a very first rate fruit, forwarded scions of the variety in 1823, to the Hon. John Lowell, by whom

it has been liberally disseminated. The Pomological Magazine thus describes the tree and its fruit. Wood deep yellowish brown, sprinkled with gray spots; leaves middle sized, ovate oblong, of a rich dark green color; fruit large, turbinate; skin of a delicate pale green, dotted with russet, which becomes a deeper yellow at maturity; flesh whitish, fine, very juicy, perfectly melting, without any grittiness, and of a very extraordinary rich, sweet, high flavored quality. It will keep till March, and is truly characterized in the Horticultural Transactions, as deserving to be placed at the head of all pears in cultivation. It is a great bearer either on a quince as a dwarf, or as a standard.

BEURRE' DIEI. Pom. Mag.

DOROTHEE' ROYALE, of Van. Mons. according to Lindley.

BEURRE' D'YELLE.

POIRE DE MELON.

BEURRE' ROYALE, } of various collections according to
DIEI'S BUTTERIRNE, } the Pom. Mag.

This noble pear was raised by Van Mons and so named in honor of Dr Augustus Frederic Adrian Diei. Its great merit, independent of its excellence, is its fertility. It is of the first rank among dessert pears. The tree is of vigorous growth; the young wood is long, strong, flexuose, olive green, downy at the ends; the leaves large, roundish or broadly cordate, smooth. Fruit when in perfection four inches long, and three inches broad; it is much swollen a little above the middle, going off to the eye either abruptly or gradually, and tapering straight to the stalk, without any contraction of the figure, which is much like the Bon Chretien, but without the protuberances. The skin at maturity is bright orange with little trace of russet; its dots surrounded with red; the eye in a deep cavity surrounded by knobs; the stalk strong, one and a half inches long, in a deep narrow cavity; flesh clear white, a little gritty towards the core, but perfectly tender, melting, juicy, with a deli-

cious, rich, saccharine, aromatic flavor, without any perceptible acid, core small, seeds usually abortive.

BEURRE' RANCE. of Van Mons, of the French, Lond. Hort. Trans. Pom. Mag.

HARDENPONT DU PRINTEMPS, of Mr Knight, and some others:

BEURRE' EPINE, of some collections.

This new variety was raised at Mons, by the late Counsellor Hardenpont. It is described by Dr Van Mons, as being the best of the late pears, keeping till May. Mr Knight in 1822, sent this variety to the Hon. John Lowell; and it has been by him extended to all who have applied. The Pomological Magazine describes it thus:—The tree is vigorous and a good bearer after a few years, its mode of growth is straggling, the shoots sometimes growing pendulous; wood brownish yellow. Fruit middle sized, oblong, tapering to the stalk, which is long and slender; skin deep green, flesh green, melting, having a delicious, rich flavor, with very little acid; it shrivels in ripening.

BEURRE' WITZHUMB. Van Mons. Nouveau Cours Complet d'Agriculture, vol. XII. p. 126.

Fruit oval, knobby, three and a half inches in diameter; skin rough, green, brownish red or dark brown next the sun; flesh greenish white, semi-transparent, melting, perfumed. It ripens in December. This beautiful and excellent pear is figured Pl. 105 of the *Annales generales des Sciences.* — *Bosc.*

BEZY-VAET. Dr Van Mons.

BEZY DE SAINT VAAST, according to Dr Van Mons.

The following from the *New England Farmer*, vol. x. No 7, is an extract from an article, written by Dr Van Mons in the *Revue des Revues*; inserted by the Hon. H.

A. S. Dearborn. 'The Bezy-Vaet, according to tradition and from the name which it bears, was probably obtained by the late Abbe Saint Vaast, or had been disseminated by him. The fruit belongs to the sub-species of *Rousselets*; its size and form are those of the Colmar; ground deep green, blotched with purple, and stained in spots of rusty red; flesh both melting and buttery, slightly yellow, it abounds in sugar, and exhales a perfume which cannot be compared to the aroma of any other fruit. The period of its maturity is December and January, but it can be prolonged by gathering the fruit fifteen days earlier than usual. It is superfluous to add, that it is worthy of being received by amateurs.

CARDINALE. N. Duh. Pl. 62.

POIRE D'AMIRAL, of M. Hervy. Ibid.
ADMIRAL.

We are astonished that a pear so beautiful, and of merit far before many other sorts, should as yet be so little extended in the environs of Paris. The tree is of medium vigor; its young wood of medium size, and of a red color. A superb, oblong pear, of a pyramidal form, with a well rounded base; yellow in the shade, but beautiful red next the sun; flesh white, half melting, coarse grained, very juicy, sweet and agreeable. It keeps till March, and merits to be better known.

CHAPTAL. N. Duh. Pl. 388.

This new pear, dedicated to Comte Chaptal, minister of the interior, was obtained by M. Hervy in 1800. The tree is of middling growth, and resembles a wild pear; fruit very large, turbinate, swollen; skin smooth, green, but at maturity yellow, with a slight blush next the sun. The flesh is breaking, but Calvel has described it as half melting; the juice abundant, sweet, slightly acid, and per-

fumed. This handsome pear keeps till April and May ; it is excellent cooked, but may be eaten raw.

COLMAR DEWEZ. Loudon, from Bull. Univ. Sept. 1825.

This pear lately originated in the vicinity of Brussels, is said to contain a rare assemblage of extraordinary qualities ; flesh white, tender, and exquisitely melting ; juice abundant, mild, and of an elevated, agreeable perfume, equal to the Hardenpont d'Hiver, improperly called Beurre d'Hiver.

COLMAR SABINE. Van Mons. Nouveau Cours Complet d'Agriculture, vol. XII. p. 133.

The fruit is formed like the *Beurré* [oval, oblong, tapering to the stalk.] Its diameter two and a half inches ; of medium size ; the color beautiful green, dotted with brown ; stalk long ; its eye rather deep ; the flesh white, buttery, very sugary, not at all musky. It does not ripen till spring. Figured vol. 3d, Pl. 30, of the *Annales generales des Sciences Physiques*. — *Bosc*.

COLMAR VAN MONS. Nouveau Cours Complet d'Agriculture, vol. XII. p. 133.

Fruit pyramidal, yellow, with fawn colored points ; of medium size ; flesh half breaking, sugary, very agreeable ; it ripens in January, and will keep two years, according to Van Mons. I have eaten of this fruit. The tree is extremely productive. — *Bosc*.

DUCHESS DE MARS. Chev. Parmentier.

DUCHESS OF MARCH.

This pear is of large size ; flesh melting, and of good flavor. It ripens in March.

EASTER BEURRE'. Pom. Mag.

BERGAMOTTE DE LA PENTECOTE, but not of Parmentier
or Dr Van Mons.

BEZI CHAUMONTELLE TRES GROS, of M. Stoffels of
Mecklin.

BEURRE' D'HIVER DE BRUXELLES, of the Taschenbuch.
DOYENNE D'HIVER, of some collections, according to the
Pom Mag.

This fine new fruit probably originated in Flanders. It is not to be confounded with the *Easter Bergamotte*, a good but inferior fruit. 'Of all the very late keeping pears, this is decidedly the best [*for England.*] Fruit large, roundish oblong, broadest towards the eye; stalk short, thick, deeply inserted; green, but yellow at maturity, with specks of russet brown; flesh yellowish white, perfectly buttery and melting, and extremely high flavored; wood reddish yellow, sprinkled with distinct whitish spots; leaves oblong, folded together. It is a most profuse bearer on a quince stock. It ripens from November to May.

FLEMISH BON CHRETIEN. Lindley.

BON CHRETIEN NOUVELLE ESPECE. Ib.

Fruit large, oblong, turbinate, tapering and slightly compressed towards the stalk. Large specimens measure four and a half inches long, and three and a half broad. Skin at maturity yellow, mottled with russet next the sun; flesh yellowish white, breaking, a little gritty, but mellow at maturity; juice saccharine, with a slight musky perfume. Season the beginning of November till the end of January. A very fine new Flemish pear; it succeeds well on the quince, and as an open standard.

GLORIA. Mr Knight.

COLMAR D'HIVER, former name.

A name implying everything that is excellent. It has

not yet been sufficiently proved in our climate to recommend it ; although Mr Parsons had a tree in bearing in 1831, he was yet unable to ascertain the quality. 'Shape varying from nearly globular to pear shaped, color yellowish green. A melting pear of first rate excellence, and very productive. Season, January.' This variety was sent by Mr Knight to Hon. John Lowell, in 1823.

GLOUX MORCEAU. Hort. Trans. Lindley. Knight.

GLOUX MORCEAU, Lindley and some others.

'A very large Belgic variety of great excellence.' — [*Mr Knight.*] Large specimens measure four inches long, and three and a half in diameter. Much like the D'Arcenberg in form, but larger, more oval, not so turbinate ; the stalk an inch long and rather deeply inserted ; the eye deep in an uneven hollow ; the skin is pale, dull olive green, inclining to yellow ; covered with russetty specks, and round the stalk russetty blotches. Flesh whitish, firm, very juicy, but a little gritty at the core. A beautiful and fine variety. Ripe in November, and will keep till March.

GRANDE BRETAGNE DOREE. Braddick. Loudon.

A new variety procured by Mr Braddick of M. Stoffels, of Malines, in 1819. This pear Mr Braddick pronounces a first rate fruit ; it has been preserved by him till April. Its size is medium ; its form a regular obovate ; color at maturity yellow. Mr Loudon pronounces it an excellent fruit with a peculiar terbinthinate flavor.

ICKWORTH. Mr Knight.

'Melting, rich, rose-flavored.' March and April. This new pear was originated by Mr Knight, and scions were sent by him in February 1832, to Mr Lowell and the Massachusetts Agricultural Society.

JOSEPHINE. Chev. Parmentier.

JAMINETTE, of some, according to Van Mons.

This new Flemish pear is of large size, flesh melting, juice sugared, and flavor excellent. It ripens in winter.

LA FOURCROY. Van Mons. *Nouveau Cours Complet d'Agriculture*, vol. XII. p. 132.

MERVEILLE DE LA NATURE.

Fruit oval, two and a half inches in its transverse diameter; skin yellow, spotted; stalk strong; eye little sunk; flesh yellowish white at maturity, melting, slightly acid, excellent. It ripens in January. Figured Pl. 86, of the *Annales generales des Sciences*.

LEWIS. Mr Downer.

A valuable native pear; it originated on the farm of Mr John Lewis in Roxbury, Mass. The size is medium, form somewhat globular; the stalk is long; the skin is dark green and coarse; the flesh is whitish, very melting, juicy, and excellent. It ripens by the middle of November, and may be kept till February and March. The tree when loaded droops like the willow; this new and excellent pear is a very great and constant bearer; it is productive to a fault, and possesses the valuable property of hanging on the tree to a very late period; and is highly deserving of cultivation. This fruit sells very high in winter in the market.

L'OKEN D'HIVER. Van Mons. *Nouveau Cours Complet d'Agriculture*, vol. XII. p. 132.

Fruit oval, a little lengthened; its transverse diameter five inches; stalk short; eye sunk in a cavity; skin of a clear yellow, washed with fawn color; flesh white, melting, pleasant, perfumed, excellent. It ripens in March. Figured Pl. 74, of the *Annales generales des Sciences*.

MONARCH. Mr Knight.

'This pear,' says Mr Knight, 'in my estimation, and that of a great many others, is without a rival, though its high musky flavor offends some persons.' Again he says, 'The *Monarch* and *Althorpe Crassanne*, will not be excelled by any other varieties in your climate; both grow rapidly and bear abundantly.' Again he adds, 'the *Monarch* grows so fast and bears so well, that I am planting it for perry, convinced it will make a very fine liquor.' Season in England, December and January. Scions of this pear were sent by Mr Knight, in February, 1832, to Mr Lowell, and the Massachusetts Agricultural Society; it was originated very lately by him.

LOWELL. Mr Knight.

A new pear produced by Mr Knight. Scions of this sort were forwarded by him in 1828, to the Hon. John Lowell. Mr Knight describes it as follows — 'I send a plant and cuttings of a pear, which I have named for you, the *Lowell Pear*. Our climate is hardly warm enough for it, but in yours I think it will prove excellent, and a very productive variety.

PASSE COLMAR.

FONDANTE DE PAMSEL,	} of Van Mons, according to
PASSE COLMAR EPINEUSE,	
POIRE PRECEL.	
PASSE COLMAR, VINEUSE,	} of Pom. Mag.
BEURRE D'ARGENSON,	
PASSE COLMAR DIT PRECEL,	} Hort. Soc. Cat.
COLMAR EPINEUSE,	
BEURRE COLMAR DIT PRECEL,	
CHAPMAN'S,	

A most valuable new pear, raised by Counsellor Hardenpont of Mons. Scions of this excellent variety were sent in 1823, by Mr Knight, to the Hon. John Lowell, and it has been by him liberally disseminated. The Pomological

Magazine thus in substance describes it. Fruit middle sized, obconical, flattened next the eye; stalk moderately thick, an inch long, slightly sunk; skin at maturity yellowish, sprinkled with russet, a tinge of red next the sun; flesh yellowish, melting, buttery, juicy, very rich, and most excellent. With us this variety ripens in November, and with care may without doubt be preserved till February. It proves with us a most delicious variety, and a very extraordinary productive sort, and is recommended for extensive cultivation. Its excellent qualities and great productiveness have been satisfactorily ascertained by Hon. J. Lowell, and John Prince, Esq. of Roxbury, and others. The last gentleman exhibited in 1830, a small branch two feet in length, containing thirtyone pears, and weighing nine and a half pounds.

PENGETHLY. Mr Knight.

‘A large dark brown pear quite new and now ripe.’ This pear was originated by Mr Knight, and scions were sent by him in February, 1832, to Mr Lowell and the Massachusetts Agricultural Society.

PETRE'. Philadelphia Horticultural Transactions.
Col. Carr.

This native fruit is described as ‘large, fair, melting, and of delicious flavor; it ripens in September, and keeps till late in winter.’ Col. Carr has added the following. ‘The tree was planted by the elder John Bartram, in 1735, and has been in full bearing 70 years, and has probably yielded 400 bushels of fruit, which has frequently sold for \$5 a bushel.’

PRESENT DE MALINES. Braddick. Loudon.

This pear is rather large; somewhat Bon Chretien shaped, smooth, and of a beautiful yellow throughout; a melt-

ing pear of a rich and musky flavor, and excellent quality. Thus has Mr Loudon described it. Mr Braddick has stated that the tree is healthy, of vigorous growth, falls early into fruit, and promises to bear abundantly, and is a good fruit for keeping. Raised by the Count de Coloma, of Malines.

PRINCE DE PRINTEMPS. Braddick. Loudon.

A new Flemish variety, pronounced by Mr Braddick a first rate fruit. It was procured by him from M. Stoffels, at Malines, in 1819. Mr Loudon to whom a specimen was sent in April, 1826, pronounces it melting, sugary: but eaten too soon to judge of its merits. It is under medium size, turbinate in form, and of a green color.

ROI DE ROME. Chev. Parmentier.

A pear of middle size, melting, and of good flavor. It ripens in December and January. Originated in Flanders by the Abbe Duquesne.

SURPASSE ST GERMAIN. Braddick.

This new pear, which was raised by Dr Van Mons, is pronounced by Mr Braddick a pear of first rate excellence. It is rather large and oblong, rounded at the crown, and tapering towards the stalk; irregular. The color green and brown; a winter fruit. This variety was procured by Mr Braddick of M. Stoffels, of Malines, in 1819.

THOMPSON.

A native pear originated on the farm of the late Judge Thompson, near Portsmouth, N. H. It is a middle sized fruit, of a turbinate form, a good deal russetted; highly esteemed in that vicinity, for its good qualities as a dessert fruit, its extraordinary productiveness and long keeping. It is frequently preserved till June.

VICOMTE DE SPOELBERCH. Van Mons.

The following is an extract from the *New England Farmer*, vol. x, No. 7, as translated by the Hon. H. A. S. Dearborn, from the *Revue des Revues*. The size varies according to the quantity produced. Its form nearly spherical, swollen and flattened near the eye, contracted towards the stalk. The skin is thick and rough, of a brownish red next the sun, with purple spots; on the opposite side deep green. The flesh is buttery, saccharine, full of agreeable and sprightly juice, and very high flavored. This excellent pear is decidedly a winter fruit, and sometimes keeps till spring. It was raised by Dr Van Mons.

WINTER CRASSANNE. Mr Knight.

‘A very large and excellent pear; season January.’ This new pear was originated by Mr Knight, and scions were sent by him in February, 1832, to Mr Lowell and the Massachusetts Agricultural Society.

WINTER NELIS. Pom. Mag.

LA BONNE MALINOISE. Mr Knight. Pom. Mag. Lond. Hort. Trans.

NELIS D’HIVER. BONNE DE MALINES, of the Hort. Trans. vol. III. p. 353.

A new variety raised by Mr Nelis of Mechlin. Scions were sent by Mr Knight in 1823, to Hon. John Lowell, and the variety has by him been distributed to all applicants. All accounts agree that this is a most excellent winter pear, ripening in December and January; and by many deemed even superior to the Chaumontelle. A pretty good bearer — another account represents it a tolerable bearer. Fruit middle sized, or rather large, obovate, somewhat obtuse at the stalk, which is over an inch long and thick; skin yellowish, sometimes nearly covered with russet brown; flesh yellowish, melting, buttery, juicy, very rich and high flavored.

P E A R , (*Pyrus*).

The pear is a tree of a pyramidal and elegant form. Its branches in a wild state are covered with thorns. It grows spontaneously as we are informed, in every part of Europe, as far north as the latitude of 51°. It will also succeed in all those parts of the United States where the apple tree will flourish, provided the soil is suitable. In New England it flourishes as in its native soil. It is distinguished from the apple tree not less by its form, than by its disposition to emit suckers from its roots, whenever these become obstructed by stones or other substances, or become bruised or broken. The pear tree is a tree of longer duration than the apple. It is stated 'they will continue in health, vigor, and productiveness, for centuries in dry soils.' — *Loudon*.

The timber is of a yellowish color, very firm, compact, and fine grained, and according to Mr Phillips and others, 'it is used for joiners' tools, measuring rules, picture frames, &c; these last are stained black, in imitation of ebony; and the Persians make their beautiful Káshúks or spoons from this wood. The Mohammedan religion forbid the use at their meals, of those made of gold or silver.' 'The leaves will produce yellow dye.' In those parts of Europe possessing a climate similar to our own, in Italy and France, the pear is said to be in higher estimation as a dessert fruit than the apple.

Uses. — Good dessert pears are generally preferred to apples; 'they are characterized by a sugary, aromatic juice, with the pulp soft and subliquid, or melting, as in the Beurré or Butter pears; or of a firm and crisp consistence or *breaking*. *Kitchen* or *cooking* pears should be of large size, with the flesh firm, neither breaking, nor melting, and rather austere than sweet.' — *Loudon*.

Perry, *poire* of the French, is the fermented juice made in the same manner as cider, from fruit of any size ; and the best liquor is stated to be little inferior to wine, and according to Loudon, 'the more austere the fruit, the better will be the liquor. The pear is also good for baking, *compotes*, marmalade, &c. Pared, and dried in the oven, the fruit will keep for several years, either with or without sugar. This mode of preparing the fruit is about as common in France, as the making of apple pies is in this country ; and what is favorable to the practice is, that bad eating sorts answer best for drying. Bosc has described two methods of drying pears for preservation ; and adds, that he has tried them after three years keeping, and found them still very good.' The pear is also preserved in sugar or molasses. Thirty years ago, the number of varieties of pears obtained by cultivation, as stated by Dr Willich, was 1500. But the number of good sorts is stated by Loudon, 'to be fewer in proportion than that of apples. Dr Van Mons, and the Abbe Duquesne since that period, have obtained from seed during sixteen years, upwards of 800 new and approved sorts, from probably 8000 new seedlings.' From no less than 80,000, is my impression, but I state from memory only. I have detailed their modes of procedure, as stated by Dr Van Mons, in the former part of this work. Their practice was the reverse of all the popular theories of the day. The results, unlike anything of the kind before known.

Propagation. — The pear tree is raised from seed or from suckers. The seeds should be sown in the same manner as directed for apples ; and as they incline to grow with a single tap root, some recommend that they should be transplanted into beds when but two inches in height, to force them to throw out lateral roots : others defer this operation till they are a year old, when they are taken up, deprived of their tap roots, and transplanted into beds,

where they are suffered to remain a year or two ; after which they are again transplanted to the nursery rows, and their management afterwards is not unlike that of apples.

The pear tree in the climate of New England is not so easily nurtured from the seed as the apple ; their long tap roots expose them to be thrown out of the earth by the frosts of winter. But afterwards they resist the most severe frosts.

Grafting and Inoculating. — The most durable stocks for grafting and inoculating are those of the pear. ‘Dubreuil,’ says Loudon, ‘recommends the quince stock for clayey and light soils, and the free stock (pear) for chalky and silicious soils.’ He further informs us that ‘grafted on the white thorn, [which like the quince renders them dwarfish,] pears come very early into bearing, continue prolific, and in respect to soil, will thrive well on a strong clay ; which is unsuitable to those on quinces and wildings. But they are supposed to have an unfavorable influence on the fruit, in rendering it small and hard.’ I am also informed that the pear will grow on the common American thorn. By grafting or inoculating on the quince, pear trees come much sooner into bearing, their productiveness is increased, the good quality of the fruit is not changed, but the size and longevity of the tree is diminished. Such pear trees are termed dwarfs. This mode is said to be extensively adopted in France ; but all kinds of pears will not grow on the quince stock. Those dwarfs trained in the form of a distaff, are called in that country *Quenouilles* ; for the mode of training which, see the former part of this work.

A new mode of dwarfing pears, has lately been introduced into practice in that country. The quince is inoculated on the pear stock, and after this has grown a year, the pear is inoculated into the quince, an inch above the insertion of the preceding year. By this process, the section thus

formed of the quince, being of slower growth than that of the pear, both above and below, the circulation becomes obstructed, the tree soon becomes productive, and the section of the quince being thus elevated, is not so liable to the attacks of the borer as at the surface of the earth.

Soil. — The pear is said to delight in rich soils and gentle declivities; they will succeed in the most common, deep, dry soil, and throw out numerous lateral shoots. But they do not flourish in moist situations; in a cold, strong, moist soil, they throw out very few lateral roots, the fruit is not so fair, nor of so good quality, and the trees are not so long lived.

With respect to distance, the same observations to be found under the head of *Apple*, may apply here. But the pear from its pyramidal form, requires much less space. Twenty feet in suitable soils is a good distance; but less answers in poorer soils. But *Quenouilles*, are said to answer even at four feet distance, producing large crops; and as they occupy but little space, and come suddenly into bearing, they are for profit, said to be extensively cultivated in France. Pears produced on quince stocks are said to be much improved in flavor; all but winter fruit, which is said to become worse.

As to pruning, Mr Knight has directed that for standards (pyramids) very little pruning is necessary, except taking out those few limbs that interfere, keeping the head open, and the tree well balanced.

The diseases and enemies of the pear tree are few. — They are as follows:

1st. *The Slug-worm.* I have given directions for the destruction of this insect under the general head of *Insects*.

2d. The worm which in summer envelopes the leaves and branches with its silken covering, devouring the leaf to its skeleton. These are to be removed, together with the leaves on which they are found feeding, and destroyed.

3d. *Curculio*. An account of this insect is to be found under the general head of *Insects*.

4th. The insect called the American blight. See also insects under the general head.

5th. *Blight*, or as it is sometimes called *fire-blight*, is a malady not very uncommon, which sometimes affects the pear tree during the months of June and July, causing the tree or a portion of its branches suddenly to turn black, with a mortal affection; its leaves wither at once, as by a stroke of the sun, and in a few hours become of a brown or black color. Mr Lowell is persuaded that this disease is caused by an insect, called the *Scolytus pyri*. He observes, 'on the first appearance of this disease, I instantly sawed off all the limbs affected, and proceeded to examine them. I found at last the enemy, not *at the point* where death ensued, but some inches below it. The insect was very small, and apparently incapable of such extensive mischief, but the effect was certain, and the manner of producing that effect was obvious. It had eaten a complete circle of the alburnum, or sap-wood, not exceeding the size of a knitting needle, so as completely to intercept the passage of the sap.' This insect was shown by Mr Lowell to the late Professor Peck, and in the account of the insect which was soon after published in the Massachusetts Agricultural Repository, the Professor observed, that the mischievous effects of this insect may be observed in June and July, and that the dead part of the branches should be cut off, and without delay burnt. Mr Lowell has stated, [New England Farmer, vol. v. p. 2,] that by steadily pursuing the system of cutting off the limbs many inches below the apparent injury, and burning them, the insects have been extirpated from his estate.

The account of Professor Peck was republished in the New England Farmer, vol. ii. p. 42. Some writers have attri-

buted this disease to a stroke of the sun. Others attribute it to manuring too high, some to excessive moisture at the roots, and too much pruning, which is supposed to cause a surfeit and produce stagnation. But all agree that the only remedy is to saw off the limb.

QUINCE. (*Cydonia.*)

THE Quince tree is a spreading tree of low growth, its limbs generally distorted. It is said to be a native of Austria, of Candia, and other parts of Europe. According to Goropinus, 'quinces were the golden apples of the Hesperides, and not oranges, as some commentators pretend.' — *Phillips.*

USES.

The quince is not eaten in a raw state, but is highly esteemed in cookery; preserved in sugar they are delicious; mixed with apples in pies, they communicate a fine flavor. They are also made into marmalade by the confectioners.

'One quart of the juice of quinces, mixed with one pound of sugar and fermented, affords a delicious wine; on adding to the same quantity, one pint of the best French brandy, and four ounces of sugar, a celebrated *liqueur* is prepared on the continent, which is greatly prized as a cordial and stomachic, when taken in the small quantity of two or three spoonfuls before breakfast'. — *Dom. Ency.*

Phillips relates the case of a gentleman completely cured of an asthmatic complaint of long standing, by the use of *Quince Wine*, made after the following receipt. 'The quinces are cut open and deprived of their seeds, for these

communicate an unpleasant flavor. After being ground fine, a gallon of water is to be added to every gallon of pomace ; after standing a day or two it is pressed ; and to every gallon of liquor thus produced, three and a quarter pounds of good moist sugar is added. The liquor is placed in casks which are to be stopped quite close till March, when it is racked off, and bottled in the second year.'

VARIETIES.

ORANGE QUINCE, *Maliforma*, or *Apple Quince*, is a large, roundish, beautiful fruit, ripening in November. The leaves are oval and woolly the lower side.

OBLONG OR PEAR QUINCE. *Oblonga*. This fruit is pear shaped, lengthened at the base. The leaves are oblong ovate.

PORTUGAL QUINCE. *Lusitanica*. This fruit is of an inconstant form, sometimes pear shaped ; very juicy and astringent ; it is highly esteemed. Loudon states that it is rather a shy bearer. Leaves obovate, woolly above.

To this list may be added the *Winter Quince*, and the *French Musk Quince* or *Coignassier Musque*, and the following.

JAPAN QUINCE. *Cydonia Japonica*, or *Japan Pear*. *Pyrus Japonica*. A shrub growing six or eight feet in height ; branches contorted and thorny ; leaves small, oval oblong, of a dark shining green. Its flowers splendid, of a fine scarlet, an inch and a half in diameter, and produced in clusters early in April. A native of Northern Asia, and one of the most ornamental plants of the season, and very hardy. The fruit is of good size, but is not thought equal to the other varieties. There is a variety with white double flowers — and another with double red flowers.

CHINESE QUINCE. *Cognassier de la China*. N. Duh. Pl. 155. A new ornamental variety — unlike all others. The fruit is as singular as superb ; blossoms fifteen to eighteen lines in diameter ; of a fine rose color ; their odor

that of violets. Leaves obovate, stiff, pointed, finely serrated, shining green above, becoming reddish in autumn, downy beneath. The fruit is oblong, truncated, regular; the skin smooth, yellowish green; the flesh is yellowish, dry, coarse grained, harsh, austere; its juice acid and not abundant. This fruit seldom arrives at maturity in the climate of Paris. But hopes are entertained that by planting the seeds, new and fine varieties will be produced, ripening in due season.

CULTIVATION.

THE quince is raised from the seeds, from layers and from cuttings, planted in a moist soil. The valuable varieties are propagated by grafting or inoculation. Quinces are extensively used in France as stocks on which are inoculated pears. This is said to improve the quality and productiveness of the Beurré or Butter Pears, especially the summer and autumn kinds. But breaking or winter pears are seldom or but rarely inoculated on the quince stock, as they are not improved.

SOIL, SITUATION, PRUNING. Quinces require a rich, moist soil, and a sheltered situation. They flourish near brooks and rivulets. They require little pruning, except taking out old useless wood and useless suckers, and eight or ten feet asunder is a good distance. Like the apple tree they are liable to the attacks of the borer. The same remedies are equally effectual.

PEACHES. (*Amygdalus Persica.*)

THE systematic classification of Peaches, first begun by Miller and Duhamel and afterwards greatly improved by Mr Robertson [See Lond. Hort. Trans. vol. III. p. 384,] was brought still nearer to perfection by the Count Lelieur, by the Editors of the *Bon Jardinier*, and by Mr Lindley. The systems of these last named differ not, however, from each other, very essentially.

The Peach and the Nectarine, both considered by the French writers as one and the same fruit, yet form separate classes. — These are again divided into 1st, Clingstones, *Pavies*, or those whose flesh adheres to the stone; — 2d, Freestones, or those whose flesh separated from the stone. The flowers form three divisions, accordingly as they vary in size; and lastly the leaves, from the difference in their formation, are divided into three classes. Thus by these various distinctions, together with the varying qualities of the fruit itself, the accurate observer will be enabled with facility, if not with certainty, to identify and to describe with accuracy any particular variety.

Mr Lindley has divided Peaches into three classes as follows. [See Lond. Hort. Trans. and Lindley's Guide.]

Class I. Those whose leaves are deeply and doubly serrated, having no glands.

Class II. Those whose leaves are crenate or serrulate, having globose glands.

Class III. Those whose leaves are crenate or serrulate, having reniform glands.

Each of these classes are formed into three divisions.

Div. 1st. Those trees producing large flowers.

Div. 2d. Those trees which produce flowers of medium size.

Div. 3d. Those which produce small flowers.

The subdivisions are as follows:

Subdiv. 1st. Peaches, or those possessing downy skins.

Subdiv. 2d. Nectarines, or those which have smooth skins.

Each of these subdivisions are again formed into two sections.

Sect. 1st. *Pavies*, or clingstones.

Sect. 2d. Freestones.

Thus the whole are classified in the thirtysix sections.

The form of the glands, as well as their position is, according to Mr Lindley, perfectly distinct. 'They are fully developed with the complete formation of the leaf, continuing to the last, permanent in their character, and not affected by cultivation.

'The globose glands are situated, one, two, or more, on the footstalks, and one, two, or more, on the tips or points of the serratures of the leaves. The reniform glands grow also on the footstalks of the leaves; but those on the leaves are placed within the serratures, connecting, as it were, the upper and lower teeth of the serratures together; their leaves, when taken from a branch of a vigorous growth, have more glands than the leaves of the globose varieties. It will however, sometimes happen, that glands are not discernible on some of the leaves, especially on those produced from weak branches; in this case, other branches must be sought for which do produce them.'

In the following list I have divided the Peaches into but two classes.

Class I. Includes Freestones, or Peaches which part freely from the stone. This class is divided into two sections, and three subsections.

Class II. Includes the *Pavies* or Clingstones, arranged in the order of their maturity.

CLASS I.—SECTION I.

Freestone Peaches, chiefly of French origin, arranged in the order of their maturity or time of ripening, as ascertained by M. Poiteau. As to the remaining freestones which are not described in this section; finding it difficult if not impossible to ascertain the true comparative times of their maturity, I have placed them in a separate section.

RED NUTMEG.

BROWN NUTMEG, AVANT PECHE ROUGE, of the French.

The growth of this tree is exceeding slow, its habits dwarfish. Fruit globular and very small; color yellowish white, but next the sun bright scarlet; it is sweet, juicy and good. It generally ripens the middle of July; and is chiefly valuable for its early maturity.

WHITE NUTMEG.

AVANT PECHE BLANCHE, Bon Jard.

The leaves have large serratures, are without glands; flowers large and pale. The tree is feeble and of delicate growth; fruit small, round, always white, juicy and sweet. It ripens in July, and is only cultivated for its precocity.

EARLY ANNE.

AVANT BLANCHE, of the French. ANNE.

The trees of this variety are of feeble growth, their flowers large, their young wood is subject to mildew. Fruit small, white, globular; flesh white, melting, saccharine, and good. The chief merit of this variety is its ripening early, which is generally the last of July.

PETITE MIGNONNE. N. Duh. Pl. cr.

The Petite Mignonne is in the third rank in the order of maturity ; the tree is of feeble growth, and productive. The leaves have reniform glands ; flowers of medium size ; the fruit is very small, round, its suture pretty deep, a small point at its summit ; skin downy, fine, pale yellow, but red next the sun ; flesh melting and white, but red next the stone ; its juice abundant, a little sweet, vineuse, and of the best quality. It ripens the last of July.

EARLY MIGNONNE. Bon Jard.

MIGNONNE HATIVE, Bon Jard. 1828, p. 293.

The leaves have globose glands ; the flowers are large. A variety of the Grosse Mignonne, but much smaller ; it is sometimes pointed at its summit.

EARLY PURPLE. N. Duh. Bon Jard.

POURPRE PATIVE. LA VINEUSE. PECHE DU VIN. Ibid.

One of the most beautiful of peaches ; encompassed by a middling suture ; its form globular, flattened at the base ; its height twentysix lines. Flowers large, and brighter than those of the Grosse Mignonne ; fruit large, and of a deeper red ; flesh equally melting, and fine, vinous and high flavored.

GROSSE MIGNONNE. Pom. Mag. t. 23.

MIGNONNE, GROSSE MIGNONNE, VELOUTE'E DE MERLET, of the French.

GRIMWOOD'S NEW ROYAL GEORGE, EARLY VINEYARD. ROYAL KENSINGTON, of Lindley, according to the Pom. Mag.

MORRIS' RED RARERIFE.

This last synonyme I have added on the authority of a gentleman near Boston, of great intelligence and experi-

ence. This peach, exhibited by Mr Vose, has been adjudged as deserving the premium of the Massachusetts Horticultural Society, for one or two successive years, and is probably one of the most beautiful and delicious varieties in cultivation. 'Leaves serrated, with globose glands. Flowers large, dark purplish red. Fruit large, depressed, hollowed at the summit, with a moderately deep suture: skin thinly clad with down; color rich deep red next the sun, thickly mottled on a yellow ground towards the shade. Flesh pale yellow, rayed with red next the stone, from which it parts freely, melting, juicy, with a rich vinous flavor; stone small for the size of the fruit, ovate, very rugged.' Last of August.

VINEUSE DE FROMENTIN. N. Duh.

Leaves large and finely serrated; tree vigorous and hardy. Fruit large, very downy, rather long; somewhat unequally divided by a deep suture, terminating in a point; of a beautiful deep red next the sun; flesh white, marbled next the stone with red; juice sweet, high flavored, with a vinous acid, and very good. The stone is large, oblong, acuminate. It ripens at the end of September, a free-stone, and one of the best of peaches. This is not the Vineuse de Fromentin of Noisette, which ripens the 15th of August.

BELLE BEAUCE. N. Duh. Pl. cccxiv.

So named for M. J. Beauce of Montreuil. A variety of the Grosse Mignonne. The fruit is very large and beautiful, round, divided by a deep suture, flattened at the summit; color fine yellow in the shade, laved with a beautiful bright red next the sun, and downy; flesh white, very fine, melting, with a little yellow streaked with red near the stone; juice abundant, sweet, excellent. The stone is large and red; the fruit ripens the last of August.

MIGNONNE FRISE'E, of Poiteau, according to the Bon Jard.

PECHE A FLEUR FRISE'E. N. Duh.

The tree is vigorous; the fruit has all the beauty and excellent qualities of the Grosse Mignonne, and is evidently a variety of that kind. The stone is rough, of a deep red, and retains shreds of the flesh when separated. This singular new variety ripens the last of August.

BELLE GARDE. Bon Jard. p. 295, 296.

NOIRE DE MONTREUIL, GALANDE, Ibid.
VIOLET HATIVE, of some English Authors.

The tree is vigorous and productive; the leaves have globose glands, flowers pale; fruit medium size, much colored, and almost black; the flesh resembles very nearly the Belle de Vitry; it is firm, saccharine, vineuse, and one of the best of peaches. It ripens in August. Mr Hooker has described this fruit as one of the very best of peaches for their climate.

WHITE MAGDALEN. R. M., Esq. Bon Jard.

MAGDELEINE BLANCHE, Bon Jard.

The tree is vigorous; the leaves without glands, and have deep serratures; flowers large and pale. Fruit large, white, a little red next the sun; flesh white, fine, melting, and agreeably musky. It ripens in August. A fruit of middling quality.

MALTA. R. M., Esq.

PECHE MALTE, Duh.

BELLE DE PARIS, Bon Jard. for 1828.

MALTE DE NORMANDIE, Hort. Soc. Cat.

ITALIAN PEACH, of Mil. according to the Pom. Mag.

Fruit above the medium size; pale yellowish green;

but next the sun somewhat marbled with purplish red ; globular, a little flattened, encircled with a slightly depressed suture ; its flesh yellowish, juicy, rich, vinous and of superior flavor. An excellent and most productive variety, ripening in September.

YELLOW ALBERGE. R. M., Esq.

ALBERGE JAUNE, PECHE JAUNE, ROUSSANNE.
 SAINT LAURENT JAUNE. Bon. Jard.
 PETITE ROUSSANNE, Bon Jard.
 ROSANNA, Lindley.
 ALBERGE, Coxe.

A middle sized globular fruit, of a yellow color, but next the sun deep red at maturity. A deep suture extends from summit to base. Flesh deep yellow, but red next the stone, melting, juicy, rich, sweet, vinous and excellent. A superior fruit, ripening in August.

BELLE CHEVREUSE. Duh. R. M., Esq.

CHEVREUSE HATIVE, Bon Jard. p. 296.
 EARLY CHEVREUSE.

The leaves have reniform glands ; the flowers are of medium size. Fruit large, inclining to oblong, sometimes a little pointed ; yellowish in the shade, marbled with bright red next the sun ; flesh white, but red at the stone ; melting, juicy, very sweet, vinous and excellent. August.

RED MAGDALEN COURSON. Bon Jard.

MAGDELEINE DE COURSON, MAGDELEINE ROUGE,
 PAYSANNE, Bon Jard. p. 295.

The tree is vigorous. The leaves have deep serratures and are without glands ; flowers large and pale. The fruit is rather large, round, of a beautiful red next the sun ; flesh firm and vinous. It ripens the beginning of September.

BOURDINE. Bon Jard. 1828, p. 296.

BOURDIN, NARBONNE.

Flowers small and imperfect, the leaves have globose glands. The fruit is large, round, sometimes a point at its summit; deep red next the sun; flesh melting, sweet and vinous; its stone is small. It is productive in unsheltered situations, ripening its fruit the middle of September.

BELLE DE VITRY. Bon Jard. 1828, p. 295.

ADMIRABLE, Duh. Coxe. R. M., Esq.

A large fruit of a fine red color next the sun; on the opposite side a yellowish white; form globular, divided by a suture, a broad deep cavity at its base; flesh white, stained with red at the stone; melting, juicy, sweet, vinous and excellent. A superior fruit, ripening in September.

ISPAHAN. N. Duh. Pl. xxiv.

PECHER D'ISPAHAN. Ibid.

This singular tree was discovered in 1799, by Brugniere and Olivier, at Ispahan, the capital of Persia, in the vast Royal Gardens, where were concentrated most of the fruits of Asia. The branches are very slender and numerous, the leaves very narrow, finely serrated, of a delicate green color, and unlike that of any other variety we have ever known. The fruit is nearly spherical; its skin is a whitish green; slightly downy; flesh greenish white, melting, and separates from the stone; juice is abundant and delicious.

LATE CHEVEREUSE. N. Duh.

CHEVEREUSE TARDIVE, N. Duh. Pl. 238.

The vigor of this peach is remarkable, its fertility extraordinary. The fruit should be skinned to render the remainder more beautiful. Leaves large, plain, rumpled or plaited; glands at their base, large and reniform; flowers small and little colored; its unripe fruit flattened, downy, with protuberances, and very homely; at maturity however, its form is more regular, globular, a little oblong, one side

swollen, the other flattened; a point at its summit, of a fine form and good size. Skin downy, of a lively red, but next the sun a purple red; yellowish green in the shade; flesh white, streaked with red next the stone; melting, very good; juice sweet, sprightly and vinous. Sept. 15.

DOUBLE FLOWERING. Bon Jard.

PECHÉ A FLEURS DOUBLES, Bon Jard.

The leaves have reniform glands. The tree is cultivated for the beauty of its flowers, which are often semidouble and very large. Fruit good, and pretty numerous. Sept.

LATE PURPLE. N. Duh.

POURPREE TARDIVE, N. Duh.

The tree is hardy and vigorous, but does not grow very large. The leaves are strikingly crisped or frizzled in autumn, and by this distinguished. The fruit is of medium size, round, and one of the most downy of all peaches; often more swelled on one side, than the other; its diameter twentyeight lines; skin thick, a little yellow in the shade, and laved generally with a fine deep red next the sun; juice high flavored and sweet; the stone is oval, small, with large protuberances, and separates from the flesh; an excellent peach, the best of the season; it ripens the beginning of October.

YELLOW ADMIRABLE, OR APRICOT PEACH.
Bon Jard.

ABRICOTE'E, ADMIRABLE JAUNE, PECHE D'ORANGE,
Bon Jard, 1828, p. 294.

GROSSE JAUNE, PECHE DE BURAI, SANDALIE HERMAPHRODITE, Ibid.

The leaves have reniform glands. Flowers large. Fruit very large, yellow on every side while immature, but at maturity a little laved with red next the sun; flesh firm, yellow, with a little of the flavor of the apricot. The climate of Paris is a little too cold to ripen this fruit to its full perfection. It would be better suited here, and will without doubt prove excellent.

CARDINALE. N. Duh. Pl. ccxxxvii.

The leaves have large serratures ; flowers large and pale ; fruit medium sized, flattened at its summit ; swollen on one side of the suture ; skin dull gray violet, very downy and hoary ; its flesh marbled with violet red, but slightly tinged with yellow next the stone ; not very juicy, and deficient in flavor ; good for preserving. It ripens at Paris from the 10th to 20th October. In warmer climates they have been assured it is good, and in Italy excellent.

DWARF ORLEANS.

PECHER NAIN. N. Duh Pl. cccci.

A singular and most diminutive tree. The young wood is stout ; its eyes very numerous, and close ; its leaves numerous, large, of a deep green, pendant, deeply serrated, without glands. Flowers pale, large, and from twelve to fifteen lines in diameter. Fruit round and pale ; some have measured two inches in diameter : flesh juicy and generally bitter. This very ordinary fruit does not ripen till late, the middle of October ; it is only cultivated for curiosity ; it is often cultivated in a pot and brought with its fruit to the table.

NIVETTE. Bon Jard. p. 296.

VELOUTE/E TARDIVE, Jard. Fruit. according to Bon Jard

The leaves have globose glands, the flowers are small. Fruit large, a little oblong, downy, green in the shade, and deep red next the sun ; flesh firm, saccharine, and high flavored ; it requires a warm exposure. This fruit will ripen with us in September.

ROYALE. Bon Jard. Forsyth. Pom. Mag.

ROYALE, Pom. Mag. t. 73.

The leaves have globose glands, the flowers are small. The fruit much resembles the Admirable, it is very large,

globular, a little oblong ; pale yellowish green, but pale red, marbled with deeper red next the sun, and downy ; a small point at its summit ; flesh white, melting, juicy, saccharine, and high flavored. It is red at the stone, from which it separates. September.

RED MAGDALEN.

MAGDELEINE A MOYENNE FLEURS;
MAGDELEINE ROUGE TARDIVE OU A } Bon Jard.
PETITE FLEURS.

ROYAL GEORGE, of the English, according to the Pom. Mag.
RED MAGDALEN, MILLET'S MIGNONNE, LOCKYER'S
MIGNONNE. Ibid.

That the Red Magdalen and Royal George are identical, has been renewedly asserted by a gentleman here of great observation and experience ; I have ventured therefore to restore the original, and suppress the English name of *Royal George*, except as a synonyme. The leaves are serrated, without glands, flowers small. The young wood is liable to mildew. The fruit is large, globular, with a suture moderately deep on one side ; dark purplish red next the sun, yellowish white in the shade, mottled with red at the junction of the colors ; flesh white, rayed with red next the stone, from which it separates ; melting, juicy, and high flavored. September.

TETON DE VENUS.

The tree is one of the most vigorous in its growth known, and very productive. The fruit is large, of a pale yellowish green, but bright red darkly marbled next the sun ; form globular, a little lengthened ; it is encircled by a broad deep suture, terminating in a large obtuse point at its summit : flesh melting, of a greenish yellow, but at the stone it is red ; and of a sweet and excellent flavor. It ripens in September. There are two or three varieties bearing this name. This is the variety described in the *New Duhamel*, and is a most superior fruit.

CLASS I.—SECTION II.

It was found difficult if not impossible to arrange the remainder of this class in the perfect order of their maturity, as many of them are new, and the relative periods of their maturity have never yet been satisfactorily ascertained. They are therefore divided into three subsections, arranged for the latitude of Boston.

Subs. I. Includes *Early Peaches*, or those which commence ripening during August.

Subs. II. Includes the *Early Autumn*, or those which commence ripening early in September.

Subs. III. Includes *Late Autumn, and Autumn Peaches*, and all whose periods of maturity are unknown.

SUBSECTION I.

Early Peaches, or those which commence ripening during August.

ACTON SCOTT. Hort. Trans. vol. II. p. 140.

