The Evolution of Horticulture in New England

By

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“Let us not, then, lament over the decay and oblivion into which ancient writers descend: they do but submit to the great law of nature, which declares that all sublunary shapes of matter shall be limited in their duration, but which decrees, also, that their elements shall never perish. Generation after generation, both in animal and vegetable life, passes away, but the vital principle is transmitted to posterity, and the species continue to flourish. Thus, also, do authors beget authors, and having produced a numerous progeny, in a good old age they sleep with their fathers, that is to say, with the authors who preceded them—and from whom they had stolen.”

W. IRVING.
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NOTE.

THE object of this volume is to present, in a concise and attractive form, the history of the art of gardening, as it has been evolved in New England from its earliest plantations to the present day.

Numerous as have been the publications upon horticulture and agriculture during late years, with the exception of the introductory chapter to the History of the Massachusetts Horticultural Society published in 1880, which embraces a record of horticulture in the United States up to the year 1829, I am not aware that a similar record, so far as it relates solely to New England, has been offered to the public.

The above mentioned interesting chap-
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ter, compiled by Mr. Robert Manning, the present efficient Secretary of the Society, is invaluable, and to this I am indebted for material that had escaped my previous researches, at least so far as these refer to the Eastern States.

In the preparation of these pages, I have endeavored to exercise that patience, diligence, and care which an interest in any art or science should always command.

If the reader should discover certain extraneous threads interwoven in the fabric, the presence of which has not been recognized by me, he may safely impute the oversight to negligence rather than to deliberate literary theft.

Whatever may be its valuation, and however egotistical it may seem to speak the truth, its fabrication has afforded a source of great pleasure in comparatively leisure hours, and has awakened an increased interest in all that pertains directly or indirectly to horticulture. If it should exert in any way a similar effect
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upon the minds of other individuals, however extended or limited may be their knowledge of the unfolding of the gardening art in England, it has answered the purpose in view.
PRELIMINARIES.

The relations which the New England settlers held to nations of which they were direct descendants, necessitate consideration of the gradual evolution of horticulture, not only as it refers to them and their immediate predecessors, but even to the earliest historical record of man.

The term horticulture is applied to the cultivation of fruit, vegetables, herbs, or flowers, within a limited space or enclosure commonly called a garden. The English word garden is derived from the Anglo-Saxon gyrdan, to gird in or enclose. Orchard had its origin in ort geard, an enclosure for fruit trees. Wyrt geard, signified a garden for any kind of vegetable or herb.
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That horticulture preceded agriculture may be inferred from the history of the human race. The Scriptures say: "The Lord God planted a garden eastward in Eden, and there he put the man that he had formed. . . . And the Lord God took the man and put him into the garden to dress it and to keep it." Whatever construction may be put upon the story as presented to us in Genesis, it is reasonable to conclude that our first parents were placed in Paradise to practise horticulture. This was their occupation, and continued to be that of their immediate descendants, and undoubtedly of all Eastern nations for an indefinite period. The attention of man was at first specially directed to the cultivation of fruits; they were mostly fruit eaters, and as the Oriental nations long remained stationary, and the value of property and the consequent necessity of enclosing their cultivated lands thus gradually became appreciated, gardens were formed, in which were planted fruit trees and par-
ticularly the vine. Those devoted solely to the latter were termed vineyards, for the protection of which special laws were instituted, on account of the value of their produce and the nature of its properties, which experience soon taught the people. The qualities of various herbs, among these vegetables, sooner or later became recognized as articles of food, and gradually led to their culture, also in enclosed lots. Of these facts the Scriptures fully inform us.

Thus commenced the art of gardening, which at first was conducted by means of the most primitive tool, such as a pointed stick would provide, and by which the useless and undesirable plants known as weeds could be eradicated. In due time, the scarcity of food led to the discovery and great value of cereals, and the demand for greater quantities of these would tend to the extension of the areas of cultivation and easier means of production. Hence the pointed stick selected was of larger dimensions, and rendered
more manageable by the addition of handles at one end, while at the other, by the attachment of a domesticated animal, it was propelled through the soil; by these means thus enabling man to till larger districts—in other words, to convert him into an agriculturist or cultivator of fields.

Thus agriculture, as it provides food in sufficient quantities adapted to the wants of man, may in a certain sense be considered to precede horticulture and to be its parent. On the other hand, since Agriculture, historically considered, was evolved from the art of gardening, as has been shown, the latter should enjoy this distinction of parentage.

Horticulture, in fine, is the perfection of agriculture, as it supplies luxuries, and therefore, in the language of Winthrop,¹ is emphatically the fine art of common life. "It is eminently a republican fine art; its implements may be

¹R. C. Winthrop. Speech at anniversary of Society, 1848.
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wielded by every arm, and its results be appreciated by every eye." When the precision and care which now marks this art are manifested in all the operations of the agriculturist, then, eventually, the whole world will become a garden.