Raised by Mr Knight from the Noblesse and Nutmeg. Fruit below the medium size, it is small, and flattened; color pale yellow, but bright red and marbled next the sun, and downy; flesh yellowish white to the stone, melting, juicy, sweet, slightly bitter, and pretty good. It ripens early, or about two weeks after the Early Anne.

COOLEIDGE'S FAVORITE.

COOLEIDGE'S EARLY RED RARERIFE.

The tree is very vigorous and productive. A large, very handsome globular fruit; pale in the shade, but of a fine red or crimson next the sun; very melting, juicy, sweet, and

of a vinous flavor. This fruit ripens very early, soon after the Early Ann; and is esteemed a first rate fruit by the cultivators for the markets of Boston. It was originated by Mr Joshua Cooledge of Watertown, Mass.

EARLY ROYAL GEORGE. R. M., Esq.

A very large, handsome, and superior fruit, of a globular form; color yellow, but of a fine deep red next the sun; its flesh melting, juicy, saccharine, vinous, and most excellent. It ripens in August; and is one of the very best of all peaches, and is undoubtedly of American origin.

EARLY YELLOW MALACATUNE. Floy in Hort. Trans.

A medium sized peach, of a bright orange color; flesh yellow and of fine flavor. An American fruit, ripening at New York the middle of August.

EARLY RED RARERIPE OF RHOADES. R. M., Esq.

Large, its color when fully exposed, of a deep red, which covers most of its surface; form globular; its flesh stained to the stone with red; melting, juicy, rich, slightly acid, vinous, and excellent. An excellent fruit, and deserves to be recommended.

EARLY YORK. S. H. S., Esq.

A large fruit of an excellent quality. It ripens in August.

EMPEROR OF RUSSIA. Floy in Hort. Trans.

SERRATED LEAF, OR UNIQUE.

The tree is of medium vigor; the young wood is subject to mildew. The leaves are deeply serrated or jagged like a saw. The fruit ripens early, soon after the Sweet Water Peach; the fruit is deeply cleft, one half of it projecting

considerably beyond the other; the stone is free and large; the flavor of the flesh is very good. This sort originated in the woods of New Jersey, twenty years ago. All the stones of this fruit produce plants with jagged leaves.'

FAVORITE. R. M., Esq. Coxe.

This fruit is of large size; its color pale, but of a very beautiful deep red next the sun; its form oblong; its flesh juicy and excellent. It ripens about the middle of August. An excellent peach, but a poor bearer.

NEW ROYAL CHARLOTTE. Lindley.

QUEEN CHARLOTTE, NEW EARLY PURPLE. Ibid.

Leaves doubly serrated, without glands. Flowers middle sized, dark; fruit rather above the middle size, swollen on one side; skin pale greenish white; but of a full deep red, and marbled next the sun; flesh greenish white but pale red next the stone, from which it separates; juice plentiful, rich, and extremely well flavored. Very early.

OLDMIXON FREESTONE. R. M., Esq.

A large peach, of a yellowish white color, with a fine red blush next the sun; its form a little oblong; flesh sweet, rich, juicy and excellent. It ripens the last of August. A beautiful and superior variety.

RED RARERIPPE, var. S. H. S., Esq.

The leaf of this tree is smooth and without serratures; the fruit is large, its suture deep; covered with minute specks or dots of red in the shade, but of a red color next the sun. This peach is decidedly one of the very best of all peaches. It ripens soon after the Nutmeg Peach; and the tree is not liable to overbear. It ripens early in August.

SPRING GROVE. Hort Trans. vol. II. p. 214. Pom. Mag. t. 97.

The leaves are crenate with globose glands; the flowers large and pale; a medium sized fruit, of a globular form; greenish yellow, but bright crimson next the sun; flesh greenish yellow to the stone, from which it separates; juicy, rich and high flavored. Very early. This fruit was raised by Mr Knight from a stone of the Early Purple and Red Nutmeg.

SWEET WATER. Floy in Hort. Trans. vol. VI. p. 410.

A medium sized peach; very juicy, sweet, and fine flavored. It ripens the beginning of August, about one week later than the Early Anne; and is much larger than that variety and finer flavored. This is stated to be an American variety.

SUBSECTION II.

Early Autumn Peaches, or those which commence ripening early in September.

DOUBLE MONTAGNE. Lindley's Guide.

SION, of Forsyth.

EARLY DOUBLE MOUNTAIN? of American collections.

Leaves doubly serrated, glandless. Flowers large. A middle sized, roundish fruit. Skin greenish white, but soft red, marbled with a deeper red next the sun; flesh white, very delicate, melting; juice plentiful, and highly flavored; stone ovate, rugged; it separates from the flesh. A beautiful and excellent peach; it ripens a week or ten days sooner than the Noblesse.

DOUBLE SWALSH. Lindley's Guide.

SWALZE OR SWOLZE, of Lang. according to Lindley.

Leaves crenate, with reniform glands; flowers small, dark red; fruit middle sized, ovate. Its suture deep, it is swollen on one side. Skin pale yellow, but bright deep red next the sun; flesh soft, melting, and white, but pale red at the stone, from which it separates; juicy and well flavored. It ripens at the time of the Grosse Mignonne.

FORD'S SEEDLING. Lindley.

Leaves doubly serrated, without glands; flowers large, of a beautiful pale rose color; fruit middle sized, yellowish green, marbled with bright red next the sun; flesh yellowish green to the stone, from which it separates; juice plentiful, of a rich poignant flavor. This fruit will probably ripen with us the last of August.

GEORGE FOURTH. Pom. Mag. t. 105. Lindley.
Floy in Hort. Trans. vol. vi. p. 213.

The leaves are large, crenate; glands globose; flowers small, red; fruit globular of medium size and downy; pale yellow in the shade, dark red next the sun, one side projecting from its suture beyond the other; flesh pale yellow, but red at the stone from which it separates. A fine peach of a rich and excellent flavor. It originated in the garden of Mr Gill, in Broad-street, New York.

JACQUES' YELLOW RARERIPPE.

A large yellow peach; a little oblong; flesh yellow, melting, juicy, sweet and good. It ripens early in September. The tree is extremely vigorous.

SARGENT.

PEARL STREET.

So called from the name of the gentleman, residing in Pearl-street, Boston, with whom this sort originated. The

tree is of moderate growth, very productive, but the young wood is extremely liable to mildew. A medium sized globular fruit; color pale yellow, tinged with red next the sun; flesh yellow, juicy, sweet and excellent. A handsome fruit and a fine variety. It ripens about the first of September.

SMOOTH LEAVED ROYAL GEORGE. Lindley.

Leaves crenate, with globose glands; flowers large, pale rose; fruit above the middle size, globular, depressed; skin yellowish white, but of a beautiful red or carmine color next the sun. Flesh melting, yellowish white, but deep red near the stone; juice plentiful, sugary and of a high vinous flavor; stone small, deeply rugged. 'This is not only one of the handsomest, but one of the best peaches in our collections, not even excepting the Bellegarde, and cannot be too extensively known.' It will probably ripen with us the last of August.

SNOW PEACH.

WHITE BLOSSOM.

A fruit of globular form, below the medium size; very white; skin thin and delicate; very melting, sweet, rich, juicy and excellent. It ripens in September. The blossoms of this tree are white; and it is readily distinguished from other varieties by its yellow wood and leaves, and its indistinct resemblance to a Willow. This sort deserves to be recommended, for although the fruit is small, it compensates for this by its beauty, flavor, and abundant bearing. This sort is sometimes incorrectly called White Magdalen.

WASHINGTON. Floy in Hort. Trans. vol. vi. p. 412.

A very first rate fruit. Color a pale yellow in the shade but dark red next the sun; flesh very juicy and delicious; the stone small. Ripe the beginning of September.

- WHITE MALACATUNE. Coxe.

WHITE RARERIFE, COXE.

A large fruit of extraordinary excellence ; the color pale yellowish white ; flesh yellowish white, firm, melting, rich, and of excellent flavor ; the stone is not unfrequently cracked. Mr Coxe states that it is the most admired fruit of the season, which is August, and that if not too ripe, it makes a most delicate preserve.

YELLOW OR RED CHEEK MALACATUNE.

A large fruit, a little oblong ; color in the shade is deep yellow, but dark red next the sun ; its flesh is melting, juicy, rich and excellent. Early in September.

 SUBSECTION III.

Late Autumn, and Autumn Peaches, including all those new varieties whose periods of maturity are neither named or known.

ENGLISH CHANCELLOR. Pom. Mag. t. 61. Lindley. Bon Jard.

CHANCELLIERE, of Duh. according to Pom. Mag.

Leaves crenate, with reniform glands ; flowers small, reddish ; fruit large, a little oblong, a little downy ; its suture well defined ; pale yellow, but deep crimson next the sun ; marbled at the junction of the colors ; flesh yellowish white, but red at the stone, from which it separates ; juicy, rich, and of a vinous flavor.

CHINA FLAT PEACH. Hort. Trans. vol. iv. p. 512.

JAVA PEACH.

A most singular peach. This description is from a fruit raised by John Braddick, Esq. This peach is

said to be much cultivated and esteemed in China, and will probably succeed well with us. The diameter from the eye to the stalk is less than three quarters of an inch, and consists wholly of the stone and a skin which covers it. The thickness of its sides is one inch and an eighth, while its transverse diameter is two inches and a half. The skin is pale yellow, mottled with red next the sun and covered with fine down. Flesh pale yellow, a beautiful radiated circle of fine red surrounding the stone, which is flatly compressed, small, rough and irregular. The fruit is melting and good, being sweet and juicy, with a little Noyeau flavor and bitter aroma.

COLUMBIA. Coxe. R. M., Esq.

A large and very singular peach, with an extremely rough and thick skin of a dull red color, marbled with blotches of a dark dusky red; its form rather flattened with a suture well defined; flesh yellow, melting, juicy, rich, fibrous and well flavored. It ripens in September. This peach is a curiosity. Mr Coxe who named, and probably originated this variety, calls it a fruit of uncommon excellence.

BUCKINGHAM MIGNONNE. Pom. Mag. Lond.
Hort. Cat.

BARRINGTON, Pom. Mag.

‘Leaves crenated, with globose glands; flowers large; fruit large, roundish, somewhat elongated; pale yellowish green, but deep red and marbled next the sun; flesh yellowish white, rayed with crimson next the stone, from which it parts freely; melting, juicy and very rich; a productive and handsome variety.’

HEATH.

KENRICK’S HEATH, of Pr. Cat.

This noble variety was received of the late Gen. Heath

of Roxbury, of revolutionary memory, hence its name. The tree is very vigorous and productive, and is probably a native. The fruit is very large, oblong and beautiful; specimens have frequently been seen weighing half a pound; color pale yellowish green, but beautiful deep crimson or violet next the sun; encompassed by a slight suture, which terminates in a point at its summit, dividing it into two unequal parts; its flesh is melting, juicy, rich, vinous, agreeably acid and good. It ripens the middle of September.

HILL'S MADEIRA. Coxe. R. M., Esq.

Fruit very large, globular, white, with a blush next the sun; melting, juicy, and fine flavored. It ripens in September. This fine fruit, according to Mr Coxe, has weighed twelve ounces, and was raised by Mr Hill, of Philadelphia, from a stone brought from Madeira. It proves however, with us a poor bearer, and as such is not recommended. Tree very vigorous.

MIFFLIN'S PENNSYLVANIA. Col. Carr.

In the absence of the true title, I have for the present adopted the above for a new native variety, received of Col. Carr, of Bartram's Botanic Garden. It is described as a fruit possessing remarkably fine qualities, and highly spoken of by the Philadelphia Horticultural Society.

NOBLESSE. Hooker's Pom. Lond. p. 2.

MELLISH'S FAVORITE, Pom. Mag.

The tree is of vigorous growth and very productive; blossoms very large, of a bright rose or pink color; the leaves are deeply serrated. [Without glands, says Lindley.] The fruit is generally large and round, but sometimes oblong, with a very small nipple; marbled with red and dull purple next the sun; flesh white, tinged with yellow;

white at the stone ; very sweet and melting, but perhaps less vinous than some others ; it ripens well and early. The stone is short in proportion to the fruit, round and very prominent, rough, and separates very readily from the flesh.

ORANGE PEACH. R. M., Esq.

This fruit is large ; its color yellow ; its form globular ; its flesh very sweet, juicy, rich and excellent. It ripens about the middle of September.

PRESIDENT. R. M., Esq. Pom. Mag.

‘Leaves crenate, with globose glands.’ A large downy fruit, roundish, approaching to oblong ; a shallow suture ; pale yellowish green, but red next the sun ; flesh whitish, juicy, melting, rich and high flavored. It parts from the stone, which is large, pointed, rugged. September. Specimens of this superior fruit were exhibited at the Hall of the Massachusetts Horticultural Society, by Mr Manning.

ROBINSON CRUSOE. Col. Carr.

Described as a very fine large red peach, of excellent quality ; lately originated near Philadelphia, from stones brought by Lieut. Morris of the Navy, from the Island of Juan Fernandez, in the Pacific Ocean. There are four varieties bearing the above title, and numbered from one to four inclusive ; all fine.

VAN ZANDT’S SUPERB.

This native fruit is said to surpass all other peaches in beauty. Its skin is smooth, somewhat mottled, and of a beautiful waxen appearance. The flesh, which is melting, juicy, and of excellent flavor, parts from the stone. This variety originated with Mr Van Zandt, of the State of New York, and from him indirectly, and from the Messrs Prince, of the Linnæan Botanic Garden, I received the above

account. The trees are here from both sources, but have not yet borne fruit. Its growth is very vigorous and upright.

WEeping PEACH.

The branches of this variety droop, and its appearance resembles that of the Weeping Willow. For this peculiarity it is chiefly remarkable. The fruit has been described as of good size, of an oblong form, of a yellow color and good quality.

YELLOW RARERiPE.

Large, globular; flesh yellow, juicy, sweet and excellent. This fine variety ripens early in September.

YELLOW RED RARERiPE.

A native fruit of a large size, and globular form; color a deep yellow in the shade, but a dark purplish red next the sun; flesh deep yellow, rich, sweet, juicy and of a most delicious flavor. The tree is of very rapid growth. A first rate fruit. Ripe middle of September.

MORRISANIA POUND. Floy in Hort. Trans. vol. vi. p. 410.

The fruit is very large, weighing from twelve to fourteen ounces; very juicy and delicious, parting from the stone. This excellent fruit is farther stated to be one of the finest of fall peaches and in great repute, ripening late, about the middle of October. Mr Floy first received this variety of Gouverneur Morris, of Morrisania near New York, but it was originated by Martin Hoffman, Esq.

CLASS II.

Clingstones or Pavies, or Peaches whose flesh adheres to the stone, arranged in the order of their maturity.

This class of peaches, it is said, are preferred to all others by the inhabitants of warm climates.

EARLY NEWINGTON. Coxe.

NEW YORK EARLY NEWINGTON, COXE.

A beautiful clingstone; its color in the shade is white, but next the sun it is red; its form is globular; its flesh is juicy, rich and high flavored; the stone is small, and the fruit ripens late in July, or early in August.

CONGRESS. R. M., Esq.

Large yellowish white; but bright red next the sun; melting, juicy, and of fine flavor. This variety may not prove a good bearer. It ripens in August and September.

LA-FAYETTE. R. M., Esq.

A very beautiful fruit; color yellow, but bright red next the sun; its bearing is not ascertained. It ripens in August, and is a clingstone.

DIANA. Coxe.

A large oblong peach; color white in the shade, but red next the sun; flesh very juicy and delicious. This beautiful fruit is a clingstone, ripening in August and September.

PAVIE JAUNE. N. Duh. Pl. CCCLXXXIX.

PERSICA NEWTONII, Ibid.

PAVIE ALBERGE, PERSEQUE JAUNE, Bon Jard.

YELLOW PERSEQUE.

The petioles have reniform glands; the fruit is very beautiful, very large, round, a little flattened at its summit, and

marbled with a groove ; its diameter thirtythree lines ; its skin is downy, yellow in the shade, and of a very deep red next the sun ; flesh yellow, firm, not fibrous, and red or of a blood color next the stone, to which it adheres ; its juice is abundant, sweet and vinous. The stone is oval, obtuse, and of middling size. Ripe 12th September, at Paris ; excellent in warm summers.

OLDMIXON CLINGSTONE. R. M., Esq.

This fruit is large, globular ; pale yellow, but a beautiful red next the sun ; flesh yellowish white, very juicy, sweet, rich and fine flavored. An excellent and most productive variety, ripening in September.

OLD NEWINGTON. R. M., Esq.

This fruit is large and globular ; pale yellow, but of a fine bright red next the sun, sometimes marbled with deeper red ; flesh yellowish white, very juicy, rich, sweet and well flavored. An excellent fruit, a clingstone, ripening in September, and very productive.

CATHARINE. R. M., Esq.

This fruit is thus very correctly described in the Pomological Magazine. ‘Leaves crenate with reniform glands ; flowers small, reddish ; fruit large, round, variable ; color a beautiful red next the sun, marbled and dashed with darker shades ; pale yellow in the shade ; flesh very white tinged with yellow, but firm, of a deep crimson next the stone, to which it firmly adheres ; juice abundant, and of a very rich and sweet flavor ; stone middle sized, roundish oval, very slightly pointed.’ It ripens with us in September. Mr Manning has stated that neither this, the Old Newington, nor the Oldmixon Clingstone, can be distinguished from each other by their external appearance, and are all first rate fruits.

PAVIE ADMIRABLE. Lindley.

INCOMPARABLE, of the English.

Leaves crenate with reniform glands; flowers small, pale; fruit large, roundish, swollen on one side; skin pale yellow, but pale red shaded with light scarlet or deep crimson next the sun; flesh pale yellow, but red at the stone to which it closely adheres; juice sugary, and well flavored; stone roundish, and almost smooth.' Ripens at the time of the Catherine.

GROSSE PERSEQUE. Bon Jard. p. 298.

PERSEQUE ALLONGE'. Ibid.

The tree is productive in unsheltered situations. The leaves have reniform glands; the flowers are small; the fruit is large and oblong, with swellings on its surface, of a red color next the sun. It requires a warm exposition, and will probably ripen late in September.

PAVIE MAGDELEINE. Bon Jard. p. 294, 296.

PAVIE BLANC.

The tree is vigorous, the leaves are without glands, and deeply serrated; flowers large and very pale; the fruit is large and downy; white in the shade, and a beautiful red next the sun; flesh white, fine, melting, and of an agreeable musky flavor. This fruit will ripen with us about the middle of September.

WASHINGTON CLINGSTONE. R. M., Esq.

A large fruit; its color inclining to white, but next the sun a fine blush; of a globular form; flesh melting, juicy, sweet and excellent. A superior fruit ripening in September.

LEMON CLINGSTONE.

PINE APPLE, OR KENNEDY'S LEMON.

This fruit is rather large, oblong and pointed; color in the shade deep yellow, but of a dark fine red next the sun;

the flesh is yellow, rich, vinous, a little acid ; it is stained with red next the stone. September.

HOYTE'S LEMON CLINGSTONE. Floy in Hort. Trans.

This fruit is of the largest size ; of a clear golden yellow in the shade, but bright red next the sun ; its form resembles a lemon, and some have weighed twelve ounces. Its flesh is fine, and it ripens in New York late in September.

MONSTROUS POMPONNE. Bon Jard. p. 297.

PAVIE DE POMPONNE, GROS ME'LECOTON, }
 GROS PÉRSEQUE ROUGE, } of the French.
 PAVIE MONSTREUX, PAVIE CORNU, }

The leaves have reniform glands ; flowers large ; the fruit is the largest of all peaches, and often terminates in a point at its summit ; it is downy ; color waxen white in the shade, of a very lively and deep red next the sun ; flesh firm, and excellent cooked. It requires a warm exposition and ripens in favorable seasons the end of October at Paris. This fruit will ripen earlier with us.

PAVIE TARDIF. N. Duh. Pl. ccc.

LATE PAVIE.

The tree is very vigorous in its growth ; the petioles have large brown reniform glands ; the fruit is large, compressed at its sides ; contracted towards its base ; it is divided by a suture on one side, which terminates in a point at its summit ; its height and breadth are three inches ; the skin is thick, more yellow in the shade than the Pavie de Pomponne, and laved with a fine red next the sun ; its flesh is more yellow and less firm than the Pavie de Newton, [Pavie Jaune] less red towards the stone, to which it adheres ; its juice is more abundant, and as we think more excellent. It ripens at the end of October, and may be

preserved a long time. This fine new fruit will probably ripen earlier with us.

HYSLOP'S CLINGSTONE.

The trees of this variety are vigorous and productive. The fruit is large, rather oblong; color on the shaded side white, changing to a fine deep red next the sun; flesh melting, very juicy, sweet, vinous, and excellent. This excellent variety ripens in October, and may be preserved till late in November, and is the latest variety which will generally answer in Massachusetts.

HEATH CLINGSTONE. Coxe.

The fruit is very large, rather oblong, terminated by a point at its summit; of a cream color, with an occasional blush next the sun; its flesh is tender, melting, extremely juicy and rich. It ripens late, too late for the climate of New England, except in very favorable seasons. Mr Coxe informs us that this fruit was raised from a stone brought from the Mediterranean, by Mr Daniel Heath; and in his estimation is superior to all other peaches known; the stone generally opens, and the fruit if not too ripe, is one of the most admired preserved in sugar; that it ripens in October, and keeps till December.

PEACH. (*Amygdalus Persica.*)

THE peach tree is a tree below the middle size, with spreading branches, of rapid growth, and not of long duration. Persia is considered the original country of the peach, although it is said to have been cultivated from time

immemorial in most parts of Asia. Sickler asserts, according to Loudon, that 'in Media, it is deemed unwholesome; but when planted in Egypt, it becomes pulpy, delicious and salubrious.' 'The peach according to Columella, when first brought from Persia into the Roman Empire, possessed deleterious qualities; which Mr Knight concluded to have arisen from those peaches being only swollen almonds, (*tuberes*) or imperfect peaches; and which are known to abound in the prussic acid. The best peaches in Europe are at present grown in Italy, on standards.' — *Loudon.*

The best peaches of France, according to Phillips, are those produced at Montreuil, a village near Paris, where the whole population are exclusively employed in their cultivation, and by this have been maintained for several ages. They are cultivated here on lime-whited walls of great extent. Their climate requires it.

In the United States they flourish as in their native land, producing fruit of excellent quality, wherever the maize or Indian corn will ripen to maturity. In New Jersey there are those who cultivate this fruit exclusively; and at Shrewsbury on a single plantation, as I am informed, 10,000 bushels are annually produced for the New York market. It is also extensively cultivated in the middle, southern and western states, for the purposes of distillation; on the refuse of the orchard or distillery, numerous swine are fattened.

USES. The peach is not only a first rate dessert fruit, but it makes a delicious preserve. In cooking the most delicious pies are made of them. For this purpose they require no preparation; they are used whole, simply placed in deep layers, sprinkled with sugar, and enveloped in the pastry; no further additions are necessary; the stone or kernel communicates its flavor, which is superior, to that of the costly spices. Peaches are preserved by drying, and

in this state they may be preserved a long time ; they are either eaten like raisins, or used in cooking ; and might form a profitable article for sea stores or for exportation. The following is the mode of drying practised by Mr Thomas Bellangee, of Egg Harbor, New Jersey. He has a small house provided with a stove, and drawers in the sides of the house lathed at their bottoms with void intervals. The peaches should be ripe and cut in two, not peeled, and laid in a single layer on the laths, with their skins downward, to save the juice. On shoving in the drawer they are soon dried by the hot air produced by the stove. In this way great quantities may, successively, in a single season be prepared, with a very little expense in the preparation of the building and in fuel. From the kernels, according to Bosc, an oil is drawn possessing all the qualities of the oil of almonds.

The young leaves according to Phillips are used by cooks to flavor blancmange, custards, puddings, &c ; and a liquor resembling the delicious Noyeau, is prepared by steeping peach leaves in white brandy ; this liquor is sweetened with sugar candy and fined with milk, and is difficult to be distinguished from the genuine Noyeau of Martinico. The leaves, if I am not mistaken, contain prussic acid ; but so does the bitter almond ; and this last article forms the basis of the Noyeau, which is prepared in Boston, as the manufacturers themselves inform me. Olivier asserts, [according to Bosc in *Nouveau Cours Complet d'Agriculture*,] that the inhabitants of Scio, employ the leaves in dying silk of a deep green. They are also employed in medicine as a vermifuge, febrifuge, &c. Collected in autumn, they are used in the preparation of leather ; and from the wood of the peach tree, says Phillips, the color called rose pink is produced.

A good peach, according to Miller, possesses a firm flesh ; a thin skin, of a bright or deep red color next the sun, and

of a yellowish green in the shade ; the pulp of a yellowish color, full of high flavored juice ; the fleshy part thick, and the stone small. Good peaches however, vary much in color.

The French consider the Peach and the Nectarine as the same fruit. They divide them into four classes — 1st, the *Pêches*, or Freestone Peaches ; — 2d, *Pavies*, or Clingstone Peaches ; — 3d, the *Pêches lisse*, or smooth Peaches, Freestone Nectarines ; — 4th, the *Brugnons*, or Clingstone Nectarines. These again are distinguished by glandular or glandless leaves, and by the blossom.

CULTIVATION.

The peach tree is usually raised by planting the stones in autumn. Some, however, preserve them in soil exposed to the frosts of winter ; in spring they are cracked, and either sown in beds or planted in the nursery in rows four feet asunder, and about a foot distant in the row. In the same year or the year following, they are inoculated. The peach tree is usually inoculated on the peach stock. They are however, sometimes propagated on the almond ; sometimes on the plum stock. Mozard, according to Loudon, ‘ prefers plum stocks where the soil is strong and black ;’ ‘ and Dubreuil recommends a plum stock for a clayey soil ; and the almond stock, for such as are light and sandy. The same opinion is held by the Montreuil cultivators.’ At Montreuil we understand the plum stock is not used because the soil is dry.

SOIL, DISTANCE. — The most suitable soil for the peach tree is a rich, sandy loam : a light soil answers well. The soil of Montreuil as above stated is dry. The peach tree will not flourish on a cold, stiff, wet soil. On such a soil they may grow vigorously, but they produce but little fruit, and that of ordinary quality. Some assert that they are more

uniformly productive on the north side of hills, as it prevents their too early advancement before the vernal frosts are past. Ten or twelve feet asunder is deemed a good distance for the peach tree.

MALADIES. — The maladies to which the peach tree is subject are,

1st. The *Curculio*. For the remedies for this, see *insects*, in the former part of this work.

2d. The *worm* which feeds on the sap-wood beneath the bark, principally near the surface of the earth.

The worm is produced by a fly which, from the middle of June, to the first of August, deposits its eggs on the bark of the tree, generally at its root, where the bark is tender. These are soon hatched, and the worm shortly penetrates beneath the bark, where it commences its work of destruction, devouring the sap-wood often around the whole circumference of the tree, causing the gum to exude and often death.

Much has been written and said of this insect; yet the prevention is very easy, provided there is a necessity for it, which is not the case in all soils and situations. It seems with us only an occasional evil, and the remedies are seldom required. Whenever serious suspicions arise, let every tree be carefully searched at the surface of the earth, and the worm destroyed by probing with a pen-knife or pointed wire. About the beginning of June, form around the trunk of the tree a small conical mound, to the height of eight inches or a foot above the natural surface of the earth. Unleached ashes which might be preserved for this purpose, are without doubt the best and most useful substance, and each tree will require about a peck. But anything else, even soil is found to answer. The design of this is, to protect that portion of the tree where the bark is most tender; let this mound be levelled in October,

and the bark will harden again beneath where it was placed. I am inclined to believe the potash wash before described, would answer every purpose, as it does with the apple tree if applied at the suitable time ; also the wash recommended by Mr Lindley. The *Garden Compound*, sold by Messrs Russell of Boston, and Ives of Salem, I am persuaded would be effectual. Also *coal tar*. A gentleman of Nantucket is trying the coal tar with his peach trees. He is also trying it on the plank of his ships which sail to the Pacific, to preserve them from the attacks of the sea worm ; the odor it exhales is powerful and lasting.

Another cheap, easy and effectual mode is practised by Mr Vose of Dorchester. About the last of May, the soil is removed to the depth of two inches round the trunk ; a composition of clay, ashes, &c, is applied with a brush, and over this stiff brown paper is wrapped around the tree to the height of a foot, and the earth replaced. Mr Ellis of New Jersey, has found that rye straw bound round the trunk from the surface upwards is effectual ; and Mr Wilson of New York, in his *Economy of the Kitchen Garden*, has recommended grafting clay to be applied round the trunk. Lime mortar mixed with sulphur is found good.

3d. But there is another malady which I believe is unknown in New England, at least I have never seen or heard of such a disease with us. It is by some called the *yellows* : and according to Mr Coxe, ' the malady which destroys much the largest portion of the trees, has hitherto baffled every effort to subdue it ; neither the source nor the precise character of the disease, appear to be perfectly understood.' The trees are further stated to languish, the leaves turn yellow, and they perish shortly. The disease is contagious, soon spreading through the whole orchard ; and if trees are brought from a sound nursery, and planted on the same land, they usually perish during the first sea-

son. And the infected soil cannot be again occupied as a peach orchard, until some years of intermediate cultivation. The only remedy I have heard of for the destruction of this disease, is to destroy at once the infectious trees, before the disease is communicated to the whole orchard; which according to Mr Prince of the Linnæan Botanic Garden, as stated in *Thacher's Orchardist*, is at the time the trees blossom in spring.

PRUNING, &c. — In our climate the peach is almost universally cultivated as a standard. They are rarely pruned at all; they are sometimes however, renovated by heading down; this operation should be performed just before the sap rises in spring. Trees are very rarely seen trained to walls, except occasionally, in the gardens of the opulent.

To render peach trees very productive, it has been recommended to shorten the new young wood in June, by cutting in a few inches; and the shoots proceeding from these are to be shortened again during the course of the summer. This mode is favorable to the production of fruit buds, and the trees will produce more abundant crops the following year. This pruning or shortening may be most profitably performed with very large shears, with long handles, such as are used for clipping hedges; and I am persuaded that with such an instrument, a man might prune a great many trees in a day.

With respect to trees trained to walls, Jean Pierre Savard at Montreuil, according to Loudon, varies the position of the branches every year, by elevating to a greater angle the weak, depressing the strong, cutting out the old, naked, or twigless shoots; thus presenting at all times a well balanced tree.

The inference is, that these weakly shoots by being thus elevated, grow stronger; and the branches by being annually bent, become more fruitful on the principles before explained. Girdling increases the size and hastens the

maturity of the fruit; it should be performed as soon as the tree comes into leaf. If fruit is desired of large size, the trees must be thinned when the fruit is of the size of small gooseberries. The size may be thus increased without diminishing the quantity.

NECTARINES. (*Amygdalus Nectarina.*)

CLASS I.

FREESTONE NECTARINES.

AROMATIC. Lindley.

Leaves crenate with reniform glands; flowers small. A middle sized, rather globular fruit; deep red or blackish brown next the sun; flesh pale straw, but red at the stone; juice of a rich vinous flavor.

EARLY VIOLET. Pom. Mag. Bon Jard. 1828.

VIOLETTE HATIVE, PETIT VIOLETTE HATIVE, of the Fr. VIOLET, LORD SELBY'S ELRUGE, of the English.

Leaves crenate with reniform glands; flowers small; the tree is productive. The Bon Jardinier classes this with Pavies. Fruit varying in size, generally medium; pale yellowish green, but dark purplish red next the sun; flesh whitish yellow, but red next the stone, melting, juicy, rich, sweet, vinous, and excellent. August.

ELRUGE. Pom. Mag.

Leaves crenate with reniform glands. One of the very best and most high flavored Nectarines; large, roundish

oval, deep violet or blood color next the sun ; flesh whitish, melting, very juicy, rich, and high flavored. August.

FAIRCHILD'S EARLY. Lindley. Forsyth.

Leaves crenate, with reniform glands ; flowers large ; fruit very early, and very small ; globular ; yellow in the shade, deep scarlet next the sun ; flesh yellow, not juicy, but well flavored.

JAUNE LISSE'. OR ROUSSANNE. Bon Jard. 1828.

LISSE'E JAUNE, *Ib.* SMOOTH YELLOW.

The leaves have reniform glands : flowers large. — A small fruit ; skin smooth, yellow, a little washed with red next the sun. Its flavor that of the apricot. It ripens very late at Paris, where it requires a warm exposition.

LEWIS'S NECTARINE. Lond. Hort. Trans. vol. vi. p. 394.

A fine new variety raised from the stone of a peach by Mr Lewis of Boston. Sent to Mr Knight and the Lond. Hort. Soc. by Samuel G. Perkins, Esq. of Boston, a corresponding member. A beautiful fruit of middle size, heart-shaped ; bright yellow, but intense red mottled next the sun ; flesh a rich orange color, firm, not remarkable for sweetness ; flavor very pleasant and peculiar.

PERKINS'S SEEDLING.

A seedling raised by S. G. Perkins, Esq. from the Lewis's Nectarine. A very beautiful fruit, globular, bright yellow, but of a dark purple crimson next the sun. A fine fruit of handsome size.

PITMASTON'S ORANGE NECTARINE. Lond. Hort. Trans.

A new and beautiful variety raised by John Williams, Esq. of Pitmaston. A good sized globular or heart-shaped

fruit, a point at its summit, of a rich yellow color, but dark crimson or purple next the sun. Flesh golden yellow but red next the stone from which it separates; it is melting, juicy, saccharine and high flavored.

SCARLET. For. Lindley.

Leaves crenate with reniform glands; flowers small. A middle sized fruit, rather ovate, of a fine deep scarlet next the sun; flesh greenish white, but red at the stone; saccharine and well flavored.

TEMPLE'S. For. Lindley.

Leaves crenate with reniform glands; flowers small. A fruit below medium size, rather oblong; pale red next the sun; flesh white; it shrivels at maturity; very juicy, rich, and of fine flavor.

WHITE OR FLANDERS NECTARINE. Pom.

Mag. Hooker. Lindley.

NEW WHITE, EMMERSON'S NEW WHITE. Lind. P. Mag.

Leaves crenate, with reniform glands, flowers large. A middle sized roundish very pale fruit, slightly tinged with red next the sun. Flesh tender and juicy with a fine vinous flavor. The Pomological Magazine describes this as a clingstone; Lindley as a freestone.

CLASS II.

CLINGSTONES OR PAVIES.

VIOLETTE CERISE. N. Duh. Bon Jard.

CERISE. Bon Jard. CHERRY.

The flowers are small; leaves narrow with reniform glands. Tree small and delicate. A very small fruit, the

size of a Green Gage plum; very beautiful, of a fine cherry red next the sun — good, but not high flavored.

GOLDEN For. Lindley.

Leaves crenate with reniform glands; flowers small. A fruit of a size rather large, globular, ovate, orange in the shade, bright scarlet marbled with deep red next the sun. Flesh firm, yellow, pale red at the stone, and of good flavor.

GROSSE VIOLETTE. Bon Jard. p. 298.

VIOLETTE DE COURSON.

BRUGNON GROSSE VIOLETTE. Ib.

Flowers small; the leaves with reniform glands; fruit rather larger and its flavor less vinous than the *Violette Hative*, (*Early Violet*.) Its skin is more marbled and washed with violet red. Its maturity is also later; it is the 15th Sept. at Paris. Probably the last of August here.

ITALIAN. Lindley. Forsyth.

BRUGNON. For.

Leaves crenate, glands reniform, the flowers small. A large, globular, pale yellow fruit, marbled with dark red next the sun; of a firm yellow flesh, red at the stone, juicy, rich, and good. This variety must ripen here in August.

RED ROMAN. Lindley. For.

Leaves crenate with reniform glands; flowers large. (*Lindley*.) A very large globular fruit, dark red or purple next the sun, yellowish in the shade; flesh yellowish, but red next the stone; juicy, saccharine and vinous. Early in September.

SCARLET NEWINGTON. Lind. For.

NEWINGTON, LATE NEWINGTON.

The leaves are doubly serrated without glands; the

flowers large. Rather large, globular, fine yellow, but bright red marbled next the sun; of a firm pale yellow flesh, but red at the stone; juicy, rich, sweet, vinous, and excellent. Early in September.

TAWNY NEWINGTON. Lindley.

TAWNY.

Leaves doubly serrated without glands; flowers large. Pretty large, somewhat ovate; tawny colored, marbled with dull red or orange next the sun; flesh pale yellow, but red at the stone; very juicy, sugary, and of the most delicious flavor. This may ripen here early in August.

VERMASH. Hooker. Pom. Lond. Pl. xxix.

Not the *Vermash* or *Peterborough* of Mr Forsyth. The tree is of moderate vigor and very fertile; flowers large, pink; a small roundish fruit; skin very smooth, intense red next the sun; flesh white, but red at the stone, of a high delicate flavor, melting, juicy, sweet, relieved by an agreeable acid. This nectarine is esteemed by Mr Padley, one of the best at present known, it succeeds the Early Violet.

VIOLET MUSK. Bon Jard.

BRUGNON VIOLET MUSQUE'E, BRUGNON MUSQUE, Bon Jard.

RED ROMAN, of For.

The flowers are large, leaves with reniform glands; fruit as large as the *Grosse Violette*, but brighter and of a more lively red next the sun; skin very smooth, amber color in the shade; flesh yellow, but red at the stone; saccharine, vinous, musky. September.

CULTURE, & c.

The Nectarine is said to be a native of Persia; it only differs from the peach in possessing a very smooth and glossy skin, and a pulp of a firmer consistence. The French consider the nectarine, one and the same fruit as the peach. It is esteemed, however, by some, more wholesome and delicious. According to some authorities, its name is derived from *nectar*, the liquor with which as was supposed, the heathen gods were wont to be regaled. Owing to the smoothness of its skin, it is, like the plum, extremely liable to the destructive attacks of the *curculio*. For the preventives, see *Curculio*, in the former part of this work. Its use and cultivation are the same as the peach. They are usually inoculated on the nectarine, plum, or peach stock.

ALMOND. (*Amygdalus*.)

THE almond according to the best authorities, is a native of Asia. It is extensively cultivated in the south of Europe and Barbary, as a fruit tree, for domestic use, and for exportation. The tree bears a striking resemblance to the peach, but the leaves are more smooth. The sweet almonds are used for the dessert, for confectionary, and for perfumery. The bitter almonds are used in medicine. They abound in the prussic acid, and form the basis of the delicious cordial called *Crème de Noyeau*. The common almond and the hard shelled sweet almond, are planted principally as stocks for the inoculation of the better vari-

eties of almonds and the peach. The almond is enveloped in a pulp of ordinary flavor. The principal sorts recommended by the best authorities are the following:

SWEET SOFT SHELLED ALMOND.

AMANDE SULTAN A COQUE TENDRE.

The shell is large, about an inch and a half in length, it is flattened on one side, and rounded on the other; it is smooth and tender; the kernel is sweet and good. This sort is said to be much cultivated in France for food.

AMANDE PRINCESSE, OU DES DAMES. Bon Jard.

AMANDE DES DAMES, N. Duh. Pl. LXXV.

The fruit is two inches in length; the shell is oval, and over an inch in length; it is soft and porous, the kernel is large, sweet and excellent. This is said to be much cultivated in the south of France for exportation. This fruit is recommended in the above work as one of the best for cultivation.

AMANDE SULTAN.

This variety much resembles the Amande Princesse, but is not so large.

AMANDE PISTACHE.

This resembles the Amande Princesse, but is of small size.

BITTER ALMOND.

AMANDE AMERE.

Of this variety there are several; the two principal which are enumerated, are these.

BITTER SOFT SHELLED ALMOND.

AMANDE AMERE A COQUE TENDRE.

BITTER HARD SHELLLED ALMOND.

AMANDE AMERE A COQUE DURE.

PEACH ALMOND.

AMANDE PECHER.

These are hybrids, produced between the almond and peach; some are large, juicy, but of bitter flavor; some are tolerable for eating with sweet kernels.

GREAT FLOWERING ALMOND.

AMANDIER A GRAND FLEUR. N. Duh. Pl. CCCLXXXII.

'This new variety originated at the Luxembourg; the tree is of fine form; its bark is shining, its leaves large; the flowers are superb, of a beautiful white, and two inches in diameter. The fruit is small, oval, obtuse, downy, its length fifteen lines; its shell is very hard, the kernel plump, sweet, and very good. Nothing is more beautiful than this almond in spring; it merits a distinguished place among the trees of ornament.'

DWARF DOUBLE FLOWERING ALMOND.

AMANDIER DE GE'ORGIE, N. Duh. Pl. XCII.

This is one of the most ornamental of all shrubs; it blossoms very early in spring, and the whole young wood is covered with the red blossoms which are extremely double and resemble small roses; their diameter is about an inch. This variety has some single blossoms which produce a fruit which is oblong, pointed, and about an inch and a quarter in length; its skin green, and downy; it contains an almond which is bitter.

CULTURE.

The varieties of almond are propagated by inoculation, either on the native stocks of the common almond, or on

stocks of the peach or plum. Their cultivation is the same as that prescribed for the peach ; they are equally as hardy.

APRICOTS. (*Armeniaca.*)

ALBERGE APRICOT. Bon Jard.

ABRICOT ALBERGE, Bon Jard.

A large tree and very productive, but best in the open ground ; the flesh is melting and vinous, and excellent for preserving. The kernel is large and bitter. Early in August. There are two varieties, superior in size and flavor ; that of *Montgamet*, and that of *Tours*.

ALGIERS. For.

An oval fruit, flattened or compressed, of a straw color ; juicy, and high flavored.

ANGOUMOIS. Lindley. Bon Jard. p. 305.

PURPLE APRICOT, of Lindley.

ALEXANDRIAN APRICOT, according to Lindley.

ABRICOT VIOLETTE, Luxem. Cat.

BLACK APRICOT, of Forsyth, according to Lindley.

A small, globular, downy fruit, a little oblong ; of a pale red color, becoming deep red or purple next the sun ; flesh pale red, but orange next the stone, a little acid, but good, with a strong odor ; the kernel is sweet, and the fruit looks at a little distance like an Orleans plum. Early in July.

BRUSSELS. For.

Highly esteemed for its productiveness. A middle sized fruit of a red color next the sun, covered with numerous

dark spots ; flesh yellow, and of a brisk flavor. It separates from the stone ; the kernel is bitter.

BLACK APRICOT. Bon Jard. N. Duh.

VIOLET APRICOT, *PRUNUS DASICARPUS*, of Wild according to the Bon Jard.

ABRICOT NOIR, ABRICOT DU PAPE, (Pope) Bon Jard.

The tree is very vigorous ; it inclines to grow crooked ; its appearance more resembles that of a plum than an apricot. I cannot recommend it ; I suspect it is a poor bearer. Fruit small, the color of the lye [lees] of deep colored wine ; flesh obscure fiery red ; quality below mediocrity. August. Said to be from Siberia.

EARLY MASCULINE. Bon Jard.

ABRICOTIN, ABRICOT PRECOCE, ABRICOT HATIF MUSQUE, of the French.

RED MASCULINE, of the English and Lindley.

A small nearly globular fruit, vermilion color next the sun, yellowish in the shade ; flesh yellowish, of medium quality ; flavor musky, kernel bitter ; its chief merit is its early maturity. Beginning of July.

GROS MUSCH. Bon Jard. p. 306.

The tree is vigorous ; the fruit is perfumed ; the suture is very deep on one side, it is contracted on the other ; a freestone ; the kernel is sweet. July.

HEMSKIRKE. Pom. Mag.

Origin unknown ; it bears freely, ripening early, acquiring a high luscious flavor, superior even to that of the Moorpark. Middle sized, roundish, slightly compressed ; its color and form that of the Moorpark ; flesh bright deep clear orange ; tender, juicy, with a particularly rich, delicate flavor, resembling that of the Green Gage plum ; kernel sweet. July.

MOORPARK. Hooker's Pom. Lond.

ANSON'S, TEMPLE'S, DUNMORE'S BRED A, according to Hooker.

The tree is of vigorous growth and extraordinarily productive ; the fruit is very large, of a bright gold color, or orange, with dark spots next the sun ; flesh orange color, melting and excellent ; the stone is large ; there is a pervious passage through it, through which a needle may be passed. It is in the edge of the stone, a little aside from the centre, in a longitudinal direction.

MUSCH. Bon Jard. p. 306.

Brought a few years since from the city of Musch, on the frontiers of Turkey, on the side of Persia. It is round, deep yellow, remarkable for the transparency of its pulp, through which the stone is visible ; the flesh is very fine and agreeable. Early in July.

ORANGE. Lindley.

EARLY ORANGE, ROYAL ORANGE, ROYAL GEORGE.
Hort. Soc. Cat.

Fruit larger than the Masculine, roundish ; color orange, spotted with red or dark purple next the sun ; flesh deep orange, succulent and well flavored ; not perfectly a free-stone ; kernel sweet.

PEACH APRICOT. N. Duh. Pl. civ. Bon Jard.

ABRICOT PECHE. N. Duh. Bon Jard.
DE NANCY, of some.

The best and the largest of all apricots ; form variable, generally flattened ; from eighteen lines to two inches in diameter ; skin slightly downy ; fawn color next the sun, touched with reddish spots or points ; flesh fawn colored yellow, melting, excellent ; neither dry nor clammy like most apricots ; juice abundant, high flavored, peculiar. Excellent in the open ground. Early in August. Mr

Loudon and Mr Coxe fully concur that this is the best and largest of all apricots known.

PORTUGAL. Bon Jard.

ABRICOT DE PORTUGAL, OR MALE, Bon Jard.

A small globular fruit; flesh melting and very good. August.

PROVENCE. Bon Jard.

A small fruit with yellow flesh, sometimes a little dry, but of a sweet vinous flavor; stone rugged; kernel sweet. July.

ROMAN. Pom. Mag. Lindley. Bon Jard.

ABRICOT COMMUN, Bon Jard.

BLOTCHED LEAVED TURKEY, Lindley and Pom. Mag.

The English describe this as the most common and productive variety. The Bon Jard. however, describes it as a vigorous tree, a large fruit in well cultivated ground, superior to the Angoumois, but insipid when too ripe; kernel bitter. Ripe in July.

ROYAL. Bon. Jard. Pom. Mag.

A new variety, obtained at the Luxembourg; better than the peach apricot. Wood strong, longer jointed than the Moorpark; leaves large, roundish cordate, or ovate; fruit next in size to the Moorpark, rather oval, compressed; dull yellow, slightly red; flesh pale orange, firm, juicy, sweet, and high flavored with a slight acid; kernel slightly bitter.

ROYAL PERSIAN. Hort. Soc. Cat. Bon Jard.

BREDA, Hort. Soc. Cat.

HOLLANDE, AMANDE AVELINE, Bon Jard., and the French.

This fruit is small; flesh yellow, melting, vinous, having the taste of the Aveline or Filbert; kernel sweet. July.

TURKEY. Pom. Mag.

LARGE TURKEY. Hooker's Pom. Lond.

'An excellent apricot scarcely known,' little inferior to the Moorpark. No gardens in which good apricots are valued should be without this. Fruit middle sized, very handsome, deep yellow, with rich orange red blotches next the sun; form globular; flesh yellow, firm, juicy, sweet, with a little acid, very rich and excellent; a freestone; kernel sweet as an almond.

WHITE APRICOT. Bon Jard.

ABRICOT BLANC, Bon Jard.

The flesh is whiter than the Angoumois, and better, having a little of the flavor of the Peach. It ripens a little after the Early Masculine.

 APRICOT. (*Armeniaca*.)

THE Apricot is a low tree of very irregular growth; the fruit in its exterior resembles that of a smooth round yellow peach; its flesh however is more firm; but its smooth compressed stone resembles that of a plum. According to Phillips, it may derive its name from *Præcox* or *early* fruit; or by corruption a *præcox* hence *Apricock* or *Apricot*. Its native place has been assigned to Armenia; M. L. Legnier however asserts, says Phillips, that it is not known to grow in the natural state in any part of Armenia. The inhabitants of the deserts called Oasis, gather and dry large quantities of Apricots which they bring down to Egypt for sale; it there grows spontaneously; hence Legnier assigns it to Arabia. Pallas states it to be a native of Caucasus, the mountains there being covered with it to their tops.

Grosier says it covers the barren mountains west of Peking. (*Phillips*;) and Regnier and Sickler, says Loudon, assign it a parallel between the Niger and Atlas.

USES. As a dessert fruit the Apricot is esteemed next to the Peach; it is also esteemed a most superior fruit when used in pastry, for marmalade, jellies and preserves; it is also stated to make a delicious *liqueur*. In France and Germany, according to Dr Willich, the Orange Apricot is usually preserved in a dried state for winter, when they form a delicious ingredient in pies, tarts, &c. The Chinese, we are told, form lozenges from the clarified juice, which dissolved in water yield a cool refreshing beverage. Oil is also extracted from the kernel; and Loudon informs us that the young shoots yield a fine golden-cinnamon color to wool.

CULTIVATION, &c. The Apricot is generally inoculated either on the apricot, plum or peach stock; the soil, and the maladies to which they are sometimes subject are similar to the peach, but from the smooth skin which they possess they are more liable to the attacks of the *Curculio*. For the preventives see *Curculio*, in the former part of this work.

SOIL, &c. The apricot is inoculated either on the apricot, plum or peach stock. It requires a rich black mould. They will not flourish in a sandy, gravelly, or cold damp soil. The distances asunder to which they ought to be set and their cultivation is similar to that of the peach.

PLUMS. (*Prunus.*)

APRICOT PLUM.

PRUNE ABRICOTE', PRUNE ABRICOTE'E DE TOURS, of the French.

The branches are downy, the fruit is large; its form globular, depressed, divided by a deep suture; whitish yellow, but faint red next the sun, and covered with bloom; its flesh is firm, juicy, sweet, musky and excellent. It ripens in August.

BELLE OF RIOM. N. Duh. Pl. cccxci.

Roundish oval, flattened at its base; its height sixteen or seventeen lines; skin bright red, marbled with yellow and covered with violet bloom; flesh yellow, firm, but melting and very good; juice very sweet. A new and excellent fruit, will probably ripen here the middle of August.

BINGHAM.

This plum is said to be large; its color yellow; its form oblong; its quality very rich and excellent.

BLEECKER'S GAGE. N. E. Farmer.

BLEECKER'S GERMAN GAGE.

This plum is stated to have been raised by the Rev. Mr Bleecker of Albany, from the stone of a German prune; it is described as a large globular fruit, of excellent quality and a great bearer.

BLUE HOLLAND. R. M., Esq.

A round plum of a blue color, juicy and high flavored; it readily parts from the stone; it ripens in September and

hangs long on the tree after arriving at maturity. A fine fruit, a great bearer.

BLUE NOVEMBER GAGE. Corse in N. E. Farmer.

‘The Blue November Gage is extraordinary for its late ripening and the length of time it will remain upon the tree ; I have picked them in December ; it is of good flavor, and of medium size, they are all [the *Nota Bena*, the *Admiral*, the *Field Marshal*, and the *Rising Sun*] very productive, some of them bear too much.’

CANADA PLUM.

GALISSONNIERE. N. Duh. Pl. LXXXIII.

The tree is of medium vigor, diffuse in its growth ; fruit small, oval, firey red ; flesh coarse-grained and sour ; juice abundant and aromatic. It is supposed to possess medicinal qualities.

CHERRY PLUM.

MIRABOLAN, of the French.

A native fruit, small, heart-shaped ; skin smooth, of a bright red color ; flesh yellow, tender, juicy, pleasant, not very highly esteemed except for its beauty ; good for cooking ; it ripens early in August.

COE'S GOLDEN DROP. Hooker's Pom. Lond. No. XIV.

COE'S SEEDLING, BURY SEEDLING. Ib.

Raised by Mr Coe of Bury, Norfolk. The tree is vigorous, its leaves uncommonly large, of a dark shining green above ; fruit oblong, rather bell-shaped ; from two to two and a half inches long, one fifth less in breadth. Skin greenish yellow, spotted next the sun with violet and crimson ; flesh gold color. ‘This may confidently be recommended as superior to any late plum at present culti-

vated in Britain.' Mr Knight esteems this variety not at all inferior in richness of flavor to the Green Gage and Drap d'Or.' He states that it bears well as a standard. A tree of this variety was sent by him in 1823 to the Hon. John Lowell, and it has been widely disseminated in this country.

COOPER'S PLUM. Coxe. Pom. Mag.

COOPER'S LARGE RED.

LA DELICIEUSE, of the French, according to the Pom. Mag.

Raised by Mr Joseph Cooper of New Jersey, from a stone of the Orleans; very large, rather oblong, two inches in length; dark purple next the sun; flesh yellowish green, very rich, juicy and delicious. Mr Coxe informs us 'that it makes an exquisite preserve if deprived of its skin before too ripe. The tree grows vigorously and to a great size. This Mr Coxe assigns as the cause of the defect of this plum, which is liable to rot.

CORSE'S ADMIRAL. Corse in N. E. Farmer.

Was raised by Henry Corse, Esq. of Montreal. 'The color of this fruit is dark purple, about the size of the Magnum Bonum or Yellow Egg, but of good flavor' — 'very productive and excellent.'

CORSE'S FIELD MARSHAL. Corse in N. E. Farmer.

Was raised by Henry Corse, Esq. of Montreal. 'This plum is about the size of the Admiral and bright red; the most showy plum that I have ever seen, and of good flavor' — 'very productive and excellent.'

CORSE'S NOTA BENA. Corse. in N. E. Farmer.

This plum was raised from the stone by Henry Corse, Esq. of Montreal, who has made annual experiments since

1812, and has succeeded in rearing several varieties of undoubted excellence; this variety he considers the most superior of all, and very productive.

CORSE'S RISING SUN. Corse in N. E. Farmer.

This plum was raised by Henry Corse, Esq. of Montreal. 'This fruit is about the size of the Bingham; bright yellow, with a tinge of red on the sunny side;' 'very productive and excellent.

DAMAS DE MAUGERON. N. Duh. Pl. xxix.

The tree is of regular form and medium height; the fruit is large, nearly round, depressed; its breadth eighteen lines; skin brownish red, covered thick with azure bloom; flesh firm, yellowish; juice agreeable and sweet; an excellent plum. August.

DAMAS DE PROVENCE. N. Duh. Pl. lxxv.

DAMASK OF PROVENCE.

Fruit roundish, a little oblong; its height eighteen to twentytwo lines; skin reddish violet, covered with thick bloom; flesh yellowish, tolerably high flavored, but does not fully correspond with the beauty of its skin; juice sweet. This plum is one of the earliest; it ripens a month earlier than the Royale de Tours. Its early maturity and beauty renders it worthy a distinguished place; but its quality is but third rate.

DAME AUBERT. N. Duh. Pl. lxxi.

WENTWORTH, of the English.

GROS LUISANTE, of some French lists.

A tree exceeding all others in the vigor of its growth, and the size of its leaves, which are deep shining green above, downy below; fruit very large, elliptical, two and a half inches long; skin thick, yellow, covered with bloom; flesh

yellow, coarse grained, adhering to the stone ; juice sweet, but rapid if too mature ; a plum admired for its size and beauty, but only fit for cooking. September.

DAMSON.

A very small, oval, dark blue fruit, covered with light blue bloom ; flesh very acid ; and fit only for cooking and preserves ; tree of feeble growth. Very late.

DIAMOND PLUM. Loudon's Mag. vol. III. p. 215.

The Diamond Plum is perhaps the largest plum known. In form and flavor it resembles the Magnum Bonum, but its flavor is perhaps rather superior ; its color is a dark purple. The tree grows vigorously, and in orchards would form a fine contrast to the White Magnum Bonums. Purple Magnum Bonum would we think have been a more suitable name for it, as conveying a good idea of the fruit and the tree. The tree sprung from the seed in the nursery of Mr Hooker, in Kent.

DIAPRE'E ROUGE. N. Duh. Pl. LV.

RED DIAPRE.

The tree is of vigorous growth, tall and handsome ; the fruit the most beautiful known. We have seen larger, but never such beautiful colors. Form oval, two inches and one third in length, a little pear shaped ; color dull red, covered with azure bloom ; flesh yellow, coarse grained. August. Always esteemed for its size and beauty ; it makes excellent prunes. To be perfect it only needs a finer flesh and a little less marc.

DOWNTON IMPERATIVE. Hort. Trans. vol. v. p. 383.

Raised by Mr Knight, from the seed of the White Magnum Bonum and pollen of the Blue Imperative. In shape

like the Blue Imperative, but larger. Skin dark yellow, and very thin; the flesh yellow, soft, juicy, with a high flavored acidity. All these are characteristics indicating much excellence.

DUANE'S PURPLE FRENCH.

The tree is extremely vigorous in its growth: said to be a remarkably large fruit, of most superior quality; and to have been imported by Mr Duane, of New York. Its original name lost.

EARLY MONSIEUR. R. M., Esq.

MONSIEUR HATIF, Duh.

A globular fruit of medium size, of a violet or deep purple color next the sun; and covered with a dense bloom; flesh yellowish, melting, juicy and good. This fruit ripens in July.

EARLY YELLOW. R. M., Esq.

WHITE PRIMORDIAN, of the English.

JAUNE HATIVE, PRUNE DE CATALOGNE, Duh.

Small, oblong, whitish yellow; flesh rather dry, sweet, and musky. One of the very earliest plums, ripening in July. It is chiefly valued on this account.

GOLIAH. Hort. Trans.

ST CLOUD, of some collections.

This fruit is very large, compressed; the skin is a deep reddish purple; the flesh pale, firm, and well flavored, but not rich. It is very useful for culinary purposes, and is remarkable for its great size, some of them weighing four ounces, and measuring seven inches and a quarter in circumference. Branches downy. Ripe early in September. Lindley says this is a great bearer, and a very fine handsome plum.

HULING'S SUPERB.

From information from a variety of sources, I shall attempt the description of this plum which is said to be identical with a new plum known at Philadelphia, as the *Keiser*. The fruit is extraordinary large, of a globular form, resembling in this last respect and its color, the Green Gage, but far exceeding it in size; a first rate fruit, sweet, and very fine flavored.

GREEN GAGE.

GREAT QUEEN CLAUDE, of the English.

GROSSE REINE CLAUDE, DAUPHINE, ABRICOTE VERT, of the French.

A middle sized round fruit, of a yellowish green color, a purplish russetty red next the sun; melting, juicy, and of delicious flavor. Last of August. Lindley informs us that this name of Gage was derived from the circumstance of the Reine Claude being sent from France to the Gage family, with the name obliterated; and through ignorance of the real name, it was called *Green Gage*.

GROS DAMAS ROUGE TARDIF. N. Duh. Pl. 394.

LARGE LATE RED DAMASK.

The fruit is very handsome, oval; its height twenty lines; skin thick, hard, bright red covered with azure bloom; its flesh yellow and melting; its juice sweet and good. This fine fruit will probably ripen here the last of August.

GROSSE MIRABELLE. Bon Jard.

The tree is of irregular and confused growth; the fruit is nearly globular in form, yellow, with points of red; melting; sweet, very good. Early in August.

IMPERATRICE. Hooker's Pom. Lond. Pl. iv.

A medium sized and rather long fruit, pointed at the base, rounded or broad oval at the other extremity; skin

fine violet, covered with bloom; flesh yellowish next the sun, a little firm, at maturity very rich and sweet. One of the best of late plums.

IMPERIAL DIADEM. Hort. Trans.

'This new plum is a large regular oval, of the character of the Red Magnum Bonum, deeply cleft, of a pale red color; becoming much darker if suffered to hang on the tree till perfectly ripe; it is of good flavor and highly perfumed; its size and beauty will recommend it to notice. It is also admirably adapted for culinary purposes.'

ITALIAN DAMASK. R. M., Esq.

DAMAS D'ITALIE, Duhamel.

This fruit is rather large; its form globular, a little flattened at the base; blue or violet next the sun, and covered with pale blue bloom; its flesh is yellow, and tolerably high flavored, and separates from the stone. It ripens in August. This variety is beautiful, and extremely productive.

ITALIAN PRUNE.

QUETSCHÉ D'ITALIE.

This variety, according to Messrs Parmentier and Chew, is not only a most valuable plum for drying, but in Italy is esteemed a most superior fruit, when gathered at maturity from the tree.

JERUSALEM. N. Duh. Pl. cccccciii.

The tree is vigorous, and diffuse in its growth, extraordinarily productive; the leaves large, dark green above, downy below. The fruit one of the most beautiful known; it is oval, roundish, depressed; its diameter twenty lines; skin thick, blue next the sun, and covered with deep blue bloom; flesh yellowish, coarse grained, but melting; juice abundant, high flavored and sweet. August.

KIRK'S PLUM. Lindley.

Branches smooth; fruit rather large, roundish oval, broadest at the base; skin dark purple, covered with a copious azure bloom, which is difficult to remove; flesh greenish yellow, firm, juicy, rich, and separates from the stone. A very handsome variety, and most excellent bearer; supposed to be of foreign origin. August.

LARGE SWEET DAMSON.**HORSE PLUM.**

A large round fruit, dark blue color covered with a fine blue bloom; the flesh firm, yellowish green, juicy, sweet and good; the flesh adheres to the stone; the tree is productive.

LEX PLUM. R. M., Esq.

A large blue plum; its flesh is yellow, rich and sweet. An excellent fruit and very productive.

LUCOMBE'S NONSUCH. Pom. Mag. t. 99. Lindley.

This plum is large, compressed at the summit and base, its breadth two inches; its color at maturity as well as its form resembles the Queen Gage, but more streaked with yellow or orange; its flesh and quality inferior to the last named variety, but superior to the Orleans. A remarkably handsome, productive and valuable new variety, ripening in August.

MIMMS. Pom. Mom. t. 6. Hort. Trans. vol. iv. p. 208.

The fruit is very large, a little oblong, its diameter two inches and a half; color bright purple next the sun, and covered with thick bloom; its flesh is yellowish green; tender, juicy, and very agreeably flavored; resembling in this respect the Orleans. It separates from the stone, which is ragged with a thin, uneven edge. A late plum, of the largest size.

MONSIEUR. N. Duh. Pl. cxxlii.

PRUNE DE MONSIEUR. Ibid.

Branches pubescent, downy; leaves the least serrated of all plums. A handsome fruit, depressed; its diameter from fifteen to twenty lines; violet red, covered with azure bloom; flesh green or yellowish, melting; juice sweet, sometimes very agreeable. It parts from the stone, and ripens twelve or fifteen days after the *Monsieur Hâtif*. July.

MOROCCO. Pom. Mag. t. 103. Lindley.

BLACK DAMASCUS, EARLY BLACK DAMASK, BLACK MOROCCO, EARLY MOROCCO, according to the Pom. Mag.

Branches downy; a blackish purple fruit of medium size, covered with pale blue bloom; globular, a little depressed; flesh greenish yellow, juicy, rich and high flavored; a productive fruit. July.

NECTARINE PLUM. N. Duh.

PRUNE PEHE, N. Duh. Pl. cvii.

CALEDONIAN, HOWEL'S, of the English.

The tree is very vigorous, not lofty; the young wood is short, gross, and varnished thick with numerous eyes; leaves large; one of the most beautiful plums known; round, a little lengthened; its height two inches. The skin at maturity varies from red to deep red; it is covered with azure bloom; flesh yellowish, coarse grained, astringent; juice abundant, mild; a superb fruit, it only needs a finer flesh. It will probably ripen here early in July.

ORLEANS. R. M., Esq.

RED DAMASK.

DAMAS ROUGE, of the French.

A middle sized fruit, of a form nearly globular, of a red color in the shade, but blue or purple color next the sun,

and covered with bloom; its flesh is pale yellow, juicy, rich and astringent, and readily parts from the stone. A fine fruit and a good bearer; it ripens in August.

PETER'S LARGE YELLOW GAGE.

Said to be a variety of the gage, approaching in its size to the Washington, and much resembling it in point of quality.

PRECOCE DE TOURS. Hooker's Pom. Lond. Pl. xxxiv.

EARLY DE TOURS. Ib.

The tree is vigorous and fertile, and according to Mr Hooker the best *early* variety in that country. Poiteau calls it ordinary. Fruit small, oval, dark purple, covered with fine bloom; flesh greenish yellow, tender, juicy, of very agreeable flavor. July. (*Hooker.*) 'Fruit the form of an egg, very productive.' (*N. Duh.*)

PRUNE DE BRIANCON. N. Duh. Pl. cccxiii.

The fruit is always extraordinarily numerous and compactly clustered on the branches like grapes. They are of medium size, yellow, oval; insupportably acid before maturity; when too mature, insupportably insipid. September. This plum is cultivated only for the oil which is drawn from its kernels, known in commerce as the *Oil of Marmotte*.

RED MAGNUM BONUM.

IMPERIAL VIOLETTE, of the French.

A large, oval plum; two inches to two and a half in length; deep red next the sun and covered with blue bloom; flesh yellowish, harsh, acid. It parts from the stone, which is sharp pointed. Good for cooking and fit for little else. August.

RED PEDRIGON. Lindley. Dr Willich.

Branches downy; an excellent plum of the first class; middle sized, roundish oval, of a fine red color with gold colored dots and a fine bloom; flesh bright yellow, transparent; juice sweet and delicious. Peeled and dried it makes excellent prunes; not inferior to the white Perdrigon. August.

RED QUEEN MOTHER. R. M., Esq.

This plum is large; its color bright red, covered with pale bloom; its flesh is yellow, sweet and excellent; it ripens in September. This is a very handsome and productive variety and highly deserving of cultivation. The origin of this sort is unknown.

REINE CLAUDE VIOLETTE. Loudon's Mag. vol. III. p. 106.**PURPLE GAGE.**

A new seedling variety of the Green gage, of a purple color, equally good, and a better bearer. It hangs longer on the tree and is the best red plum we have. The Pomological Magazine confirms this account and adds, that it is not like the Green Gage disposed to crack.

ROYALE. N. Duh. Pl. CCXLII.

LA ROYALE, of Hooker's Pom. Lond.

A large, very handsome fruit, its diameter eight lines; skin thick, a homely dull brown red, concealed however by a thick violet or azure bloom; flesh fine, yellowish green, firm and crackling; juice abundant, high flavored and delicious. An excellent plum. September.

ROYALE DE TOURS. N. Duh. Pl. XIII.

The tree is of extraordinary vigorous growth, its principal stem rises vertically; the fruit is globular, flattened; its length eighteen lines; a red violet next the sun and cover-

ed with azure bloom; flesh yellow, fine, good; juice abundant and sweet; higher flavored and of superior quality to the Monsieur Plum; and it ripens eight or ten days earlier. July and August.

ST CATHARINE. Hooker's Pom. Lond. Pl. xxiv.

A medium sized, oblong fruit; narrowest towards the stalk, broad and flattened at the opposite end; skin bright gold color next the sun, spotted with red at maturity and covered with bloom; flesh yellow, tender, sweet and of fine flavor; stone oval, flat, it separates from the flesh. It ripens a little before the Imperative, and is not uncommon around Boston.

SEMIANA. N. Duh. Pl. ccxvi. Lindley.

PRUNE SUISSE, N. Duh.

PRUNE D'ALTESSE, MONSIEUR TARDIF.

Fruit very handsome, round, flattened; its diameter eighteen to twenty lines; color varying from bright violet red, to deep blackish blue, and covered with azure bloom; flesh greenish yellow, crackling and melting, juice very abundant and delicious. Not uncommon near Boston. An excellent fruit ripening in September.

SMITH'S ORLEANS.

The tree is very vigorous and productive; the fruit is large, of an oval form and purple color; its flavor excellent; this is a highly esteemed variety.

SURPASSE MONSIEUR. Bon. Jard. p. 308.

'This superb fruit was raised by M. Noisette. It is more beautiful and more perfumed than the Monsieur, and the tree has the precious advantage of producing on its suckers plums in all their beauty and excellence.'

VARIEGATED PLUM. N. E. Farmer.

LOMBARD PLUM.

Samples of this fine variety were sent from Springfield, Mass. by Charles Stearns, Esq. August 18, 1830, to Mr J. B. Russell, publisher of the *New England Farmer*, Boston. The fruit grew in the garden of Maj. E. Edwards. Remarkably large, beautiful, and very productive. This variety was imported from Holland, its name lost. A very showy saleable fruit but not high flavored.

VIRGINALE. N. Duh. Pl. xxxv.

The tree is strong, vigorous and productive; the fruit is round, slightly depressed; its color yellowish, touched with violet or rose next the sun, and covered with dense bloom; flesh melting, juice abundant and very agreeable. It adheres to the stone. This fruit ranks among the best of plums.

WASHINGTON. Pom. Mag. R. M. Esq.

BOLMER'S WASHINGTON. FRANKLIN.

A very large globular plum inclining to oval; greenish yellow next the sun, approaching a pale orange; and covered with a bloom and occasionally crimson specks; this plum has sometimes weighed over four ounces; its flesh is yellow, and firm, sweet and delicious; it parts readily from the stone and ripens in September. This plum although not quite equal in flavor to the Green Gage, is a very valuable variety and of American origin.

PRINCE'S IMPERIAL GAGE.

This plum is a first rate fruit; the tree is very vigorous and upright in its growth, and extraordinarily productive. The fruit is larger than the Green Gage and of excellent quality. A single tree of this variety at Charlestown, owned by Mr Samuel R. Johnson, has for several

successive years yielded crops which were sold at from \$40 to \$50 per annum. This valuable variety was raised by Wm. Prince, Esq. of the Linnæan Botanic Garden, Flushing from a seed of the Green Gage.

WHITE MAGNUM BONUM.

IMPERIALE BLANCHE, Duh. EGG PLUM, of the English.

WHITE MOGUL, WHITE HOLLAND, of the English according to Lindley.

This fruit is of extraordinary size, oval, yellow covered with pale bloom; the flesh yellow, firm, acid and austere; it adheres to the stone which is oval and very pointed. This plum is excellent for cooking or preserves and suitable for nothing else. It ripens early in September.

WHITE PERDRIGON.

Branches downy; a middle sized oblong fruit; tapering from the stalk; of a pale yellow, with red spots next the sun; and covered with white bloom; flesh yellow, rich, saccharine, separating from the stone. Last of August.

WILMOT'S NEW EARLY ORLEANS. Mr Hooker, in Hort. Trans. vol. III. p. 392.

Raised by Mr John Wilmot. Earlier than the *New Orleans*, as early as the Morocco, and *Precoce de Tours*, as large as the Old Orleans, and more juicy; a certain bearer; a fruit above the middle size, round, its suture deep; dark purple next the sun and covered with bloom; flesh greenish yellow, of excellent flavor, sweet combined with a pleasant acid; it separates from the stone. Mr Hooker considers this plum as decidedly superior to any of its season at present cultivated. Its beautiful appearance will obtain it a preference in the market.

CULTIVATION, &c.

THE plum tree rises to a height of from fifteen to eighteen feet, with moderately spreading branches. It is supposed to be originally from Asia, but is also found growing in a wild state in North America. It is more hardy than the peach, as it flourishes in Canada; from the confines of the tropics, to high northern latitudes.

USES. — The finest varieties are esteemed delicious dessert fruit; the more ordinary varieties are used for pies, tarts, preserves, &c. The Perdrigons, the Quetsches or prunes are dried, and in this state may be long preserved; they are imported, principally from Spain, Portugal, and Marseilles. Prunes are deemed extremely wholesome food, and possessed of considerable medicinal efficacy. Ripe plums are deemed wholesome, if eaten in moderate quantities; but unripe plums are extremely unwholesome, more so it is said than any other kind of unripe fruit, producing dysentery, &c. The plum is said also to be capable of producing a good wine; good brandy is also procured from it by distillation. The wood of this tree is beautifully veined; it is therefore stated on good authority, to be highly prized by turners, cabinet makers, and for making musical instruments.

SOIL AND CULTIVATION. — The plum tree flourishes best in a rich, sandy loam, neither too dry nor too moist. A cold, wet, clayey soil, or a dry, sandy situation, is not deemed so favorable.

The varieties of plum are inoculated on the plum stock. Those raised from the seed are preferred, and some varieties will flourish on the peach stock; but this is not deemed so suitable for a high northern latitude.

The mode of pruning, and the distances to which the tree should be set asunder, varies but little from that of

the peach. The plum from its possessing a very smooth skin, is extremely liable to the attacks of the *Curculio*; for the modes of prevention, see *Curculio* in the former part of this work. Particular varieties of the plum tree, are also liable to be attacked by a worm, which causes large black bunches to be found on the limbs. Some varieties, however, are exempted from this disease. The remedy is easy, and consists in separating every bunch, every badly affected branch, or even tree, and committing them to the fire. No affected tree should be suffered to exist near the orchard. In this way, and in this alone, the worm and the disease may be exterminated with a little trouble.

CHERRIES. (*Prunus Cerasus.*)

THE French have divided their cherries into at least four classes. The following list however, I have divided into but two classes. The distinction thus formed will be apparent, by a slight inspection of the tree, to the most superficial observer.

Class I. Includes the Bigarreaus and Heart Cherries, and similar kinds. The trees of this class generally grow tall and handsome, in a pyramidal form; the leaves are large, of a light green color; the young wood is large, and the fruit generally sweet.

Class II. Includes the Dukes, the Morillos, and similar kinds. The trees of this class are generally of low growth, and very compact form; the leaves are stiff, of a dark green; the young wood is slender, the fruit is generally

sub-acid or sour. In addition to these, a few ornamental varieties of four distinct species will be described.

CLASS I.

BIGARREAUS, HEART CHERRIES, &c.

KNIGHT'S EARLY BLACK. Hort. Trans.

Raised by Mr Knight, from the Bigarreau and May Duke combined. The blossoms of this new variety it is stated are produced in abundance, before those of any other sort; and while the May Duke in the same aspect is yet a very inferior fruit, the Early Black Cherry has assumed its rich dark hue, and its flesh is then firm and juicy. It resembles in its external appearance the Waterloo, but the stalk is shorter. It is abundantly sweet, and though not very rich, of a pleasant flavor; remarkably early.

AMBER CHERRY. S. H. S., Esq.

Below medium size, perfectly round; color of amber, but red towards the sun; of a very delicate appearance. The flesh is melting, the taste lively and very sweet. It ripens with the May Duke. This variety was found in an old garden in Providence; its origin unknown.

AMBRE'E. For. Lindley.

CERISE AMBRE'E.

A large cherry, with a round head, flattened at the opposite end; marbled with red and yellow in the shade, bright red next the sun; flesh white, somewhat transparent, very juicy, sweet, and excellent.

AMERICAN AMBER.

Heart shaped, bright amber color; of a very sweet, excellent flavor. The growth of this tree is extraordinarily

vigorous and upright, and is not exceeded in this respect by the Napoleon Bigarreau and the Black Tartarean.

BIGARREAU DE ROCMONT. N. Duh. Pl. ccclxx.

BELLE DE ROCMONT, CŒUR DE PIGEON, Bon Jard.

The tree is vigorous and productive; the fruit large, heart shaped, red, marbled and shining; a beautiful fruit, an inch in height; flesh white, very little breaking, juice not abundant, rather sprightly. Middle of June. We do not find this fruit so extraordinary as Duhamel has described it.

BLACK BIGARREAU. N. Duh.

BIGARREAU NOIR, N. Duh. Pl. cxxxviii.

A new fruit, so named by M. Chatenay, of Vitry; it is but little extended. Fruit six lines in length, a little heart shaped; at maturity black and shining; flesh black violet and marbled, firm and breaking. This Bigarreau is one of the best species. Last of June and beginning of July.

LARGE BLACK BIGARREAU.

BIGARREAU GROS NOIR.

Described to me by the late André Parmentier, Esq. as one of the largest and the very best of all cherries.

RGE LATE RED BIGARREAU. Nouv Cours
Comp. d'Agriculture, vol. III. p. 571.

~LA BIGAREAUTIER A GROS FRUIT ROUGE. Ibid.

A large fruit, of a deep red next the sun, a lively red in the shade; juice reddish and somewhat perfumed. An excellent variety ripening late in July.

NAPOLEON BIGARREAU. Dr Willich.

BIGARREAU NAPOLEON, LOURMAN, Hort. Soc. Cat.

LAUERMANN, Dr Willich.

GROS BIGARREAU DE LAUERMANN.

The tree is extraordinary for the vigor and beauty of its

growth; the leaves are very large, and plain or smooth on their upper surface. This is one of the three new varieties recommended to me by the late André Parmentier, Esq. as the best of all cherries. We have never yet seen the fruit, but find it is thus described. The largest and most beautiful of the heart shaped cherries; it has an excellent taste. In shape it resembles the variegated half ounce cherry, and frequently surpasses it. The flesh is remarkably white, solid, and of a sweet, agreeable flavor. It ripens in June or July, when the skin on both sides acquires very bright red spots, that are imperceptibly lost in the whitish and yellow part of the centre and the shaded quarter.

LATE BIGARREAU OF HILDSEHEIM.

BIGARREAU TARDIF D'HILDSEHEIM.

BIGARREAU MARBRE' DE HILDESHEIM, Cours Complet d'Agriculture, vol. III. p. 580.

This is one of the three new sorts so highly recommended to me by the late André Parmentier, Esq. as a most superior fruit. The Napoleon Bigarreau, and the Large Black Bigarreau were the other two. It is very late.

GRAFFION. Hooker's Pom. Lond. Lindley.

BIGARREAU, Hooker's Pom. Lond.

TURKEY BIGARREAU.

YELLOW SPANISH, as supposed, of some American collections.

Very large, obtuse, heart shaped, yellowish amber color, but fine red next the sun; flesh firm, white, sweet and well flavored. A beautiful and excellent fruit, not very productive. The tree, says Mr Hooker, 'evidently exhibits the characteristics of age and debility;' although of luxuriant growth. Lindley states that it exceeds in growth all cherries grown in Britain.

BLACK EAGLE.

A cherry of a globular form, and middle size; dark pur-

ple or nearly black ; flesh very tender, rich, and of excellent flavor, and ripens early. This tree grows strong and very upright. This new variety was sent by Mr Knight, in 1823, to the Hon. John Lowell ; and was raised according to Mr Lindley, by Miss Elizabeth Knight, of Dounton Castle, about the year 1806, from a seed of the Bigarreau, which had been fertilized by the May Duke.

BLACK HEART.

GUIGNIER A FRUIT NOIR, Duh.

Rather large, heart-shaped ; dark purple, approaching to black at maturity ; flesh dark red, tender, of excellent flavor. Ripe early in July — and is a good bearer.

BLACK SPANISH.

SPANISH, Dr Willich, Dom. Ency.

A noble fruit for drying, preserving, &c ; of a large size ; dark red approaching to black ; flatly compressed below ; and having a short stalk. Its juice is of a deep red dye ; of a mild, subacid and pleasant taste.

BLACK TARTAREAN.

BLACK RUSSIAN, BLACK CIRCASSIAN, SUPERB, CIRCASSIAN. Pom. Mag.

FRAZER'S BLACK TARTAREAN, RONALD'S BLACK HEART.

A very large heart-shaped fruit, of most superior quality ; color dark shining purple or black ; flesh firm, dark red or purple, sweet and of most excellent flavor. The very best cherry yet known with us. The tree and fruit combine an assemblage of good qualities which never meet but in a very extraordinary fruit ; an elegant, very rapid growing tree, of great productiveness, very large and beautiful fruit, and excellent quality. Supposed to have originated in Spain ; thence carried to Circassia, or Russia ;

from Russia it was brought to England in 1796, by Mr John Frazer. (*Pom. Mag.*) But according to Mr Hooker it was brought from Circassia in 1794, by Mr Ronalds.

DOWNER'S RED HEART.

A new and valuable variety reared from the stone, by Samuel Downer, Esq., of Dorchester. The tree is very handsome, vigorous and upright in its growth; a constant and great bearer. A large, light red cherry inclining to heart-shape; flesh firm, flavor good and sprightly. Very late; it ripens after most other superior varieties are gone, and is on this account the more valuable, and highly prized in the markets.

DOWNTON CHERRY. Hort. Trans. vol. v. p. 262.

A new variety, raised by Mr Knight, from the Elton or Waterloo. It is nearly round, inclining to heart-shape; of a pale yellow color sprinkled with minute red spots and larger patches of dull red or maroon; flesh pale amber color, tender and juicy, very sweet and high flavored.

ELKHORN. Downer.

BLACK OX HEART.

A large cherry ripening between the Black Heart and the latest varieties; its flesh remarkably hard and very peculiar; and though not high flavored, it is supposed by some, that from its solid consistence, it may be profitably cultivated, to be transported from a distance, to market. Mr Prince has stated that he brought this fruit to New York from Maryland, and considers it on many accounts a valuable fruit.

ELTON. Mr Knight. Hooker's Pom. Lond. Pl. vii.

Raised by Mr Knight from the seed of the Bigarreau and pollen of the White Heart. The tree is very vigor-

ous, and very productive. The fruit is pretty large, heart-shaped; pale glossy yellow in the shade, but marbled with bright red next the sun; stalk slender, two inches long; flesh firm, sweet and rich. Very early. Sent in 1823, by Mr Knight to the Hon. John Lowell.

FLORENCE. Hort. Trans. vol. II. p. 229.

Large, heart shaped, depressed; of a yellow amber color, marbled with bright red in the shade; bright red next the sun; tolerably firm, juicy, rich and sweet. A beautiful cherry introduced by Mr Houblon, from Florence.

GASCOIGN'S BLEEDING HEART. Forsyth. Lindley.

Large, oblong, or heart-shaped, of a dark red color; its flesh pretty firm, of a pleasant and fine flavor. July.

GRIDLEY.

APPLE CHERRY.

This native fruit originated on the farm of Deacon Samuel Gridley, of Roxbury, near Boston. The tree grows upright, is vigorous and productive. The fruit is of the size of a Black Heart, and of a black color; the flesh is firm, like the Bigarreau class, and of a fine flavor. It comes to maturity soon after the early cherries are gone, and is much esteemed by those who cultivate it for the market, for its good qualities and abundant produce; but from its solid consistence it is liable when at maturity, to crack in rainy weather.

HARRISON HEART. For. Lindley.

A large heart-shaped cherry, yellowish or amber color; but light red next the sun; flesh tender and high flavored. This variety is ripe early in July. Said to have been introduced into England by Gov. Harrison, from the East Indies.

HEREFORDSHIRE BLACK. R. M., Esq.**LATE BLACK HEART.**

Large, black, and heart-shaped; a most excellent cherry, and a great bearer, and more valuable for ripening late, when most varieties are gone.

MAZZARD CHERRY.

The trees vary in their forms; they are generally tall and very upright and productive — calculated for shades. The fruit varies in color from white to black; equally so in size and form; its flesh is generally soft, juicy, pleasant and often excellent.

REMINGTON WHITE HEART.

A moderate sized cherry, of moderate flavor. Chiefly valuable for its very late maturity. Said to have originated in Rhode Island.

WATERLOO. Hort. Trans.

A large, round, dark red fruit, inclining to black at maturity. The flesh is firm and of an excellent flavor. Raised by a daughter of Mr Knight, and so named from its perfecting its first fruit soon after the battle of Waterloo. The tree is of strong but irregular growth. This fruit was sent by Mr Knight, in 1823, to Hon. John Lowell.

WHITE OXHEART. R. M., Esq.**TRADESCANT, of Cox.**

A large heart-shaped cherry, but bright red or amber color next the sun; flesh remarkably firm, the flavor excellent; it ripens early in July and the tree is an indifferent bearer.

WHITE TARTAREAN.**TRANSPARENT, WHITE TRANSPARENT CRIMEA.**

A beautiful cherry, pale yellow, approaching to an am-

ber next the sun ; a much admired fruit of excellent flavor ; a good bearer, ripening early in July. This tree grows vigorous and upright ; it is thus readily distinguished from a former and abandoned variety of the same name.

CLASS II.

DUKE CHERRIES, MORILLOS, &c.

ARCHDUKE. R. M., Esq.

GRIOTTE DE PORTUGAL, Duh.

PORTUGAL DUKE, of the Pom. Franc. according to Lindley.

A large globular red cherry ; like the May Duke it grows in clusters ; but the tree grows more vigorous than that variety. An excellent cherry and a great bearer ripening in July.

BELLE DE CHOISY. Pom. Mag.

DOUCETTE, CERISE DE PALEMBRE.

A middle sized roundish fruit ; growing in pairs on a forked stalk. Skin transparent, red, mottled with amber ; flesh amber colored, tender and sweet ; ripe rather before the May Duke ; it bears well as a standard and is very deserving of cultivation. (*Pom. Mag.*) The Bon Jardinier describes it as *very large* ; of a beautiful red color and excellent flavor ; *not very productive.*'

BELLE ET MAGNIFIQUE.

Specimens of this fine cherry were exhibited by Hon. H. A. S. Dearborn, President of the Mass. Hort. Soc., July 24, 1830. The tree is very vigorous and productive. The fruit was judged 'truly magnificent' in its appear-

ance; its color red mottled with white spots; a valuable fruit from its late maturity.

CERISIER DU NORD. Bon Jard. p. 315.

Very late; good for ratafia and for preserves. A variety of the Duke.

CERISE DE VILLENNES. D.

GROTTIER DE VILLENNES, Nouv. Cours Comp. d'Agr.

A very large fruit, of a beautiful color, and very agreeable flavor. It ripens late and the tree is not very productive.

DEARBORN'S RED FRENCH.

The adopted name for a cherry imported from France by the Hon. H. A. S. Dearborn, name lost. A large red cherry highly spoken of by the Mass. Hort. Soc. The tree is of the Duke species.

GERMAN DUKE.

GRIOTTE D'ALEMAGNE, Nouv. Cours Complet d'Agr.
DE CHAUX, DU COMTE DE SAINT MAUR. Ib.

Equally as large as the Archduke; almost as black; flesh deep red, and very acid. It ripens the middle of July. The tree is of middle size and not very productive.

GRIOTTIER A FEUILLES DE PECHER. Nouv.
Cours Complet d'Agr. vol. XII. p. 579.

PEACH LEAVED, BALSAMINE LEAVED OR WILLOW
LEAVED.

Fruit large or small. It is only remarkable for the singularity of its leaf.

GRIOTTIER D'HOLLANDE. Cours Complet d'Agr.
vol. III. p. 575.

The largest of all the Griottiers; nearly globular, of a

very beautiful red color; flesh fine, reddish white, very agreeable. It ripens the middle of June. The flowers are large but liable to prove abortive.

LATE DUKE. R. M., Esq.

JUNE DUKE, of COXE.

A cherry of large size; flesh very rich; it ripens the first of July and lasts long on the tree, improving in its flavor. The tree is of vigorous growth and an abundant bearer.

MAY DUKE.

A large globular red cherry, usually growing in clusters. At maturity the flesh is tender, juicy, of an agreeable but acid flavor. This sort is usually gathered in June and while it is yet sour, and immature, for the markets, being one of the earliest varieties. The tree is of very moderate vigor, and compact in its form.

MONTMORENCY. Bon Jard.

CERESIER DE MONTMORENCY A GROS FRUIT. Bon Jard.
LONG STEM MONTMORENCY.

Fruit large, flattened at its extremities, of a lively red color; flesh of a yellowish white, slightly acid and excellent. The tree is not very productive, it ripens in July. The Short Stem Montmorency, or Gros Gobet, is a fruit of less size, and the tree less vigorous.

MORELLO.

MILAN, Lang. CERISE DU NORD OF NOISETTE, according to Lindley's Guide.

Middle sized, round; nearly black when at maturity; tender, juicy, of an agreeable flavor, in which much acid

predominates. July. This fruit is used for preserving and a single tree is enough for a family.

PLUMSTONE MORILLO.

A tree of moderate size of the Duke or Kentish species. A very large, dark, round cherry, nearly black, of a rich, acid flavor; and deemed superior to all European Morillos. The stone is very large and resembles that of a plum. A native fruit from Virginia, introduced by Wm. Prince, Esq. of the Linnæan Botanic Garden, Flushing, N. Y.

ORNAMENTAL VARIETIES.

LARGE DOUBLE FLOWERING.

The tree is of vigorous and upright growth; its flowers are very large and beautiful; resembling clusters of small roses. The appearance of the tree when in full blossom is striking, and highly ornamental. The tree belongs to the first class.

SMALL DOUBLE FLOWERING.

The tree is of slow dwarfish growth; its leaves are small dark green; a variety of the Kentish; its blossoms however are not less beautiful than the preceding. The tree is of the second class.

TOBACCO LEAF.

BIGARREAUTIER A FEUILLES DE TABAC. Bon Jard. 1828.

CERISIER DE 4 A LA LIVRE, FOUR TO THE POUND.

Small, pale red fruit of indifferent flavor; a poor bearer. The growth of this tree is strong, but crooked, its leaves of enormous size; it is said to have received its name from the supposition that its fruit would prove equally large in proportion to its leaf; cultivated only as a curiosity. The tree belongs to the first class.

VIRGINIA BIRD CHERRY.

A native; it is found growing wild in the forests and pastures, and is a distinct species from any others here described. The trees grow large and the fruit is produced in clusters like currants; it is very small, of a pleasant sweet, a little bitter, and very astringent taste. This variety is one of the most esteemed of all for brandy.

WEEPING CHERRY.

CERISIER DE SIBERIE. N. Duh. Pl. xxxv.

This beautiful tree is of low growth, its branches slender and drooping; its leaves are very small, oblong and acutely pointed; they are of a deep shining green above, and of a pale shining green below. Its fruit is small and numerous, of a bright red color and extremely acid. This highly ornamental tree is generally inoculated at an elevated height on the Mazzard cherry.

 C H E R R Y . (*Cerasus*).

The native country of the cherry has been assigned to Asia. It was brought to Rome before the Christian era, by Lucullus, from a town in Pontus called Cerasus, hence its name.

USES. — The cherry is a highly esteemed summer desert fruit. It is also extensively used in cookery, in pies, tarts, &c. From the juice a fine wine may be prepared, and from the fermented pulp, a spirit is distilled. The Mazzard cherries, the Morillos, and the fruit of the Virginia cherry are steeped in brandy or rum, to improve its quality and flavor. The gum which exudes from the cherry tree, is stated to be in every respect equal to gum arabic, and is so extraordinarily nutritive, that according to Hasselquist, more than a hundred men were kept alive during a siege

of nearly two months, with no other sustenance than a little of this gum gradually dissolved in the mouth. The wood of the cherry tree is hard and tough, and is much used by the turner and cabinet maker; especially the Virginia cherry, which is capable of receiving a fine polish, and has reddish streaks resembling mahogany. The bark of this last species, according to Dr Mease (*Dom. Ency.*) is powerfully tonic and has frequently been substituted with success for the Peruvian Bark. The bark of the roots is more powerful.

SOIL AND CULTIVATION. — The stones of the cherry are sown in autumn, in a rich, well prepared soil. The second year they are transplanted to nursery rows four feet asunder, and at a foot distance from each other in the row. They are inoculated the third year. The best soil, is a rich, dry, sandy loam, and an elevated situation. A cold, clayey, moist soil, does not suit them. If the tree grows in suitable form, pruning is neither much practised or recommended.

MULBERRY. (*Morus.*)

BLACK MULBERRY.

MORUS NIGRA.

This tree is a native of Asia Minor. It rises from twentyfive to thirty feet. The leaves are large and rugged. Its fruit is aromatic, juicy, subacid and good. An agreeable wine is made from its juice.

RED MULBERRY.

MORUS RUBRA.

A native of America. The tree rises to the height of

from thirty to forty feet; the leaves are large, dark green, rugged. The fruit is of a very deep red color and excellent. This variety is esteemed superior to the Black Mulberry as a fruit, and the tree is more hardy.

WHITE ITALIAN MULBERRY.

MORUS ALBA.

A native of China. It is a tree of rapid growth, and extensively known for the uses of its leaf for the food of silk-worms. Its fruit is white, very insipid and worthless.

JAPAN PAPER MULBERRY.

BROUSSONETIA PAPHYRIFERA.