As Sir William Temple says: "The use of gardens seems to have been the most ancient and most general of any sorts of possession among mankind and so have preceded those of corn or cattle as yielding the easier, the pleasanter, and most natural food. If we believe the Scriptures we must allow that God Almighty esteemed the life of a man in a garden the happiest He could give him, or else He would not have placed Adam in that of Eden; and that the life of husbandry and cities came after the Fall, with guilt and with labor."

The Egyptians, Medes, Chaldeans, Persians, Greeks, and Romans were essentially part and parcel of the Oriental stock. Of some of these, as regards their practices in the cultivation of the soil, we

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have but meagre information. It is reasonable to suppose that most, if not all, pursued the same course, modified by changes dependent upon their habits and surroundings. The evolution of horticulture, however, undoubtedly made gradual and steady improvement, as is evident from the reliable writings of the poets, historians, and statesmen among the Greeks and Romans.

Two centuries after Solomon, Homer describes the gardens of the Grecians, in which they cultivated fruits, herbs, vegetables, and flowers. In their mythology, of which there is much that is poetical and interesting, not only flowers but trees and ornamental shrubs were sacred to their deities. "Most of the flowers cultivated, moreover, suggested poetical or mythological associations: for the religion of Greece combined itself with nearly every object in nature, more particularly with the beautiful, so that the Greek, as he strolled through his garden, had perpetually before his fancy a succes-
sion of fables connected with nymphs and goddesses and the old hereditary traditions of his country. Thus the laurel recalled the tale and transformation of Daphne, the object of Apollo's love—the cypresses or graces of the vegetable kingdom were the everlasting representatives of Eteocles' daughters, visited by death because they dared to rival the goddesses in dancing—the myrtle was a most beautiful maiden of Attica, fairer than all her countrywomen, swifter and more patient of toil than the youth, who therefore slew her through envy—the pine was the tall and graceful mistress of Pan and Boreas—the mint that of Pluto—while the rose-campion sprung from the bath of Aphrodite, and the humble cabbage from the tears of Lycurgus, the enemy of Dionysos."

Constant use was also made of flowers and ornamental shrubs in garlands and crowns which were worn upon the head

1 J. A. St. John, *Manners and Customs of Ancient Greece.*
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in many civil and religious ceremonies. Although our knowledge concerning their skill and practical acquaintance with horticulture is imperfect, yet the disposition of their gardens, orchards, and vineyards in the best ages of the nation, show a most remarkable scientific advance in all that pertains to the art. Mr. St. John in his admirable History of the Manners and Customs of Ancient Greece, draws "by the aid of scattered hints, chance expressions, fragments, and a careful study of the natural and invariable productions of the country," a most pleasing picture, of which a few paragraphs are given, that certainly both in style and description serve as a model for imitation. "That portion of the ground which was devoted to the culture of sweet-smelling shrubs and flowers usually approached and projected inwards between the back wings of the house, so that from the windows the eye might alight upon the rich and variegated tints of the parterres intermingled with verdure, while the evening
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and morning breeze wafted clouds of fragrance into the apartments. The lawns, shrubberies, bouquets, thickets, arcades, and avenues were, in most cases, laid out in a picturesque though artificial manner, the principal object appearing to have been to combine use with magnificence, and to enjoy all the blended hues and odors which the plants and trees acclimated in Hellas could afford. Protection in summer from the sun's rays is, in those southern latitudes, an almost necessary ingredient of pleasure, and therefore numerous trees rose here and there in the ground in some places singly, elsewhere in clumps, uniting their branches above, and affording a cool and dense shade. Beneath these umbrageous arches, the air was further refrigerated by splashing fountains, whose waters, through numerous fair channels, straight or winding, as the use of them demanded, spread themselves over the whole garden, refreshing the eye and keeping up a perpetual verdure. Copses of myrtles, of roses, of
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agnus-castus, and other odoriferous shrubs intermingled, clustering round a pomegranate tree, were usually placed on elevated spots, that, being thus exposed to the winds, they might the more freely diffuse their sweetness. The spaces between trees were sometimes planted with roses and lilies and violets and golden crocuses: and sometimes presented a breadth of smooth, close, green sward, sprinkled with wild flowers, as the violet and the blue veronica, the pink and the pale primrose, the golden motherwort, the cowslip, the daisy, the pimpernel, and the periwinkle.

"In many gardens the custom was to plant each kind of tree in separate groups, and each species of flower-bed also had, as now in Holland, a distinct space assigned to it; so that there were beds of white violets, of irises, of the golden cynosure, of hyacinths, of ranunculuses, of the blue campanula, of white gilliflower, and the branchy asphodel."