The tree rises to a large size, with a round head; the leaves are rough, either cordate, entire, or divided into two or three lobes. It is a native of China or Japan, and from its inner bark, paper is made in those countries. The fruit is round and curious. The trees are male and female; they are of rapid growth, and ornamental.

SOIL, CULTIVATION, &c. — These varieties of mulberry will flourish in almost any soil, but grow most luxuriantly in a deep sandy loam, rather in a humid than dry soil. They are propagated by seeds or by layers, and sometimes by cuttings. The seeds are obtained by washing the bruised pulp of thoroughly ripe fruit; they are carefully dried, and sown early in April like carrots, in a rich soil, and covered to the depth of half an inch with loam, and pressed down compactly. The second year they are transplanted to nursery rows.

DANDOLO OR MORETTI MULBERRY. Dr Fontaneilles.

A new and most valuable species of mulberry for the nourishment of the silk worm. It was first discovered about 1815, by M. Moretti, Professor in the University of Pavia, and from a single young tree he had in 1826, multiplied them to 120,000. The tree is presumed to be hardy; the fruit which is at first violet, becomes at maturity perfectly black. The leaf is ovate, sharp pointed, entire, cordate at the base. It is thin, smooth on the under and especially on the upper surface, which is of a beautiful and rather deep shining green; it is not near so thick as that of the large white mulberry, called in France, the *Admirable*, and is thinner than those of the Spanish mulberry, (*Morus Nigra*.) It is neither wrinkled or plaited. It is in general nearly eight inches wide, and ten inches long. This mulberry will be most profitably cultivated in the form of a hedge, and from the superior size of the leaf, they are gathered with the greatest facility. Its superior quality has been proved by the experiments of M. Gera and the Count Dandolo, who assert, that they produce silk of a more beautiful gloss and of finer quality than common silk. (See the whole article inserted by the Hon. H. A. S. Dearborn, in the *New England Farmer*, vol. 8, No. 29. It is from the *Annales d'Horticulture*, and is extracted from the Report of Dr Fontaneilles, on a letter published by M. Gera, in 1826, in the *Journal of Physics and of Chemistry of Pavia*.)

MORUS MULTICAULIS, or *Many Stalked Mulberry*.

TRUE CHINESE MULBERRY, *Morus Alba Sinensis*.
PERROTTET MULBERRY.

[For no inconsiderable portion of the following interesting particulars, I am indebted to the researches of the Hon. H. A. S. Dearborn, President of the Massachusetts

Horticultural Society. From the various accounts and extracts inserted by him in the *New England Farmer*, for 1830 and 1831, I have chiefly compiled this account.]

MORUS MULTICAULIS.

A tree of ornament from China — A fruit tree — a new and most valuable species of Mulberry, for the nourishment of the silk worm, which is represented, as possessing such decided superiority over all others, as to be speedily substituted for them in every region of the globe.

This tree has not yet to my knowledge borne fruit in America. It was even unknown in Europe as a fruit tree, till in 1830, for the first time, it produced its fruit in France. The fruit, according to M. Audibert, was produced in great abundance; it was long, black, and of sufficiently beautiful appearance; its taste very good, having a taste intermediate between the red and black mulberry. The tree is very vigorous and upright in its growth. The leaves, in a light, friable, rich, and humid soil, are large and cordiform, but in a dry and arid soil, they are of less size, elliptical, and without the heart-shaped indentation; their breadth is stated to be six inches, and their length eight; but in rich soils they are sometimes eight inches in breadth, and ten in length, or even more. They are curled or convex on their surface, of a deep shining green, and eminently beautiful.

Some account of this plant so lately introduced to France and to Europe, is contained in the *Silk Culturist*, No. 2, a valuable work, published by Dr Felix Pascalis, of New York. It is contained in a letter to the author from Havre, and is as follows.

‘ Samuel Perrottet, a member of the Linnæan Society of Paris, employed by Government as a travelling Botanist, returned to this port after a voyage of thirtyfour months. He brought with him, eightyfour boxes of various dimensions, containing one hundred and fiftyeight species of living plants, to the number of five hundred and thirtyfour individuals. All these productions had been procured in the seas of Asia, or gathered on the coast or in the lands of Cayenne. From the commencement of the present century, there had never before been so vast an importation; one so extensive in number, for rare genera, species, and families, and vegetable productions, or their seeds. All of them passed under my examination, and they rather appeared to have come out of a green house than from a ship.

‘ In this immense collection was the *Morus Multicaulis*, thus called by Perrottet; for the first time ascertained to be the real Chinese Mulberry, *Morus Alba Sinensis*, of which every silk grower and culturist should endeavor to multiply the species. It has been deposited in the Royal Garden. Monsieur Perrottet says that it grows with many shoots from the roots, with tender

stems, and large foliage, of a much more nourishing nature than the European mulberry.

‘Chinese inhabitants assured him, that to this tree, the disciples of Confucius are indebted for the prosperity and solidity of their empire.

‘The *Morus Multicaulis* is already propagating in France and probably will be substituted and preferred to all the other varieties. Among the other qualities of the plant, it is affirmed in China, that a less quantity of this foliage is required for the precious insects, than of that which we are obliged to provide for them. Monsieur P. has left the tree in Cayenne, where it is now flourishing in dry and barren soils.’

Remarks on the culture and uses of the Morus Multicaulis by M. Perrottet, Agricultural Botanist, and Traveller of the Marine and Colonies — From the ‘Annales of Fromont.’

‘The *Morus Multicaulis*, which we noticed for the first time in the *Annales de la Societe Linneenne de Paris* for 1824, appears to have originated in the elevated regions of China; from whence it has been disseminated throughout the low plains near the sea shore. It is believed it is cultivated in all parts of that vast empire, where the education of the silk worms is an object of commercial importance. From Canton it was introduced into Manilla and all the Islands in the Asiatic Archipelago, where it was only cultivated for ornamenting gardens. The Chinese are entitled to the credit of this introduction, who in emigrating from their country have from motives of industry, endeavored to multiply it, that they might render it useful to them, in the new country of their adoption.

‘The fortunate discovery of this precious shrub occurred in the garden of a Chinese cultivator at Manilla, who, after having informed us of its properties, and the important purpose for which it was used in his own country, yielded to our solicitations and sold us two bushes for ten Spanish piastres, assuring us that he had introduced it into Manilla, where it had been considerably extended.

‘In August we brought it from Manilla, the capital of the Phillippine Islands, and first introduced it into the Isle of Bourbon, from thence into Cayenne and France. At a later period it was sent from Cayenne to Martinique, and from France to Guadeloupe, and also to Senegal, where it has been considerably multiplied. The numerous plants which are already disseminated in the divers climates of Africa, America, and Europe have been all produced from the two individuals, which we procured at Manilla.

* * * ‘Among the number of mulberries, now cultivated by the Chinese, for the education of silk worms, the *Morus Multicaulis* appears to be the most esteemed of all, not only for the facility with which it is propagated and grows, but still more

for the essentially nutritive property which the leaves possess. We have been enabled to verify this important fact during the five years which we passed in Senegal. * * * The characters which essentially distinguish this mulberry from the other varieties, are those which result, 1st, from the remarkable property which the roots possess of throwing up numerous small flexible stalks, without forming a principal trunk; 2d, from the great length which these stalks assume in a very short time; 3d, from the remarkable development which the thin, tender, and soft leaves speedily acquire, and the promptitude with which they are renewed. * * * and 4th and lastly, from the extraordinary facility with which the stalks and branches strike root, as cuttings, without particular care, even before they have acquired a ligneous consistence.

* * * ' Besides the advantages which we have already named, we may still add, that they are admirably calculated for forming regular plantations; it not being natural to grow tall or form any trunk properly so called; they can be placed very near without an injurious effect; and by heading down the stalks annually near the ground, a rich vegetation is produced, with a complete development of vigorous branches and leaves; and finally it is easy to multiply them by thousands from the roots in the course of a year, and to form vast and regular plantations of them the second. But a few years then are sufficient to obtain considerable fields of them in full vigor, sufficient to support an immense quantity of silk worms, and that with the greatest facility, as they are reproduced in a manner almost indefinite. * * * Regular plantations of it can be found without difficulty, by planting the shrubs at a distance of six or eight feet from each other, a space sufficient for the extension of the branches, to facilitate the culture and for collecting the leaves. This last operation is so much facilitated by the flexibility of the stalks, that a child is sufficient for furnishing the food of a large establishment of silk worms.

CLIMATE, SOIL, &c. — * * * ' This species will be readily acclimated in Europe; because it originated in an analogous region as to climate, to that which we inhabit. It appears not to suffer from the excessive cold of the northern, or the intense heat of the intertropical regions; for the plants deposited in the gardens of the government at Cayenne, acquired in the space of eight months a truly remarkable development, and at the time of our departure from that colony, in June, 1821, they were clothed with leaves of an extraordinary size. Those also which we cultivated at Senegal, although situated under a dry and scorching sky, and planted in an arid soil, offered an appearance sufficiently satisfactory, but they had acquired less development in all respects, than those which have vegetated under the humid climate of Guiana. It appears expedient then, that plantations

of this mulberry should be made upon a humid rather than a dry soil, to obtain in all respects a satisfactory result.

* * * * ' Besides, this mulberry braves the most vigorous winters. We saw on our arrival at Havre, in July last, in the field of M. A. Eyries, plants, which had endured, in the open ground, the winter of 1828, and which appeared vigorous and beautiful. — Thus far M. Perrottet.

On this last and other points, let us now hear the testimony of M. Poiteau in the *Annales d'Horticulture*, 1830.

' By the information which we receive from all quarters, it appears, that this mulberry is destined to replace the common white mulberry, everywhere, for nourishing silk worms; its property of continuing low and bushy, so that the leaves can always be gathered without a ladder; and the large size, abundance, and tenderness of the leaves, cannot fail to give it a decided preference. It has been sufficiently ascertained, that they are eaten with avidity by the silk worms, and that the silk which they form is of the first quality. This mulberry has not suffered in the least from the rigors of the last severe winter.

' The zealous traveller, who has given to France, America, and Africa, this precious plant, has acquired a just claim to public gratitude, and it is not only easy, but proper, to give him at this time a proof of it, by affixing his name to the tree which has given him celebrity, and which will contribute so much to the prosperity of French industry. * * * ' *Note to the Perrottet Mulberry (Morus Multicaulis).*

M. Audibert is also decidedly of the opinion that the best mode of cultivating the *Morus Multicaulis*, for the support of silk worms, is in hedges with low stocks. M. Barthere of Toulouse in the South of France, who has considerably extended their cultivation, fully coincides in the same opinion; and is confident that in grounds and vineyards which could hardly give two per cent, this tree will now insure ten per cent.

This tree, according to M. Perrottet and Dr Deslongchamps, is easily propagated either by layers, by cuttings, or even by cuttings of a single eye, placed beneath the surface and shaded from the noonday sun.

The experiments instituted at Paris by Dr Deslongchamps, have confirmed all that had been previously asserted respecting the quality of the silk produced by this plant; he has further stated that the cocoons, made by the worms fed only on this plant, are even rather heavier.

Dr Felix Pascalis in an article in Silliman's Journal of Science for July, 1830, after informing us that in the preceding March he had received two plants of this mulberry from France, has added — ' After the discovery of this plant, a doubt no longer exists, that two crops of silk may be raised in a single season.'

At Madam Parmentier's Horticultural establishment, two crops of silk were produced in the summer of 1832. — The first were fed promiscuously on the *Morus Multicaulis*, *Morus Alba*, and other mulberries. The cocoons thus produced were about two thirds white and the remainder of an orange color. A suitable portion of these cocoons were collected for seed, having no regard to color: — These being subjected to the hatching process, produced a second crop the 30th July. These last were fed exclusively on the *Morus Multicaulis*: they passed through the different stages of their larva existence in the short space of 26 days. The cocoons which were obtained from this second crop were of a *much larger size* than those of the first crop, but what is of still more consequence *they were of the whiteness of snow, and have a most beautiful shining appearance.* (See New England Farmer, vol. xi. No. ii.) At Madam Parmentier's in 1831, I witnessed the silk worms feeding with avidity on the leaves of the *Morus Multicaulis*, and was informed that they had left eleven other species of mulberries to feed on this. At that place we are also informed, the *Morus Multicaulis* has withstood the rigors of the last six winters uninjured and unprotected. Although being possessed of an active and prolonged vegetation, it is not to be expected that the unripened wood of the tender tips, should always escape.

I introduced this plant to Massachusetts in the spring of 1831, from the Messrs Prince of the Linnæan Botanic Garden, Flushing; I also received plants of the same from Madame Parmentier's of Brooklyn, L. I. and I have also received them from France from M. Andre Michaux, author of the *American Sylva*.

C U R R A N T . (*Ribes* .)

THE currant is said to be a native of the north of Europe. The white currant is stated to be but a variety of the red produced by cultivation. The black is a distinct species; of this we have an American variety.

USES. The red currant is used as a dessert fruit, as it possesses a pleasant acid taste; it is also used in pies, tarts, preserves, jellies, &c. Currant wine is made by adding to

the expressed juice of fifty pounds of ripe currants, seven gallons of water and thirtythree pounds of good dry Havana sugar. This liquor is put into good casks which must never be quite filled, as the pulp must never be suffered to work out, as its presence is essential to the goodness of the liquor. The bung is left out fortyeight hours, then laid on loosely a fortnight, then driven tight, and in five months it will be fine and fit for use. The first young leaves of the common currant bush, gathered as soon as they put out, and dried on tin, can hardly be distinguished it is said, from green tea. From the black currant a jelly is made, of considerable medicinal efficacy; a wine is also made from them, reputed to possess far superior medicinal virtues to Port wine. This and the jelly have been highly recommended for disorders of the throat; and as necessary articles in the stores of ships sailing to the East Indies. A liquor is prepared from the black currant which Mr Forsyth states is possessed of great medicinal efficacy in obstinate coughs, &c. The currants for this purpose are bruised, and being placed in a jar, whiskey or any other species of alcohol is poured over them, the jar is then covered close for a fortnight; after this the liquor is strained and bottled. We are also informed that a small leaf of the black currant gathered in spring and laid for a few minutes in an infusion of Bohea tea, communicates its flavor, which has been compared to that of green tea.

VARIETIES.

BLACK ENGLISH.

The berries are of large size and the trees are very productive.

AMERICAN BLACK CURRANT.

This possesses similar qualities to the preceding, but it is not so highly esteemed.

BLACK NAPLES.

This is a new variety, highly recommended.

CHAMPAGNE.

The fruit of this variety is pale red.

LARGE RED, OR RED DUTCH.

The growth is strong and upright, the berries large, it is extraordinarily productive and good.

LARGE WHITE OR SPANISH IMPERIAL. LARGE DUTCH WHITE.

The young wood grows upright. The berries and clusters are very large, of a yellowish white color, and excellent quality; it is extraordinarily productive. The branches of the bearing wood trail beneath the weight of their fruit.

JEFFERSON OR MISSOURI FRAGRANT CURRANT.

This variety is very distinct from the other kinds. Its growth is tall; its berries are very few, are black, and of ordinary quality; its flowers are in clusters of a yellow color, and extraordinary fragrance.

CULTIVATION, SOIL, &c.

The currant requires a rich soil, its cultivation is similar to that of the gooseberry which see.

PRUNING. — ‘Mr Macdonald’ [Edin. Ency. vol. x. p. 576.] ‘raises currants both red and white of the finest quality. He prunes the bushes at the usual season in midwinter, shortening the last year’s shoots to an inch or an inch and a half. Next summer the plants show plenty of fruit and at the same time throw out strong shoots. As soon as the berries begin to color, he cuts off the summer shoots to within five or six inches above the fruit. This is commonly done with garden shears, with which a man may go over half an acre of bushes in a day. Sun and air thus get free access, and more of the vigor of the plant is directed to the fruit; the berries are found not only to be of higher flavor, but larger than usual. Mr A. D. Williams of Roxbury, practises winter pruning on perfectly similar principles, and with the most decisive results.’

GOOSEBERRY. (*Ribes Uva-crispa.*)

A NATIVE of America and of Europe. A low branching prickly shrub; a fruit wonderfully improved by cultivation. According to Loudon it is found wild in Piedmont where it is eatable, but astringent and neglected. In Italy and Spain scarcely known, and little esteemed in France. 'A moderate temperature and humid climate seems best to suit the fruit.' Cultivated in greater perfection in Lancashire than any other part of the world. But Neill observes, 'It must be admitted that although the largest gooseberries make a fine appearance on the table, they are deficient in flavor, or their skins are thick and strong compared with some of smaller size.' Some large kinds, however, are of good quality.

USES. The gooseberry is considered an excellent dessert fruit either raw or preserved in sugar; and very valuable fruit for pies, tarts, sauces, &c. In cool cellars they may be preserved for winter use, in bottles filled first with gooseberries and then with water, and closely corked and sealed. But by plunging the bottles in cold water which is to be heated gradually to the boiling point, they are said to keep better.

According to Phillips, wine made from green gooseberries is but a shade inferior to champagne; and the ripe black gooseberry affords a luscious wine. Phillips asserts that fields might be covered with this fruit for the making of wine, as profitably, as the vineyards of the South.

VARIETIES, (*chiefly from Lindley.*)

The following varieties from Lindley, the Pomological

Magazine and Mr Hooker, are recommended by them as the best selection from many hundred varieties.

RED.

CAPPER'S TOP SAWYER. 24 dwts.

Branches somewhat drooping; fruit late, very large, oblong, pale red, hairy near the base; very excellent.

CHAMPAGNE.

Branches erect; fruit late, middle sized, somewhat oblong, dark red, hairy; most excellent.

FARMER'S ROARING LION. 31 dwts. 16 grs.

Branches somewhat drooping; fruit late, very large, oblong, dull red, smooth; the largest of all the gooseberries.

KNIGHT'S MARQUIS OF STAFFORD.

Branches somewhat erect; fruit late, large, roundish oblong, bright red, hairy, excellent.

MELLING'S CROWN BOB. 22 dwts.

Branches drooping; fruit rather late, large, oblong, bright red, hairy; very good.

OLD ROUGH RED.

Branches somewhat drooping; fruit small, round, dark red, very hairy; most excellent for preserving as gooseberry jam, and best for bottling when green.

WILMOT'S EARLY RED. Hooker's Pom. Lond.

One of the very best of all gooseberries and is cultivated by Mr Wilmot to a great extent in his celebrated fruit garden. He prefers it to all others he has seen. He states that it is of large size, very early, of excellent flavor and incredibly productive.

GREEN.

EARLY GREEN HAIRY.

Branches erect ; fruit early, small, round, deep green, hairy ; excellent.

EDWARD'S JOLLY TAR. 19 dwts. 17 grs.

Branches somewhat drooping ; fruit early, of a middle size, roundish oblong, smooth, with yellowish veins.

MASSEY'S HEART OF OAK. 16 dwts.

Branches drooping, fruit rather early, large, oblong, smooth, with pale yellow veins ; excellent.

NIXON'S GREEN MYRTLE.

Branches somewhat drooping ; fruit late, large, oblong, smooth, tapering to the base, pale green.

PARKINSON'S LAUREL. 17 dwts. 18 grs.

Branches erect ; fruit rather late, large, roundish, oblong, pale green, very downy.

WAINWRIGHT'S OCEAN. 20 dwts. 8 grs.

Branches drooping ; fruit early, large, oblong, or ovate, smooth ; the largest of this color.

WHITE.

CLEWORTH'S WHITE LION. 19 dwts. 9 grs.

Branches somewhat drooping ; fruit late, roundish oblong, slightly hairy, sometimes nearly smooth.

CROMPTON'S SHEBA QUEEN. 18 dwts.

Branches somewhat erect ; fruit early, pretty large, roundish-oblong, downy ; excellent.

MOORE'S WHITE BEAR.

Branches somewhat erect ; fruit early, large, roundish, oblong, hairy, or somewhat bristly.

SAUNDER'S CHESHIRE LASS. 20 dwts.

Branches erect ; fruit very early, large, oblong, downy ; excellent for tarts early in the spring, when few are ready for that purpose.

WELLINGTON'S GLORY. 23 dwts. 14 grs.

Branches erect ; fruit pretty early, large, somewhat ovate, very downy ; excellent.

WOODWARD'S WHITESMITH. 16 dwts. 7 grs.

Branches erect ; fruit pretty early, large, roundish oblong, brownish when exposed, very downy ; very excellent, and more in esteem than any other gooseberry of this color.

YELLOW.

DIXON'S GOLDEN YELLOW.

Branches drooping ; fruit early, pretty large, roundish oblong, greenish yellow, smooth.

GORDON'S VIPER. 24 dwts. 17 grs.

Branches drooping ; fruit early, large, somewhat turbinate, greenish yellow, smooth.

HAMLET'S KILTON.

Branches somewhat drooping ; fruit early, large, roundish oblong, bright greenish yellow, slightly hairy.

HARDCASTLE'S GUNNER. 27 dwts. 1 gr.

Branches somewhat erect ; fruit rather late, large, obovate, with large veins, hairy or bristly.

HILL'S GOLDEN GOURD.

Branches somewhat drooping ; fruit very early, large, oblong, greenish yellow, slightly hairy ; very excellent.

PROPHET'S ROCKWOOD. 23 dwts. 4 grs.

Branches erect ; fruit very early, large, roundish oblong, dark yellow, slightly hairy.

Other varieties recommended in the Pom. Mag.

RED. — *Boardman's British Crown*, large. — *Red Warrington*, large, late. — *Red Champagne*, small. — *Early Black*, small.

WHITE. — *White Crystal*, small. — *White Champagne* small.

GREEN. — *Pitmaston Green Gage*, small.

YELLOW — *Haywood's Invincible*, large. — *Yellow Champagne*, small. — *Rumbullion*, small.

CULTIVATION, SOIL, &c.

Gooseberries require a very rich soil; and in an airy situation or shade they are but little liable to mildew. They are raised from cuttings planted very early in April, in a moist soil; every eye should be cut out except the two uppermost above the surface. In autumn cut off the lower shoot very close; and shorten down the one left to six or nine inches. The bushes must be so managed as to be furnished with limbs diverging in every direction, continually increasing in number as they advance from the centre. With this object in view, the young leading shoots of the last year are annually cut back to six or nine inches, and a proportion of the others are cut quite close. Thus the bushes will continue extending, every part being duly filled with bearing wood; sufficient spaces being left to admit the sun and a free circulation of air. The largest prize gooseberries are said to be raised on vigorous young bushes, which have not more than five or six branches, and but one, two, or at most three berries on a branch.

GRAPE VINE. (*Vitis vinifera*.)

THE vine is a native of the temperate regions. It is cultivated most extensively for wine, in every part of Europe favorable to its growth, from the Mediter-

ranean Sea and its Islands, to the latitude of 49°; and even farther north, in the interior. Also in South Africa, and the African Isles, and in Greece. It is also cultivated in Barbary, Egypt, and every part of Asia where the climate is suitable; but not so much for wine, its use being forbidden to the disciples of Mohammed. It does not flourish within the tropics; it may indeed grow there, but produces very little fruit, except in the mountainous elevations.

USES. — The grape has been esteemed in all ages a delicious and wholesome dessert fruit. They are also used for pies, tarts, preserves, &c.

Raisins are the matured fruit of the grape, either dried in an oven, or what is the more common, if not the preferable mode, is the following. The clusters, without being separated from the branches, are dipped in a ley of wood ashes, containing a small portion of sweet oil, and then dried by exposure to the sun. The best kind are thus prepared. Raisins are deemed a wholesome and nutritious food when eaten in moderation. They are extensively used, both for the dessert and in cookery. Raisins make good wine. Lastly, the grape is most extensively cultivated for the same purpose.

The vine is extremely long lived. It has been stated that some have lived six hundred years — also that there are vineyards in Italy, which have flourished three hundred years; and Bosc states, that there are vines in Burgundy, four hundred years old. In America they ascend to the tops of the highest trees of the forest. Vine timber is further stated to be extremely valuable, and of great durability, and is used for furniture, statues, &c. The great doors of the cathedral of Ravenna, according to Phillips, are made of vine-tree planks, some of them twelve feet long, and fifteen inches broad.

VARIETIES.

In the arrangement of grapes, I have divided the whole into four sections.

Section I. Those called Chasselas grapes; these are early.

Section II. Those called Muscats, or Frontignacs. The Muscats are more tardy in ripening than the Chasselas grapes.

Section III. Other highly approved foreign varieties.

Section IV. American grapes.

SECTION I.

CHASSELAS GRAPES.

The Chasselas grapes are in high estimation at Paris, and in the north of France, as well for their excellent quality, as for their early maturity.

WHITE CHASSELAS. Neill.

ROYAL MUSCADINE, D'ARBORIE, Ib. For. Lindley.

CHASSELAS DE FONTAINBLEAU, Bon Jard.

SWEET WATER, according to some good authority.

The wood grows pretty strong; the bunches are large and shouldered; the berries are large, round, greenish yellow, golden or amber colored at maturity; the flesh is juicy, rich, vinous, and excellent; a capital and very productive variety. At Paris it is generally cultivated on walls; near Boston it is considered one of the very best for our climate; ripening well its fruit in open culture, in favorable seasons and situations. A gentleman here of great experience and observation, is confident, that the Sweet Water, and the Chasselas de Fontainbleau, are but one and the same; and that the difference which they sometimes assume, is owing to no other causes, than a difference of exposition.

GOLDEN CHASSELAS.

CHASSELAS DORÉ, BAR SUR AUBE, Duh. Bon Jard.

RAISIN DE CHAMPAGNE, Bon Jard. p. 366.

YELLOW CHASSELAS OF THOMERY.

The wood of this fine variety is of medium vigor, the joints short; by this it is distinguished from the White Chasselas. It is also a fortnight earlier than that variety, but is not so exuberantly productive. The bunches are large; the berries large and round, of a yellow amber or gold color, melting, pleasant, sweet and excellent. The bunches of this variety are somewhat peculiar, having mostly quite large berries, intermixed with some few of small size on the same bunch. This fine variety has been introduced by S. G. Perkins, Esq. and produces good crops in open culture in warm expositions. The *Chasselas doré, bar sur aube*, of the Old Duhamel and the Bon Jardinier, must not be confounded with the *White Chasselas*, or *Chasselas de Fontainebleau*.

BLACK CHASSELAS. Lindley.

CHASSELAS NOIR, of the French.

BLACK MUSCADINE, of the English.

The bunches are the size of the White Muscadine; the berries are of a globular form, of a black color, and covered with blue bloom; the flesh is rich and of very good flavor.

MUSK CHASSELAS. Duh. Bon Jard.

CHASSELAS MUSQUE, Bon Jard. Duh.

The bunches are of medium size; the berries are round and of moderate size, of a green or greenish yellow; the pulp is sweet, high flavored and musky; this variety is rather later than the Golden and White Chasselas.

RED CHASSELAS. Bon Jard. For. Lindley.

CHASSELAS ROUGE, Bon Jard. of the French.

RED MUSCADINE, of some English authors.

The bunches are of medium size, not very compact; the

berries smaller than the White Chasselas, of a dark red color, sweet and of good flavor — not so early as the White Muscadine.

VARIEGATED CHASSELAS. Neill. Lindley.

A new variety raised by Mr Knight, from the seed of the Chasselas, fertilized by the pollen of the Aleppo. The berries are striped, and very beautiful, with a thin skin, and juicy. The leaves in autumn become variegated with red and yellow; a very productive and hardy variety, ripening well in the open air. Thus has Mr Neill described it; but according to Mr Lindley, the bunches are long, the berries rather small, globular, deep purple next the sun, tender, very saccharine, and of pretty good flavor.

SECTION II.

MUSCATS, OR FRONTIGNACS.

The Muscats or Frontignacs, are highly esteemed for their delicate and delicious musk flavor. They are not quite so early in their season of maturity as the varieties of Chasselas.

BLACK FRONTIGNAC. Forsyth. Lindley.

BLUE FRONTIGNAC, VIOLET FRONTIGNAC, according to Speechly.

MUSCAT NOIR, of the French.

The bunches are rather short, and below medium size, and loosely formed; the berries are of medium size, round, black, and covered with blue bloom; the flavor is vinous, sweet and musky. This is not so highly esteemed at Paris as the White Muscat. It rarely ripens in open culture, either there or near Boston.

RED FRONTIGNAC. Mr Neill.

GRIZZLY FRONTIGNAC, Ib.

MUSCAT ROUGE, Bon Jard.

The bunches are rather large, long, and moderately compact; the berries are pretty large, round, of a red color, and of a high vinous, and musky flavor. This variety ripens earlier than the White Frontignac, and although not so high flavored as that variety, it is more esteemed in France than the Violet and Black Muscats.

RED MUSCAT OF ALEXANDRIA. For. Lindley.

RED FRONTIGNAC OF JERUSALEM, of Miller.

It resembles the White except in regard to color; the bunches are rather large, and shouldered; the berries rather large, oval, of a red color; the skin is thick, the flesh firm, juicy, saccharine, musky, and high flavored. Bradley calls this one of the very best grapes. It is also said to be more esteemed about Paris, than the White Muscat; and there, against good walls, it ripens very well.

WHITE FRONTIGNAC. Mr Neill.

MUSCAT DE FRONTIGNAN, Bon Jard.

MUSCAT BLANC, Ib.

Bunches very long, conical, compact; berries the size of the Chasselas, round, a little elongated, white, but slightly yellow next the sun; pulp white, crackling, of an exquisite sweet and musky flavor. Very productive. Highly esteemed near Boston, where its cultivation is principally confined to vineries, as it seldom comes to maturity in out of door cultivation.

WHITE MUSCAT OF ALEXANDRIA. Mr Neill.

MUSCAT D'ALEXANDRIA BLANC, Bon Jard.

PASSE LONGUE MUSQUE, Ib.

MUSCAT OF JERUSALEM, Miller.

PASSE MUSQUE'E, Hort. Soc. Cat.

Bunches very large, long, irregularly formed; berries

very scattering, large, oval, of an amber color at maturity. The skin is thick; pulp hard, musky, juicy, racy, and high flavored. The berries have one or two seeds or none. Highly esteemed by the English; it is also highly esteemed at Paris; but they consider their climate too cold for all the Muscats. The Muscats are there placed in the angles formed by two walls, one facing east, the other south. In the Catalogue of the London Horticultural Society, the Malaga is put down as a synonyme of this; but I have doubts on the subject.

WHITE MUSCAT OF LUNEL. Speechly.

The bunches are rather large; the berries are large, oval, of a fine amber color, sometimes clouded with russet next the sun. The skin is thin, the flesh delicate, juicy, and vinous. A productive variety.

SECTION III.

OTHER HIGHLY ESTEEMED FOREIGN VARIETIES.

SUBSEC. I. — BLACK, BLUE, AND PURPLE GRAPES.

EARLY BLACK JULY. For. Bon Jard.

MORILLON HATIF, Bon Jard.

PRECOCE DE LA MADELEINE, Ib.

MADELEINE NOIRE, Hort. Soc. Cat.

Bunches small; berries very small, round, blackish violet and covered with bloom; sweet, but possessing little flavor; one of the very earliest of all grapes, and only valuable on this account. There is a white variety, but not of first rate quality.

BLACK CAPE.

Bunches very large and shouldered, sometimes weighing

over two pounds; berries extraordinarily large, oval, and black; and equal in excellence of flavor and quality, to the Black Hamburg in the opinion of good judges. In highly favorable seasons and situations, it ripens its fruit well in the vicinity of Boston. This variety was imported by S. G. Perkins, Esq. from the Cape of Good Hope. This grape is an acquisition to the country. It is a most productive variety; and three vines in open culture have ripened at Mr Perkins's, more than 500 pounds in a single season.

BLACK DAMASCUS. Lindley.

The bunches are middle sized, and loosely formed; the berries are globular and of different sizes; the large berries have two seeds, the small have none; their color is black; flesh delicate, juicy, and of most superior flavor.

BLACK HAMBURGH.

WARNER'S BLACK HAMBURGH, according to Lindley.

The bunches are large, well shouldered and compact; the breadth is nearly equal to the depth; berries large, oval, of a deep purple color or nearly black, and covered with a blue bloom; flesh tender, saccharine, and of excellent flavor; a very productive and excellent variety; a great favorite at Boston, and much cultivated in their grape houses. In favorable seasons and situations it ripens at that place in open culture. The wood of this variety is strong and luxuriant; the clusters of fruit are beautiful, and sometimes weigh two pounds.

BLACK LOMBARDY. Loudon's Mag. Lindley. For.

WEST'S ST PETER'S, Lindley.

The wood is short jointed; the leaves are rather small, deeply serrated, shining beneath, and changing to purple in autumn. The bunches are long and large shouldered;

the berries are large, round, black at maturity; the skin is thin, the pulp juicy and high flavored.

BLACK PRINCE. Neill. Hort. Trans.

The leaves are broad, with deeply divided lobes, widely serrated, their long footstalks tinged with red; they change in autumn to pale red and dark purple. The bunches are very long, sometimes, but rarely shouldered; the berries are oval, dark purple, and covered thick with blue bloom; the flesh is pale, juicy, sweet and well flavored; each usually containing five seeds. This excellent grape, it is stated, sometimes ripens even on the open walls in the south of England; the bunches have sometimes weighed a pound and a half.

BLACK RAISIN GRAPE. Lindley. For.

The bunches are large, long; the largest are shouldered; the berries are large, black, of an oval form; the skin is thick, the flesh is firm, juicy and very high flavored. The wood is long jointed.

BLACK ST PETER'S. Neill.

BLACK GRAPE FROM PALESTINE, Speechly.

The bunches are large, long, sometimes shouldered; it resembles the Black Hamburg, but is longer; the berries are large, roundish oval, of a black color, and thin skin; very juicy, delicate and fine flavored; the wood is very strong. Near Boston, this grape is seldom cultivated, except under glass. It is not here so generally known as the Black Hamburgh.

BLACK SWEET WATER. Speechly.

The bunches are small, short and compact; the berries are small, round, black, with a thin skin; very sweet, with

little perfume. This grape will ripen in open culture, near Boston, in favorable seasons and situations.

BLUE CARTAGER.

A vine of most luxuriant growth; the bunches are of good size; the berries large, of a blue or black color, and good flavor. This variety was imported from Vienna, by Col. Gibbs, of Sunswick, New York, from the Imperial Gardens at Shœnbrun, near Vienna. It is supposed to be one of the most hardy of foreign sorts, and suitable for vineyards.

MILLER'S BURGUNDY.

LE MEUNIER, MORILLON JACONNE'.

The bunches are short and compact; the berries small, round, black, and covered with blue bloom; the flesh is tender, juicy, very sweet, and high flavored; the leaves are covered with hoary down like meal; hence the name of *Miller's Grape*. One of the hardiest varieties, and extensively cultivated in Burgundy for wine; more celebrated for this use than for the dessert.

CONSTANTIA. Mr Perkins.

The wood of this variety is large; the leaves rough and downy; the bunches are of good size; the berries are round, of a purple color, and of a most delicious sweet flavor. It ripens well in the open air in our climate, but only in highly sheltered situations. The berries contain but two seeds, and sometimes but one. This grape was imported by S. G. Perkins, Esq. from the Cape of Good Hope, and is supposed to be one of the most valuable in the country, and remarkably productive.

ESPERIONE. Hort. Trans. vol. III. p. 93.

The bunches are large, the size of the Black Hamburg;

shouldered, pretty compact. The berries are round, or flattened at the head, sometimes with a suture on one side; color deep blue or black and covered with bloom. The flesh adheres to the skin, and though neither melting nor high flavored, is pleasant. The wood is strong and luxuriant, high colored; the buds are large, round and woolly. The Esperione is productive to an extraordinary degree, very hardy, very early, equally so with the Sweetwater and Muscadine; and in unfavorable seasons, has a decisive advantage over these and indeed almost any other hardy grape.

FRANKENTHAL. Lindley.

FRANKENDALE.

The bunches are large and well shouldered, they somewhat resemble the Black Hamburgh. The berries are oval, flattened at the head, indented at the side, of a purple or black color, covered with blue bloom; the flesh is tender, juicy, rich, sweet, and of excellent flavor.

GROS GUILLAUME. N. Duh.

The wood is of medium strength, and of a red color. The bunches very large and compact. The berries are large, oval, black, and covered with azure bloom; the skin is thick, the flesh green, melting, the juice abundant, and without color, pleasant and sweet. It has generally three small seeds. It produces abundantly, ripening the middle of September; in good years it ripens well on espaliers. Its cultivation is not yet extended in the environs of Paris, but it merits to be cultivated for the table.

GROS MAROC.

The bunches are of good size, sometimes very large; the berries are large, oval, of a dark purple or violet color, and covered with bloom; the skin is thick; the flesh juicy

and high flavored. It ripens in open culture near Boston, but only in favorable seasons and situations.

LANGFORD'S INCOMPARABLE. Lindley.

The bunches are of good size, compactly formed and shouldered; the berries are of moderate size; the smallest are round, the largest oval, of a dark purple color, covered with blue bloom. The flesh is tender, juicy, saccharine, and resembles the Miller's Burgundy. Mr Lindley states that a single vine growing at Mr Langfords, produced 225 pounds in a single year; he esteems it the best and most hardy out of door grape known in that country.

REGNER DE NICE.

A large black grape of high reputation, very recently imported by Mr Perkins.

TEINTURIER. N. Duh. p. 150.

ALICANT, Lindley.

BLACK SPANISH, Speechly.

BLACK PORTUGAL, Hort. Soc. Cat.

GROS NOIR D'ESPAGNE, Bradley.

The leaves are small, and deeply divided into five lobes; and in autumn variegated with red and yellow, and beautiful; bunches generally small, oblong, compact; the berries round, black, covered with blue bloom, their diameter seven to eight lines; flavor tolerable; the flesh, juice and seeds are red, and are used for coloring other wines. Ripe at Paris 15th September.

SUBSEC. II. — RED OR REDDISH PURPLE GRAPES.

POONAH. Hort. Trans. vol. iv. p. 516.

The bunches are large, well shouldered, tapering to a point; the berries are nearly oval; pale red in the shade,

but darker red next the sun ; sweet but not very juicy ; they have generally but two seeds. This vine was introduced from Bombay by Sir Joseph Banks in 1817. The grape keeps a long time, and is extensively cultivated at Poonah, and the ripe fruit sent thence annually to Bombay and its dependencies. This grape deserves trial in the Southern States.

RAISIN DE CARMES. Hooker's Pom. Lond. Pl. x.

RAISIN DE CABO. For. Ed. Ency.

The vine is vigorous and bears well ; the fruit is in long, loose bunches ; berries very large, interspersed with a few of small size, of an irregular oval form ; skin rather thick, of a dusky reddish purple, covered with bloom ; the flesh is rather firm, extremely rich, though somewhat acid ; the seeds are large, seldom more than one.

RED HAMBURGH. Mr Neill.

WARNER'S RED HAMBURGH. Ib.

BROWN HAMBURGH. Hort. Soc. Cat.

GIBRALTER. Ib.

The bunches are large and similar in size and shape to the Black Hamburgh ; berries rather large, oval, dark red or purple ; the skin is thin ; flesh juicy, delicate and vinous. This variety according to Mr Lindley, is the famous Hampton Court vine.

SUBSEC. III. — WHITE GRAPES.

EARLY WHITE MUSCADINE. Mr Neill. For.

WHITE MUSCADINE, Pom. Mag.

ROYAL MUSCADINE. Ib.

COMMON MUSCADINE. Ib.

AMBER MUSCADINE, of For.

EARLY WHITE GRAPE OF TENERIFFE, of Speechly.

The bunches are generally small, but very numerous,

but they are sometimes considerably large, loosely formed and shouldered; the berries are round, medium sized, of an amber color; the flesh is firm, saccharine, rich, but not high flavored; very productive — and for the certainty of its ripening, it is considered one of the best European varieties for a northern climate.

BORDELAIS. Bon Jard.

VERJUS, BOURDELAIS, Bon Jard. p. 367.

The bunches are compact and very large, often of extraordinary size; the berries are very large, oblong, pale yellow; the flesh hard, juicy, and agreeable at maturity. A very late variety; its principal use is for its verjuice or for cooking, for which purpose it is gathered in an immature state. There is a red or black variety possessing the same qualities.

WHITE CORINTH.

CORINTHÉ BLANC. Duh. and the Bon Jard.

Bunches small, oblong, compact; berries very small, round, yellow, juicy, sweet, and without seeds. The *Violet Corinthe* only varies from this in color — and is probably identical with the *Black Corinth*, *Zante*, or *Black Ascalon* — known in commerce as the *Zante currants*, which we receive from the Mediterranean in a dried state. It has been estimated that 6000 tons are annually shipped from the Ionian Islands.

CORNICHON BLANC. Bon Jard.

The bunches are small and long; the berries are very long, swollen in the middle, and diminishing towards each end, and very scattering; the skin is white, thick, the flesh sweet and very good. This grape neither ripens well either at Paris or at Boston in open culture; an unproductive but curious variety.

MALMSEY MUSCADINE. For. Lindley.

MALVOISÉ MUSQUE, of Bradley.

It resembles the White Muscadine, but the bunches and berries are smaller; it is very sweet and of high flavor; bears well and is a valuable grape. It requires a vinery in England — so say Forsyth and Lindley. Bradley says it is one of the richest musked grapes — that it came from Montserrat and grows plentifully about Turin.

PITMASTON WHITE CLUSTER. Hort. Trans. vol. III. p. 249.

Raised by John Williams, Esq. of Pitmaston, from the seed of the *Auvernat* or *Miller's Burgundy*. The bunches are rather larger than the *Auvernat*, compactly formed; it ripens earlier than this variety or the *Sweet-water*. The berries are round, a little flattened at the apex, of an amber color, but bronzed with russet next the sun; the flesh is tender and pleasant.

QUEEN'S.

The bunches are large, berries round, white, of a good size, and of a fine flavor; the vine is luxuriant; this is a variety lately received here, and was sent to Col. Gibbs, of Sunswick, New York, from Vienna. It ripened well in 1831.

SYRIAN. Mr Neill.

One of the coarsest of the grape kind; bunches large, broad shouldered, of very regular form; the berries are large, white, oval; the pulp firm and hard, of tolerable flavor if well ripened; an excellent bearer; and the bunches when ripe will remain many weeks longer than any other variety. This grape would not probably ripen in the open air in the climate of New England. Mr Speechly has stated that he raised at Welbeck a bunch of this variety measuring nineteen and a half inches in breadth, twentyone

three fourths inches in depth, in circumference four and a half feet, and weighing nineteen and a half pounds. This is supposed to be the kind mentioned, Numbers xiii. 23.

TOKAY. Duh.

WHITE MORILLON, Speechly's syn.

Bunches of moderate size, compactly formed; the berries inclining to oval, are rather small, faintly tinged with gray or red; saccharine and pleasant. This grape ripens in good seasons near Boston in open culture; and is the variety of which the celebrated Tokay wine is made.

VERDAL. Mr Niell.

VERDELHO. Ib. Bon Jard. p. 367.

The vine grows vigorously; is remarkably productive; the bunches are variable in size, but beautiful; the berries are oval, of a fine amber color, of a very rich saccharine taste and good flavor. Much cultivated in Languedoc and there called *Verdal*. It was brought from thence to Paris, where it is highly esteemed as the best and sweetest of all dessert grapes; but it there requires a warm summer and the best exposition to bring it to maturity, when the bunches become beautiful, the berries large, each containing two seeds. This is the Verdellio Grape, of Madeira, of which Madeira wine is principally made.

WHITE HAMBURGH. Speechly. Lindley.

WHITE RAISIN, RAISIN MUSCAT.

WHITE LISBON, Hort. Soc. Cat.

WHITE PORTUGAL. Ib.

The bunches are large and loosely formed; the berries large, of an oval form and greenish white color; the skin is thick, the pulp hard, and the juice sweet, and slightly mixed with acid. Mr Lindley informs us, that this grape is by many much admired, that it keeps long; and is the

same that is annually imported into that country from Portugal, to the value of £10,000 in the winter season, and sold in the shops for Portugal grapes. We may perhaps ascribe its long keeping to its hard pulp and thick skin, and would suggest that it might prove a profitable article of cultivation and export from the Southern States.

WHITE ST PETER'S.

SAINT PIERRE. Bon Jard. 1828, p. 368.

The bunches are large, very beautiful and compactly formed; the berries are round, white and excellent. My impression is that this grape must be a highly valuable new variety and well deserving trial with us.

ALEPPO. Speechly.

RAISIN SUISSE.

The bunches are formed of berries of different colors; the berries are round, of medium size, some are black, some white, but mostly striped with black and white; the skin is thin, the flesh juicy, and of superior flavor; the leaves are beautifully and variously striped in autumn with red, green and yellow. This grape is rarely cultivated near Boston except under glass.

SECTION IV.

AMERICAN GRAPES.

ALEXANDER'S.

SCHUYLKILL MUSCADEL.

This grape is a great and sure bearer. I avail of the description given by Mr Bartram, in a letter to Dr Mease. 'It is a large grape, black or blue, the size of the

Vitus vinifera, of the old continent; the grapes approach to an elliptical figure; they are, when perfectly ripe, as sweet as any grape; many persons think them too luscious. Before they are quite ripe, some think they possess a little of the stingy taste of the fox-grape; but my taste could never discover it.' Major Adlum states that he has made a wine of this grape, which Mr Jefferson has pronounced 'worthy the best vineyard in France.' Not so suitable for the climate of Boston as the Isabella and Catawba.

BLAND.

BLAND'S MADEIRA, MAZZEI.

This fine native grape does not ripen in our climate except in favorable seasons. It is thus described by Mr Bartram in a letter to Doctor Mease, as inserted in Dr J. Mease's edition of Willich's Domestic Encyclopædia.

'The bunches are large, branched and well shaped, six or eight inches in length; the berries large, and round or oblate; when perfectly ripe, of a dark purple or red wine color; the juice sweet and lively, having a little musky flavor, with a small portion of an agreeable astringency somewhat like our best bunch wild grapes, though much sweeter than any of them. If this grape is what I take it to be, a genuine American, it is a hybrid, or variety.'

CATAWBA.