The Romans practised very much the
same course in horticulture as did the Grecians, and for our knowledge upon this point we are indebted to Cato, Varro, Palladius, Tacitus, Virgil, Columella, Martial, the younger Pliny, and others. According to Cato, many of the wealthy had their vegetable gardens in the neighborhood of Rome, from which they received their supplies of this nature, which were abundant and of excellent quality. Cato enumerates many of these vegetables which are familiarly known to us, and gives advice as to their proper cultivation. Especially is this the case with asparagus, for which he gives full directions for the formation of the bed, the proper distance between the plants, the time and mode of weeding and of "plucking." Nearly all, especially the later writers, Columella, Varro, and Virgil, also make mention of the more common vegetables, among which lettuce, beets, peas, beans, carrots, parsnips, onions, parsley, and cucumbers are conspicuous. Both Cato and Palladius give
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advice as to the proper situation of a garden, which should have a southern aspect, and be amply supplied with water. In the earlier eras of the nation, the vegetable and fruit gardens were confined within a single enclosure, and it was not until the time of the younger Pliny, that separation of the two was effected. To the fruit garden or orchard the Romans were particularly devoted, and cultivated not only the indigenous fruits, but soon introduced many from foreign regions, as the cherry from Pontus, the fig and almond from Syria, and the various "mala," comprehending apples, pears, pomegranates, quinces, and oranges from different parts of Asia.

Cato gives many varieties of the different fruits, especially of the vine, and directions for their proper management, as also for grafting, budding, and pruning.

The culture of flowers among the Romans, as among the Grecians, was at first confined to the enclosure which contained the vegetables and fruits. As wealth in-
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creased, however, and the people became more refined, the residences in the suburbs of Rome were judged suitable only for farming purposes, and their owners erected costly villas more remote, in connection with which were the pleasure grounds, containing all that pertained to embellishment: as flower-beds, walks, statuary, fountains, shrubbery, and various shade trees. The accounts which have come down to us of the magnificence of these villas and their pleasure grounds both within and without the city seem almost incredible. Among these may be mentioned those of Cicero, Sallust, and Lucullus. Plutarch thus speaks of the Lucullian gardens: "I give no higher name to his sumptuous buildings, porticos and baths, still less to his paintings and sculptures, and all his industry about these curiosities, which he collected with vast expense, lavishly bestowing all the wealth and treasure which he got in the war upon them, insomuch that even now, with all the ad-
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vance of luxury, the Lucullian gardens are counted the noblest the emperor has. Tubero the stoic, when he saw his buildings at Naples, where he suspended the hills upon vast tunnels, brought in the sea for moats and fish-ponds round his house, and built pleasure-houses in the waters, called him Xerxes in a gown. He had also fine seats in Tusculum, belvederæs, and large open balconies for men's apartments, and porticos to walk in, where Pompey, coming to see him, blamed him for making a house which would be pleasant in summer but uninhabitable in winter; whom he answered, with a smile: 'You think me, then, less provident than cranes and storks, not to change my home with the season.'"

The description of the Roman gardens by Pliny the younger should not be overlooked. In their situation and adornment they equalled and even excelled those of any nation in modern days. In a letter to a friend he describes the characteristics of the gardens attached to his
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Tuscan villa, which were those that strongly marked the art at the time, and which continued for centuries. The excavations at Herculaneum have revealed to us, by means of the paintings there discovered, the appearance that the gardens of the townsmen presented. These, although small and hedged about in various ways, were adorned according to the prevailing taste with urns, fountains, statues, etc., while at the windows of the houses were boxes and pots of flowers.

Our knowledge of the variety of flowers recognized or cultivated by the Romans is meagre. Livy, in describing the garden of Tarquin the Proud, as it existed two hundred years after the foundation of Rome, speaks of beds of roses, lilies, poppies, and various sweet-smelling herbs.

Virgil, in his fourth Georgic, most charmingly introduces, in his gracefully measured verses, his old friend Corycius at work in his garden cultivating the roses which bore their blossoms twice in a year, the narcissus, white lilies, pop-
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pies, the savory and flowering herbs,—and these too upon land unfitted for other purposes, thus showing to his countrymen how much happiness could be derived from humble source.

"'T is great pity the haste, which Virgil seems here to have been in, should have hindered him from entering farther into the account or instructions of gardening, which he said he could have given, and which he seems to have esteemed and loved, by that admirable picture of that old man’s felicity, which he draws, like so great a master, with one stroke of a pencil, in those four words: Regum aquabat opes animis. That in the midst of those small possessions, upon a few acres of barren ground, yet he equalled all the wealth and opulence of kings, in the ease, content, and freedom of his mind.’

At the invasion of Britain by the Romans, it has been stated that the inhabitants of that country, depending chiefly upon the chase and the herds which they raised, cultivated no cereals.
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This, however, is an error, if we may judge from the descriptions given of them and their contemporaries, the Gallic nation, by Pliny. As to their horticulture, our knowledge is imperfect, but we may infer from the fact that certain plants were cultivated by the Druids for their medicinal qualities, that the art of gardening, to a certain extent, was very early practised.

Strabo informs us that the Southern Britons had gardens immediately about their houses, combining both vegetable and orchard departments. Certain fruits, especially apples, were known to the Britons, while others, especially the vine, were introduced by the Romans. In regard to flowers, it is probable that several, previously unknown to the Britons, were introduced by their conquerors. Among these were the rose and the violet. The same may be said in relation to many vegetables.