This superior variety was introduced to notice by Major John Adlum, of Georgetown, D. C. and is esteemed by him the very best grape for making wine, known; and the wine made by him at his vineyard of this grape, is deemed by good judges excellent. The bunches are of very handsome size and form, and shouldered; the berries are of a deep purple next the sun; the skin is thin, juicy, sweet, rich, and vinous, with a very little of the native, or musky taste. This vine is very vigorous and hardy, requiring no

protection, and is a great and certain bearer. This and the Isabella are decisively the very best native grapes hitherto known with us. Mr Adlum has stated that he has no doubt but by his discovering the Catawba grape to be an excellent wine grape, that it will be worth to the United States one hundred millions of dollars before the end of this century. See his *Memoir on the Cultivation of the Vine in America*.

ELSINBURGH.

This grape is said to be very hardy, and very productive; the fruit of a blue color, very juicy and sweet, free from pulp and musky taste:

ISABELLA.

This fine native grape was introduced into New York, about sixteen years since, by Mrs Isabella Gibbs, the lady of George Gibbs, Esq. of St Augustine, then a resident of Brooklyn, L. I. It was received from Dorchester, South Carolina, and was named Isabella, in honor of that lady, by William Prince, Esq. of the Linnæan Botanic Garden. From him I first received this vine, about 1820. The vine is extraordinary for the vigor of its growth, and wonderful productiveness. It has been stated that a single vine in the garden of Gen. Swift, of New York, produced above eight bushels per annum, during each of the years 1820 and 1821; and the astonishing produce which we have here witnessed, confirms our belief in all that has been stated. The bunches are of large size; the berries are large, of an oval form; the color is dark purple, approaching to black, and they are covered with bloom; the skin is thin, with but very little pulp; the flesh is juicy, rich, sweet, and vinous. By hanging the bunches in a room, it has been ascertained that they lose that very small portion of muskiness which they possess. This grape makes excellent wine, and requires no protection in our climate.

LUFFBOROUGH.

This grape, according to Professor Rafinesque, has berries very large, of a deep purple, pulp dissolving in a sweet musky juice. Major Adlum says, the Luffborough makes an excellent red wine

ORWISBURG.

This is understood to be a very fine, white grape, found near Orwisburg, on the Schuylkill, in Pennsylvania. Professor Rafinesque speaks of three varieties, purple, white, and black ; 'berries depressed, sweet and good.'

SCUPPERNONG.

Of this grape there are two varieties, the black and the white ; both possessing similar qualities. The young wood is very slender, the leaves shining above and beneath. The fruit very juicy and sweet. Wine is made of this grape, of an excellent and very peculiar flavor. Much wine is said to be made of this grape in North Carolina. Many barrels are made in a single season from a single vine. They are trained on arbors over the large court, which usually separates the main houses in that country from the kitchen, which is in the rear ; and a single vine will soon cover a space of a hundred feet by forty. The climate of New England is not so well suited to this vine. Accounts have been stated [see New England Farmer] of single vines which would produce forty bushels in Carolina. They are said to flourish, and their roots will find nourishment in sandy land, good for nothing else.

WORTHINGTON.

This grape, according to Professor Rafinesque, produces smaller berries than the Frost grape ; 'juice dark red, sweet and rough.' Major Adlum calls it a very great bearer, and states that the wine of this grape, mixed with the Schuyl-

kill, gives it a degree of roughness, between Port and Claret.

CULTIVATION, SOIL, &c.

The vine is propagated by layers; also by cuttings which should be cut with two or three eyes, and cut close below the lowest eye, and set in a humid soil, with but a single eye above the surface; or it is raised even from the cuttings of a single eye. They may also be grafted at the root by the common mode of cleft grafting.

In treating of the culture and management of the vine, I shall confine my remarks chiefly to its cultivation in the open air; and principally to the modes of management practised in a country possessing a climate not very unlike our own, where the vine has been cultivated as an article of subsistence for two thousand years, and where five millions of acres are cultivated as vineyards.

The climate of Paris in the north of France, differs not very materially, on the whole, from that of New England in the latitude of Boston, from all the information I am able to obtain. Their springs commencing in March, are intermixed with the storms and frosts of winter. Our springs, not commencing till a later period, are rather intermingled with the heat of summer. The vine with us, never or but rarely commences to vegetate till the vernal frosts are over. Their summers are indeed of longer duration; but to compensate for this, the heat of ours is much more intense, and the progress of vegetation proportionably more rapid. We have a finer sun and more unclouded skies.

In the middle and northern departments of France, we are informed that in vineyard culture, the vines are generally kept low, like plantations of raspberries. At the *Clos de Vougeaud*, the cultivation is the same. This is the best vineyard in France, and was sold or sacrificed in 1794, for 1,100,000 francs. I subjoin in this place the remarks of the Hon. John Lowell, extracted from the volumes of the *New England Farmer*.

‘From a history of the culture of the vine in France, which I have carefully gone over, I find that the plan of planting their vines very near to each other, in all the middle, and especially the northern Provinces, has been of high antiquity. In 1763, an innovator appeared in France. M. Maupin in his treatise, entitled, “A new method of Cultivating the Vine,” contended that the vines should be planted four feet from each other. All France was alive to this question. The experiment was fairly tried and failed, and the French returned to their old system of close planting and short pruning.’

One account of the mode of cultivating the vine at Thomery, has already been published by the Hon. John Lowell, from the *Bon Jardinier*. In that work this mode of training and pruning, and this mode alone, are described by M. Poiteau and Vilmorin,

as they considered it the perfection of every mode that had ever been devised. I have incorporated, verbatim, large portions of this account with some portions of Mr Robertson's, which were published in the volumes of the London Horticultural Society. Mr Robertson's account is from the *Bon Jardinier* and the *Pomone Française*, of Comte Lelieur, and other sources. It is as follows.

A light and deep soil, is that which is best adapted to produce grapes of excellent quality. In poorer soils the vine languishes; in soils more consistent and strong, its productions will be too gross, too watery; and its fruit will have fewer good qualities. In the climate of Paris, the vine requires a warm exposition, in order to ripen perfectly its fruit, and it is seldom, except protected by a wall facing to the south, or east, that it finds the heat necessary to its perfection.

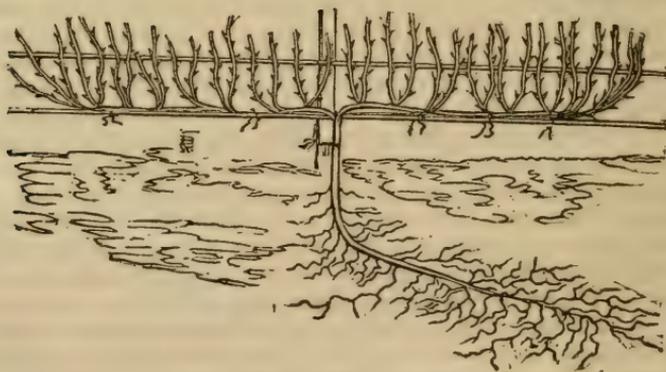
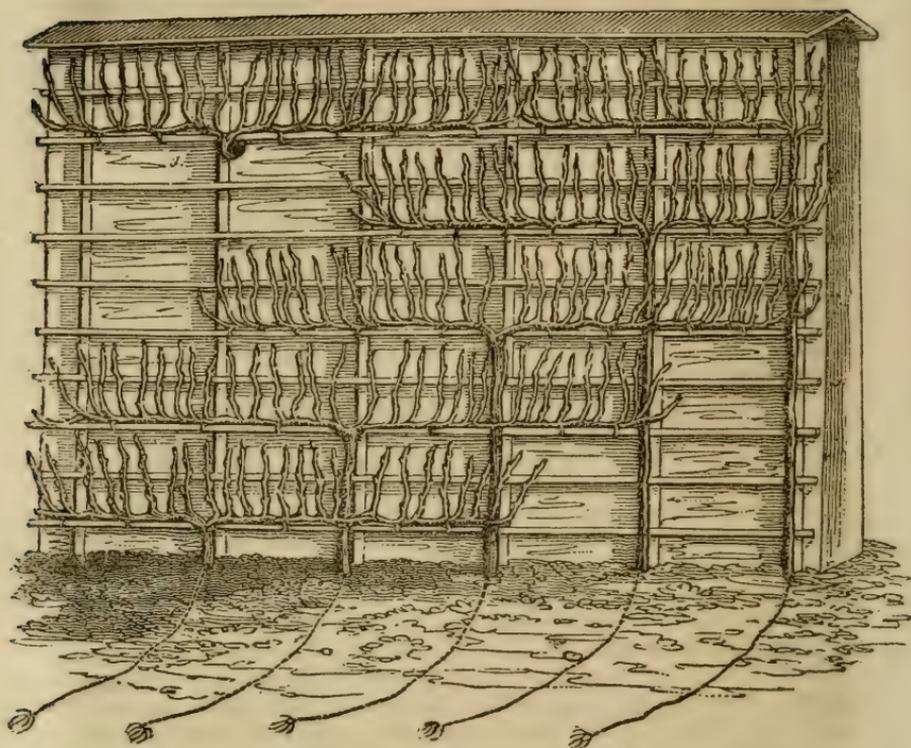
Of all the modes adopted, of training, or of pruning the vine, we shall speak only of one; that practised at Thomery, a village near Fontainebleau, because it appears to us preferable to all others, both for its simplicity and its results.

As to its results all the world know them. The grapes of Fontainebleau are proverbial. It is well known that the most beautiful, and the best grapes in the markets of Paris, come from Thomery, under the name of the Chasselas of Fontainebleau.

It has been supposed, that the excellence of these grapes is owing to the nature of the soil, and the favorable exposure of Thomery. By no means. Thomery has not a happy exposition. The quality of the soil is inferior, in many parts sterile, it is on the side of a hill facing north and east, and sloping to the river Seine, which washes its base; the soil is clayey, cold, and almost incredibly hard to cultivate. We must admit then, that it is to their *treatment* of their grapes *alone*, that their excellence and superiority is owing.

Before we describe their method, we would remark, that they are very cautious in selecting their varieties. They select their cuttings from such branches only as bear fruit, distinguished by some superior quality, as size, early maturity, setting sure, or any other property they would wish to perpetuate; and they maintain that they thus actually improve their quality. The kind most in repute at Thomery, is the Chasselas de Fontainebleau. When other varieties are planted, the latest kinds are always trained to the lowest bar, as they are there found to ripen earlier.

The walls with which they form their inclosures, and against which they train their grapes or trellises are about eight feet high, built of clay, plastered on the outside with a cement of lime and sand, and covered with a chaperon or coping, projecting nine or ten inches on each side. To this coping they attribute the good effects of protecting the wood and blossoms of the vine from the late spring frosts and heavy rains, sheltering the grapes and protecting them in good condition on the wall, even till after Christmas; and moderating the luxuriance of the vine.



The above plan of the method of training grapes at Thomery, is from an engraving in Loudon's Magazine; the wall is represented as but partially covered.

On the southern, eastern and western exposures of these, they are furnished with trellises, the upright standards of which, are two feet apart, and the horizontal rails are nine inches apart; the lower one six inches only from the ground.

The grape border along this wall, is dug or manured to the width of five or six feet, and to the depth of fifteen or eighteen inches. If the soil is moist or strong, they slope the border so as to throw off the rains from the walk; this prevents the accumulation of water at the roots of the vines, and is essential to success. When the border is prepared, they open a trench at four feet distance from the wall, and parallel to it, two feet wide, and nine inches deep. They have ready prepared, a quantity of cuttings sufficient for the wall; these are about two feet long, and from being taken with a piece of old wood attached to the heel, are called *croisettes*, [form of a cross,] but this form is not considered indispensable. These they lay across the trench at the bottom, with the top towards the wall, and at the distance of twenty inches asunder, and cover them with four or five inches of soil, and tread them down; at the same time raising the upper end which was towards the wall nearly to a perpendicular; then fill the trench two thirds full, and spread the residue over the border. They then put into the trench, three inches of manure, which keeps the plants fresh and moist, and prevents the ground from becoming dry and hard.

In March, [November with us] they cut in the plant to two eyes above ground; they weed, dress and water the border during the first season, if needful, for the young planted grape requires a gentle degree of moisture. They tie the young shoots of the year to some supporters, and do everything to favor its growth. The second year, if any of the plants have more than one branch, they preserve only the strongest. They bury the new wood as the first year, and soon till they reach the wall. At every time they lay the shoot they cut in, till they reach strong, ripe wood, well furnished with good eyes. It will generally take three years before it reaches the wall, but in the meantime, they gather some fine bunches.

We now come to the formation of the cordons or horizontal branches. If the wall is eight feet high, it will require five cordons; [or five tiers of branches] the first six inches from the ground, and the four others eighteen inches asunder, upon the horizontal rails of the trellis, which had been previously so arranged as to effect this object. The stalk destined to form the lowest cordons, [or horizontal branches to right and left.] will be cut just at the required height, if it has at that place a double eye. If it has not, you must cut it above the eye which is next above the lowest rail of the trellis. These two eyes are destined to furnish the two lowest branches or horizontal arms, the one to the right, the other to the left, on the lowest rail. The one that is too high must be bent down gently, and that which is too low trained up, and then bent. The first year however, these branches are trained obliquely, as they would not bear be-

ing bent and confined to their destined horizontal position till the next year, when both are finally secured to the trellis in the same horizontal line.

The second cordon [or horizontal line of branches,] being at two feet distance from the ground, cannot be formed as soon as the first; the third will be still later, and so on. Whatever be the height to which you design to advance your stalk or stem, you ought not to advance it more than twelve or fifteen inches each year, and preserve its lateral buds to increase its growth, and furnish fruit. But as soon as the stem has reached the requisite height, it is absolutely necessary to suppress and cut off all lateral buds on the main stem throughout.

Let us now suppose, that all the stems have arrived at their required or destined height, and that the two last branches are extended, the one to the right, and the other to the left, to form the two arms of the cordon, [horizontal branches] we will now show how these two arms are to be cut, till they have gained the length of four feet each. The first year you will cut so as to leave three good eyes or buds, from four to six inches apart. Two of these eyes will form bearing wood, the third will be employed to lengthen the branch. Care must be taken to train vertically the shoots destined to bear the fruit; the other is trained obliquely the first year, and bent down and secured in its horizontal position afterwards. At the second pruning, the bearing shoots thus trained vertically must be cut, leaving only two eyes, or buds; and the terminal branch must, in like manner be so trimmed, as that there will be three eyes, two of which will be reserved for bearers, and the third to prolong the shoot as in the former year, and so proceed till each lateral branch shall have reached the length of four feet. Each branch ought then to have eight bearing eyes or shoots, all if possible, on the upper side. When all the five plants shall have reached their height and length, you will have on a surface of eight feet square, eighty coursons or bearing branches of two eyes each, each producing two branches, which will each bear at least two bunches of excellent grapes, or three hundred and eighty bunches on eight feet square of surface, [sixtyfour square feet.]

According to Mr Loudon, at Montreuil, they practise a more expeditious, though perhaps less perfect mode; and instead of requiring three years for the vine to reach the wall, the vines are laid in horizontally, a few inches beneath the surface, and their tops brought to the wall at once. In this case the vines are bent and surrounded by brick bats, and thus forced to throw out innumerable roots.

The eyes at the bottom of the shoots of the grape are very close together and extremely small. There are no less than six in the space of two lines or the sixth of an inch. When you cut the bearing branch long, say one or two inches, these little eyes become extinct or lie dormant and do not push — but if you cut close to them, they develope, — they grow, and produce beautiful clusters. Able gardeners are well aware of this, they

always cut their coursons or bearing branches at the distance of a line (or one twelfth of an inch) sometimes even less. It is for this reason that these branches never become long under their management. Those who are ignorant of the nature of the vine cannot conceive how a bearing branch shall have given fruit for twenty years, and not be at the end of the time an inch long.

As soon as the young shoots of the vine have grown to a sufficient length, they are attached to the treillage, the stronger ones first, but loosely, until they have acquired sufficient elasticity. Great caution is here necessary; you ought not to force them into a vertical position till the berry is large, for they break off easily when young.

The lateral shoots which break near the eyes or on the young wood and the tendrils should be suppressed while young. And if there be more than two buds which start from the same courson, [spur,] the supernumerary ones must be suppressed, even though they exhibit fruit. Two bourgeons (branches,) each decorated with two beautiful clusters are more valuable, than a greater number of inferior size. But caution is here necessary; those supernumerary shoots which start from the base should not be removed too soon, for if removed too suddenly it gives a shock to vegetation, or occasions wasteful bursts of sap; you wait until the wood has acquired some consistence and until new channels are provided for the expenditure of the sap by the expansion of the leaves, and until after the grapes are set.

At Thomery, the young wood is pinched at its extremity after the bloom is set, as soon as it reaches the cordon next above it. This has the effect of momentarily suspending the flow of sap in these shoots, and by that means it accelerates their maturity and renders them more ligneous. It promotes the growth of the eyes and is indispensable for filling the lower eyes of the spurs on which cultivators rely for the next year's crop; pinching or stopping the wood either prematurely or tardily is alike productive of bad consequences. Weak shoots are pinched sooner in proportion to their strength, but none are permitted on any account to push beyond the cordon. Should it appear that the shoots of the extremities of the cordons [horizontal arms] impoverish those of the centre, the former are pinched repeatedly until the equilibrium is restored.

The season they generally prefer for the winter pruning, is from the first of February to the first of March, before the first movement of the sap takes place. The earliest pruned vines are found to break first. The vigneron avoid cutting close to the eyes, lest they might be injured by the wood dying down to them; the wood of the vine from its spongy nature not healing readily and being liable to decay at a wound. To guard against this they always cut midway between the eyes, sloping the cut to the opposite side of the shoot, so that the eye may not be damaged by its bleeding.

When vines are planted at once close to a wall, and in a level

deep border, and at an extended distance, they absorb an immoderate degree of nourishment, which gives rise to a rank and late vegetation which retards the ripening of the fruit. At Thomey the vines being planted so close, have a more limited range for food, and the numerous roots produced by the frequent laying in of the stems occupy the sloping borders so fully as to prevent any redundancy of moisture, and excess of nourishment; all luxuriance is restrained; by this means the branches complete their growth within the bounds prescribed, they are furnished with short well ripened shoots, closely set with bearing eyes, which when the ground is well manured, seldom fail to produce abundant crops.

We admire, say Messrs Poiteau and Vilmorin, as many others do, those branches of the vine, which are carried to two hundred feet in length, — and we admit that there are parts of a wall which can only be covered by branches, the roots of which are very distant, but we recollect that when a branch has extended beyond a certain distance, it no longer gives fine clusters *but at its extremities* — the spurs of the centre no longer produce anything but inferior bunches, [Grappillons] and gradually die of inanition. This inconvenience doubtless occurred to the Thomey gardeners; and by an admirable calculation, they fixed upon the length of eight feet for each vine; * * * yet though only eight feet in length, they do not throw out extraordinary shoots, because the plants being set but twenty inches asunder, their roots dispute or contend with each other for nourishment. The cover of the wall also, extending over the vine nine or ten inches by contributing to check its too luxuriant growth, its fruit has all the qualities which it is susceptible of acquiring.

According to this system, when once the cordons are completed, the pruning and training become so uniform and simple, that it may be entrusted to any intelligent workman. But what may render the practice of still greater consequence in a northern climate is, *that the fruit of these small spurs always ripens earlier than on the strong wood.*

TILLAGE, MANURING, &c. — In tillage they use no other instrument than the hoe, they stir the ground but lightly, lest they should injure or disturb the roots; this is done twice in the year, first after the summer training, which generally takes place [there] in May; and again when the leaves fall; the ground is besides always kept perfectly clean and loose on the surface, to admit the air and dews. They manure their vines every three years, always preferring old manure nearly consumed, and of a light warm nature. They are justified in this practice by the result, for their grapes are always superior in size and delicacy of flavor, to any others to be met with, either at Paris or elsewhere.

MANAGEMENT AND CARE OF THE FRUIT, &c. — While the fruit is yet very small, the bunches should be looked over and the extremities of such as are very long cut off, for they

generally ripen late, and imperfectly. Such varieties as the Frontignans which have very close bunches should have their berries thinned out at the time when they are about the size of peppercorns. When the grape has nearly attained its size, it is beneficial to water the fruit from a water-pot in the form of rain. This makes the skin tender, and increases the size of the berries. You gradually uncover the berries and expose them to the sun to heighten the color, and improve the flavor; if the leaves are removed with this intent, they are separated at the extremity of the footstalk, which is left behind to attract the sap and nourish the bud at its base.

If they wish to leave them out till after frosts, they are either covered with paper bags, which are of use also in protecting them from insects and birds, or they are often preserved till Christmas by screening them from frost with cloth, matting, or fern. The fruit is always gathered in a dry day, if stored moist it would quickly spoil. Those intended for keeping are cut before they are quite ripe, some are hung up on hair lines, in reverse, with the shoulders down, as that position prevents the berries lying so close as to rot — and some are spread on beds of fern.

The village of Thomery is situated in the Forest of Fontainebleau, about a league from the palace (about 28 miles distant from Paris.) It was formerly occupied by vineyards producing a poor *vin du pays*, and has not been inclosed for the cultivation of table fruit, until within the last forty years. At present about six hundred acres are walled in for this purpose, in numerous small properties and divisions.

It has been objected to a vertical wall, that by obstructing the free circulation of the air it causes mildew; and the Hon. R. Sullivan, of Brookline, whose successful cultivation of the vine is well known, has suggested to me, that an inclined plane would on many accounts be the most eligible. The experiment of placing boards beneath the fruit in vineries, at just sufficient distance as to allow the grapes to hang freely, has been tried in Denmark with great success. In France, in 1827, one portion of a vine growing under a south window, having ascended over the slated roof of the portico, it was found that the fruit on this part of the vine had become black, while the fruit on the other parts of the vine was still green.

I would suggest that walls of masonry or of rough boards, covered with black paint, coal tar, &c. or rather with slates, should be constructed facing the south, and elevated to an angle of fortyfive degrees. Over this the trellis is to be elevated at a suitable distance. Here they would sooner receive the benefit of the morning sun, and a double benefit from the noon-day sun, both by his direct rays and by reflection. The morning dews would be dissipated by the direct influence of southerly winds,

or by the indirect influences of northerly winds, in the eddies and counter currents.

Water must not by this or any other mode be suffered to accumulate in unusual quantities at the roots of the vines; it must be carried off by sloping or paved borders, or other modes. And let it be further observed, that from accounts we have received, the proportion of rain which annually falls with us, is to that which falls in Europe, as fortyeight inches to twentyfour, or thereabouts.

PAVING THE GROUND.— It has been remarked that vines and fruit trees planted against buildings with a pavement which prevents the ground from being either manured or cultivated, produce not only more abundant and finer crops, but are longer lived. (*Robertson.*)

‘At Thomery,’ says the Comte Lelieur, ‘the grapes on the lower cordon of a vine planted to a wall of about fifteen feet high, having been injured by the drip of its eaves dashing the earth of the border against them, the owner paved it for a breadth of about two feet from the wall. The good effects of this remedy were soon apparent, not only in the preservation of the fruit from injury, but in the improvement of its size and flavor; the reflection of the sun’s heat from the pavement, augmenting both, and hastening its maturity.’ The growth of the vine also became more moderate and regular.

The long canes of the vine, the production of a single year, if left to themselves will only break and produce fruit at their extremities. To enable them to produce fruit throughout their whole length, art is necessary. This art is perfectly understood by those who cultivate the grape in vineries near Boston, where astonishing crops are produced. Before vegetation commences, the vine or long cane of the former year’s growth is tied in a coil; by this treatment the buds break and grow equally from its extremity to its base.

When the buds have grown an inch or a little more, it is uncoiled and secured to its destined position on the trellis.

The practice of training vines in a serpentine or spiral manner to render them productive is not new; but it is too little known or too much neglected.

According to Chaptal ‘there are but two ways of forming and managing vines for vineyards — viz. by stakes, or espaliers. The method of cultivating vines on poles or props ought to be commanded by climate. This method belongs to cold countries where the vine has need of the whole heat of the sun. By raising them therefore on poles, placed perpendicular to the ground, the earth being uncovered, receives all the activity of the rays, and the whole surface of the plant is exposed to their action, and allows the vines to be placed nearer to one another, and the produce to be thus multiplied on equal surfaces. But in warmer climates the earth requires to be sheltered from the

excessive heat of the sun; the vines are therefore suffered to creep on the ground.' (Extract from Chaptal in Dom. Ency.)

The most favorable exposition for vineyards with us on the shores of the Atlantic, is without doubt a southern or south-westerly; remote as far as practicable, from woods, swamps and standing water. An easterly exposition does not suit them; the cold eastern sea breezes are unfavorable from their humidity.

The following mode may be recommended for open or vineyard culture.

The first year suffer but a single shoot and that the lowest to grow, the supernumerary ones are to be checked and taken off gradually, this shoot is to be trained to a pole, the lateral shoots to be taken off as they are produced at the distance of a single eye from the main stem. When a few feet in height, the top is to be occasionally nipped in. Late in October cut this down to two good eyes; in November (if a European vine) bury with leaves, litter or soil. The next year, three good eyes only are suffered to grow, which are to be trained to a pole and pruned as before. In autumn preserve the two uppermost, which if strong must be cut to the length of five feet and trimmed throughout, and secured to the surface by hooks and covered with soil. The remaining one is shortened to three good eyes and buried as in the former year. In the following spring, two good stakes will be required; the vines left at full length are each to be twisted several times around a pole and secured at top, and these will throw out shoots from every eye, which will each probably produce two bunches. These bearing shoots are to be nipped in, four or five eyes beyond the fruit. The shoot cut down will this year furnish three shoots, these are to be trained as at first directed to another pole, for these three are to furnish fruit for the following year, and are to be pruned and laid down at full length in autumn. As to those which have once borne fruit, they are not permitted to bear fruit a second time, but are each cut down to two eyes, to furnish the reserve wood for the following year; and so proceed till four bearing limbs are annually elevated and twisted around two poles, and an equal number of supernumerary or reserve branches are annually raised up and trained to two other poles. Always observe to cut so as to have your wood start from a low point, near the surface; for this purpose it may be sometimes necessary to cut back the old wood.

In vineyards, close planting is most expensive at first, but the ground is more suddenly and profitably completely filled; and small vines are more easily managed than large ones; 2700 vines may be a suitable number for an acre. The bearing wood on trellises should in early spring be bent and confined in a serpentine manner with short turnings; but the young reserve branches which must never be allowed to produce fruit the first year, should be trained straight, or with a little deviation.

Vines may in vineyard culture be in like manner trained to stakes.

In the northern departments of France, vines are trained to low stakes which are renewed every year. When the vine has risen to the top, it is bent over and passed to the top of the next stake, where it is secured; this checks its luxuriance.

The numerous and flourishing vineyards of America, which have been of late years established in the Middle, Southern, and Western States, for the manufacture of wine, consist principally of the native varieties which I have described. American grapes are found to do best for America in vineyards. It was deemed a capital error that European kinds were at first tried in preference. Ours require no protection in winter. The average value of vineyards in France per *arpent* (100 rods and 22 feet of our measure) as stated by Mr Young, was \$210 -- but the very best vineyards were worth from \$2000 to \$3000 per *arpent*.

MALADIES. — The chief malady to which grapes are subject in low confined situations is mildew. This is remedied by dredging the fruit with flower of sulphur, on its first appearance. But the most approved mode of applying sulphur is as follows:

On the bottom of a vessel place a pint and a half of sulphur, on this lay a lump of good unslacked lime the size of a fist, and on this pour two gallons of boiling water; after the lime is slacked, stir it well, and when the liquor is cold, add more cold water and stir it again, and as soon as the liquor has become clear, pour it from the sediment into a barrel which must be filled with cold water. When the grapes have attained the size of peas throw the liquid on the fruit with a syringe and repeat this twice a week for three successive weeks. With *Willis's Syringe* whole vineyards may be despatched in a very little time.

LIME PLANT. (*Podophyllum peltatum.*)

A hardy and singular production of nature. The stem, foliage, flower and fruit are formed in the earth; and after the plant has come up, there is nothing more than an extension of parts. The stems, at the height of from eight to twelve inches, branch out in two arms; at the extremity of each is a large palmated leaf. In the fork proceeds the fruit stem. The fruit is about the size of a large lime, green while growing, and yellow when ripe; it has the flavor

of a pine-apple, and as to eating, is little inferior to that fruit. The plant requires a moist soil in a cool, shady, situation. It may be propagated by seed, but best by dividing the roots, which are jointed and creeping. The root is medicinal.' A native of America. — *New England Farmer*, vol. VIII. No. 16.

FIG. (*Ficus carica*.)

THE fig tree is a native of Asia. It forms an important article of culture in Barbary, Greece, Italy, Spain, and the South of France for drying, and on all the coasts of the Mediterranean, and its Isles. In these countries it is a deciduous tree, growing to a large size; but in tropical countries it is an evergreen. It is also cultivated pretty extensively near Paris, for the supply of its markets. Here they are kept low, that they may be with the greater ease protected in winter. They are planted on the south sides of walls, buildings, and the southern declivities of hills. Phillips informs us, that there is an orchard of a hundred standard fig trees near Worthing, in Sussex, England; its extent is three quarters of an acre. The trees are of the size of large apple trees, and ripen their fruit as well as in any part of Spain. They are annually productive, and very profitable, ripening in August, September, and October.

USES. — The fig is a wholesome and delicious article of the dessert; and in those countries where it is extensively cultivated, according to Loudon, 'it is eaten green or dried, fried or stewed, and in various ways, with or without bread or meat, as food. Figs are prepared by dipping them in

scalding lye, made of the ashes of the fig tree, and then dried in the sun. And according to Dambourney, [See Dom. Enc.] 'in dying, a decoction of the green branches and leaves imparts a deep gold color, of a brownish red shade; but the leaves alone impart a very deep yellow color. And the substances thus dyed, retain a very agreeable fragrance for many months, even after being washed. 'The wood of the fig tree is almost indestructible, and was formerly much employed in the East, for the preservation of embalmed bodies.' [Ib.]

VARIETIES.

ANGELIQUE. Lindley. Bon Jard.

MELITE, COURCOURELLE BLANCHE. Hort. Soc. Cat.
YELLOW ANGELIQUE. Bon Jard.

The fruit is small, its color yellow; form pyramidal; its pulp is white, but red at the centre, and of excellent flavor. This sort is cultivated in the neighborhood of Paris.

COMMON BLUE. Mr Neill.

Sometimes called the *Purple Fig*, is of an oblong shape, and the tree is a great bearer. August.

LARGE BLUE. Lindley.

LARGE PURPLE.

Fruit large, oblong; skin purple, or dark brown, covered with a thick blue bloom; pulp deep red, of a very good flavor; a very hardy sort, and a most excellent bearer.

BORDEAUX. Lindley.

POIRE FIGUE, VIOLETTEDE BORDEAUX, of the French.

The fruit is long and pyramidal, rounded at the crown, length three inches; its color at maturity a deep violet; its pulp is deep red or purple, succulent and sweet. This

fig is stated to be cultivated throughout France, and although not of very high flavor, it is very productive, producing annually two crops.

BRUNSWICK. Mr Neill.

MADONNA.

The form is long and pyramidal; the color brown, with but little flavor. The Pomological Magazine and Lindley agree, that it is sweet, extremely rich, and high flavored; and that it is the largest and best purple fig they have, adapted to their climate. It is early.

BLACK GENOA. Mr Neill.

An oblong fruit, of a dark purple color, almost black, and covered with purple bloom; the pulp is bright red and high flavored. The tree is a good bearer. End of August.

PURPLE GENOA.

The fruit is large and long; the skin dark purple at maturity; the flesh extremely sweet and delicious.

WHITE GENOA. Mr Neill.

A large and almost globular fruit, of a yellowish color at maturity; the pulp is of a light red color, and of good flavor. The tree is considered rather a shy bearer.

BLACK ISCHIA. Mr Neill.

Sometimes called *Blue Ischia*, is a very good sort; the fruit is short, of medium size, a little flattened at the crown; at maturity the skin is dark purple or almost black, and the inside of a deep red; the pulp very high flavored. The tree is a good bearer. End of September.

BROWN ISCHIA. Mr Neill.

Sometimes called *Chesnut colored Ischia*. — A very large globular fruit; its pulp is purple, sweet, and of very good

flavor; it ripens early, and seldom fails of producing a good crop. Middle of August.

GREEN ISCHIA. For.

The fruit is oblong; its summit nearly globular; its skin is green, thin, and brown at maturity; its flesh is purple and high flavored.

YELLOW ISCHIA. For.

The fruit is large, the color yellow, the flesh purple and well flavored.

BLACK ITALIAN. Mr Neill.

A small roundish fruit; its skin purple; its pulp of a dark red color, and high flavored. The tree bears well.

BROWN ITALIAN. Mr Neill.

A small roundish fruit; the skin of a brown color at maturity; the pulp is red and high flavored. The tree bears abundantly.

MALTA. Mr Neill.

A small brown fruit; the pulp is sweet, and well flavored. When permitted to hang on the tree till it shrivels, it forms a fine sweetmeat.

MARSEILLES. Lindley.

FIGUE BLANCHE, of the French.

The fruit is small; its form turbinate; its height two inches, its diameter nearly the same; color at maturity yellowish white; its pulp is white, dry, sweet and rich.

MURREY. Mr Neil.

BROWN RED NAPLES.

A large globular shaped fruit, of pretty good flavor; it is distinguished by the murrey colored skin. September.

LONG BROWN NAPLES. For.

The fruit is long, compressed at its summit; the color dark brown; the flesh is of a reddish color, and of good flavor; the seeds are large.

NERII. Lindley.

Fruit rather less than the Marseilles, and more long in shape; skin pale greenish yellow; pulp similar in color to that of the pomegranate. This is much the richest of the yellow, white, or green species, and there is in its juice a slight degree of very delicate, agreeable acid. The Nerii Fig is cultivated by Mr Knight at Downton Castle.

FIGUE BLANCHE RONDE. N. Duh. Pl. iv.**ROUND WHITE.**

This fig is esteemed the most suitable for the climate of Paris; it is the most multiplied, and is there preferred to all others for its productiveness, and the superior quality of its fruit. The fruit is turbinate, two inches in diameter; color at maturity yellowish green; the flesh is white, very sweet and delicious. The first crop begins to ripen at the end of June. The second crop begins to ripen the middle of September, and lasts till hard frosts commence.

BROWN TURKEY. Lindley.

BROWN ITALIAN, of Forsyth, according to Lindley's Guide.

Fruit small, and round; of a red or purple color; pulp very delicious.

VIOLETTE. Lindley and Bon Jard.**FIGUE VIOLETTE.**

Fruit small, of a deep violet color; form globular, slightly turbinate, and about two inches in diameter; flesh white near the skin, the centre tinged with red, and excellent. This sort is cultivated in the vicinity of Paris for the market.

SMALL EARLY WHITE. Mr Neill.

Its form is globular ; its pulp sweet, but without much flavor. It ripens early. Indeed, it seldom fails of producing a crop.

CULTIVATION, SOIL, &c.

The fig tree is raised from seeds, from layers, and from cuttings. They require a strong, loamy, but not wet soil. They differ from most other trees in producing several crops annually. Even in the climate of Boston, I am persuaded that figs of good quality may be raised, if the trees are placed in warm situations, south of walls, or buildings, on the declivities of hills, as at Argenteuil, near Paris. Mr Knight has obtained, in his hot-house, eight successive crops in a year, by bending the limbs in a position below the horizontal. And Mr Lowell, in his experiments, has succeeded in obtaining four crops. The trees will produce tolerable crops in the second year if rung or decorticated, and by this process the maturity of the fruit is accelerated and its size increased. Its maturity is also hastened by a practice which prevails in France, which consists in pricking the fruit with a straw or quill dipped in olive oil. In Italy, according to Loudon, a wound with a knife is sometimes made on the broad end of the fig, or a very small part of the skin is removed for the same purpose. Lastly, by the mode communicated by the Hon. John Lowell, in the *New England Farmer*, vol. x. p. 62, for 1831, it is as follows:

'The fig, like the fruit of the vine and peach, attains a certain size, and then remains stationary for several weeks, until it begins to color, when its volume, in three or four days, is greatly increased, often doubled and even trebled. My figs [in a hot house twentyeighth August,] were dark green, showing no tendency to ripen. I took about a third of a tea-spoonful of sweet oil, and dipping my finger in it, I rubbed it very slightly over every *alternate* fig, leaving the others untouched, as a test of the effects. At the end of three days, the color of most of those touched with oil began to change, and the size to increase, and now on the fifth day, they have nearly the color of mature figs, and are twice and three times as large as those not touched with oil, which still remain of a dark green color.'

Mr Phillips recommends that for cold climates like England, the tree should be table-trained ; that is, to keep the branches tied to stakes about two feet from the ground ; thus forming a regular star from the trunk. In the winter they are easily lowered to the earth, and secured by hooks and protected.

Mr Loudon seems persuaded that by combining the system recommended by Mr Knight, with that recommended by the Rev. G. Swayne, the most desirable results would be produced; they are both calculated for cold climates.

Mr Knight highly disapproves of training the branches of fig trees perpendicularly. If the stems are many, he reduces them to one only. And from the tops and parts near it, lateral branches are trained horizontally and pendantsly, and secured close to the wall. All troublesome luxuriance is thus restrained, and the wood becomes extremely fruitful.

Mr Swayne trains his trees horizontally. His "specific" is designed to remedy the deficiency of bloom in the early spring on the whole of the last year's wood, excepting on a few joints at its extremities. The remedy which he has for a long time successfully practised, is, to simply rub off, as soon as they can be discovered, all the figs which are produced after mid-summer on the same year's shoots. Those figs which thus exhaust the tree, and will never ripen without artificial heat, are thus removed, and new figs are formed in embryo, for the crop of the following year, on one, if not on both sides of every fig thus displaced. The tree should be examined once a week from the commencement of the operation, which should be begun early in August or September, to the end of the season, according to latitude and climate.

PROTECTION. — In the north of France, fig trees are protected in winter by being secured to the earth by hooks, and covered with soil; sometimes straw is used. In England, Forsyth and others recommend to protect with straw, meadow hay, moss, &c, and over this branches of pine, or other evergreens are secured. They flourish with little care and no protection in the Southern States.

BERBERRY. (*Berberis*.)

THE berberry or barberry is a prickly shrub rising to the height of ten feet with many branches. The bark is ash colored outside and yellow within; its fruit is on clusters of a red color and acid taste. It is said to be a native of Asia, but abounds in the Northern and Middle States of America. Some species of grain are liable to become affected by rust, if raised in its vicinity, particularly rye.

USES. — The fruit is used for pickling, and for preserving;

a decoction of the berries sweetened, is deemed a useful as well as pleasant drink in fevers. The inner bark is said to be used in France for dyeing cotton and silk of a bright yellow; also for staining wood by cabinet makers; and in Poland it is used for coloring leather.

VARIETIES.

RED BERBERRY.

Of this there are two varieties; one the common berry with stones; the other without.

WHITE BERBERRY.

Fruit large, agreeable but not productive.

BLACK SWEET. London.

Requires a warm situation.

CHINESE BERBERRY.

This variety, in some respects resembles the red; but differs some in appearance, and is deemed the most ornamental.

HOLLY LEAVED BERBERRY, *Berberis Aquifolium*.

A new and curious variety from the Rocky Mountains; very different from all others. This appears to be a variety with thornless wood; and with leaves larger than the other species, with prickly points. The blossoms are produced in numerous yellow clusters, and are handsome; I have never seen the fruit.

SOIL AND CULTIVATION. — The berry prefers a dry soil, but will succeed in almost any soil or situation. It is raised from seeds, from layers, and suckers.

BLACKBERRY. (*Bramble*. — *Rubus fruticosus*.)

BUSH BLACKBERRY. *Rubus Americanus*.

A shrub rising to the height of ten feet, somewhat ribbed

or angled and armed with hooked spines. The fruit, which grows in clusters, is oblong, an inch in length, of a shining black, of an agreeable taste, sweet or subacid and astringent. This plant thrives in a rich moist sandy loam, and is often cultivated in gardens, where its fruit is much improved in size and its crops very abundant.

TRAILING BLACKBERRY, *Dewberry, Rubus procumbens.*

This is a plant with low trailing branches, its stems are weak and bend to the earth and there take root. The fruit is large, nearly globular, of a black color and covered with bloom, of a sweet subacid lively taste; this plant succeeds in dry hilly land.

USES. — The blackberry is considered a pleasant and wholesome dessert fruit if used with moderation; it is used in pies, tarts, &c. A jelly is made of the blackberry of considerable medicinal efficacy in nephritic disorders. It is singular that a fruit so productive as the tall blackberry should be so little cultivated. Both species may be propagated either from seed or from layers.

WHITE FRUITED BRAMBLE, *alba.*

A variety with white fruit.

DOUBLE WHITE FLOWERING, *Rubus albo-pleno.*

A beautiful and very ornamental variety.

CRANBERRIES. (*Oxycoccus macrocarpus.*)

A low trailing vine, an indigenous fruit, growing wild in bogs and meadows. The berry has a very acid taste, and is much used in pies, puddings, tarts, preserves, &c. The cranberry is a plant of easy culture; and with but little expense, not a doubt exists that meadows which are now barren wastes, or yield nothing but coarse herbage, might

be converted into profitable cranberry fields. According to Loudon, Sir Joseph Banks, who obtained this plant from America, raised in 1813, on a square of eighteen feet each way, three and a half Winchester bushels, which is at the rate of four hundred and sixty bushels to the acre. A man with a cranberry rake will in a good cranberry meadow, gather from twenty to fifty bushels in a day; any meadow will answer; Capt. Henry Hall of Barnstable, has cultivated the cranberry twenty years. They grow well on sandy bogs after draining; if the bogs are covered with brush it is removed, but it is not necessary to remove the rushes, as the strong roots of the cranberry soon overpower them. It would be well if previous to planting the land could be ploughed; but Capt. Hall usually spreads on beach sand and digs holes four feet asunder each way, the same distance as for corn; the holes are however deeper. Into these holes, sods of cranberry roots are planted, and in the space of three years the whole ground is covered. The planting is usually performed in autumn. Mr F. A. Hayden, of Lincoln, Mass., is stated to have gathered from his farm in 1830, 400 bushels of cranberries which brought him in Boston market \$600. [New Eng. Farmer, vol. ix. No. 18.] Any dry soil with a mixture of bog earth will, it is said produce, abundant crops.

ELDER. (*Sambucus nigra.*)

A low bushy tree, of an ornamental appearance; its bark is smooth and gray, becoming rough by age; leaves pinnate; berries black and abundant, of a sweet but not agreeable flavor; the tree and its leaves are narcotic. Noxious insects avoid it.

USES.—Although the berries are deemed poisonous to poultry in general, yet they are employed in the manufacture

of an excellent, powerful and enlivening wine, remarkably wholesome. But the wine of white elder berries is said to resemble grape wine. A syrup and cordial are also prepared from the berries ; and in Germany a very pure and strong spirit is said to be distilled from the fruit. The inner green bark is said to be an ingredient in black dye. And Professor Martyn, according to Loudon, has stated that the tree is a whole magazine of physic to rustic practitioners, nor is it quite neglected by more regular ones. Fruit trees, plants, &c, whipped with the fresh branches, are effectually secured from the depredations of noxious insects. The wood of old trees is hard and fine grained, and takes a fine polish, and is used by turners as a substitute for box wood.

MOUNTAIN ASH. (*Sorbus aucuparia.*)

The berries of this tree are eaten, according to Loudon, in some parts of Scotland and Wales. They are also used for preserving ; they are also stated to afford an agreeable fermented liquor ; and by distillation, a considerable quantity of strong spirit. According to Mr Neill, in France they are frequently grafted on the service tree, and the fruit is thus rendered of larger size, and more abundant. It is one of the most ornamental of all trees, when loaded with its large clusters of red berries in autumn.

CRANBERRY VIBURNUM. (*Viburnum oxycoccum.*)

The cranberry tree or shrub, rises to a very moderate height, its fruit is a berry about the size of a cranberry, of a bright red color, and very austere taste. They are valuable for pies, tarts, preserves, &c. The tree is propagated by layers, and suckers or seeds.

PERSIMON. (*Diospyrus virginiana*.)

AMERICAN DATE OR PRUNE.

The Persimon flourishes as far north as the river Connecticut, to the latitude of 42° but is dwarfish. In a suitable soil and climate, it rises to the height of sixty feet or forty diameters of its base. The leaves are oblong, entire, of a fine dark green above, and glaucous below, and from four to six inches long. The fertile and barren blossoms are produced on different trees. The fruit, which is abundant, is round, of the size of a small plum, of a reddish color, and fleshy; they contain six or eight small stones; their taste is very astringent, but when ameliorated by frost, they are sweet and agreeable. The fruit when bruised and fermented produces brandy, which becomes good by age. This tree is raised from the seeds which should be planted in autumn. And fine varieties may be propagated by inoculating or grafting.

SILVER LEAVED SHEPARDIA.

BUFFALO BERRY TREE.

A beautiful hardy tree, so called from its silvery leaf. This tree was discovered by Professor Nuttall, in Missouri, in 1810, and was introduced here by the Messrs Winship. The tree is of upright growth and thorny; the leaves are small, of a delicate silvery appearance. The fertile and barren flowers are produced on different trees; the fruit is of the size and appearance of a large currant, of a fine scarlet color; it grows in clusters, and at maturity has a beautiful appearance. It is of a rich taste, and valuable, either with or without preparation, for preserves, tarts, &c.

RASPBERRY. (*Rubus idaeus*.)

The Raspberry is a shrub of low growth; its leaves pinnate and composed of five leaflets. Its root is perennial; its top generally biennial; it produces its fruit on the wood of the former year. Its flowers are in panicles.

USES. — The Raspberry is an admired dessert fruit, but sugar improves its flavor. It is fragrant, subacid, cooling, and grateful to the taste, and like the strawberry, it does not produce acidity on the stomach. The juice fermented with sugar, produces wine, very fragrant and of the most delicious flavor. It is also used for jams, pies, tarts, sauces, preserves, &c. And according to Loudon, it is much used for distilling, to make a cordial spirituous liquor, to which it gives name; and raspberry syrup is next to the strawberry in dissolving the tartar of the teeth. The wine mixed with water, according to Dr Short, 'is a good reviving draught in ardent fevers.' He further recommends it in scorbutic disorders.' — *Phillips*.

For a choice selection, the following are particularly recommended by the different authors, whose names I have annexed, as the very best.

1. RED ANTWERP, Neill. For. Loudon. Pom. Mag. Lindley.
Burley Antwerp.

An excellent and productive fruit, large, and highly esteemed near Boston. The branches must be bent down in autumn, and protected with soil during winter.

2. WHITE ANTWERP, Neill. For. Loudon. Pom. Mag. Lindley.
Yellow Antwerp.

The fruit is large and fine; highly esteemed near Boston, and very productive; like the red, it requires protection in winter.

3. BARNET. For. Loudon. Pom. Mag. Lindley.
Cornwall's Red Prolific Seedling, Large Red.

Produces large fruit and abundant crops, a profitable variety.

4. RED CANE, For. Loudon.

A good sort for the main crop.

5. DOUBLE BEARING, Neill. Loudon. Pom. Mag. Lindley.

Perpetual Bearing, Red Double Bearing, Siberian.

Produces a crop in July, and another in September and October.

6. CORNISH, Lindley,

7. BROMLEY HILL, Pom. Mag.

8. WILLIAMS' DOUBLE BEARING.

Pitmaston's Double Bearing, Loudon.

9. WILLIAMS' PRESERVING, Lindley.

10. WOODWARD'S RED GLOBE, Lindley. Forsyth.

11. RED ALPINE MONTHLY.

Framboisier des Alps de Tous les mois à fruits Rouge, recommended in the Bon Jard.

There are two American varieties, quite distinct from the above, which may deserve to be enumerated; these are 12. Black American Raspberry; 13. White American Raspberry.

Other varieties are named by Lindley, but not particularly recommended, as the *Antwerp Double Bearing Yellow*; *Antwerp Late Bearing*, or *Knevel's Antwerp*; *Brentford Cane*; *Rough Cane*; *Lord Exmouth*; *Oak Hill*; *Old White*; *Prolific Early*; *Red Malta*; *Spring Grove*; *Superb*; *Taylor's Paragon*, or *Scarlet Paragon*; *Wilmot's Early Red*.

CULTIVATION AND SOIL.

A moist, rich soil, is recommended for the raspberry; and Mr Neill asserts that they do well even when moderately shaded.

In forming plantations, Lindley has directed, that the rows should run from east to west, and the tallest sorts be planted in the north rows, and in the rear, at a large distance asunder; and those of small growth in the south rows, and at less distances asunder in the row. Thus all the varieties receive the full benefit of the sun. He directs as follows:

1st or north row, *Cornish*, set 4 feet asunder in the row.

2d Row, *Woodward's Red Globe*, do.

3d Row, *Red Antwerp*, set $3\frac{1}{2}$ feet asunder in the row.

4th Row, *White Antwerp*, do. do.

5th Row, *Cane Raspberries*, set 3 feet asunder.

6th Row, *Double Bearing*, or No. 8. do. do.

Large plantations of any kind, are to be set out on the same principle.

He also recommends that three young plants should be placed in each hill, in a triangular form, six inches apart. These should be cut at the time, within a few inches of the ground. In autumn cut out all the wood that has borne fruit. Also, all weakly shoots, and shorten the strong shoots to four fifths. Stakes or rails are not absolutely necessary. The tops of each stool may be tied together in summer at their tips, or Neill recommends to tie one half of two hills together at the tips, thus they form arches or festoons. With regard to the double bearing varieties it is recommended to cut down every alternate stool to within a few inches of the ground, in the annual pruning. Thus a succession of large late crops is always maintained.

Neill informs us that the Raspberry plantation is in its prime the third year, but must be annihilated after it has stood six years; and new ones must in the meantime be formed.

STRAWBERRY. (*Fragarim.*)

THE strawberry is a low creeping perennial plant; a native of the old continent; also of America, where it is found growing wild in the woods. Botanists consider them a genus, comprehending three species.

USES.—The strawberry is a fragrant, delicious, and esteemed dessert fruit, whether eaten alone, or with cream and sugar. It is deemed very wholesome, as it never causes acidity on the stomach. Boerhave, according to Phillips, considered its use as one of the principal reme-

dies in putrid fever; and Hoffman asserts that he has known consumptive people cured by the use of Strawberries. It is also asserted that by eating plentifully of Strawberries, rheumatic complaints are averted or cured. They also dissolve tartarous incrustations on the teeth. And lastly Phillips asserts, that the pine strawberries make an agreeable dessert wine, as rich as mountain; but possessing greater fragrance and acidity.

VARIETIES.

Mr Barnet [see vol. vi. of the Lond. Hort. Trans.] has divided strawberries into seven classes. Mr Lindley has adopted the same course. And in describing the size of the fruit, I shall have reference to the general size of the particular class. I have adopted the same system.

CLASS I. — ALPINE AND WOOD STRAWBERRIES.

The Alpine and Wood strawberries agree in their general habits and character. The fruit however, differs. The Alpines have conical fruit, and are fruitful in autumn. The Wood strawberries are more globose; they only produce fruit in summer. — *Barnet. see vol. vi. of Hort. Trans.*

RED ALPINE, *Frasier des Alps, with runners.*

The fruit is small and conical, ripening in summer and autumn.

RED BUSH ALPINE.

Possesses similar qualities to the White Bush Alpine, but differs in color.

WHITE ALPINE, *Frasier des Alps à fruit Blanc, with runners.*

The fruit is small and conical, ripening successively in summer and autumn.

WHITE BUSH ALPINE.

This has the same qualities, but is thought to be more productive, as it does not exhaust itself by runners.

RED WOOD, *Frasier Commun.*

An old variety extensively cultivated near Boston for the markets. It ripens in summer. The fruit is scarlet and round; very productive and highly esteemed.

WHITE WOOD, *Frasier Commun à fruit Blanc.*

This variety ripens in summer, the fruit is white and round; an old, good flavored variety, much cultivated and esteemed near Boston.

 CLASS II. — BLACK STRAWBERRIES.

The fruit of this class is middle sized, conical, with a neck, of a very dark color at maturity, the seeds slightly imbedded; the flavor very rich, and highly perfumed; the leaves of this class are small, rugose, pale green. — *Barnet*, see vol. vi. of *Hort. Trans.*

DOWNTON, *Knight's Seedling.* Pom. Mag. Lind. Barnet.

The fruit is large, ovate, with a neck; the early fruit is sometimes of a coxcomb shape; of a dark purple scarlet; the flesh is scarlet, firm, of an aromatic flavor. Originated by Mr Knight.

SWEET CONE, Pom. Mag. Lindley.

Small, conical, with a neck, hairy, bright shining scarlet; flesh pale scarlet, hollow, very high flavored.

 CLASS III. — CAROLINA OR PINE STRAWBERRIES.

The leaves of this class are nearly smooth, of firm texture, with obtuse serratures, of a dark green; the fruit large, varying from nearly white to almost purple; the seeds prominent on a smooth surface; the flavor sweet and often perfumed. — *Barnet*, see vol. vi. of *Hort. Trans.*

BLACK PRINCE, *Wilmot's Black Imperial*. Lindley. Barnet.

Middle sized, spherical, depressed, hairy, of a very dark violet color; with a highly polished surface; the flesh of a rich dull scarlet, with a very small core, high flavored.

ELTON SEEDLING, Pom. Mag. Lindley. Barnet.

The fruit is large, ovate, often coxcomb shaped, of a rich, shining dark red; the seeds yellow, with ridged intervals; the flesh is firm, with a small core, deep red, juicy, with a sharp rich flavor.

KEEN'S SEEDLING, Pom. Mag. Lindley.

Keen's Black Pine, Keen's New Pine, Keen's New Seedling.

The fruit is very large, globular or ovate, of a dark purplish scarlet, hairy. It sometimes assumes the coxcomb shape. The surface polished, seeds slightly imbedded; flesh firm, solid, scarlet, high flavored. Introduced to the vicinity of Boston, by Mr Pratt. Also to this country and to notice by Mr Haggerston, of the Charlestown vineyard. In this strawberry are combined four eminent qualities, which never meet but in a very extraordinary fruit; great beauty, extraordinary size, excellent flavor, and extraordinary productiveness. The fruit grows high, which is much in its favor. Raised by Mr Michael Keen, from the seed of Keen's Imperial, which is a good fruit, but very inferior to this.

MULBERRY, *Cherokee, King, Mahone.*

A strawberry much cultivated near Boston, and highly recommended by Messrs Senior and Haggerston. From them I understand this fruit was sent to the late Gov. Gore, and to England, by the late Hon. Rufus King, from the back parts of New York. The fruit is of medium size, ovate, with a short neck, of a dark red; flesh tender, of a red color, and good flavor; very productive.

OLD PINE OR CAROLINA, Pom. Mag. Lindley. Barnet. *Old Pine, Barham Down, Black Carolina, Coxcomb Pine, Devonshire Scarlet Pine, Kew Pine, Large Carolina, Large Pine, Miss Gunning's, North's Seedling, Old Carolina, Old Scarlet Pine, Pine, Regent's Favorite, Scarlet Pine, Varnished, Windsor Pine.*

Fruit large, ovate, conical, with a neck, sometimes coxcomb shaped in the early fruit, of a bright scarlet; the flesh pale scarlet, rich, juicy, with a very grateful flavor; a good bearer and very highly esteemed.

CLASS IV. — CHILI STRAWBERRIES.

The leaves of this class are very villous, hoary, with small leaflets of thick texture, with very obtuse serratures; the fruit is very large and pale, with prominent seeds; the flesh in the type, which is the true Chili, is insipid. — *Barnet in vol. vi. of Lond. Hort. Trans.*

WILMOT'S SUPERB, Barnet. Lindley.

The early fruit is very large, irregular, sometimes coxcomb shaped. Afterwards they are invariably round, very hairy, pale scarlet, and polished. The seeds are brown and projecting. Flesh very firm, pale scarlet near the outside, but whitish within, with a small hollow in the centre, and a core; flavor good, buttery, and rich, mixed with acid.

CLASS V. — GREEN STRAWBERRIES.

The French cultivate several varieties of this strawberry. The *Green Pine* is much known in England, but it seldom bears perfect fruit; it bears well only in some particular situations. Their character is dwarfish, much resembling the Wood Strawberry. The leaves are light green, and strongly plaited. — *Barnet, vol. vi. Lon. Hort. Trans.*

Lindley has described the GREEN STRAWBERRY. (*Frasier Vert*,) *Caucasian*, *Green Alpine*, *Green Wood*, *Pine Apple*. But ascribes their defection to the multitude of runners, and has no doubt but if these were restrained, they would prove productive.

CLASS VI. — HAUTOBOIS STRAWBERRIES.

The leaves of this class are highly elevated, rough, and of thin texture; the scapes or stems tall and strong; the fruit middle sized, pale greenish white, tinged with dull purple; the seeds slightly imbedded; the flavor musky. — *Barnet*, in *Hort. Trans.* vol. VI. *Supposed to be so named on account of their bearing their fruit high; Hautbois or High Wood.*

LARGE FLAT HAUTOBOIS, *Barnet*. Pom. Mag. Lindley.
Bath Hautbois, Formosa Hautbois, Sowder's Hautbois, Salter's Hautbois, Weymouth Hautbois, White Hautbois.

The fruit is large, round, depressed, light red; the seeds are imbedded; the flesh is greenish, juicy, delicate, without a core.

PROLIFIC OR CONICAL HAUTOBOIS, *Barnet*. Pom. Mag. Lindley.

Double Bearing, Dwarf, Hermaphrodite, Hudson's Bay, Regent's, Sacombe, Sir Joseph Banks's, Spring Grove.

The fruit is large, conical, of a dark purple color; flesh solid, greenish and high flavored. An abundant bearer, and by far the best of the Hautbois strawberries. The flowers are the largest of the class; and it usually produces two crops.

CLASS VII. — SCARLET STRAWBERRIES.

The *Fragaria Virginiana* of botanists, is the type of this class. The leaves are nearly smooth, thin, dark green, with sharp pointed serratures; the fruit mostly small, of a bright scarlet color; the seeds more or less deeply imbedded, with ridged intervals; the flavor acid, with a slight perfume. — *Barnet, in Hort. Trans. vol. vi.*

BLACK ROSEBERRY, Pom. Mag. Barnet. Lindley.

The fruit is of good size, obtusely conical, deep purplish red and shining; the seeds are slightly imbedded; flesh dark red near the outside, solid, buttery and juicy, and of excellent flavor.

DUKE OF KENT'S SCARLET, Barnet. Pom. Mag. Lindley.

Austrian Scarlet, of Lindley, Cluster Scarlet, Globe Scarlet, Nova Scotia Scarlet, Duke of York's Scarlet, Early Prolific Scarlet.

The fruit is nearly globular, of rather small size, of a fine scarlet; seeds deeply imbedded, with sharply ridged intervals; the flesh is solid, pale scarlet; flavor sharp, pleasant, and peculiar.

GROVE END SCARLET, Barnet. Pom. Mag.

Atkinson's Scarlet, Wilmot's Early Scarlet.

A first rate strawberry and an abundant bearer. The fruit is of considerable size, depressed, spherical, of a bright vermilion color; seeds slightly imbedded with flat intervals; flesh pale scarlet, firm, with a core; flavor agreeable and slightly acid.

OLD SCARLET, Pom. Mag. Lindley. Barnet.

Ecarlate de Virginie, of the French, Scarlet, Early Scarlet, Original Scarlet, Virginia Scarlet.

A middle sized globular fruit, of a light scarlet color, slightly hairy; seeds deeply imbedded, with ridged inter-

vals ; flesh pale scarlet, firm and high flavored ; a good bearer, ripening early ; chiefly valuable for preserving.

ROSEBERRY, Barnet. Pom. Mag. Lindley.

Aberdeen Seedling, Prolific Pine, Rose Strawberry, Scotch Scarlet.

An abundant bearer ; the fruit is large, conical, pointed, dark red, hairy, with a very short neck. The early fruit is sometimes coxcomb shaped ; seeds yellow, deeply imbedded with ridged intervals ; flesh firm, pale scarlet, with a core ; flavor not rich, but agreeable, and much admired by many.

The whole list of Strawberries which I have just described, (with the exception of the *Black Prince*, the *Wilmot's Superb*, the *Mulberry*, and the *Wood*, and the *Bush Alpine*,) are but the *select list* which is particularly recommended in the Pomological Magazine, for a small garden.

Mr Lindley has since particularly recommended the same list for a small garden, with the exception of the *Bromley Hill*, and the addition of the *Black Prince*, and *Wilmot's Superb*. I have added the *Mulberry* on good authority here ; also I have added the two varieties of *Wood Strawberries*, and the two varieties of *Bush Alpine*.

Mr Lindley has described sixtytwo varieties. Mr Barnet has recommended for a *select list*, the same generally, as the Pomological Magazine, and Mr Lindley.

In 1822, the London Horticultural Society, by their circulars congregated from all quarters, a vast collection of strawberries at Chiswick. The whole were examined by Mr Barnet ; there were 200 distinct names or synonymes, and 54 varieties ; his account of them occupies 80 pages quarto. — See *Hort. Trans.* vol. vi. p. 145.

Let us enumerate the names of the strawberries which Mr Lindley has described, and which are not recommended either by him, or in the Pom. Mag. for a *small garden*. Some of them may yet perhaps prove fine in our climate, as is the case with the *Mulberry Strawberry* ; and all are evidently thought worthy in a large collection.

In this list I omit the numerous synonymes generally.

1. American Scarlet. 2. Autumn Scarlet. 3. Bath Scarlet.
4. Bishop's Seedling Scarlet. 5. Blood Pine. 6. Bostock or Wellington.
7. Bullock's Blood. 8. Carmine Scarlet. 9. Charlotte.
10. Chinese. 11. Clustered Scarlet. 12. Coxcomb

Scarlet. 13. Common Hautbois. 14. Conical Hautbois. 15. Dutch. 16. Dwarf White Carolina. 17. Garnestone Seedling. 18. Gibbs's Seedling Black. 19. Glazed Pine. 20. Globe Hautbois. 21. Green. 22. Grimstone Scarlet. 23. Hudson's Bay Scarlet. 24. Keen's Imperial. 25. Knight's Large Scarlet. 26. Lewisham Scarlet. 27. Methven Scarlet, or *Methven Castle*. 28. Morrissania Scarlet. 29. Mulberry. 30. Nairn's Scarlet. 31. Narrow Leaved Scarlet. 32. Oblong Scarlet. 33. Pitmaston Black. 34. Pitmaston Black Scarlet. 35. Red Wood. 36. Round White Caroline. 37. Scone Scarlet. 38. Sir Joseph Banks's Scarlet. 39. Surinam. 40. True Chili. 41. Variegated Pine. 42. Vernon's Scarlet. 43. White Wood. 44. Wilmot's Late Scarlet. 45. Yellow Chili.

Other varieties which were unknown, or are not described by those authors, and which may prove fine in our climate.

1. New Black Musk Hautbois.
2. French Musk Hautbois.
3. Southborough Seedling.
4. Large Lima.
5. Melon, &c, &c.

CULTIVATION.

Lindley directs that as early in summer as the young runners have taken root, they should be transplanted into nursery beds five or six inches asunder. By this management they will by Autumn have become fine strong plants capable of producing fruit the following summer.

For the reception of these plants he directs the ground to be trenched 20 inches deep : and a quantity of half rotted manure incorporated to half this depth. For economy he has also recommended in the final transplanting to set the plants in beds of four rows each ; the rows running in a longitudinal direction. The distance between the beds to vary from 2 feet to 2½ feet according to the sorts to be planted, as some varieties require much more space than others. As to the distances of the rows asunder and the distance of the plants in the rows, I will lay down on Lindley's authority the following rules.

3d CLASS. In rows 15 inches asunder ; — the plants 15 inches' distance in the row. *Wilmot's Superb* the same.

2d and 4th CLASSES (except *Wilmot's* as above.) In rows 15 inches' asunder and 12 inches' distance in the row.

6th and 7th CLASSES. In rows 12 inches asunder ; and 12 inches' distance in the row.

1st and 5th CLASSES. In rows 12 inches asunder ; and 9 inches' distance in the row.

During the first year the runners are to be carefully destroyed before they have taken root. Around such as show fruit, grass or straw is placed; (Keen recommends the same; for the plant derives its name from this circumstance.) This protects alike the soil from washing rains; from a scorching sun, and the consequent evaporation of its moisture; it protects the fruit from becoming soiled. But as soon as the fruit is gathered this covering is to be removed; and the soil kept clear of weeds by the hoe till autumn.

In autumn he directs the leaves to be cut off (only a portion I presume) and all the spaces including the alleys to be dug carefully over with a pronged fork, so as not to injure their roots. Both Keen and Mr Knight however direct manure to be applied before this last operation is commenced; and Mr Knight has particularly cautioned against digging so deep as to disturb the roots, as it weakens the force of the plants.

The second summer Lindley further states that the plants will bear their best crop and finest fruit; the beds and outside of the alleys should be covered with mown grass or with straw three or four inches thick; by this method he states he has found the fruit not only more abundant but of finer quality.

It has been recommended to raise the *Alpines* from the seed. But Mr Williams of Pitmaston (Hort. Trans.) condemns the practice. — Lindley joins him in this: for having procured a good sort it is recommended to increase and continue it: and have no mixture of inferior sorts with the idea that such mixtures will improve. Some have directed in regard to the *Alpines* and *Hautbois* that a certain proportion of male or sterile plants should be preserved. But the experience of Lindley and some others seems opposed to this practice. — These sterile plants, never producing fruit, out-grow all the rest; they overrun those which produce fruit and soon take possession of the whole soil; they are neither useful or necessary, but on the contrary ruinous, as the whole bed soon becomes barren. But by excluding the sterile plants in the beginning — the whole will remain productive.

As to the *Alpines*, Lindley directs to set them out in August; and by spring the beds will be covered with runners; these are not to be disturbed or removed, as in the case of other sorts; for they will produce fruit during autumn.

Management of Alpine and other sorts of Strawberries, when large and late crops are desired. — The *Alpine* strawberries are chiefly valuable on account of their continuing fruitful after all other varieties are gone. In order to make the utmost of this valuable property which they possess, Mr John Williams of Pitmaston has directed (see Hort. Trans.) to form the beds in August; by spring the beds will be well stocked with plants. When they have come into full blossom in spring, cut off every flower without injuring the leaves. This operation is to be

again repeated as soon as a second set of blossoms appear. The third set of blossoms are suffered to remain: — and the plants having by this system accumulated strength, heavy crops are produced after other strawberries are gone, and when alone the Alpine strawberries are highly valuable.

Another mode has been stated by which a large crop of the *common varieties* of strawberries are produced in autumn. When the first crop is gone, the plants are shorn of every leaf; and at suitable intervals profusely watered: by this mode it is stated they not only renew their leaves, but a crop of blossoms and fruit is produced.

With regard to the produce of strawberries, all agree that the crop of the second year is more valuable than any succeeding crop. I will briefly detail three different modes in relation to this subject.

1st. The mode adopted by Mr Keen.

2d. That adopted by T. A. Knight, Esq.

3d. A mode not unfrequently adopted near Boston.

Mr Keen forms his beds in the spring. — The Hautbois and Pines are placed in rows 3 feet asunder and 18 inches in a row. [Other classes at a proportionate distance.] The object in placing them at this great distance is that there may be room for the feet of the gatherers: also room for the vines to spread to the end of the third year; when the bed is taken up and the ground planted anew. The first year little fruit is expected — the second year a very great crop — the third year a very moderate crop. Mr Knight condemns this system in part; his mode is as follows: like Mr Keen he forms his beds in the spring: he places the Pine and Hautbois in rows, 16 inches asunder and only 8 inches in the row — [other classes at a proportionate distance.] This is from three to four times the number of plants on the same ground as Mr Keen. Mr Knight takes off no runners except for the purpose of forming new beds: and he thinks he must obtain near twice the produce in the second year, which all acknowledge to be the fruitful year, from the same ground as Mr Keen. For Mr Knight leaves no unoccupied ground for the feet of the gatherers: as he considers the amount thus destroyed very inconsiderable compared with the waste of land. Mr Knight destroys his beds in the autumn of the second year after the first great or main crop is taken off. He esteems this the most economical mode.

In the vicinity of Boston the following mode is often adopted. The rows are formed from 18 inches to 2 feet asunder. The runners during the first year are destroyed. In the second year they are suffered to grow and fill the interval, and in the autumn of that year, the whole old rows are turned under with the spade and the rows are thus shifted to the middle of the space. The same process is repeated every second year.

MEDLAR. (*Mespilus Germanica*.)

A low spreading tree; the branches are woolly; the leaves are oval, lanceolate, serrate and woolly towards their points. The fruit is round or turbinate, the size that of a plum. The pulp is thick and contains five wrinkled stones. An ornamental shrub when in bloom, and a native of the south of Europe.

USES.—The fruit is much esteemed by some; but it is never eaten till ameliorated by frost and in a state of decay.

VARIETIES.

NOTTINGHAM MEDLAR. Loudon.

A fruit of a quick and pungent taste.

GERMAN MEDLAR or *Dutch medlar*. Loudon.

A low, crooked, deformed tree, with very large leaves, entire, and downy beneath; the flowers are very large; the fruit very large, somewhat resembling an apple in shape. This variety is the largest of the medlars and is deemed the best.

SOIL AND CULTIVATION.—Raised by seeds, planted while fresh and in autumn; also by layers—or by grafting and inoculating, either on the Medlar or on the Quince, the Hawthorn or the Pear. They require a loamy, rich soil, rather moist than dry, on a dry subsoil.

NUTS.

WALNUT. (*Juglans regia*.)

ENGLISH OR MADEIRA NUT.

This is stated to be a native of Persia and China. It is a lofty spreading tree, with pinnated leaves, of a powerful

odor. The fruit is roundish oblong, smooth, green, inclosing a nut of a yellow color and irregular form, which contains a four lobed kernel of an agreeable taste.

USES.—The walnut is an esteemed dessert fruit; it also forms an excellent pickle when gathered, while it is yet so tender as to be easily probed with a needle. In France, according to Phillips, an oil equal to the oil of almonds is drawn from them. This oil does not congeal by cold, is highly prized by the painters for mixing delicate colors and varnish; and is excellent in medicine. He further informs us that the young preserved nuts are an excellent sweetmeat; good to be eaten in the morning, in time of pestilential distempers, to prevent infection.—A most superior family medicine when eaten in the small quantity of a single nut. They are prepared as follows; Green walnuts in the state fit for pickling are boiled till tender; then take them out, and to every pound of nuts add a pound of moist sugar, a little water, lemon-peel, mace, cloves, and simmer till the syrup is thick, and let them stand ten days: then clarify half as much more sugar, and boil as before; and when cold cover them close for use.

The decoction of the leaves annoys or destroys noxious insects and worms.

The timber is very extensively used for gunstocks, being deemed lighter in proportion to its strength and elasticity than any other wood.

CULTIVATION, SOIL, &c.—The walnut is raised from the seed planted in autumn; the second year they are transplanted and deprived of a portion of their tap root. They require a rich soil of loam and sand rather than clay. Fine varieties may be inarched;—or budded from the minute buds at the base of the young shoot, inserted in the summit of the two years old wood.

BLACK WALNUT. (*Juglans Nigra.*)

A majestic tree with a round spreading head which sometimes rises to the height of 70 feet, with a diameter of from 4 to 7 feet. The leaves are pinnate and consist of six or eight pair of leaflets.—They are acuminate, serrate and downy. The fruit is large and surrounded with a thick, globular, smooth, green husk; the shell is rough, uneven in its surface, odoriferous, hard, thick, and black. It incloses a four lobed kernel which is large and sweet.

USES.—From the nuts an oil is expressed equal to olive oil for food and useful for the painter. From the husk a brown dye is procured of different shades. The sap wood is white, but the heart is violet, becoming nearly black. It is very strong, fine grained, compact and heavy, and admits a beautiful polish: and is employed for furniture, and the stocks of muskets, and for the naves of wheels. It is strong and durable; and it is said to be never attacked by the sea worm.

CULTIVATION, SOIL, &c.—The cultivation of this tree is the same as the walnut. It flourishes in any good soil; but prefers the deep, fertile, and alluvial soils on the margins of creeks and rivers.

BUTTERNUT. (*Juglans Cathartica. Oil Nut, White Walnut.*)

A large tree with a broad spreading head. In suitable situations it rises 50 or 60 feet, with a diameter of from 3 to 4 feet at this distance above the ground.

When young, this tree and its leaf strikingly resemble the Black Walnut; but when older they are easily distinguished. The fruit is similar in most respects to that variety, but is oval oblong; and the nut which is inclosed is oblong, rounded at the base and pointed at its summit. The kernel is sweet and abounds in oil.

USES.—The fruit is eaten at the dessert: for pickling it is superior, and is equally prized as the walnut. Its fruit preserved in the same manner as directed for the walnut, is equally excellent, and of equal medicinal efficacy. Pills formed by evaporating a decoction of the inner bark to a viscid consistence, are said to form one of the very best cathartics known. The timber is of a reddish hue, not strong, but light and durable. It is never attacked by worms. It is not liable to split, and its uses are the same as the basswood.

CULTIVATION. — The cultivation of the Butternut is the same as the walnut; it flourishes in any good soil; on cold, unproductive, and rocky soils, on the steep banks of rivers.

CHESNUT. (*Castanea.*)

The European Chesnut was so named, according to Phillips, from *Castanea*, a city of that name in Thessalia, from whence the Romans first procured them. The chesnut is a large tree of a fine form, rising sometimes to the height of 80 feet. The leaves are of an elongated form, coarsely serrated, of a fine shining green. A large globular prickly burr inclosed two or three nuts of a dark brown color.

USES. The fruit is used either boiled, roasted, or in a raw state. Phillips informs us, that in the south of France, in Italy, and Savoy, they are made into puddings, cakes and bread. And “chesnuts stewed with cream make a much admired dish: they make excellent soup; and stewed and served up with salt fish they are much admired.” We are also further informed that there is now at Fortworth, in Gloucestershire, a great chesnut tree, fiftytwo feet round; which in 1150 was so remarkable that it was called *The great Chesnut of Fortworth*. And Marsham states that this tree is 1100 years old. Lastly, the timber of this tree is almost incorruptible, and more durable than oak. Its dura-

bility is commensurate with the long life of the tree. The American Chesnut differs very little from that of Europe—The fruit is smaller, but equally good. Its growth is very rapid. The bark for tanning is superior to oak.

CULTIVATION.—The Chesnut is raised from the seeds planted in autumn — the second year they are transplanted. A sandy or gravelly loam with a dry subsoil best suits them.

CHINQUAPIN. (*Castanea pumila.*)

The Dwarf Chesnut rises to the height of 10 or 12 feet, but sometimes 30 or 40 feet. The tree and its fruit are with but little variation, a miniature of the Chesnut just described. But the timber is finer grained, more compact, heavier, if not more durable. It flourishes in any dry soil. Its cultivation is the same as the walnut and chesnut. It is not found wild, north of Pennsylvania..

SHAGBARK HICKORY. (*Juglans squamosa.*)

The Shagbark or *Shellbark* is an elegant tree of a tall and stately form, rising to the height of 80 and 90 feet. Its height is very tall in proportion to its dimensions near the base; often from 45 to 50 diameters.

Its leaves are oval, acuminate, in five leaflets, of a beautiful shining green above, glaucous beneath. When it has arrived to middle size, the outer bark separates in long thin plates or scales, warped out at the ends, giving the tree a shaggy and bristling appearance. In this respect it differs not only from other trees, but from other hickories: also in the fruit which is round or oval, its hull very thick, covering a nut whose shell is always thin, and four lobed kernel sweet. The timber of the Shagbark always splits clear; it works smooth; it is very compact, strong, and elastic, and is preferred to any other wood or hickory for axe handles, ox bows, and various domestic utensils where all these qualities are required.

CULTIVATION, SOIL, &c. The cultivation of this tree is the same as the walnut. It flourishes in any good soil, even in low wet land. —

PACANE NUT. (*Juglans olivæformis.*)

A beautiful tree, rising with a straight, well proportioned trunk to the height of 60 or 70 feet. Each leaf consists of six or seven leaflets. The nut, which is encompassed with a thin hull, is an inch and a half long; cylindrical, pointed at its extremities, and has four slightly projecting angular ribs. The shell is smooth and thin, the kernel four lobed, and sweet.

FILBERTS. (*Corylus.*)

A large shrub, with wood of an ash color; leaves alternate roundish cordate. Its fruit is well known and highly esteemed. The American Hazelnut is a small variety. They are extensively cultivated in Europe. "In the neighborhood of Avelino, in Italy," says Swinburn, "the whole face of the neighboring valley is covered with them, and in good years they yield a profit of 60,000 ducats. — And from a single wood near Recus, in Spain, sixty thousand bushels have been gathered in a single year and shipped from Barcelona, whence they are called Barcelona nuts."—

Phillips.

Phillips further informs us, the produce of a single acre planted with filberts, has sometimes been sold for fifty pounds. And Loudon states that its returns are very profitable.

VARIETIES.

1. **FRIZZLED FILBERT.** *Pom. Mag.* One of the very best. The fruit is produced in threes or fives, sometimes more; rather small, oblong, flattened, the shell moderately

thick filled with the kernel, which is of good flavor. Very productive.

COSFORD NUT. Pom. Mag. A large oblong nut; shell thin; kernel white, sweet, and of excellent quality. Very productive.

RED FILBERT. Loudon. Pom. Mag. Very fine flavored, but not productive.

COBNUT. Loudon. A large nut, shell thick, kernel sweet.

PEARSON'S PROLIFIC. Pom. Mag. A great bearer.

SPANISH OF BARCELONA. A large nut with a thin shell; this is the sort we usually import.

KNIGHT'S LARGE. Pom. Mag. Very fine.

CULTIVATION. — By seeds is not the best mode of raising; except to procure new varieties; by layers is best, as this preserves the kinds. A deep, dry, sandy loam, on a dry subsoil, is the best; according to the English writers, a well manured soil. In a rich moist soil they grow too luxuriantly to produce fruit. They require pruning and trimming, to be kept low; the leading shoots are every year to be shortened two thirds or more.

MELON.

MUSK MELON. (*Cucumis melo.*)

A delicious, large, oblong or globular fruit, too generally known to need a particular description. It is a native of Asia, and besides its use at the dessert, it forms while young an excellent pickle.

VARIETIES.

1. **BLACK ROCK.** Lindley.

Very large, oblate, yellowish skin. Flesh thick, orange colored, and of excellent flavor.

2. DAREE MELON. Hort. Trans.

Fruit large, ovate or oval, pale green. Flesh white, thick, crisp, melting, very sweet.

3. DUTCH ROCK. Lindley.

An oblate medium sized fruit, with a thick, yellow, rough skin. Flesh orange colored, thick, melting sweet and high flavored.

4. EARLY CANTALOUPE. Lindley.

Small, globular, ribbed; skin pale green, flesh orange colored, juicy, of good flavor.

5. EARLY POLIGNAC. Lindley.

A small, round fruit with a pale yellow, rough skin; flesh yellow, thick, sweet, and highly flavored.

6. GERE MELON. *Ostrich's Egg*. Hort. Trans.

A green, oval, handsome fruit; flesh very thick, green, melting, very sweet, and high flavored.

7. GREEN HOOSAINEE. Hort. Trans.

A handsome egg-shaped fruit; flesh greenish white; tender, delicate, juicy, highly perfumed. A very excellent and productive variety.

8. ITALIAN GREEN FLESHED. Hort. Trans.

A small, round, pale green fruit; flesh pale green, soft, juicy, very sweet, and high flavored.

9. LARGE GERMEK. Hort. Trans.

A large, excellent and productive round fruit, of a sea green color. Flesh clear green, very thick, firm, juicy, very rich, and high flavored.

10. MELON DES CARMES. Lindley.

A very large, oblong, bright orange colored fruit; flesh very thick, salmon colored, tender, not juicy, sweet and good flavored.

11. MELON OF KEISING. Hort. Trans.

A beautiful egg shaped fruit, bright lemon color. Flesh very thick, nearly white, very juicy, delicate, sweet and high flavored like a Beurré Pear.

12. MONTAGU CANTALOUPE. Hort. Trans.

Form round or oval, small, greenish white; flesh thick, reddish, soft, sweet, juicy and delicate.

13. ORANGE CANTALOUPE. Lindley.

A small, round yellow fruit; flesh deep orange red, juicy, sugary, and extremely highly flavored.

14. ROMANA. Neill.

A middle sized, oval, pale yellow fruit, ribbed; flesh yellow, firm, and well flavored.

15. SCARLET ROCK. Lindley.

An oblate, deeply ribbed, pale green fruit; flesh reddish; tender, juicy, sweet, and highly flavored.

16. SILVER ROCK. Lindley.

Middled sized, oblate; skin green and yellow, blotched; flesh pale red, sweet and well flavored.

17. SMOOTH SCARLET-FLESHED. Lindley. Hort. Trans.

Form round or oval; skin greenish yellow; flesh scarlet, firm, and high flavored.

18. SWEET MELON OF ISPAHAN. Hort. Trans.

Fruit large, ovate; skin smooth, of a sulphur color; flesh white, very thick, crisp, sugary, and very rich.

19. DAMPSHA MELON. Zamsky. Hort. Trans.

Fruit oblong, yellowish green; flesh green, melting and of excellent flavor.

20. GREEN VALENCIA. Hort. Trans.

Form oval, pointed, slightly ribbed, of a dark green color;

flesh pale straw color, firm, saccharine, juicy and pleasant. The latter crops of the two last named varieties keep till winter.

We may also enumerate the following fine varieties.

Green Citron (fine) green flesh ;

Murray's Pine apple, do ;

Persian, do ;

Nutmeg, do ;

Minorca, do ;

Large Cantaloupe ;

Star ; very late ;

Pomegranate, or musk (*fine*) *adoratissimus* ;

Palermo, very rich and fine ; flesh green, and keeps late in the season.

CULTIVATION. — The musk melon is raised from seed planted in April or May in a highly manured, warm, loamy soil, in hills 6 or 8 feet asunder. Those kinds intended for seed, should be raised remote from inferior sorts. The vines should be pruned of superfluous branches, and all superfluous fruits must be removed as soon as they appear

WATERMELON. (*Cucurbitus citrullus*.)

A native of Asia — and cultivated in all the warm and temperate countries of Europe, Africa and America. A very large, round, or oblong fruit, too well known in our climate to need a particular description.

USES. — The watermelon is a very refreshing and wholesome dessert fruit in the warm season: it mitigates thirst. From the watermelon an excellent sweetmeat called artificial citron may be prepared as follows. [See New Eng. Farmer, Vol. XI. No. 8.]

AMERICAN CITRON.

Pare the dark green from the outside and scrape the soft from the inside of the melon ; cut it in different form

and boil it in alum water until clear; throw it into spring water, where it may remain two or three hours, changing the water frequently.

“To one pound of fruit, take two of sugar, make a syrup of half the quantity and boil in it all the citron until done, when it will be transparent. At the expiration of two or three days, take the jelly from it, add the remaining half of sugar; boil and pour it over the citron, which will be ready for use. Season it with ginger, sliced lemon is preferable.”

The inspissated juice of the watermelon of the sweetest kinds, affords a bright, light colored syrup. A conserve and marmalade is also prepared from the fruit. At Sarpa on the River Volga, says Pallas, they brew beer from the juice.

VARIETIES. — 1. *Long Carolina*; 2. *Round Carolina*.

CULTIVATION. — The cultivation of the watermelon is in all respects the same as the musk melon. Innumerable and nameless fine varieties continually appear. But the same precautions are necessary to preserve the seed in its purity as are recommended for the musk melon. They require a highly manured rich warm soil.

APPENDIX.

FRUITS WHICH MAY BE CULTIVATED IN THE SOUTH WESTERN AND SOUTHERN STATES TO THE LAT. of 25°.

Most of these however may flourish in the Middle States; and a small portion may succeed in the North Western and Eastern States to the Lat. of 43°.

OLIVE. *Olea Europæa*. N. Duh. Pl. 25. Bon Jard.
Loudon. Phillips.

The Olive is a low, ever green, branching tree, throwing out numerous suckers from its roots; it rises to the height of from 25 to 30 feet; its leaves are stiff, narrow, simple, very entire, and more or less lanceolate in different varieties, dull green above and whitish below. The flowers are in small axillary bunches, of a yellowish white. The berry is a drupe of a black, violet, or red, sometimes white; its form oval, oblong, but varying according to the species; its hard, thick, fleshy pulp incloses a stone.

The olive requires a greater degree of heat than the vine, but not so great as the orange. It will not flourish within the tropics. Porteau informs us that in Europe, 45° of Northern latitude is the extreme boundary for the cultivation of the Olive. He also informs us that during his abode in the equatorial regions of America in the latitude of 17° North, he saw the Olive trees 30 feet in height: they grew, but they never produced fruit. The Olive has been cultivated from time immemorial in Egypt and Barbary, and in every part of Europe and Asia where the soil is favorable to its growth: it is naturalized to the South of France, Spain, and Italy. The trees are said to live to an incredible age.

USES. — The Olive tree has long been celebrated as the most useful of trees; inasmuch as its oil prepares vegetable food for the sustenance of man. In the deserts of Northern Africa and Asia, as we are informed, wherever the Olive groves are found, you find inhabitants. The same land in corn or any other production could not support them; but take away the Olive trees and the country returns again to the Desert.

The *Black Sweet Olive* and the *White Sweet Olive* are eaten without any preparation;

The other varieties are used at the dessert as a pickle. For pickling the unripe fruit is steeped in water some days, and then in a ley of water and Barilla, or kali and lime; and afterwards bottled or barrelled with salt and water. According to some they are scalded.

But the principal use of the Olive is for the production of the oil known in commerce as the Olive oil. For this purpose they are gathered by hand when five sixths are ripe, in a fine dry day, and laid on scaffolds three or four inches thick: here they are to remain 5, 6, 7 or 8 days, till the moisture contained in their pulp has evaporated, when they are ground and put into bags of hemp or rushes, carried to the press, and the oil is extracted by its action, without however crushing the stone. This oil is of the first quality, and is used as an article of food and medicine. That which is afterwards obtained by crushing the stone, from the remaining pulp, and from the kernel by the application of hot water, is of inferior quality. This last is used by the apothecary for various unguents; it is used in the preparation of wool in the manufactures; in the preparation of soap, &c.

VARIETIES.

In the New Duhamel and Bon Jardinier we have the following account of some of the best varieties known in cultivation.

1. OLIVE GALININGUE. OULIVIERE. LAURINE. *O. Angulosa*. Gouan.

A hardy variety; its fruit is reddish; it is used in many places for preserving; its oil is of medium quality, according to Gouan, but very good according to others.

2. OLIVE AGLANDEAU. CAIANNE. DEC. *O. Subrotunda*. Fruit small, round, very bitter; oil excellent.

3. OLIVE AMELLON. AMELLINGUE, PLANT D'AIX. *O. Amygdalina*. Gouan.

This is a variety the most generally cultivated; its fruit somewhat resembles an almond; it is sometimes used for preserving, but its oil is very sweet.

4. OLIVE CORMEAU. *O. Cranimorpha*. Gouan.

The branches incline towards the earth; it is very productive the fruit is small, crooked, pointed, very black; stone sharp at its two extremities.

5. OLIVE AMPOULLEAU, BARRALINGUE. *O. spherica*. Gouan.

The fruit is more round than any other variety; the oil is delicate.

6. OLIVE PICHOLINE. LAURINE. *O. oblonga*. Gouan.

The fruit is reputed best for preserving. The oil is fine and sweet. According to Rosier, some have given the same name to another and different fruit.

7. OLIVE VERDOLE. VERDAU. *O. Viridula*. Gouan.

It preserves its green color a long time : it is subject to perish at the period of its maturity ; it is highly esteemed at Pont-Saint-Esprit ; but neglected elsewhere. Is this owing to soil or cultivation.

8. OLIVE MOUREAU, MOURETTE, MOURESCOLE, NEGRETTE. *O. præcox*. Gouan.

Fruit oval, very deep color ; the stone is small ; oil esteemed ; there are several varieties of the Moureau.

9. OLIVE BOUTEILLEAU, BOUTINIANE, NOPUGETE. *O. racemosa*. Gouan.

This is little sensible to cold ; it is variable in its produce ; the oil is good.

10. OLIVE SAYERNE, SALIERNE. *O. atrorubens*. Gouan.

The tree is of small growth, and is sensible to cold. It grows in flinty and calcareous rocky soils. The fruit is a black violet ; the oil is of the finest quality.

11. OLIVE MARBREE. PIGAU. *O. variegata*. Gouan.

Fruit variable in size and in form ; it changes from green to red marbled with red, violet and white.

12. OLIVE TURQUOISE. *O. odorata*. Rosier.

Leaves large and numerous : fruit long, of an agreeable odor excellent to preserve.

13. OLIVE D'ESPAGNE, L'ESPANOLE, a variety of Aiguieres. *O. hispanica*. Rosier.

The largest olive of France ; esteemed for preserves ; the oil bitter.

14. OLIVE ROYALE, TRIPARDE, TRIPARELLE. *O. Regia*, Rosier.

Fruit large, suitable to pickle. Oil of bad quality.

15. OLIVE POINTUE. PUNCHUDE, ROUGETTE. *O. atrovirens*. Rosier.

Fruit long, pointed at its two extremities ; red at maturity, oil esteemed.

16. 17. Amongst all the varieties in cultivation we must not omit to mention the SWEET WHITE OLIVE and the SWEET

BLACK OLIVE, which, when ripe, may, unlike the others, be eaten without preparation.

By the aid of the researches of the Hon. H. A. S. Dearborn I am enabled to give an account of two other varieties. They are two varieties of the most hardy description, and the most important of all for the United States. In the southern part of the Crimea which lies between the latitude of 44° and 46° two varieties of olives have been discovered which have existed there for centuries. They yield great crops and resist the frost. The trees of one of these varieties is of a pyramidal form and produces an oval fruit; the other has pendant branches and a large heart-shaped berry. These olives have been cultivated in the Russian Imperial Garden of Nikita, to preserve and multiply the species, with plants which had been received from Provence, and have endured the rigorous winters of 1825 and 1826, while those of Provence, in the same exposure, perished even to the root. Measures have been recently taken in France for the introduction into that country of "*these two precious varieties, which are capable of resisting ten or twelve degrees of cold below the zero of Reaumur's Thermometer*" — equal of five degrees above the zero of Fahrenheit.—[See Vol. VIII. page 285, N. E. Farmer.]

CULTIVATION, SOIL, &c. — The olive is raised from seeds: For this purpose the fruit is stripped of its pulp and steeped in an alkaline solution, and planted in autumn or March. Also by cuttings, layers, suckers from the roots and by inoculation. But it is propagated in Italy, from the *uovoli*, which are small knots, swellings or tumours in the wood, occasioned by the sap not flowing freely to the roots, but swelling through the bark of the stock, thus forming excrescences containing embryo buds. These are easily detached by introducing a sharp penknife close to the trunk of the tree which sustains not the least injury by this operation. — *Remarks of Signor Manetti of Monza, near Milan, Lombardy. Loudon's Mag. Vol. vii. p. 663.*

The olive flourishes best in a rich, moist, deep soil; but the fruit is of much better quality in a dry flinty soil intermixed with calcareous rocks: it also suffers less from the frost in such situations.

The olive was extensively cultivated in France; but the winters of 1709, 1766, and 1787 were dreadfully destructive; the dreadful winter of 1789 destroyed all the olives between Arles and Aix where, in 1787, oil was produced to the amount of 300,000 francs. During the intensely cold winter of 1820 nearly every tree in Provence was killed. Under these discouragements its cultivation is in that country principally confined to a portion of the territories of Provence and of Languedoc; — to the

departments of the eastern Pyrennees and the Maritime Alps: not one fourth part of the oil consumed in France is now produced in the country, and it is stated that more than 50,000,000 francs are annually paid for supplies imported from Spain, Italy and the Levant.