After the departure of the Romans and

1 Strabo's Geography.
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the settlement of the Saxons, the introduction of Christianity, in due time, had the tendency to mollify the habits of the people, and thus to encourage the progress of the arts. Horticulture served to employ the otherwise unoccupied hours of many, especially of those connected with monasteries and other religious institutions, and also to encourage and foster the use of vegetable in place of animal food, which the rules of fasting forbade. With the vegetable gardens, the ecclesiastics cultivated orchards and vineyards. The vine, brought to the country by the Romans, was generally successful and by no means despised for the qualities of its fruit, either by the monasteries or by the laity. These vineyards were flourishing in certain parts of Britain, at the commencement of the eighth century. During the Danish and Norman dynasties, the progress of horticulture continued for the most part unimpaired, until retarded by the introduction of the oppressive Forest Laws.
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From the reign of Edward III. to the accession of Queen Elizabeth, the art of gardening advanced gradually but steadily, in spite of the opposition presented by foreign and civil war, by the crusades, and by the tastes of the people for hunting and chivalry. Attempts at embellishment were at first limited to the space within the glacis of the castellated dwellings, or at most to the immediately adjacent grounds, and consisted of a few flowers, of trees and shrubs cut into fantastic shapes, together with labyrinths and bowers. Botany, as a systematic science, could scarcely be said to exist previous to the days of Elizabeth, but now, aided by other arts and sciences, rapid steps were tending to the attainment of a knowledge so essential to horticulture. A praiseworthy example had previously been set in this direction by several continental powers who had established public gardens and founded professorships for the purpose. Not only the study of botany was thus encouraged,
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but new fruits, vegetables, plants, especially various flowers, were introduced into Britain from foreign countries. An increased taste for the art was also shown by the enlargement and the greater number of the pleasure gardens and grounds, which although still exhibiting the formality and stiffness which characterized them, and which continued even up to the eighteenth century, nevertheless presented much that was pleasing in their general features, especially when seen in connection with the architectural style of the day.

Previous to the middle of the sixteenth century, the writings of several literary men upon subjects pertaining to the art of horticulture had served to awaken and increase the interest in this among the people of Britain. During the two following centuries, especially in the Elizabethan reign, a host of authors appeared, whose works are chiefly the results of their own investigations and experience as practical gardeners, botanists, herbal-
ists, and chemists. Among these may be mentioned Thomas Hill, Maschal, Platt, Heresbach, Gerarde, Lawson, Markham, Wotton, Parkinson, Tradescant, Evelyn, Worlidge, Lord Bacon, and Sir William Temple.

It is from the works of these men that a sufficiently complete knowledge of the condition of the art of gardening, during the period that has just been considered, may be obtained. "When we cast our eyes over a list of the men of science and literature of all denominations that adorned this age, especially in botany and chemistry, the two sciences of all others the most important to horticulture, we shall not be surprised to find how rapidly it was rising from being a mere art of empiricism. And when we note how the thirst for foreign researches was prevalent, we shall easily perceive by what means new plants were gained to every department of our art." ¹

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During the Stuart dynasty and the succeeding reigns up to the present day, horticulture in all its branches, has made the most extraordinary progress, not only in Britain and in Europe, but throughout the world. With the exception of its immediate connection and influence upon the evolution of the art in New England, which will in turn receive due consideration, space does not permit one to enter into details to any extent. As the writings of some of the authors, whose names have been given above, were more or less familiar to the early settlers of the New World, previous to their departure from the mother country, and who afterwards consulted them as guides in the art of gardening, in their new homes, a few of these may be here briefly noticed.

John Gerarde was born in 1545, was educated as a surgeon, and attained to eminence in the profession. His tastes, however, afterwards led him to the study and cultivation of plants, in the number
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and species of which his garden at Holborn probably exceeded any then in England. As a practical botanist, he certainly held a high position. His *Herbal or General History of Plants* was published in 1597. The work is divided into three books: (1) "Grasses, Grain, Reeds, and Bulbous-Rooted Plants"; (2) "Herbs Used for Food, Medicine, or Ornament"; (3) "Trees, Shrubs, Fruits, Roses, Heaths, Mosses, and Sea Plants."

It continued to be considered the standard authority in botany for more than a century. Gerarde died in 1607. His life was a most useful one to his countrymen.

William Lawson, of whose career we know little, except that he undoubtedly wrote from his own experience, published several works. Among these were: *A New Orchard and Garden: or the best way for planting, grafting, and to make any ground good for a rich orchard: with the country Housewife's garden, for herbs of common use: their Virtues, Seasons, Profits, Ornaments: Whereunto is newly
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added the art of propagating Plants, with the true ordering of all manner of Fruits, in their gathering, carrying home, and preservation. London, 1615. Gardener's Kitchen Garden, 1599. The Fruiterer's Secrets, 1604.