M. Andre Michaux is persuaded the olive will one day be extensively cultivated in the Southern States of America. Mr Jefferson is persuaded that there is no tree so useful for the sustenance of man; and informs us that the supply of its oil would of itself create its own demand.

CAROB. (*Ceratonia caroubier.*)

A tree cultivated extensively in the south of Europe. The pods of this tree contain a sweet, eatable fœcula. A medium sized tree which flourishes in the central part of France. The flowers are in clusters, of a deep purple. Fruit a foot long, containing a reddish pulp of an agreeable taste when dry. It is raised from seeds and the wood is almost incorruptible.

CUSTARD APPLE. (*Annona.* — *Corossal.*)

Of this fruit there are several varieties. — Their fruit in congenial climates is said to be highly esteemed as an article of the dessert; particularly the *cherimoyer* (*A. cherimoyla*) of Peru, which produces its fruit in the south of Spain, is described as a superior fruit. This variety is also cultivated in Brazil.

The *Alligator Apple* (*A. palustris*), — the *Sweet sop* (*A. squamosa*), and *Sour sop* (*A. muricata*) are esteemed West India fruits. The fruit resembles a middle sized apple filled with a soft sweet pulp. The tree is deciduous, it is propagated by seeds, and by grafting either in the roots or above.

There is a variety a native of Kentucky, (*A. Glabra.*) [*Bon Jard. Loudon. Cat. Hort. Soc.*]

EUPHORIA. (*Dimocarpus, Longan.*) Loudon. Hort. Soc. Cat.

LONG-YEN.

This tree has compound leaves like the ash. It grows in China, the fruit is a berry of a light brown color; it is surrounded with a thin leathery coat. The pulp is a thin, colorless substance, and contains in its centre a brown seed. The flavor of the pulp is slightly sweet, subacid, and particularly pleasant to the taste. The fruit is sometimes imported in a dried state from China, and has a rich, sweet taste.

It is raised from seeds and layers. The Li-tchi and Rambutan both possess superior qualities to the Long-yen.

GRANADILLA. (*Passiflora.*) Loudon. Bon Jard.

Of this fruit there are a variety of species.

1. *P. QUADRANGULARIS.*

This plant flourishes near Paris, with a little protection in winter. The leaves are oval, five or six inches long and entire: the stem four cornered. The flowers are odoriferous, red within, and white outside. The fruit is described by Mr Sabine as very large, six inches long and fifteen in circumference. Greenish yellow at maturity, soft and leathery, with a smooth skin. The rind is very thick, the pulp soft and succulent, of a purple color, mixed with seeds in a sort of sack. Wine and sugar is commonly added. The flavor is sweet, and slightly acid, and it is very grateful to the taste and cooling in a hot climate. A native of Jamaica.

2. APPLE-FRUITED OR SWEET CALABASH. *P. Malformis.*

Fruit round, smooth, two inches in diameter, of a dingy yellow color. The skin is thick, the pulp pale yellow, and very agreeable. A native of the West Indies.

3. PURPLE-FRUITED GRANADILLA. (*P. Incarnata.*)

The color of the fruit is livid purple, the shape elliptic. It is two inches long and an inch and a half in diameter. The pulp is orange color, the seeds numerous; the taste acid, with the flavor somewhat like an orange. A native of Brazil.

4. FLESH-COLORED GRANADILLA. *May Apple.* (*P. Incarnata.*)

A native of Virginia; the flowers are sweet scented, variegated with purple. The fruit is about the size of an apple, orange colored with a sweetish yellow pulp.

CULTIVATION. — All the sorts may be propagated from seeds, from layers and from cuttings.

GUAVA. (*Psidium.*) Loudon. Bon Jard.1. WHITE GUAVA. *P. Pyriferum.*

A West India tree, naturalized in the interior of France where it produces perfect fruit. A tree 9 to 12 feet high, with numerous branches. The fruit is the size of a hen's egg, roundish or oblong, smooth, yellow. The rind is thin: pulp fine, full of hard seeds, flesh-colored, sweet, aromatic, and pleasant. It is eaten with avidity, both by West Indians and Europeans, raw in the dessert and preserved in sugar.

2. RED GUAVA. *P. Pomiferum.*

A beautiful fruit, formed like a pomegranate; but is not so agreeable as the white.

3. CATTLEY'S GUAVA. *P. Cattleianum*.

A new species from China. This fruit is larger than the others I have described, nearly spherical, of a fine, deep claret color. The skin has the consistence of a ripe fig but is thinner; the interior is a soft, fleshy pulp, purplish red next the skin, and changing to white at the centre. It is juicy, and much in consistence like the strawberry, to which it bears some resemblance.

The Guava is raised from the seeds. This last and the cherry fruited are stated to be the best. The plants of the yellow and red have produced abundant crops in England.

JUJUBE. *Zizypus sativus*. Loudon. Bon Jard.

LOTE.

A branching, thorny shrub from Syria, of the easiest culture in Italy, Barbary and China, and abundant bearers. It is much cultivated in Provence, from whence they are sent to Paris. They are served up as a sweetmeat in Italy. The leaves are oblong, obtuse, shining; the flowers very small and yellow. The fruit is yellow the size and shape of an olive. According to Loudon the kaki are orange or apple shaped.

LIN-KIV, (*Ed. Enc. Art. China.*)

A species of water chesnut, grows in China, of a cooling and agreeable taste, sometimes sold like filberts, in a green state; sometimes dried, powdered, and made into soup, and sometimes baked in the oven with sugar and honey. They sow the seeds at the end of autumn in the shallowest places of ponds and rivers in a south exposure.

LOQUAT. (*Mespilus Japonica.*) Loudon Hort. Soc. Cat.

ERIOBOTRIA.

A plant nearly hardy, from Japan, cultivated in the south of France and at Malta. A lofty tree with thick knobby branches — the leaves are narrow, a span long; the fruit has five cells and is produced in clusters, and is about the size of a gooseberry, and in taste resembling an apple. It is raised from seed, from cuttings, and layers, but the best way is to graft it on the common *Mespilus*. Sir Joseph Banks considers the fruit equally as good as that of the mango.

LUCUMA.

A new genus of fruit, it grows in Chili, in taste and size, it is somewhat similar to a peach. — *Ed. Enc. Art. Chili.*

MADI.

This plant grows in Chili; and is said to be a new genus, its seeds afford an oil which has been preferred to any of the French olive oils. — *Ed. Enc. Art. Chili.*

OLEASTER ELEAGNUS. *Angustifolius.* Hort. Soc. Cat. Bon Jard.

A tree of medium size, with leaves of a white color and lanceolate; the flowers small, numerous, and of a yellowish color, and an agreeable odor. The fruit is held in some estimation in Persia, and the fruit or *Persian date*, when dried, resembles an oblong plum, with a tough reddish skin, with a flavor not unlike that of the date, but more grateful. Raised from layers.

PINUS PINEA, or STONE PINE,

Is a tall evergreen, growing spontaneously in Italy, Spain, and Portugal. The kernels which are contained in the cones are eaten in those countries at the dessert, being preferred to almonds. They are esteemed useful in colds, coughs, &c. The trees flourish in any soil, but prefer a sandy loam.

PISTACHIA. (*Pistacia vera.*) Bon Jard.

A native of Syria. A tree rising to the height of twenty feet. The flowers are in clusters, and the barren and fertile blossoms are produced on different trees, but the barren may be engrafted into the same tree producing fertile flowers. The fruit is of a crimson green color and contains a greenish kernel of an agreeable flavor.

The Pistachia has been naturalized to the middle of France, and it flourishes at the Luxemburg, producing good fruit, but it is there trained as an espalier.

PRICKLY PEAR. (*Cactus. Cactier.*)

Of this singular fruit there are several varieties; we enumerate *C. oppunta*. — The upright prickly pear, a native of Virginia. The stems are jointed and without leaves, they are broad, flat, thick, with bristling spines, and trail on the ground. The fruit is in form of a fig or pear, with clusters of spines on the skin; its pulp is of a reddish purple color, and of an agreeable subacid flavor. Loudon enumerates several varieties, as the great Indian fig or upright prickly pear (*C. funa*); oblong Indian fig (*C. ficus indica*), &c.

The Virginia Prickly Pear (*C. oppunta*) has, as I am informed, flourished unprotected, and with no attention survived several hard winters near Boston. Accident produced this discovery. Mr Braddick, according to Loudon, has tried the plant in open ground, unprotected, during several hard winters. He cultivates them in a composition of half lime rubbish or carbonate of lime, and the other half equal parts of clay and bog earth. The plant is raised on a small hillock: stones and pebbles are laid to prevent the leaves or fruit touching the ground. Raised from seeds or cuttings.

THE POMEGRANATE, (*Punica.*) Loudon.

Is a low, deciduous tree, rising from fifteen to twenty feet high, armed with thorns; the leaves are long and narrow. A native of the south parts of Europe and China. It is used for hedges in Languedoc and Italy. There are several varieties enumerated by Loudon.

1. *The Subacid fruited*; 2. *Large flowered, single Red and White*; 3. *The semidouble, and double Red and White*; 4. *The Yellow flowered*; 5. *The variegated flowered*; 6. *Proliferous*.

POMEGRANATE. (*Punica granatum.*)

Sweet Pomegranate. N. Duh. Pl. 22.

Grenadier à fruit Doux. Ibid.

The flowers are of the most brilliant red; it blossoms successively from June to September, one of the greatest ornaments of the gardens.

The fruit is large, compressed at its base and summit, its diameter three or four inches; its skin is thick, of a leather like consistence, of a deep yellow color; spotted with red points, and colored with red next the sun. Its interior is divided into various unequal compartments, in which are contained a great number of angular seeds of the size and color of red currants; the pulp contains a juice, sweet, abundant and agreeable.

CULTIVATION. — The Pomegranate is raised from seed, from layers, from cuttings and suckers. It may be inoculated or grafted. It requires a strong rich soil.

TEA. (*Thea.*)

The tea tree is a native of China. It is chiefly cultivated between the 30th° and 40th° of latitude. It is a low tree, resembling in its appearance a myrtle; — its roots that of a pear; the flowers those of the wild rose. The fruit is of the size of a small plum, two or three growing together.

The quantity of tea annually imported into Europe and America from China, probably exceeds 100,000,000 lbs. Good tea is deemed wholesome, if taken in moderation with a due proportion of cream and sugar; but the fresh leaves of the shrub when made into tea, are highly narcotic, producing giddiness and stupefaction, before the noxious properties are dissipated by roasting. And it is not recommended to drink of its infusion till it has been gathered and prepared a year. There are, it is asserted, but two kinds of tea, the green and the black. The rest are either combinations of these, or products of different soils, or times of gathering and modes of management. The tea plant might be easily cultivated in the Southern States, and grows well in the Carolinas and Georgia. It is said to have been success-

fully cultivated by a society of nuns at Wurtzburg, in Franconia, in the lat. of 49° or 50° north.

The tea tree, in China, grows equally in the level and mountainous districts; but flourishes best in a light rocky soil. The seeds are sown in March, and transplanted into rows four feet apart and three feet in the row; but it is not generally allowed to grow more than six or seven feet high. The trees begin to yield crops at the end of three years, but at the end of six years the trees must be renewed, as the leaves begin to grow hard and harsh. The leaves which are gathered early in the spring are of a bright green color. Those of the second crop are of a livid green — and those which are gathered last, or in the latter end of spring, are of a dark green, and of the third quality. The leaves of the extremities of the branches are most tender. Those of the lower parts are the most coarse. After the leaves are gathered, they are exposed to the steam of boiling water. They are then made to shrivel or roll together, by being placed on plates of copper or iron, or of baked earth, over the fire, and next dried by exposure to the sun. But the green teas and those of the first quality are not dried by exposure to the sun, as this causes them to turn black. And in the preparation of some of the fine sorts, especially that called Tehu-tcha, every leaf is rolled singly in the hand with great care; after drying, it is packed in boxes lined with lead. — *Dom. Ency. Ed. Ency. Art. China.*

This last operation of rolling every leaf singly, by hand, of the finest kinds of tea, would never answer in a country like ours where labor is comparatively dear. If the operation is performed at all, it must be by machinery invented and constructed for the special purpose.

TCHEETSE,

A fruit of China, which resembles a fig, about the size of an ordinary apple, and which when dried, and flattened, are called Tchee-ping, and then equal to the best figs of Europe. — *Ed. Enc. Art. China.*

TARPA NATANS.

This plant grows in ponds, and is eaten like the Chesnut, and Mr Neill informs us that the canal of Versailles is covered with the plant, and that the root is sometimes served up at the table.

TUMA.

A species of Indian fig, grows in Chili, and is equal to any European fig. — *Ed. Enc. Art. Chili.*

FRUITS WHICH FLOURISH ONLY IN COUNTRIES SITUATED NOT VERY REMOTE FROM THE TROPICS.

All the following fruits will probably succeed in the south of Louisiana, and especially in Florida from the latitude of 25° to 30°, and many of them in the south of Alabama and Mississippi.

ORANGE. (*Citrus*.) Loudon.

Scientific writers have divided the Orange tribe into five leading species, which are all natives of Asia, viz. The common Orange, the Lemon, the Citron, the Lime and the Shaddock. The common character belonging to them, is that of low evergreen trees, with oval, lanceolate, or ovate, entire, or serrated leaves. Those raised from seed, have often auxiliary spines; the flowers in peduncles. The fruits are round or oblong, and of a yellow color. The petiole in the Orange and Shaddock is winged, but naked in the lime, lemon, and citron. The orange and shaddock are oblate or spherical, and of a red or orange color; the lime is of a pale color and spherical; the lemon oblong with a rough skin and a protuberance at the end. The citron is very rough, oblong, with a very thick skin.

All the species of citrus according to the authority of Loudon, endure the open air at Nice, Genoa and Naples; but at Florence, at Milan, and often at Rome, they require protection. The orange has been long cultivated in Florida, particularly at St Augustine — the orange groves are said to be extremely productive and profitable.

The orange has been much cultivated in Louisiana, and may perhaps succeed well in the extreme south of Mississippi and Alabama.

“*In the south of Devonshire,*” according to Loudon and Philips, “and particularly at Saltcombe, one of the warmest spots in England, may be seen in a few gardens, orange trees that have withstood the winter in the open air upwards of a hundred years. The fruit as large and as fine as any from Portugal. Trees raised from the seed, and inoculated on the spot, are found to bear the cold better than trees that are imported.”

VARIETIES.

1. COMMON ORANGE. *Citrus aurantium*. Loudon.

“A middle sized evergreen tree, with prickly branches in its wild state. The fruit is nearly round, and from two to three inches in diameter, and of a golden color. A native of India and China, but now cultivated in most countries of Europe; — in Spain and Italy in the open air.” The orange I have just described is commonly called the sweet or China orange.

2. MANDARIN ORANGE. *Citrus nobilis*. Philips.

So called from its superiority to all other oranges. Introduced to England in 1805, and not yet cultivated or generally known in Europe; it appears as hardy as other kinds. A most delicious variety; — the rind is of a deep saffron color, or between an orange and scarlet. The large variety often measures five inches in diameter: but the Chinese greatly prefer the smaller

variety of this orange, which the Botanical Register has stated to be an entirely distinct species from the common China orange, *Citrus aurantium*. A native of Cochin China—and cultivated at Canton. It would thus seem that there are two varieties of the Mandarin. Loudon says it is distinguished from other oranges by its curious form, and is the most delicate of all the orange tribe. Whence its name of Mandarin or Noble orange.

3. SEVILLE ORANGE, *Bigarade* of the Fr. *Bitter Orange*. This orange, which is a common sort, has an agreeably bitter taste.

4. BLOOD OR MALTESE ORANGE. Rev. Mr Bigelow's Travels.

This, according to Mr Bigelow, is the boast of the Island of Malta, and a most delicious fruit, "The pulp inclines to the color of red, but not so much in mass, as intermixed in streaks. It is not only more luscious, but less husky than the ordinary varieties of orange, and in size is far surpassing."

The above appear to be the most esteemed of all known.

USES.—The use of the orange as a dessert fruit is well known. The juice of the orange, from its pleasant sub-acid flavor, is serviceable in inflammatory or febrile diseases; by diminishing heat and allaying thirst. It is a powerful antiscorbutic. Orange Wine (*See Dom. Ency.*) is thus made. A gallon of water and three pounds of sugar are boiled and skimmed for twenty minutes, and when nearly cool, the juice expressed from eight Seville (sour) oranges is added, together with the shavings of the outer rinds. The whole to be placed in a barrel and after frequent stirrings for two days, to be bunged down for six months or more till fit for bottling. The outer rind also forms the basis of an excellent conserve, and [*See Dom. Ency.*] when preserved in sugar, is deservedly prized at the dessert, being one of the best stomachics, and a grateful aromatic bitter. The flowers of the orange tree have a highly "odoriferous perfume; they have a slightly pungent, bitter taste; and communicate their flavor by infusion to rectified spirits: or by distillation to spirit and water. An essential oil is also prepared from the flowers, of a perfume more delicate and agreeable in its fragrance than even the *Ottar of Roses*. It is prepared in Italy and Portugal, and there called *Essentia Neroli*.—[*Ib.*]

CITRON. (*C. Medica*.) Loudon.

A beautiful, evergreen, prickly, and upright tree, rising to the height of eight feet, with horizontal or reclining branches. The leaves are smooth, oblong, ovate, alternate, serrate, pale green. The fruit is six inches long, ovate, rough, with a protuberance at

the summit. There are two rinds, the outer rind is thin, the inner thick, white and pulpy. The outer rind has innumerable glands filled with a fragrant oil.

This fruit ripens successively at all seasons. The citron and lemon are not deemed so hardy as the orange, and will not endure so great a degree of cold.

USES. — The Citron forms an excellent preserve or sweatmeat. The juice with sugar and water, forms the refreshing beverage called lemonade. It is used in cookery and in medicine, and is powerfully antiscorbutic. There are many varieties.

LEMON. (*C. Medica, var limon*) Loudon.

The lemon and the citron differ but very little. The wood of the Lemon tree is more knotty, the bark rougher. The fruit is rather longer, more irregular, less knobby at the extremities and the skin thinner than that of the Citron. The uses are the same. Of the lemon, there are many varieties.

LIME. (*Citrus acida.*) Loudon.

A crooked tree, with many diffuse, prickly branches, which rises to the height of eight feet. The leaves ovate, lanceolate, nearly entire. The fruit nearly globular, an inch and a half in diameter, with a protuberance at its summit; the skin shining, yellowish, green and very odorous: the juice very acid. A native of Asia.

USES. — The lime is said to be rather preferred to the lemon in the West Indies, as the acid is by many thought more agreeable than that of the lemon. Hedges are formed of the tree in the West Indies.

The varieties of limes are very few.

SHADDOCK. (*C. Decumana.*)

ORANGE PAMPLEMOUSE of the French. Loudon.

The tree rising above the medium size, the branches spreading and prickly. Leaves ovate, neither acute nor obtuse; the petioles cordate, with very broad wings. Fruit spheroidal, its surface regular, of a greenish yellow color: the rind is white, thick, fungous, bitter; the pulp is red or white, with a subacid, sweet juice. This fruit is deemed the least useful class. Yet its extraordinary size gives it a striking appearance. It is stated to grow sometimes to the diameter of from seven to eight inches, and to the weight of fourteen pounds. But it requires two years to arrive at maturity in the climate of Europe. The leaf is the most beautiful of all the orange tribe. The juice is excellent to allay thirst, and from the thickness of the skin, it will keep longer in sea voyages than any other species.

CULTIVATION. — The trees are propagated either by seeds,

cuttings or layers. If raised from seeds they must be inoculated or grafted when of suitable size. For the seedlings are stated to vary as much in quality, as the seedlings of the apple and pear. The cuttings are prepared by stripping the lower leaves, and cutting at the bottom close to an eye; these are to be placed in a pot touching the bottom, and put in a warm situation, carefully shaded, and covered with a hand glass till rooted.

All the varieties require a strong soil, and a protected and favorable situation in unfavorable climates.

PINE-APPLE. (*Bromelia ananas.*) Hort. Trans. Loudon. by Phillips, Lindley and other sources.

The Pine Apple is a native of Brazil and of Mexico, from whence it has been introduced to Asia, Africa and Europe. According to Swinburn, it flourishes unprotected at Reggio near Naples. In America, it grows as far north as the Bermudas. According to Loudon "it is by no means so delicate as many imagine; as it will bear a higher degree of heat, and a degree of cold which would have destroyed the foliage of the vine and peach in a state of vegetation. The most northerly points where they are known to be cultivated in Europe unprotected in the open ground, is at Reggio near Naples. Lat. 40° 50'.

In America, at the Bermudas; in the latitude of 32°. Not a doubt can, I think exist, but this fruit may be cultivated in Florida, between the latitudes of 25° and 30°.

"The leaves of the pine-plant are long, narrow, channeled, and in general furnished with spines or prickles on their edges. The flowers are on a loose spike, on a scape, which is leafy at top; as the spike ripens, it takes the form of a fleshy scaly strobile, or fruit composed of many berries, which have scarcely any cells or seeds."

The fruit, in form bears some resemblance to the cones of some species of pine; its flesh is pretty firm, of a delicious fragrance; and for richness of flavor it is thought unrivalled. Some have described its flavor like that of "strawberries with wine and sugar." Extraordinary specimens have weighed from nine to ten pounds.

USES. — The pine-apple is considered the first of the dessert fruits; it is also preserved in sugar, and is used in the preparation of marmalades and other confectionaries. And the juice of the pine-apple fermented, affords a delicious and wholesome vinous liquor.

VARIETIES.

1. ANTIGUA QUEEN. Lindley.

Fruit large, oval, pips large and prominent; flesh deep yellow, rich and highly flavored.

2. BLACK ANTIGUA. *Brown Antigua*. Neill, Lindley.

Leaves of a brownish tinge with strong prickles. Fruit shaped like the frustrum of a pyramid, but somewhat oval, of large size; flesh pale yellow, and high flavored.

3. BLACK JAMAICA. Neill. Lindley.

The fruit is large, pyramidal brownish yellow. Flesh deep yellow and high flavored.

4. ENVILLE. *Coxcomb*. Lindley.

The fruit is pyramidal or oval-oblong, of medium size, deep orange; flesh pale yellow, and well flavored.

5. MONTSERRAT. *Indian Black Pine*. Ripley. Neill. Lind.

The leaves are broad, long, recurved. Fruit roundish ovate, color pale; pips angular; flesh pale yellow, very sweet and high flavored.

6. NEW BLACK JAMAICA. Lindley.

The leaves are long, the fruit is large, pyramidal, dark brown; flesh pale yellow, rich, and very high flavored.

7. WHITE PROVIDENCE. *New Providence*. Loudon. Lind.

The leaves are very large and long; the fruit is the largest of all pines, oval—oblong. Flesh very pale, sweet, and juicy. Weight from six to fourteen pounds.

QUEEN. *Old Queen, Narrow leaved Queen*. Lind. Neill.

Esteemed the hardiest kind. Fruit of medium size; oval form, of a gold color; flesh yellow, juicy and sweet, with a very pleasant acid.

9. RUSSIAN GLOBE. Lindley.

Fruit large, oval, dark orange; the flesh yellow, rich, and high flavored. A very excellent fruit.

CULTIVATION AND SOIL. — The pine apple is propagated by seeds, only for obtaining new varieties. But generally form suckers, or else from the *crowns* or excrescences growing on the fruit. The most suitable soil appears to be a mixture of good loam or with a suitable proportion of sand and vegetable mold or manure. The pine apple requires much heat and moisture.

PLANTAIN. (*Musa paradisiaca*.) Phillips. Loudon.

Some assign this plant to Guinea, some to the East Indies, whence it was carried to the Canary Islands and the West Indies, and to Egypt. It is an herbaceous perennial plant, as it dies, or is cut down annually. It rises with a soft, herbaceous, conical stalk, fifteen or twenty feet high, with leaves issuing from the top, six feet long and two feet broad. The fruit is produced on the summit in spikes, which sometimes weigh forty pounds. It is nine or ten inches long, and formed like a cucumber, but pointed

at the ends; of a pale yellow color, and soft, sweet, luscious flavor. The fruit makes excellent tarts, and excellent sweetmeats, and is the most wholesome of all confectionary. It forms a principal part of the food of the negroes, who either broil or roast it; they boil it with their salt beef, pork, and salt fish, and prefer it to bread, as do the Europeans. Dr Wright says, the Island of Jamaica would scarcely be habitable without this fruit, as no species of provision could supply its place. Dampier calls it the king of fruits. A plantation affords a succession of fruit for a whole year. It thrives only in rich, flat ground, and is propagated by suckers from the roots.

BANANA TREE. (*Musa sapientum.*) Loudon. Phillips.

It differs little from the plaintain, having its stalks marked with dark purple stripes and spots, and the fruit is shorter and rounder. The fruit is more mellow, and is either eaten raw, or roasted, in fritters, preserves, marmalade; and the fermented juice affords an excellent wine. This fruit, according to Swinburn, grows in the open air at Reggio. From the fibres of the tree of the Banana, cloth and cordage is made of uncommon strength.

AKEE TREE. (*Blighia sapida.*) Loudon.

The fruit is esteemed in the West Indies as very wholesome and nourishing; a native of Guinea, and grows from twenty to twenty-five feet high, with numerous branches; leaves like the ash, alternate and pinnate. The fruit is reddish or yellow, the size of a goose egg, with a pulp of a grateful subacid flavor. It is propagated in a rich soil, from seeds, cuttings and layers.

ALLIGATOR PEAR OR AVOCADO PEAR. (*Laurus persea.*) Loudon.

It grows in the West Indies to the height of thirty feet with a large trunk. The leaves are like the laurel, of a deep green. Fruit the size of a large pear, and held in great esteem where it grows. The pulp is pretty firm, and has a delicate, rich flavor — so rich and mild, that most people make use of some spice or pungent substance to give it poignancy — either wine, lime juice, but mostly pepper and salt. It is raised from seeds.

THE ANCHOVY PEAR. (*Grias cauliflora.*) Loudon.

This is, in the West Indies an elegant tree, rising to the height of fifty feet. The leaves are two or three feet long, and oblong. The fruit is oval, the size and shape of an alligator's egg. It is pickled and eaten like the mango of the East Indies, which it greatly resembles in taste. It is raised from the stones, and grows in moist bottoms or shallow waters.

AURUCANIAN PINE, OR PEHEUN,

Is by some supposed a new genus, its branches form a quadrangular pyramid; the leaves are three inches in length, heart shaped, hard and shining; its fruit attains the size of a man's head, and in taste resembles the chesnut. It grows in Chili. — *Ed. Enc. Art. Chili.*

BREAD FRUIT. (*Artocarpus incisa.*)

A native of the South Sea Islands, where it obtains the size of the oak; the leaves alternate, glaucous, and two feet long. The whole tree and its fruit, while unripe, abounds in a tenacious milky juice. The fruit is the size and shape of a child's head, with a rough surface and thin skin. It is eatable to the core, which is the size of the handle of a small knife. The eatable part is as white as snow, of the consistence of new bread. It is roasted before it is eaten. It is slightly sweet, and its taste somewhat insipid at first.

Raised from seeds, layers, or suckers.

DURION. (*Durio zibethina.*) Loudon.

A lofty East Indian tree, with leaves like a cherry, the flowers in clusters of a pale yellow. The fruit the size of a man's head, roundish or oblong, it resembles a rolled up hedgehog, with a hard bark or rind. The pulp is of a creamy substance and of a delicate taste. Rumphius says it is by much the most excellent fruit of India. Its smell is at first, heavy and unpleasant, but those accustomed to this fruit, consider it the most excellent of all.

MANGO TREE. (*Mangifera indica.*)

A large spreading East Indian tree, with lanceolate shining green leaves, of a resinous smell. The fruit is a drupe kidney shaped, some are as large as a man's fist; it is covered with a smooth, softish, pale green, yellow, or half red skin, and containing an ovate, woody, fibrous, compressed nut or stone, within which is an ovate kernel, soft and pulpy like a damascene plum. "When ripe it is replete with a fine agreeable juice. It eats like an apple, but is more juicy. It is esteemed very wholesome, and except pine apples, it is preferred to any other fruit in India."

Raised from cuttings or from seeds.

MANGOSTAN. (*Garcinia mangostana.*) Loudon.

A native of the Molucca Islands, but cultivated in Java and Malacca. An elegant tree, rising twenty feet, with a parabolic

head, a taper stem, branching like a fir tree, with oval leaves seven or eight inches long. The flower like a single rose. The fruit round, the size of an orange, the shell like the pomegranate. The seeds are disposed like those of the orange, and surrounded by a soft juicy pulp of a rose color, of a delicious flavor, partaking of the strawberry and the grape, and is esteemed the richest fruit in the world. It is wholesome alike for those in health or in sickness.

Raised from seeds or cuttings.

PEE-TSEE.

A species of water chesnut, which grows only in the southern provinces of China, in shallow rivers and ponds, with leaves like a bullrush, and hollow like the stalk of an onion. Its fruit in a capsule of its root, like the husk of a chesnut. -- *Ed. Enc. Art. China.*

ROSE-APPLE. (*Eugenia.*) Loudon. Bon Jard.

JAMROSADE. E. JAMBOS.

A tree from India, rising to the height of from ten to thirty feet ; leaves long, lanceolate and shining. The flowers are in clusters, of a yellowish white. The fruit the size of a hen's egg, with the taste of an apricot, and flavor of the rose. Some are white, some are red, and some are yellow.

(*E. Mallaccanensis.*) MALAY APPLE. Another species ; the tree and the leaves are larger. The fruit is ovate, an inch and a half in diameter, fleshy, with a sweet odor like the rose, agreeable to the taste and sight, and deemed wholesome. Common in most of the South Sea Islands. They are raised from seeds, and require a warm, moist atmosphere.

TAMARIND. (*Tamarindus.*) Phillips.

So called from *Tamar* (*Date* in Arabic.) The tamarind is cultivated in Arabia, Palestine, Egypt, and the East and West Indies. The tree is very large, with spreading branches and thick beautiful foliage. The leaves are pinnate, smooth, oblong, entire, of a bright green ; they close at night. The fruit is a pod from two to five inches long, inclosing from two to five seeds. The outer pod is thick, the inner as thin as parchment, inclosing the pulp, which is a soft pulpy substance. The fruit may be preserved in jars, with alternate layers of sugar. But in the West Indies the following mode is adopted. The ripe fruit is taken out of the pod, and placed in layers in a cask ; and the boiling syrup from the first copper in the boiling house, just before it begins to granulate, is poured in till the cask is filled ; when cool the cask is headed for sale.

The tamarind is raised from cuttings or from seeds.

TRYPHASIA. (*Aurantiola*.) Hort. Soc. Cat.

THREE LEAVED TRYPHASIA. *Limonia trifoliata*.

The fruit resembles a small orange, and is aromatic. It rises to a compact shrub or tree.

VARRONIA PLUM. (*Varronia alnifolia*.) Hort. Soc. Cat.

This fruit resembles a small plum. It grows against a south wall (in England.) It has borne fruit in the Botanic Garden of Madrid, and is believed to be a native of Mexico.

ORNAMENTAL FOREST TREES AND SHRUBS, CLIMBING PLANTS AND HONEYSUCKLES.

I will here briefly enumerate or describe a few of the most ornamental hardy trees, shrubs, &c. Those sorts particularly, which may be easily obtained, and at moderate prices. A just proportion of which are at this day considered indispensable appendages in every handsome garden.

In the disposition of trees and shrubs for avenues and the borders of walks, it is recommended to set them on either, or on both sides, in four ranks or ranges, according to their heights.

The first range, or that nearest to the avenue or walk, to consist of roses and shrubs of the lowest growth.

The second range to consist of shrubs, &c, which never attain to a greater height than from six to ten feet.

The third range, to consist of those trees which never attain to a very great height.

The fourth range, or outer rank, to consist of those trees only, which attain to the greatest elevation.

Thus when the whole have attained to their full height, the effect will be not less striking than beautiful.

A broad and extended avenue, thus lined on both sides, with the ranks or ranges at proportionate distances asunder, and rising in regular gradation from the centre, as they will when fully grown, would present to the view of the beholder a spectacle rarely witnessed with us.

Those marked thus * are evergreens.

“ “ “ † will admit of frequent repetition.

“ “ “ †† being very handsome, will admit of very frequent repetition.

“ “ “ S. S. require protection in winter, in northern climates.

CLASS I. — TREES OF THE TALLEST GROWTH, FOR THE
FOURTH OR OUTER RANGE.

‡‡ABELE OR SILVER LEAF. *Populus alba*.

A tree of rapid growth, rising to a great height; the leaves are cordate, pointed, of a very dark green above, perfectly white and woolly or downy beneath. The petioles are slender, and like the aspen, are set in motion by every breath of wind; and the lively contrast of the upper and under surface gives the tree a striking appearance.

‡‡ALIANTHUS OR TREE OF HEAVEN. *Ailanthus glandulosa*.

A tree from Japan or China, which there rises to an enormous height; with a small and very straight trunk; the leaves are pinnate, and from three to four feet in length. An elegant tree of extremely rapid growth. It answers well in the latitude of Boston. It is sometimes called *Tallou* or *Tillou*.

ASH. *Fraxinus excelsoir*.

A fine stately tree, which rises to the height of sixty feet, with pinnate leaves.

‡MANNA ASH. *F. rotundifolia*. This tree grows very tall and stately, with pinnate leaves. Manna is procured from this variety. That which naturally exudes is called *tear manna*; but that which is obtained by incision, is called *canulated* or *flaky manna*.

BEECH. *Fagus*.

The *F. ferruginea* or AMERICAN BEECH, is a tree of very compact and handsome form, and is deemed a handsome tree.

‡BUTTON WOOD. *Platanus occidentalis*.

A tree which sometimes attains an enormous size. Its growth is very upright; its leaves very large and lobed — a noble tree for lawns and avenues, although its appearance is rather stiff.

‡‡CATALPAS. *Bignonia catalpa*.

A native of America; a large tree with a round head; the leaves are very large and cordate; of a bright green. The flowers are in very large clusters, of a white color touched with purple; they appear in July, and are very showy and beautiful.

VIRGINIA CHERRY. See page 283.

‡HORSE CHESNUT. *Æsculus hypocaustanum*.

A noble and extremely hardy tree, evidently from Northern Asia. It rises from fifty to sixty feet in elegant and compact

proportion. The leaves are large, of a dark green, and the tree forms an impervious shade; the blossoms appear in May or June, they are in large clusters, of a white color mottled with red, and of a superb appearance. The fruit is large, inclosed in a prickly hull.

‡CYPRESS.

We enumerate two varieties, 1st, *Deciduous Cypress*; (*Cupressus disticia*.) a native of the southern states where it grows to an enormous size, very erect and stately and bears the climate in the latitude of Boston. 2d, *‡*White Cedar*, (*Cupressus thyoides*.) a tree which rises with a very straight trunk from seventy to eighty feet, the leaves are flattened and branching; a beautiful evergreen tree.

‡ELM, *Ulmus*. *Scotch Elm*, *Wych Elm*, *Ulmus montana*.

This variety has large leaves. The tree grows erect, and sometimes attains an enormous size. The bark assumes a black cast. The timber is very valuable. *American Elm*. (*U. americana*.) The growth of this variety is somewhat irregular—it attains a very large size and height, and the branches droop like the willow. It rises sometimes to a hundred feet. *Red Elm*. *Slippery Elm*. (*Ulmus rubra*.) Another handsome variety. *Cork bark Elm*. (*U. suberosa*.) All these varieties are fine for avenues and lawns.

‡LIME OR LINDEN. *Tilia*.

The European Linden rises in an elegant and pyramidal form; the American has a round head. The blossoms though not showy, have a sweet odor. Both varieties are of rapid growth, and form fine shades for streets and lawns.

‡*HEMLOCK, *Pinus canadensis*. *Weeping Spruce*.

An elegant tree, and neglected for no other reason than because it is so common. The foliage is very delicate. It differs from most other evergreen trees, as the Weeping Willow from most deciduous trees.

‡LARCH, *Pinus larix*, *Larix europea*.

Sometimes called *Scotch Larch*. This is a noble tree of a pyramidal form; its branches are disposed in stages, and grow in a horizontal direction; it is of extremely rapid growth, will flourish in almost any soil; and resists the severest cold; a beautiful tree while in leaf; its timber is valuable and of great durability.

‡AMERICAN LARCH, or *Hacamatæ*, *Pinus microcarpa*.

This tree is of a rapid growth, it attains to the height of forty feet. The tree is beautiful while in blossom and in leaf, and has a sweet odor.

LOCUST. *Robina pseudo acacia.*

A tall, beautiful tree, of very rapid growth, with pinnate leaves; the flowers are produced in racemes; they are white, and have a fragrant sweet odor. This tree, so valuable for its timber, is liable to the destructive attacks of a worm — and it has the demerit of throwing up innumerable suckers from its roots.

‡HONEY LOCUST OR THREE THORNED ACACIA. *Gleditsia triacanthos.*

A tree of rapid growth, which attains a stately size; a handsome tree with pinnate leaves; the seed pods are a foot or more in length. The tree is armed with triple or branching thorns, sometimes a foot long, of formidable appearance. A hedge properly trained, would soon be impassable to man or beast. The stems should be allowed to rise six feet in height, when they must be checked in their advancement to force out lateral shoots.

‡‡MAGNOLIA, BLUE FLOWERING. *M. acuminata.*

This tree is very hardy. It rises erect and in beautiful form to a great height in a congenial climate. The leaves are handsome, the flowers are of a blue color.

‡SCARLET MAPLE. *Acer rubrum.*

A large tree of a very handsome form; the leaves are cordate, lobed, dentate, downy beneath. The blossoms appear early in April; they are of a rich crimson hue. The leaves in autumn change to beautiful deep crimson.

SUGAR MAPLE. *Acer saccharinum.*

A tree of medium height; the leaves are large, three or five lobed; from its sap sugar is produced; a tree of utility and ornament.

*‡‡WHITE PINE. *Pinus strobus* or *Weymouth Pine.*

This tree rises to an enormous height, with a straight trunk; the leaves are very long and have a very delicate appearance. This tree so majestic in its appearance, so beautiful, and yet so useful, contends with the oak as monarch of our forests.

*‡‡SILVER FIR. *Fir Balsam, Balm of Gilead. Pinus balsamea.*

A native of the Northern parts of America. An evergreen tree of a tall and elegant appearance: the leaves are dark green above and of a silvery hue beneath; a tree much admired for the beauty of its form and foliage.

*‡SPRUCE. *Pinus.*

The *Black Spruce, P. nigra.* and the *Red Spruce, P. rubra,*

Norway Spruce, *P. abies*, are all ornamental varieties and deserving a place in every large garden. The branches of most of these varieties incline to grow horizontally.

‡‡SYCAMORE. *Acer pseudo platanus*.

The tree grows tall and of elegant form; the leaves are very large, broad, of a dark green hue. A tree of ornament. 2d, *Striped leaved Sycamore*. *A. fol. var.* A variety with beautiful striped leaves.

‡‡TULIP TREE. *Liriodendron tulipifera*.

A very majestic tree which rises with a straight trunk to the height of eighty or a hundred feet. The leaves are large, of a singular form, of a bright green. The flowers appear in June and much resemble the Tulip, of a greenish yellow, touched with red.

‡‡WEeping WILLOW. *Salix babylonica*. PARASOL.

A well known tree, rising to the height of forty or fifty feet; its branches drooping; one of the most elegant of all shade trees. Its outline when standing insulated is pleasing and very striking. The *Napoleon Weeping Willow* is the same, but is raised from the branches brought by Capt. Jacob Smith of Rhode Island from the tomb of Napoleon at St. Helena. 2d, *Golden Willow*, *S. vitellina*, a variety with bark of a gold color which attains a stately size.

CLASS II. — TREES OF SECONDARY HEIGHT FOR THE THIRD RANGE.

‡ACACIA, PURPLE FLOWERING. *Robinia viscosa*.

A tree which never grows tall, the young wood is glutinous the flowers are of a purple color and in large racemes.

‡LARGE DOUBLE FLOWERING ALMOND. See page 248.

APPLE.

‡CHINESE DOUBLE FLOWERING. See page 58.

‡RED SIBERIAN CRAB. See page 57.

‡YELLOW SIBERIAN CRAB. See page 58.

‡CURLED LEAVED ASH. *F. atrovirens*.

A very curious and striking variety, a most singular tree. The growth is very upright; the young wood very thick and blunt; the leaves curled; of the darkest green shade. 6. ‡*Golden Ash*, (*F. aurea*.) The bark of this singular variety is of a gold color.

CHINESE ASH. *Fraxinus sinensis*.

An ornamental and singular variety — the leaves are small and very narrow, of a dark green shade.

‡WEEPING ASH. *F. pendula*.

A variety with pendant branches; and very ornamental.

‡‡PURPLE BEECH. *F. purpurea*.

A tree remarkable for its leaves, which are of a dark crimson or purple hue, which appear to most advantage in June or July. In autumn they fade to purplish green.

‡‡MOUNTAIN ASH. *Sorbus aucuparia* or *Roan tree*.

A tree rising in an elegant and pyramidal form to the height of thirty feet. The tree itself is an ornament and its flowers which are in large clusters. In autumn the tree is covered with large clusters of red berries, and its appearance at this time is very striking and beautiful.

*RED CEDAR. *Juniperus virginica*.

This tree when properly trained makes an elegant hedge. By clipping it grows remarkably compact.

‡DOUBLE FLOWERING CHERRY. See page 282.

S. S. ‡‡FRANKLINIA. *Gordonia pubescens*.

A tree growing from six feet to thirty in a congenial climate. Universally admired for its large and beautiful white flowers, with a yellow centre and of extraordinary fragrance.

HERCULES' CLUB. *Angelica tree*. *Aralia spinosa*.

A tree of low growth, of a singular aspect, the limbs are covered with stiff thorns. The flowers are in large bunches and last a long time.

JUDAS TREE. *Cercis siliquastrum*.

A low tree, which produces its flowers very early, before the appearance of the leaf; it is at that time an ornamental variety.

KENTUCKY COFFEE TREE OR BONDOC. *Gymnocladus canadensis*.

A singular tree in its appearance; the young wood is remarkably stout and thick; the berries are said to be used as coffee.

‡‡LABURNUM. *Cytissus laburnum*, or *Golden Chain*.

An elegant small tree, producing a profusion of long bunches of yellow flowers. There are two varieties, the common and the ALPINE or SCOTCH; the latter is the most beautiful and is believed to be the hardiest.

‡‡MAGNOLIA.

Of this splendid tree there are many varieties.

1st. *Chinese Purple Flowering*, (*Magnolia obovata*), with flowers of a fine violet purple outside, and white within.

‡‡2d. *The Chandelier Magnolia* or *Yulan*. (*Magnolia conspicua*.) Another Chinese variety with large elegant white flowers, shaped like a Chandelier.

‡‡3d. *The Magnolia cordata* or *Yellow Twice flowering*. The flowers of this variety are yellow, it does not grow large.

‡‡4th. *Magnolia glauca*; for description see third section.

‡‡5th. *Splendid Magnolia macrophylla, large leaved*. The leaves of this variety are over two feet in length. The blossoms very large, and of a yellowish white, very beautiful with a fine odor.

‡‡*Magnolia purpurea*. Highly spoken of by Mr Loudon.

‡‡*Magnolia tripetala*. (*Umbrella Tree*.) A tree which rises to a very moderate height, with very large leaves, and very large single flowers four inches in diameter, of a white color and fragrant odor.

S. S.*‡‡*Great Flowering Magnolia*. (*M. grandiflora*).— A tall, superb evergreen tree, rising in a congenial climate to the height of sixty or eighty feet; the leaves are oblong, of a shining green. The flowers are very large, of a fine fragrant odor. It does not bear a northern climate.

‡‡MOUNTAIN SNOW DROP. *Chionanthus montana*.

This tree rises from ten to twelve feet in height; the leaves are oblong, broad, laurel shaped, of a blackish green; the flowers are in clusters, very singular, and white, like flakes of snow. Last of May and June.

‡CHINESE PAPER MULBERRY. *Brousonetia papyrifera*.

A large tree with a round head; the leaves are large, rough, some are cordate, some entire, some five lobed. The fertile and barren blossoms are produced on different trees. This tree is of rapid growth and ornamental.

‡‡CHINESE MULBERRY. *Morus multicaulis*. See page 286.

A tree of rapid and upright growth; the leaves are very large and cordate; their upper surface is curled or convex, of a deep shining green, and very ornamental.

‡‡OSAGE ORANGE. *Maclura aurantiaca*. *Bow-wood*.

A native of the Arkansas and Missouri, where it rises in beautiful proportion to the height of sixty feet, and has been pronoun-

ced one of the most beautiful of all our native trees. The leaves are oval and lanceolate, of a bright shining green; they resemble those of the orange, and the branches like those of the orange, are covered with long thorns. The fruit is large, the size of an ostrich's egg, and of a curious and beautiful appearance, but not eatable. The wood is very fine, remarkably strong and elastic, and on this account is preferred by the Indians to all other wood for their bows. The wood yields a fine yellow dye, and it is supposed will be admirable for hedges. I know no material so beautiful and yet so hardy for this purpose. It deserves trial.

PEACH. †*Double Flowering Peach*. See page 216.

‡*Weeping Peach*. See page 229.

‡S. S. PRIDE OF INDIA. *Melia azedarach*.

A tree from India or China of very rapid growth, much used in the southern cities for ornamenting streets. The leaves are pinnate, of a deep shining green, and beautiful; the flowers are in large oblong clusters, of a bluish white or lilac, and of a fragrant odor.

‡SHEPARDIA or *Buffalo Berry Tree*, (*silver leaved*.) See page 340.

‡*SWEDISH JUNIPER. *Juniperus suecica*.

A hardy tree, which does not rise to a very great height. Its appearance is very singular when trained in a narrow pyramidal form by tying in the branches.