Gervase Markham was born about the middle of the sixteenth century, in Nottinghamshire. He wrote several volumes, and among these were the following: The English Husbandman . . . Together with the Art of Planting, Grafting, and Gardening, 1613. The Country House- wife's Garden, 1623.

John Parkinson was born in 1567, and was at first an apothecary, but became a noted horticulturist and botanist. He was created Royal Herbalist by Charles I. His first publication, which was dedicated to the Queen, was Paradisus terestris, or a garden of all sorts of pleasant flowers which our English ayre will permitt to be noursed up, with a kitchen garden of all manner of herbes, rootes, and fruiites for meate or sause,
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used with us, and an orchard of all sorte of fruile bearing trees and shrubbes fit for our land: together with the right orderinge, planting, and preserving of them, and their uses and vertues.

The contents of this book do not in any way belie its title, for in its pages are given original, practical directions not only for the proper situation, nature of the soil, form and laying out of a garden, but for the kind and cultivation of every flower, vegetable, and fruit which could be "nourised up by English ayre," but equally well by that of New England. His work was undoubtedly well known and fully appreciated by our remote grandmothers on these rugged shores.

Parkinson also published a botanical book entitled, Theatrum Botanicum or A Theatre of Plants, for which was conferred upon him the title royal. The year of his death is uncertain, but it was about 1656.

Sir Hugh Platt was by profession a lawyer, but was very enthusiastic in his
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love for horticulture, corresponding largely with those interested in the subject, and making careful experiments in his garden in St. Martin's Lane, London. Among other works, he published: *A short Instruction very profitable and necessary, for all those that delight in Gardening, to know the time and season when it is good to sow and replant all manner of seeds. Whereunto is annexed, divers plots both for planting and graffing for the better ease of the Gardener, 1592. The Paradise of Flora, 1600. The Garden of Eden, or an accurate description of all Flowers and Fruits now growing in England, with particular rules how to advance their nature and growth, as well in seeds and hearbes, as the secret ordering of Trees and Plants.*

Platt's death occurred in the early part of the seventeenth century.

**Conrad Heresbach** was born in 1508. Among other works, his *Rei Rusticae libri quatuor* was first published in 1570. It was afterwards translated and published
by his friend, the poet Barnaby Googe, in 1578. It is entitled, *Foure Bookes of Husbandrie*, containing the whole art and trade of Husbandrie, Gardening, Graffeing, and Planting, with the antiquitie and commendation thereof. Another edition appeared, with additions by Gervase Markham, in 1614. The work is expressed in dialogue form, and to this we are probably indebted for Isaac Walton’s charming, descriptive volume, *The Compleat Angler or The Contemplative Man’s Recreation*. In the first book, Heresbach speaks of husbandry. In the second, after a discussion upon the antiquity of horticulture, he treats of gardens, orchards, and woods, giving a complete list of the herbs, vegetables, and small fruits as then known, the pruning and care of trees, as also the cultivation of timber. He next discourses upon such flowers as are grown for pleasure, among which he mentions the lavender, cotton, gilliflowers, roses, lilies, and violets, giving also directions
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for destroying their parasites. As to the origin of the vine, upon the culture of which he enlarges, Heresbach uses the following quaint language: "We that are taught by God’s holy worde, doe know that it was first found out by the Patriarke Noah, immediately after the drowning of the world: It may be the Wine was before that time, though the planting & the use thereof was not then knowne. The heathen both most falsely & very fondly, as in many other things, doe give the invention of the same unto the God Bacchus. But Noah lived many yeeres before either Bacchus, Saturnus, or Uranius were borne."

This edition was popular, and must have been well known and appreciated by those interested in horticulture, either in England or elsewhere, in spite of the supposed influence of astrology and many superstitions then prevalent, of which the following is an example. "You shall take Damask rose water & Boyle therein the powder of cloaves, cinamon, three
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graines of Amber & one of Muske, & when it is come to be somewhat thick take a round gouge & make an hole on the maine stocke of the Vine, full as deepe as the heart, & then put therein the medicine, stopping the hole with Cypress or Juniper, & the next Grapes which shall spring out of the vine will taste as if they were perfumed.”

JOHN WORLIDGE, although a voluminous writer, and one especially interested in rural affairs, is best known for his *Systema Horticulturae or The Art of Gardening*, in which he treats upon everything relating to the subject, and directs attention particularly “to the great improvement of every sort of land, as well for use and profit as for ornament and delight.”

With many other books, he also produced, *Systema Agriculturae: The mystery of Husbandry discovered.*

JOHN EVELYN, born in 1620, was contemporary with Worlidge and, like him, delighted in rural pursuits. He was com-
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pared by Switzer to another Virgil. In addition to the advantages which he had received by extensive travel throughout Europe, and the royal preferments that were bestowed upon him during the reigns of Charles II. and James II., all of which made him pre-eminent, the tastes of Evelyn led him to scientific research, the results of which were given to his countrymen. At his beautiful estate, Sayes Court, he wrote his Sylva and Terra, treatises which passed through several editions, and firmly established his reputation as an horticultural author, a reputation which continued for more than a century. Several other works, literary, horticultural, and translations from the French, of much merit, issued from his pen, and were published. Among these were: *Kalendarium Hortense or the Gardener's Almanack*. *The French Gardener. Parallel of the Ancient Architecture with the Modern*. *Acetaria, or a Discourse of Sallets*.

In connection with ornamental garden-
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ing the names of Worlidge, Evelyn, Bacon, and Temple will receive fitting mention in these pages.

The formal, mathematical features which had distinguished the pleasure grounds and gardens attained their height at the termination of the seventeenth century. "What multitudes of grand, quaint, and artificial gardens were spread over the country, and stood in all that stately formality which Henry and Elizabeth admired, and in which our Surveys, Leicesters, Essexes: the splendid nobles of the Tudor dynasty, the gay ladies and gallants of Charles II's court, had walked and talked, fluttered in glittering processions, or flirted in green alleys and bowers of topiary-work: and amid figures, in lead or stone, fountains, cascades, copper trees dropping sudden showers on the astonished passers under, stately terraces with gilded balustrades, and curious quincunx, obelisks, and pyramids." ¹ To the above, Johnson truly

¹ *Rural England*, by Howitt.
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says: “Such novelties were pleasing, and man could do no more in this style, when he increased the size of his gardens, than vary the arrangement of the repetition: he might turn the kaleidoscope at will; but the same materials, the same ideas appeared only in a different direction. Invention was at a stand-still; confined to a square plot of wall-girted ground, she could do no more. The trees and flowers employed were of the rarest kinds: the basins and temples of the costliest materials: vases and statues of the finest workmanship were scattered through the ground: and then what remained? Nothing but to demolish the walls, and let in the view of the surrounding country, to teach mankind the beauties of which, under certain combinations, they required no masters”¹

Such masters however had existed, and among them Bacon had long before, by his writings, and partly by his example, taught his countrymen that man was only

¹ G. W. Johnson.
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the servant and interpreter of nature. Yet, notwithstanding this maxim, his teaching was to little purpose, for although he ridiculed some of the absurd prevalent customs, he still adhered to the mechanical style of the garden. This must be square, surrounded on all sides by a stately arched hedge, the arches to be upon pillars of carpenter's work. In these were to be hung bird cages and plates of round colored glass gilt, for the sun to play upon. While he advocates straight alleys, with parterres, trees, or shrubs on both sides, exactly corresponding to each other, also fountains and statues, he condemns evergreens cut into images—"they be for children." There should be no pools of water, "as they mar all, and make the garden unwholesome and full of flies and frogs." Water, wherever present, should be in perpetual motion, and never be allowed to remain in bowls or cisterns.

Bacon's nearest approach to the natural style of gardening, consisted in the pro-
posed heath or desert, which should terminate the garden grounds and "should be framed as much as may be to a natural wildness."

Sir William Temple, in his *Garden of Epicurus* inculcates the taste for the primness, formality, and stiffness so generally prevalent in England at the date of its publication, and which he had seen carried to its full extent in Holland, in the laying out of pleasure grounds and gardens.

He advises his readers not to follow the example of the Chinese in the selection of garden designs. "In place of such irregularities, Among us, the Beauty of Building and Planting is placed chiefly in some certain Proportions, Symmetries, or Uniformities: our Walks and our Trees ranged so as to answer one another, and at exact distances." Again, as to the irregular forms, Temple says: "I should hardly advise any of these attempts in the figures of gardens among us: they are adventures of too hard achievement for any common hands, and though there
may be more honour if they succeed well, yet there is more dishonour if they fail, and it is twenty to one they will; whereas in regular figures it is hard to make any great and remarkable faults."

Sir William's beau ideal of a garden presenting stateliness and beauty, was that of the Countess of Bedford at Moor Park, Hertfordshire. He describes it as on the slope of a hill, with two terraces, one above the other, and connected by a grand flight of steps. There were parterres, ornamented fountains, statues, other embellishments and a wilderness. The delight which he took in his own beautiful garden at Sheen, in Surrey, which he called his "Corner," not only in the culture of flowers but of various fruits, especially of the vine, is much to be admired. To this spot he gave his heart, not only by metaphor while living, but literally, by giving instructions at his death that it should be placed in its midst beneath the sun-dial which had marked so many of his happy hours.
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In comparing the plans severally offered by Bacon and Temple, upon which princely gardens were to be constructed, it will be seen that, while both were influenced by adherence to mathematical precision, the former was much the more liberal in his ideas, and his essay largely contributed to bringing about the changes which afterwards gradually took place.

Worlidge and Evelyn both advanced the prevailing tastes of the day. In the first book of his Art of Gardening, Worlidge treats of "the excellency, situation, soil, form, walks, arbours, springs, fountains, water-works, grottos, statues, and other magnificent ornaments of Gardens, with many necessary rules, precepts, and directions concerning the same."