BLACK WILLOW. *Salix nigra*.

A low tree; the young wood of this variety is of a shining deep violet or black, and covered with a pale blue glaucous bloom.

‡RING WILLOW. *Salix annularis*.

A very curious and singular tree, the leaves are curled in the form of a ring or hoop. Also called *Hoop willow*.

‡VENETIAN SUMACH, *Rhus cotinus*. *Smoke tree*. *Purple Fringe Tree*. *Aaron's Beard*. *Jupiter's Beard*.

An elegant shrub or tree, rising from six to twelve feet, with a round head; the leaves are round, and have the odor of citron. The flowers are very striking, and have a beautiful appearance; they appear in June, are in large tufts of a purple color. In September and October they change and appear like masses of wool. One of the most beautiful shrubs; its appearance is very conspicuous and superb.

CLASS III. — TREES OF LOW GROWTH OR SHRUBS.
 VARIETIES WHICH SELDOM ATTAIN TO A GREATER
 HEIGHT THAN FROM SIX TO TEN FEET, FOR THE
 SECOND RANGE

‡ROSE ACACIA. *Robinia hispida*.

A low growing shrub, which produces a succession of large clusters of pale blue or purple flowers.

‡‡ALTHEA. *Hibiscus syriacus. fl. pleno. Althea frutex.*

A native of Asia. But bears the winters at Boston perfectly well. One of the most ornamental of all shrubs, rising to the height of six or eight feet. The leaves are three lobed. The chief varieties of the Double Althea are the *Double Blue*, *Double Purple*, *Double Red*, *Double White Striped* or *Pheasant's Eyed*, and *Double White*, &c. &c. This last does not flower well in the latitude of Boston. The Altheas commence flowering not long after the hardy roses are gone and continue blooming till late in Autumn. They are indispensable in every good garden.

‡‡AZALEA.

This variety of honeysuckle is much admired. The pink and the white are the most common and are natives of our woods, they are extremely beautiful when in bloom. The varieties known in cultivation may exceed a hundred.

‡CALYCANTHUS. *C. floridus. Alspice, or sweet scented shrub.*

A hardy shrub, rising six or eight feet in height, the flowers are of a brown purple, of an agreeable odor like spices. The leaves are very fragrant.

‡CHINESE CALYCANTHUS.

A variety with white flowers; there is another Chinese variety with yellow flowers.

‡WEEPING CHERRY. See page 283.

‡COLUTEA.

Of this shrub there are the *Colutea arborescens*, with clusters of yellow flowers during summer — and seed in a thin inflated membranous case, also the *C. Pococki*, with dark yellow flowers. Both are ornamental.

MISSOURI OR JEFFERSON CURRANT. *Ribes Missouriensis.*

A shrub rising to the height of six feet, with clusters of bright yellow flowers, of a fragrant odor in spring.

INDIAN CURRANT. *Symphoria glomerata*.

A low shrub, the leaves are very small, oval. The fruit, for which alone it is most remarkable, is profusely clustered on the branches, and of a red color, but not eatable.

DIRCA PALUSTRIS.

Leather wood, so called, from the uncommon flexibility of the tree, and its branches. It rises from four to six feet, in form of a tree; the flowers are yellowish white, the leaves are oval.

BLOODY DOGWOOD. *Cornus sanguinea*. *Red twigged Dogwood*.

The flowers are produced in clusters, but neither these nor the leaves are very striking. In winter the wood assumes a beautiful crimson color, and is in that season much admired.

WHITE FLOWERING DOGWOOD. *Cornus alba*.

A shrub not very uncommon in our woods, producing a profusion of blossoms, of a dull white, resembling the single rose.

‡ENGLISH FLY HONEYSUCKLE. *Lonicera xylosteum*.

A small tree or shrub, rising to the height of seven or eight feet; the leaves are dark green above, downy beneath. The flowers small, of a straw color, but not very conspicuous. The berries are bright red — and the shrub is considered ornamental. The flowers appear in June and July.

‡TARTAREAN HONEYSUCKLE. *Lonicera tartarica*.

A shrub rising from four to five feet in height. The flowers are small, of a pale red color, and appear early in April. This shrub is much esteemed.

‡‡DWARF FLOWERING HORSE CHESNUT. *Æsculus macros-tacia*.

A native of America. It rises to the height of five or six feet, producing large spikes of beautiful white flowers of a fine odor and elegant appearance.

S. S.‡HALESIA. *Snow Drop Tree or Silver bell*.

There are two varieties of this tree, the *H. diptera*, and *H. tetra-ptera*. The former the two winged, the latter the four winged — the blossoms are pendant and of a pure white.

‡HAWTHORN. *Cratægus oxyacanthus*.

A tree of medium size. There are several varieties which are very ornamental when in bloom. These are the *Double White* and the *Scarlet*. This plant is much used in Europe for hedges, but is not so well calculated for our hot summers.

‡INDIGO SHRUB. *Amorpha fruticosa*.

This produces spikes of blue flowers in great abundance, of handsome appearance.

‡‡LILAC. *Syringa vulgaris*.

A beautiful shrub, rising from six to eight feet in height, it flowers in large clusters in April and May, of a fragrant odor. There are two varieties; one with flowers of a *bluish violet*; the other those of *pure white*.

‡‡PERSIAN LILAC. *S. persica*.

This shrub rises six or seven feet in height. The leaves are pointed and of less size than the common Lilac. The flowers are smaller and more delicate. There are several varieties. 1st, *Purple Persian L.*; 2d, *White Persian L.*; 3d, *Cut-leaved or Chinese L.*, with curious leaves.

‡‡MAGNOLIA GLAUCA. *Glaucous magnolia*.

A low tree or shrub with oblong glaucous leaves, and beautiful white flowers of a fragrant odor. This plant is a very hardy and flourishes best in a mixture of bog earth and common soil.

*‡‡MOUNTAIN LAUREL, *Broad leaved Kalmia*. *Kalmia latifolia*.

A superb evergreen shrub, very hardy; a native of the Northern States of America. It rises five or six feet; the leaves are oblong and shining; the flowers are in large convex clusters, of a rose or carnation hue, and appear in June or July.

MOUNTAIN ROSE OR RASPBERRY. *Rubus odoratus*.

A low shrub, remarkable for its very large green leaves, and a succession of blue flowers like small single roses. There is a variety with large white flowers.

S. S. ‡‡POMEGRANATE. See page 373.

‡PRIM OR PRIVET. *Ligustrum vulgare*.

A sub-evergreen, rising eight or ten feet; the leaves are lanceolate of a very dark green like the myrtle; the flowers are white; the berries black, in large clusters. This plant forms a beautiful hedge. ‡2. *Variiegated Leaved Privet*. (*L. variegatum*.) The leaves of this variety late in autumn are blotched with a bright gold color. 3. ‡*Chinese Privet*. (*L. sinensis*.) A variety with leaves of the same dark green as the preceding, but of much larger size.

‡‡JAPAN QUINCE. *Cydonia japonica*, or *Pyrus japonica*, *Japan Pear*. See page 206.

‡CHINESE QUINCE. See page 206.

*‡RHODODENDRON MAXIMUM. ROSE BAY. *Great Rhododendron.*

An evergreen shrub, a native of America. It rises from six to sixteen feet in height, with numerous branches. The leaves are large, oblong and thick; of a dark shining green, and beautiful. In July the flowers appear in large convex clusters, at the ends of the shoots, of a reddish hue; they are extremely beautiful, and last a long time. A moist soil is the most suitable. A very hardy variety.

*‡RHODODENDRON PONTICUM OR PONTIC ROSE BAY.

A beautiful variety, of foreign origin. The leaves are large, shining and beautiful. The flowers appear in midsummer, on the ends of the shoots, in large clusters, and are of a violet or purple color. A very beautiful shrub. A moist, sandy soil suits it best. This variety is believed not so hardy as the former species.

‡SNOW-BALL or *Guelder Rose. Viburnum opulus.*

An elegant shrub, blooming very early and profusely in spring, in large, round, white clusters like balls of snow.

JAPAN SOPHORA. *Sophora japonica.*

A tree rising with a straight trunk, to a great size in congenial climates. The branches are pendant; the flowers in clusters of a dull white. It was for a long time known that this tree produced the Japan Imperial yellow dye; but the bark, leaves, and wood failed of producing it. But it is lately discovered to be produced from its fruit.

SPIRÆA.

Of the Spiræas, there are several varieties; they are all ornamental. We enumerate

1. GUELDER ROSE SPIRÆA. *Spiræa opulifolia* or *Nine bark.* A shrub rising six or eight feet, with large round clusters of white flowers in spring.

‡2. SIBERIAN SPIRÆA. *S. lævigata.* A shrub rising five or six feet high, producing beautiful spikes of white flowers in spring.

3. RED FLOWERING. *S. tomentosa.* Produces handsome red spikes of flowers, and is neglected only because it is so common.

‡4. NEPAL. *S. Bella.* Produces elegant red flowers.

‡STRAWBERRY TREE. *Euonymus.*

Of this tree or shrub there are several varieties. In autumn the trees are covered with a profusion of red berries, and are then deemed very ornamental.

SYRINGA. *Philadelphus coronaris*.

A very ornamental shrub, producing a profusion of white flowers very early in spring, of a sweet fragrance. The *variegated leaved* is a curious species.

‡CAROLINA LARGE FLOWERING SYRINGA. *Philadelphus grandiflorus* or *Garland Syringa*. Very hardy; flowers in garlands, and the flowers continue a long time.

CLASS IV.—SHRUBS OF LOW GROWTH. VARIETIES WHICH SELDOM RISE BUT FROM TWO TO FIVE FEET, FOR THE FIRST OR INNER RANGE.

‡‡DWARF DOUBLE FLOWERING ALMOND. *Amygdalus nana*.

A superb shrub, flowering early in spring in profuse clusters of very double blossoms like small roses, of a rose or pink color; one of the most ornamental shrubs of its season. See page 248.

YELLOW DIERVILLA. *Diervilla lutea* or *Arcadian Honey-suckle*.

A low growing, hardy, ornamental shrub. The wood is perfumed when broken; the flowers are small, of a yellow color, and slightly fragrant.

S. S. ‡‡CAMELLIA JAPONICA or JAPAN ROSE.

A beautiful evergreen tree, producing flowers like roses, of various shades, extraordinary beauty and fragrance. It requires effectual protection in the northern and middle states. It flowers in winter.

‡‡CORCHORUS JAPONICUS. *Keria japonica*, *Japan globe flower*.

An elegant shrub from Japan, rising with many flexible stalks, to the height of five or six feet. The flowers which are produced in succession from spring to autumn, are very double and of a globular form, and bright yellow color. This plant is strikingly beautiful. It bears the winters well in the latitude of Boston, with a very slight covering of straw or leaves, but generally without any protection whatever.

‡‡DAPHNE MEZEREON.

A low shrub, rising from two to three feet in height, with small lanceolate leaves. In March the whole plant is decorated with flowers of a violet or white hue and beautiful appearance. An elegant shrub.

##WHITE FLOWERING MEZEREON, is beautiful but taller than the red.

##PÆONIA.

The *Tree Pæonies* are asserted to be as hardy as oaks. The flowers are of large size and splendid in appearance. They are from China.

ST JOHN'S WORT. *Hypericum*.

Of this there are several varieties ; the *H. frutescens* is a low shrub which produces in summer a profusion of flowers of a yellow color.

##SCOTCH BROOM. *Spartium scoparium*.

A singular shrub, rising with many flexible stalks like a broom ; the flowers are yellow and very showy, the appearance of this shrub is striking. *Siberian broom*, a low trailing shrub producing a succession of yellow flowers.

##SNOWBERRY. *Symphoria racemosa*.

A very hardy shrub from the Rocky mountains. The berries, which are the size of a cranberry, are in clusters, and are very white and delicate like wax, and very ornamental.

##ROSE. *Rosa*.

The rose is justly called the queen of flowers, for its size, and various beautiful shades and delightful fragrance. The colors vary from a pure white to red, to deep violet, and nearly to black. The yellow rose is not very uncommon. The rose is an indispensable requisite in every good garden. The lists enumerate at least one thousand names of hardy roses.

S. S. ##CHINA ROSES.

These require a little protection during winter, in the northern states. They are mostly ever-blooming, and universally admired on this account. They should be planted in the open ground in June, and may be again taken up in September ; or protected with moss or evergreen, and suffered to remain out during winter. The most common are the *China Blush* and *Sanguinea*. The *Champney's Blush Cluster* and *Noisette* ; of these last there are many varieties, all blossoming in superb clusters. Others less common, are the *Knight's Resplendent* ; the *Grandval* or *Hermite*, more splendid still ; both these last are of a dark crimson hue. The *Blush Tea Scented* of exquisite fragrance, and the *Undulata*. The *Multiflorus*, *Blush*, and *White* and the *Lady Banks' White* and *Yellow*, and the *Grevilli* are all running roses, and blossom in beautiful clusters ; but they do not blossom well except in a warm exposition. The *Belle de Monza*, the *Yellow Tea Scented* are not common, but celebrated

new kinds. There are many kinds not less beautiful perhaps than these, but still less known.

‡‡DAHLIA, GEORGINA.

Although this plant belongs to the herbaceous class, I have yet ventured to insert it here. A noble plant, a native of Mexico. A plant but lately known amongst us, rising from three to ten feet in height. It flowers profusely in autumn, after the hardy roses are past, and continues in flower till hard frosts commence. The flowers are magnificent; they are of a great variety of shades, and surpass those of the rose and camelia in size and splendor, although they fall short in fragrance. Its roots are large, oblong tubers, and some have supposed, they might by preparation answer as food for man or the domestic animals.

CLASS V. — HONEYSUCKLES AND CLIMBING PLANTS.

ARISTOLOCHIA SIPHO.

A rapid growing vine, with very large leaves, which are round, cordate, entire, of a bright green; the flowers, which appear in June and July, are of an obscure purple, and of curious form, resembling a pipe. Admirably calculated for arbors from the large size of the leaf.

‡‡BIGNONIA RADICANS or *Trumpet flower*.

A rapid growing plant, a native of America, which extends its branches to a great distance; the foliage of a fine green and numerous; from every joint roots are emitted which attach themselves to the earth and walls and structures of wood. The flowers are in clusters, each flower about four inches in length, in form of a trumpet, of a beautiful flame color.

There is a variety called the *Minor*.

‡‡BIGNONIA GRANDIFLORA.

A variety from China, but not so rapid in its growth; a fine climber. The flowers are large, and more in the form of a bell than trumpet, and of a fine flame color. Both are very showy and beautiful.

‡‡CHINESE GLYCINE. *Glycine sinensis* or *Wistaria consequana*.

A beautiful vine of rapid and very extended growth; the flowers are very numerous, in long clusters or racemes of a purple color. This plant is from China, and is highly spoken of by Mr Loudon.

##CLUSTER FLOWERING GLYCINE. *Glycine frutescens*.

This appears to be of more vigorous growth than the Chinese. in our climate. A very rapid growing vine. The flowers of a deep purple color, and in long clusters, or racemes, of a beautiful appearance. A native of the southern states, but hardy.

*##IVY, EVERGREEN OR IRISH BROAD LEAVED GIANT IVY. *Hedera helix*.

This perhaps is one of the most beautiful of all plants for covering arbors and walls. I suspect, however, our summers are too warm for it. On the north sides of buildings alone, I have observed, it flourishes in all its unfading beauty.

‡VIRGINIAN IVY, or *American Ivy*. *Cissus hederacea*.

A remarkably rapid growing vine, and eminently calculated for covering walls, &c. The leaves are large and palmated, changing in autumn to a fine crimson. This ivy is deciduous.

##ROSA RUBIFOLIA or *Raspberry leaved Rose*.

This is the handsomest and finest of all the hardy running roses yet known. Its growth is very rapid and strong. When well established, it will run near twenty feet in a season; and although the flowers are small and perfectly single, yet they are in superb clusters like the Noisettes, and of different shades on the same bunch. A native of the west. The Ayrshire cannot compare with it. This rose flowers in July, after most other hardy roses are gone; and may, perhaps, like the *Cherokee* of the south, make a fine hedge.

*S. S. GREVILLI, very rapid growing; flowers in fine clusters of different shades.

*S. S. BLUSH MULTIFLORA. Rapid growing; flowers in superb clusters.

*S. S. WHITE MULTIFLORA. *M. alba*. Superb white clusters of roses; beautiful.

*S. S. LADY BANKS'S. Two varieties, the white and the yellow; both very beautiful, flowering in clusters.

*S. S. CHEROKEE. Not remarkable for the beauty of its flowers, of very rapid growth; used in Carolina for hedges.

VIRGIN'S BOWER. *Clematis*.

Of this plant there are several varieties, some are hardy and some are tender. The *Traveller's Joy*, (*C. vitalba*.) is one of the most hardy and rapid growing varieties.

HONEYSUCKLES. *Lonicera*. *Twining Honeysuckles*.

‡EARLY WHITE ITALIAN. *Lonicera caprifolium*.

The flowers of this variety are white, and of a very delicate

appearance; they appear very early, but their duration is short; the vine is of very rapid growth.

‡EARLY VARIEGATED BELGIC.

A variety similar to the monthly, variegated in its blossoms, but it differs from that in flowering but once, very early and profusely.

‡‡CHINESE VARIEGATED MONTHLY, or *Chinese twining*.
Lonicera flexuosa sinensis.

This beautiful honeysuckle is from China, and like many other productions of that country, it appears to be perfectly hardy. The vines are very flexible, and of rapid and very extended growth; it rises to a very great height; the flowers are in pairs, or triple, covering the plant in profusion from spring to autumn; they are beautifully variegated with red, white and yellow.

‡‡VARIEGATED MONTHLY HONEYSUCKLE or *Belgic*.
Lonicera Belgicum.

One of the most beautiful of all varieties; the flowers last from spring till late in autumn, the colors are variegated with white and yellow and red; they are very fragrant.

‡‡SCARLET TRUMPET MONTHLY or *Coral*. *Lonicera sempervirens*.

Almost an evergreen; one of the most rapid growing of all. The flowers are of a fine scarlet, in form of a trumpet, and are produced in profusion from spring till winter; the foliage is large and beautiful, of a dark shining green. A native.

‡‡YELLOW MONTHLY TRUMPET. *Lonicera frazera*.

The foliage of this is of a bright green. The flowers differ from the Scarlet Trumpet only in being of a bright yellow color; like that it is a native of America.

‡ORANGE PUBESCENT. *Lonicera pubescens*.

This is a native of the northwestern coast of America. The leaves are downy; the flowers are large, and of an orange color.

S. S.‡JAPAN HONEYSUCKLE. *Lonicera japonica*.

The flowers of this variety are produced in profusion, of a pale yellow color. It is highly spoken of by Mr Loudon, but it does not withstand our winters without protection.

There are many other varieties. The *Douglasi*, a native of America, has very large foliage.

ETRUSCAN or TUSCANY, ORANGE-COLORED. *L. etrusca*.
A new and beautiful variety, with flowers of an orange color.

FLOWERS.

The lists of flowers recommended by most authors are much too extensive for general purposes. I have made choice of the list recommended by Mr Niell, (Ed. Ency. vol. x. part 2, on Horticulture,) with some omissions and some additions. It includes the most showy and conspicuous varieties, and however small the list, I am perfectly aware it may be thought by some too extended.

1. FLORISTS' FLOWERS.

These flowers are in a peculiar manner distinguished by the title of *Florists' Flowers*. They are cultivated in beds by themselves; the principal are these, 1. the Tulip; 2. the Ranunculus; 3. the Anemone; 4. the Iris; 5. the Dahlia; 6. the Pink; 7. the Carnation; 8. Polyanthus; 9. Auricula; 10. Hyacinth; 11. Polyanthus Narcissus, and 12. the Crocus.

2. PERENNIALS.

Tall growing showy flowers, to intermix in the shrubbery border.

For the shrubbery border, the following are recommended as the most suitable tall growing herbaceous plants: 1. Hollyhock, (*Althæa rosea*.) of different colors, September till hard frosts; 2. Goat's Beard Spiræa, (*S. aruncus*); 3. Foxglove (*Digitalis*) Biennial; 4. Monkshood, with blue and yellow flowers (*Aconitum*); 5. Larkspur, (*Delphinium grandiflorum*, and *exaltatum*), and (*D. sinensis*); 6. Columbine, (*Aquilegia vulgaris*); 7. Iris of the large species, *Germanica*, *sambucina*, and *siberica*; 8. Willow herb, (*Epilobium angustifolium*); 9. Double Feverfew (*Pyrethrum parthenium*) are showy in flower; 10. Tall species of Asters; 11. Tall species of Solidago; 12. Perennial Sunflowers, particularly *Helianthus decapetelus* and *H. multiflorus*; to these may be added, 13. *Rudbeckia laciniata*; 14. I add to this list the Tiger Lily, (*Lilium tigrinum*). Besides tall plants, some of humbler growth may be added, as patches of 15. Sweet Woodruff, (*Asperula odorata*), and patches of 16. Double Wood Anemone, (*Anemone nemorosa*), and 17. the Lily of the Valley, (*Convallaria majalis*); there is a double red flowered variety of this. I add the *Yucca alnifolia* and *filamentosa*.

BORDER FLOWERS.

The borders for perennial flowers are seldom less than four or five feet in breadth. One of the most ornamental tall growing perennials is 1. Double Scarlet Lychnis, (*Lychnis chalcidonica*

fl. pl.); 2. Hyssop leaved Dragon's head, (*Dracocephalum ruy-schiana*), and the Great Flowered (*D. grandiflorum*), with elegant blue flowers; 3. Silver-rod or Branched Asphodel, (*Asphodelus ramosus*), with fine white flowers; 4. (*Verbascum ferrugineum*), Rusty Flowered, and (*V. phaniceum*), or Purple Flowered may be admitted; together with 5. the Fine Branched Lythrum, (*L. virgatum*), which is covered for three months with purple flowers; 6. Two or three species of *Centaurea*, such as (*C. orientalis*), with yellow flowers, and (*C. Caucasica*), with white flowers, and (*C. montana*), with blue flowers; all hardy perennials; 7. Double Siberian Larkspur (*Delphinium elatum*), flowers, fine dark azure; 8. *Phlox pyramidalis* and *P. paniculata*, are handsome showy flowers; 9. Linear Leaved Willow herb, (*Epilobium angustissimum*), foliage fine, and flowers large, of a beautiful purplish red; 10. *Coreopsis verticellata*, flowers fine deep yellow; 11. Of the species of Speedwell, these are elegant, *Veronica virginiana*, flowers bluish colored, and with white flowers; and *V. longifolia*, flowers blue, white, or flesh-colored; 12. Variegated Wolfsbane, (*Aconitum variegatum*); 13. *Rudbeckia purpurea*, with large flowers; 13. *Liatris spicata*, deserves a place in every collection; 14. *Acanthus mollis*; 15. Of the fine genus *Spiræa*, the Queen of the meadow, (*S. ulmaria*), and Dropwort or (*S. filipendula*); 16. Of *Campanula* or Bell Flower, a hundred species have been named, there are several showy Perennials, as Peach leaved (*C. persicifolia*, with single blue, and single white, and with double flowers; Nettle leaved Bell Flower, (*C. trachelium*); Pyramidal or (*C. pyramidalis*), highly prized. To this may be added Splendid Sage, (*Salvia splendens*), a native of Brazil.

ORNAMENTAL PLANTS OF MIDDLING SIZE.

1. Of the species of *Achillea*; Sweet Maudlin, (*A. ageratum*), Sneezewort, (*A. ptarmica*), with double flowers; 2. Spring Adonis, (*A. vernalis*), with large yellow flowers, in April; 3. An elegant double variety of Rose Campion, (*Agrostemma coronaria*); 4. Perennial flax, (*Linum perenne*); 5. Round headed Rampion, (*Phyteuma orbicularis*); 6. Sweet William, (*Dianthus barbatus*); 7. Of the species of *Eryngium*, *E. alpinum*, and *E. amethystinum*, are very ornamental. Also, the *Statice* or *Thrift*, in particular, *S. latifolia*, *scoparia*, *tartarica* and *speciosa*; 8. Fraxinella, or (*Dictamnus albus*), is both beautiful and curious; by approaching a candle to the flower in a warm, dry and clear night in June, a slight explosion takes place from the inflammable gas it exhales; 9. Cardinal Flower, (*Lobelia cardinalis*), a very elegant scarlet flowering plant, but is in a great measure now supplanted by the (*L. fulgens*), of still greater brilliancy; 10. *Catananche cærulea*, flowers of a fine

blue ; 11. Canadian Columbine, (*Aquilegia canadensis*), highly ornamental ; 12. Garden Wall Flower, (*Cheiranthus cheiri*), when double and of a dark color is much prized ; 13. The Red and Scarlet Chelone, (*C. obliqua* and *barbata*), very late and pretty ; *C. major*, fine peach colored flowers, the most showy of the genus ; 14. German Godilocks, (*Chrysocoma linosyris*), with bright yellow flowers in the form of an umbel ; 15. *Tritoma media*, produces its beautiful spikes of orange flowers in autumn ; 16. Two species of *Monarda* ; the Oswego Tea or (*M. didyma*) with scarlet flowers, and *M. fistulosa*, with purple flowers ; 17. The Perennial Lupin, (*Lupin perennis*), but a more showy plant is the *L. nootkatensis* ; 18. Of the Perennial Poppies, the Oriental, (*Papaver orientalis*) with large bright orange flowers, and the Welch (*P. cambricum*) with flowers of a deep yellow ; 19. Red Valerian, (*Valeriana rubra*), highly ornamental when of a dark color ; there is a white variety which forms a fine contrast ; 20. Several kinds of Pæony are magnificent entborder plants, as the Double Dark Red, and Double Blush, (varieties of *P. officinalis*), and the White Flowered, (*P. albiflora*), and (*P. whiteji*), (*P. fragrans* and *P. hilmci*) several other new fine kinds might be here added ; 21. Smooth Leaved Bellflower, (*Campanula nitida*), very ornamental and completely covered with blue flowers. There is a double variety of this, but it is very rare ; 22. Of the numerous genus of Asters with fine blue flowers, the Italian Starwort (*A. amellus*), the Alpine, (*A. alpinus*), and the (*A. spectabilis*) ; Ragged Robin, (*Lychnis flos cuculi*), beautiful when double ; 23. The varieties of *L. dioica*, with double red and double white flowers are very showy ; sometimes called Bachelors' Button ; 24. The Plantain Leaved Crowfoot (*Ranunculus amplexicaulis*), pure white flowers in April or May ; 24. Garden Rocket, (*Hesperis matronalis*) double white and double purple, these are excellent border flowers, being at once both showy and fragrant ; 25. Virginian Spiderwort, (*Tradescantia virginica*), with fine blue flowers, and with red, and white flowers, blooming from spring to autumn ; 26. Asiatic Globe Flower, (*Trollius asiaticus*), its rich orange colored flowers are very brilliant ; (*T. europæus*), flowers fine yellow and handsome ; 27. American Cowslip, (*Dodecatheon meadia*), very elegant flowers in May and June. The varieties of the Chinese Chrysanthemums of almost every color are particularly elegant. I must not omit the Day Lily, *Hemerocallis*, large shining leaves, of various beautiful colors.

LOW GROWING FLOWERS, FOR THE FRONT OF THE BORDER.

1. Double Purple Jacobea, (*Senecio elegans*), strictly speaking, this is only an annual, but double varieties may be continued by cuttings ; 2. Several varieties of Phlox are very ornamen-

tal, particularly the common *Lychnidea*, (*P. suaveolens*); the early flowering, (*P. divaricata*); awl leaved or (*P. subulata*); and the fine leaved, or (*P. setacea*), with (*P. ovata*), and (*P. stolonifera*), or creeping; 3. The great flowered Siberian Fumitory, (*Fumaria nobilis*), is very handsome and continues long in flower; (*F. formosa*), with delicate blush colored blossoms; and the Yellow species, (*F. lutea*), is valuable; 4. Common Bloody Crane's bill. (*Geranium sanguineum*) is not unworthy of a place; and the striped variety (*G. lancastricense*), and the streaked Cranes-bill, (*G. striatum*); 5. The Yellow Species of Monkey flower from Chili, (*Mimulus luteus*) is an acquisition, and very pretty; and 6. Different species of *Enothera*, though of humble growth, produce fine yellow flowers, particularly *Æ. frazeriana*, *Æ. fruticosa*, and *Æ. pumila*; 7. Marsh Marigold (*Caltha palustris*) is likewise very showy, and for several weeks makes a brilliant appearance, but prefers a moist border. Feather grass (*Stipa pinnata*) is justly admired for its light, airy and delicate appearance; 8. Violets of different kinds are well known, the Canadian, (*Viola canadensis*) is particularly elegant, and the Sweet or March Violet, (*V. odorata*), so fragrant, but the large flowered variety is beautiful; 9. The Anemones with blue flowers, as the splendid Pasque-flower, (*A. pulsatilla*), and different varieties of the Star Anemone (*A. hortensis*, and *A. apennina* and *A. pratensis*); 10. The Gentians are also fine border plants, particularly the *Gentiana asclepiadea* and *G. cruciata*, both with blue flowers.

2. BIENNIALS.

Some of the most common are, 1. Honesty or Satin Flower, (*Lunaria annua*), both white and purple; 2. French Honey-suckle, (*Hedysarum coronarium*) red and white; 3. Yellow Horned Poppy, (*Glaucium luteum*); 4. Tree Primrose of several species (*Enothera biennis*, &c.) and Moth-mullein, (*Verbascum blattaria*), yellow and white flowered.

FLOWERS FOR ROCK WORK.

Masses covered with Lichens, especially 1. *Lichen atro-flavus*, *geographicus*, *ventosus*, *perellus*, and *stellaris*, are very desirable. The following are very proper and ornamental; 2. *Cotyledon umbilicus*, and all plants which grow naturally in dry soil are fit for rock work; 3. *Dianthus deltoides*, *D. armeria* and *D. cæsius*; 4. The Red Valerian, *Valeriana rubra*, and the white variety; 5. *Erinus alpinus*; 6. Madwort of different species, particularly *Alyssum saxatile* and *deltoideum*; 7. *Cerastium repens*; 8. *Erigeron alpinum*; 9. *Cyclamem europæum* and *herderæfolium*; 10. Spring Gentian, (*Gentiana verna*); 11. *Soldanella alpina*; 12. *Saxifraga oppositifolia* and (*S. granulata*, *fl. pl.*); 13. *Verbascum myconi*; 14. *Lychnis alpi-*

na ; 15. *Primula nivalis*, *P. integrifolia*, *P. helvetica*, and *P. marginata* ; 15. Basil leaved Soapwort, *Saponaria ocyroides* ; 16. Stone crop, in particular, *Sedum album*, *glaucum*, *rupestre*, *aizoon*, and *sexangulaire* ; 17. The Cob-web species of House-leek, (*Sempervivum arachnoideum*.)

AQUARIUM.

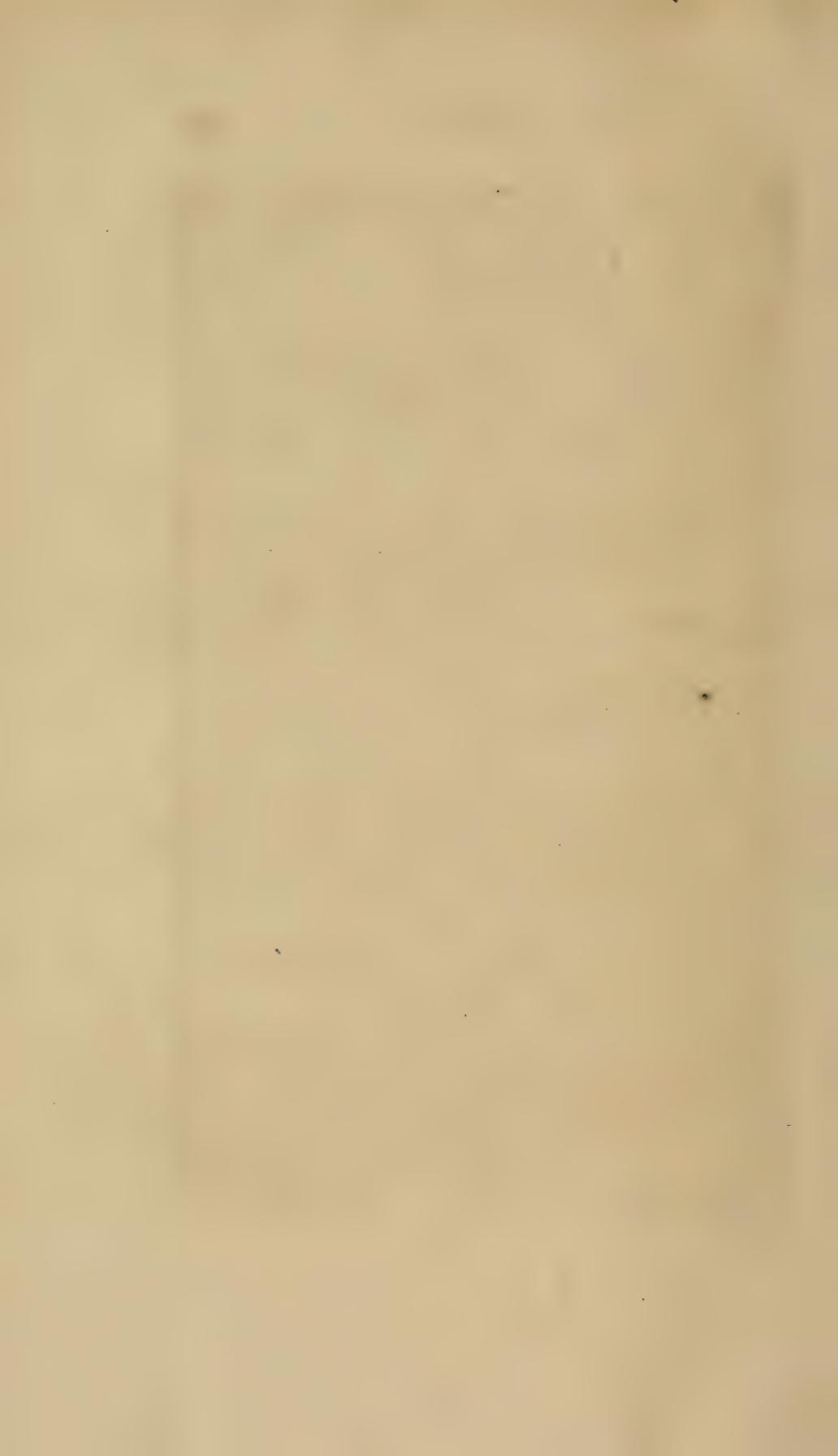
In the pond may be placed various marsh plants, as 1. Marsh Calla, (*Calla palustris*) ; 2. Yellow and white fringed Bog Bean, (*Menyanthes nymphoides*) ; 3. The Flowering Rush (*Butomus umbellatus*) ; 4. Water-Violet, (*Hottonia palustris*) ; 5. The Cat's Tail, (*Typha latifolia* and *T. angustifolia*), has a singular appearance. Lastly some of our own native aquatics, may be recommended for their beauty and fragrance. The Nymphæ, and in particular, the White and Yellow water Lily, *N. alba* and *N. lutca*, and though rather tender for our climate, the Chinese *Nymphæ melumbium*.

3. ANNUALS.

1. The Indian Pink, (*Dianthus chinensis*) ; 2. The Winged Thunbergia, (*T. alata*) ; and 3. The Sensitive Plant, (*Mimosa sensitiva*), though strictly speaking, biennials, are often cultivated as annuals. Many of the annuals are very beautiful ; those of each species only which are the most showy, will be particularized. 4. Elegant Coreopsis, (*C. tinctoria*), is very showy ; 5. Beautiful Clarkea, (*C. pulchella*) ; 6. White and Purple Candy Tuft, (*Iberis umbellata*) ; 7. Daisy leaved Catch-fly, red and white (*Silene bellidifolia*) ; 8. Venus's Looking Glass, (*Campanula speculum*) ; 9. Sweet Alyssum, (*A. maritatum*) are very ornamental ; 10. *Convolvulus*, major and minor ; 11. African Marigold, (*Tagetes erecta*), and French do. (*T. patula*) ; 12. Love in a Mist (*Nigella damascena*) ; 13. Variety of Scabious, (*Scabiosa*) ; 14. Ten weeks' Stock Gilliflower, (*Cheiranthus annuus*) ; 15. The rich and elegant Double Balsams, (*Impatiens balsamina*), their capsules are curious ; 16. (*Hibiscus trionum*), with yellow flowers ; 17. Many varieties of Larkspur, (*Delphinium ajacis*), single and double ; 18. Varieties of Lupin, (*Lupinus*), and of 19. Sweet Pea (*Lathyrus odoratus*) ; 20. Scarlet Malope, (*M. trifida*) ; 21. Carnation Poppy, varieties, (*Papaver somniferum*), are very showy ; 22. Purple Eyed Crepis, (*C. barbata*) ; 23. Tangiers Scorzonera, (*S. tingitanum*) ; 24. The Eternal flower, varieties, red, white, purple and blue, (*Xeranthemum*), is excelled by none, its splendid flowers retain their beauty through the winter, and make a fine appearance in vases ; 25. Mignonette, (*Reseda odorata*) is universally admired. The following are less hardy and should be sown in a warm situation and transplanted, to bring them forward early. 26. Amaranth,

(*Amaranthus caudatus*), or Love lies bleeding, and 27. Prince's Feather (*A. hypochondriacus*); and 28. The Chrysanthemums, particularly *C. tricolor*, and *C. lutea*. The following are tender annuals, and may be planted early in a hot bed, and transplanted. Crimson Cypress Vine, (*Ipomœa quamoclit*); 29. Many varieties of Cock's-Comb (*Celosia cristata*), with scarlet, purple, and yellow heads, are extremely ornamental; 30. Globe Amaranthus, (*Gomphrœna globosa*), of various sorts, with the *Amaranthus tricolor*, with each leaf of three colors, bright red, yellow and green, are very showy; 31. The Egg plant is showy on account of its elegant berry, of the size and shape of a large egg; 32. The Ice plant is curious, (*Mesembryanthemum crystallinum*), its leaves and stalks being covered with crystalline globules like icicles; 33. And the well known Sensitive plant, (*Mimosa pudica*).

The seeds of flowers are sown in the spring, in fine and newly prepared fresh soil. Very fine seeds should be covered but a quarter of an inch deep, larger seeds deeper in proportion to their size; and the ground is then to be immediately trodden hard; this enables it to retain its moisture at the surface, which cooperating with the warmth on the seeds, they vegetate at once.



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SELECT LIST OF FRUITS.

THE following recommended list for a moderate collection of fruits, has been formed with particular care. And except a very few of the Nectarines and Apricots, and those very few Cherries, &c, marked thus *, all of them have been proved in our country and latitude, and are the selections from very extensive lists of importations and of native fruit. But as a great number of the new fruits of the highest character, have not yet borne fruit in our country, and are therefore excluded, this list will require from time to time a revision.

The numerical figures refer to the page where each fruit is described.

APPLES.

SUMMER FRUIT. Benoni, 25; American Summer Pearmain, 25; Early Bough, 26; Juneating, 27; Porter, 27; Sapsons, 28; Summer Rose, 29; Williams, 29.

AUTUMN FRUIT. American Nonpariel, 30; Drap D'Or of France, 31; Fall Pippin, 32; Fameuse, 33; Gravenstein, 34; Kenrick's Red Autumn, 35; Killam Hill, 35; Orange Sweeting, 37; Pumpkin Sweeting, 37; Red and Green Sweeting, 38; Sawyer Sweeting, 38; Straat, 39; York Russetting, 40; Red Siberian Crab, 57; Yellow Siberian Crab, 58.

WINTER FRUIT. Esopus Spitzerberg, 40; Baldwin, 41; Bellflower, 42; Carthouse or Gilpin, 42; Danvers Winter Sweet, 43; Hubbardston Nonsuch, 47; Jonathan, 47; Lady Apple, 47; *Mela Carla, 79; Ortlely, 49; Pernock's Red Winter, 50; Red Calville, 51; Rhode Island Greening, 52; Ribston Pippin, 52; Roxbury Russetting, 53; Wine Apple, 54; Winter Sweeting, 55; Yellow Newtown Pippin, 55.

PEARS.

SUMMER FRUIT. Green Chissel, 127; Early Rousselet, 127; Jargonelle, 128; St. John's, 131; Skinless, 131.

AUTUMN FRUIT. Andrews, 158; Bartlett, 159; Beurre du Roi, 163, *believed to be identical with* Urbaniste, 186; Capiaumont, 166; Capsheaf, 167; Charles D'Autriche, 167; Colmar Souverain, 163; Dix, 169; Duchesse D'Angoulême, 171; Fulton, 173; Gore's Heathcot, 174; Harvard, 176; Golden Beurre of Bilbao, 177; Julienne, 156; Marie Louise, 179; Napoleon, 179; Seckel, 183; Swan's Egg, 141; Tillington, 186; Wilkinson,

187; Dr. Hunt's Connecticut, fine for baking, 170; Newtown Virgalieu Baking, 147; Prince's St. Germain, 181. The two last, and some few others may be preserved till Winter.

WINTER FRUIT. Diel, 189; Echassery, 144; Lewis, 195; Passe Colmar, 196; and the Sylvanche Verte, 185, which may be kept till long into winter.

WINTER BAKING PEARS. Catillac, 150; Pound, 151.

PEACHES.

FREESTONES. Early Anne, 210; Early Sweet Water, 222; Early Red Rareripec, 220; Cooledge's Favorite, 219; Early Royal George, 220; Red Rareripec, 221; Early Orange; Old Mixon, 221; Grosse Mignonne, 211; Orange Peach, 228; Malta, or Belle de Paris, 213; President, 228; Yellow Alberge, 214; George Fourth, 223; Jaques, 223; Belle Chevreuse, 214; Morris' White Lucious, —; Snow Peach, 224; Yellow Rareripec, 229; Belle de Vitry, 215; Red Cheek Malacatune, 225; Yellow Red Rareripec, 229; White Malacatune, 225; Red Magdalen, 218; Teton de Venus, 218; Heath, 226; *Yellow Admirable, 216.

PAVIES, OR CLINGSTONES. Oldmixon, C. 231; Old Newington, 231; Washington, 232; Lemon, 232; Hyslops, 234; Heath, C. 234. The last is rather too late for the latitude of Boston.

PLUMS.

Early Yellow, 260; Apricot Plum, 255; *Coe's Golden Drop, 256; Duane's Purple, 260; Green Gage, 261; Italian Damask, 262; Large Sweet Damson, 263; Lex Plum, 263; Orleans, 264; Peter's Large Yellow Gage, 265; Red Queen Mother, 266; Huling's Superb, 261; Royal de Tours, 266; Red Gage; St Catharine, 267; Semiam, 267; Smith's Orleans, 267; Prince's Imperial Gage, 268; Washington or Bolmer, 268, and the White and Red Magnum Bonums, for preserving.

CHEERIES.

* Knight's Early Black, 272; Amber, 272; May Duke, 281; American Amber, 272; *Large Black Bigarreau, 273; *Napoleon Bigarreau, 273; Arch Duke, 279; Black Tartarean, 275; White Tartarean, 278; Graffion, 274; Black Heart, 275; Gridley, 277; Waterloo, 278; Belle et Magnifique, 279; Late Duke, 281; Downer's Red Heart, 276; Herefordshire Black, 278; Plumstone Morillo, 282; *Late Bigarreau of Hildesheim, 274.

APRICOTS.

BRUSSELS, 249; Moorpark, 251; Orange, 251; Peach Apricot, 251; Royal Persian, 252; White Apricot, 253; Turkey, 253; Musch, 251.

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Early Violet, 241 ; Elruge, 241 ; Lewis's, 242 ; Perkins's Seedling, 242 ; Pitmaston Orange, 242 ; Golden, 244 ; Vermash, 245 ; Red Roman, 244 ; Scarlet Newington, 244.

MULBERRIES.

The American Red Mulberry, 284, is preferred for its flavor, and productiveness, and is hardy. The **Morus Multicaulis*, 286, has not, it is believed, yet borne fruit in America, but is understood to be productive and good.

GRAPES.

EUROPEAN. White Chasselas, 300 ; Golden Chasselas, 301 ; Early White Muscadine, 310 ; and in warm expositions, the Black Hamburg, 305 ; Black Cape, 304 ; Constantia, 307 ; White Frontignac, 303. The Muscats of Alexandria, 303, require more heat, and are fine. The Black Prince, 306, and Esperione, 307. Other varieties, yet untried, are described ; but may require considerable heat.

AMERICAN GRAPES. The Isabella, 316 ; Catawba, 315, these are fine hardy kinds ; but the Bland, 315, though fine, seldom succeeds north of the Middle States. The Scuppernong, 317, succeeds well only in the Southern States.

CURRANTS.

Black English, 292 ; Black Naples, 292 ; Large White Spanish Imperial, 293 ; Large Red Dutch, 293.

RASPBERRIES.

White Antwerp, 341 ; Red Antwerp, 341 ; see other varieties, p. 242.

For GOOSEBERRIES, 294, and FIGS, 330, I have described but a moderate collection.

STRAWBERRIES.

The Keen Seedling, 346, and the Mulberry, 346, and the Pine Apple, or Pine, are in the most repute near Boston, as the Wood Strawberries were formerly. All described, however, from page 344 to 350, are but a moderate selection from the very numerous varieties in cultivation.

FRUIT TREES.

TREES AND SHRUBS OF ORNAMENT, FLOWERING HERBACEOUS PLANTS, &c.

For Sale, at the Nursery of William Kenrick, in Newton, a numerous assortment of the finest kinds of Apples, Pears, Peaches, Plums, Cherries, Apricots, Nectarines, Quinces, Figs, Raspberries, Gooseberries, Currants, &c; a fine assortment of Grape Vines — varieties of Mulberries, including the White Italian, by the 100 or 1000, and the *Morus Multicaulis* for the nourishment of Silk Worms. A choice collection of Strawberries, selections from the very numerous varieties in cultivation.

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