The above quotation from the title-page, would seem to furnish sufficient evidence of the direction in which his prejudices tended. At the same time, some observations on cottage gardens, written by him in 1677, abundantly show that he could
recognize and appreciate the sense of beauty when seen under the humblest circumstances. "Such is its pre-excellency, that there is scarce a cottage in most of the southern parts of England but hath its proportionable garden, so great a delight do most of men take in it, that they may not only please themselves with the view of the flowers, herbs, and trees, as they grow, but furnish themselves and their neighbours upon extraordinary occasions, as nuptials, feasts, and funerals, with the proper products of their gardens."

This statement by Worlidge is especially interesting to us, as the pleasant memories connected with these small plots about their homes were brought over by Puritan and Pilgrim from various parts of England, with an earnest desire to reproduce them as far as possible upon these shores.

That Evelyn was influenced by similar general principles is made evident by his own estate at Saye's Court, Herts,
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and also by his diary, in which he speaks warmly of Sir William Temple's garden at Sheen. Of the seat of the Duke of Lauderdale, in Middlesex, he says: "The parterres, flower gardens, orangeries, groves, avenues, courts, statues, perspective fountains, aviaries, and all this on the bank of the sweetest river in the world, must needs be admirable." He afterwards speaks of other places which were laid out in similar style.

During the eighteenth century, the characteristic features of the art of gardening which have been considered, underwent the most remarkable changes, which appear to have risen contemporaneously on the Continent and in England. The faint dawn of the modern or natural design of gardening, ushered in by the writings of Bacon, was gradually followed by the daylight, and finally, in the latter part of the century, by the full noon-tide of the popular favor. The essays of Addison, published in the Spectator, greatly contributed to this innova-
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ation, a model of which he presented in the arrangement of his estate near Rugby. In fact when he asserted in his first essay, that an imitation of nature should be the basis of ornamental gardening, Addison must be considered the pioneer in the introduction into England of this well-established maxim. "If we consider works of nature and art as they are qualified to entertain the imagination, we shall find the last very defective, in comparison of the former: for though they may sometimes appear as beautiful or strange, they can have nothing in them of that vastness and immensity which affords so great an entertainment to the mind of the beholder. The one may be as polite and delicate as the other, but can never show herself so august and magnificent in the design. There is something more bold and masterly in the rough, careless strokes of nature, than in the nice touches and embellishments of art. The beauties of the most stately garden or palace lie in a narrow compass,
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the imagination immediately runs them over, and requires something else to gratify her; but in the wide fields of nature, the sight wanders up and down without confinement, and is fed with an infinite variety of images, without any certain stint or number. For this reason we always find the poet in love with the country life, where nature appears in the greatest perfection, and furnishes out all those scenes that are most apt to delight the imagination."

Pope, soon after, not only followed by an essay similar in character, but carried out his ideal style in his garden at Twickenham. Among the principal designers and advocates of the new school of gardening, the names of Bridgman, Kent, Wright, Mason, Brown, Shenstone, Price, Knight, Rapton, and Loudon are conspicuous. In the first years of the present century, the establishment of horticultural societies, and the publication of journals, magazines, and encyclopaedias devoted to the diffusion of knowledge on
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all subjects relating to horticulture, also contributed much to the adoption of those principles which now govern the educated landscape gardener.
THE EVOLUTION OF HORTICULTURE IN NEW ENGLAND.

I.

THE EARLIEST COLONIES IN NEW ENGLAND.

For centuries previous to its permanent settlement, the voyages made by Europeans to New England, were undertaken almost solely for the purposes of exploration and commerce. Enterprises of this character were entered into by the French, English, Spanish, and Portuguese nations, and there is reason to believe that the Northmen had extended their adventurous navigation in the exploration of these shores, as early as the latter part of the tenth century.
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The first permanent European colonization upon the sea coast of New England, was established at Plymouth. "A religious impulse accomplished what commercial enterprise, commanding money and court favor, had attempted without success. Civilized New England is the child of English Puritanism."  

This was soon followed by other plantations, notably on Massachusetts Bay. It is not to the purpose in this connection, to enter upon the causes, either remote or immediate, which led to this religious impulse. A brief consideration, however, of the condition of the country into which the colonists had come, as also some knowledge of the aboriginal inhabitants, are necessary for the proper understanding of important factors which were essential to the early sustenance of the plantations by means of horticulture. In fact there is no evidence whatever that there had been any European settlement in New England previous to that at

Plymouth, where attempts had been made to cultivate the soil for the maintenance of life.

New England was forest-clad, including the islands in the bays, the only exceptions to this condition being the salt-marshes, bogs, and the higher ranges of mountains. The Indian tribes found here by the early planters had not materially modified the natural vegetation, although the latter have reported that there was much ground cleared by them. "But, whatever may have been the amount of their planting, if the aborigines had simply abandoned the country, no mark of their occupation would long have remained, so far as the vegetable kingdom is concerned."¹

Even their custom of burning the country in certain districts, twice a year, must have had a comparatively limited effect upon the aspect of the neighboring regions. The knowledge of this custom,

¹ A. Gray, *Memorial History of Boston*, vol. i., p. 18.
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also our acquaintance with the flora and fauna of early New England, are derived from the chronicles of the Pilgrims, and from those who visited the parts in later years. Morton, who was at Plymouth in 1622, says in his *New English Canaan*: "The salvages are accustomed to set fire to the country in all places where they come, and to burn it twice a year, viz., at the spring, and the fall of the leaf. The reason that moves them to do so is because it would otherwise be so overgrown with underweeds, that it would be all a coppice wood, and the people would not be able in any wise to pass through the country out of a beaten path. This custom of firing the country is the means to make it passable, and by that means the trees grow here and there, as in our parks, and makes the country very beautiful and commodius."

Fresh water was abundantly supplied by rivers and springs. The soil, as a gen-

1 Morton's *New English Canaan*, bk. i., chap. xviii.
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eral rule, is not naturally fertile; the most arable and fruitful existed in the valleys of the large rivers. "An abundance of the oak, hickory, walnut, ash, elm, maple, pine, spruce, chestnut, cedar, and other forest trees offered supplies for fuel, tools, weapons, utensils, and building. The chestnut, hazlenut, beechnut, butternut, and shagbark yielded contributions to the store of food laid up for winter. Wild cherries, mulberries, and plums enlarged the variety of the summer's diet. Wild berries as the strawberry, the gooseberry, the raspberry, the whortleberry, the cranberry, grew in plenty in the meadow and champaign lands. Vines bearing grapes of tolerable flavor flourished along the streams. A profusion of flowering shrubs and of aquatic, forest, and field flowers, brought their tribute to the pomp of the year. The lobelia, the sarsaparilla, the ginseng, and the sassafras were prized for their medicinal qualities. The native grasses of the upland were rank but innutritious, so that the planters
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found it better to fodder their cattle on the salt herbage of the sea-marshes."

At the time of the settlement at Plymouth, the aboriginal inhabitants of New England had been estimated at fifty thousand in number, the population having been reduced greatly by a pestilence which raged among them. These were considered of an inferior type, although in physical conformation they were quite equal to the Indians of the other groups. They, however, exhibited an incapacity for any continuous labor. In fact there is every evidence presented that they were lazy, filthy in their habits, ignorant, vindictive, and cruel, and easily satisfied with food, shelter, and clothing of the rudest kind. Of these last we are here more concerned with the food which they procured by means of their "wretched husbandry." This consisted of Indian corn or maize, the squash, pumpkin, and bean. The soil was fertilized by fish which, with

1 Palfrey, History of New England, vol. i., pp. 16, 17
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the seed, was covered by means of a hoe constructed of a clam-shell or the shoulder-blade of the moose rudely attached to a wooden handle. The beans planted with the corn were allowed to find support by clinging to the corn-stalks. When harvested, the corn was preserved in holes.

"Their barns are holes made in the earth, that will hold a hogshead of corn apiece. In these when their corn is out of the husk, and well dried, they lay their store in great baskets, with mats under, about the sides, and on the top: and putting it into the place made for it, they cover it with earth, and in this manner it is preserved from destruction or putrefaction, to be used in case of necessity, and not else.

"As the Indians did not understand the art of making bread, they simply boiled the corn alone or mixed with beans. Sometimes they parched the ears and ate the kernels whole, or by pounding them in a rude mortar, converted them into a
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'sweet, toothsome, and hearty' meal. 'Nokehich,' parched meal, which is a ready, very wholesome food, which they eat with a little water, hot or cold. I have travelled with near two hundred of them at once, near a hundred miles through the woods, every man carrying a little basket of this at his back, and sometimes in a hollow leather girdle about the middle, sufficient for a man three or four days. With this ready provision, and their bows and arrows, they are ready for war, and travel at an hour's warning. With a spoonful of this meal, and a spoonful of water from the brook, have I made many a good dinner and supper.'

They also raised tobacco, but used it only in smoking. "They generally all take tobacco, and it is the only plant which men labor in, the women managing all the rest." The expression "drinking smoke or drinking tobacco"

2 Idem, chaps. II., XX.
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was in common use among the early colonial writers. It was probably derived from the practice, still followed in some nations, of inhaling the smoke. The vegetable food from the culture of the soil was eked out by various nuts, acorns, roots, and berries, gathered from the forest, and the ground-nut,—a poor substitute for the potato,—which grew wild. Their only domesticated animal was a species of native dog of low degree.

Into the conditions which have thus been briefly noticed, the *Mayflower*, after a lengthened voyage, brought its company, dropping her anchor in the safe harbor at the extremity of Cape Cod, now the roadstead of Provincetown, November 11, 1620. The events which attended the various explorations made from the ship, in search of a suitable locality for their plantation, are interesting, and have special reference to their future success in colonization. "The building of log hovels, the turning of sand-heaps into corn-fields, dealings with stupid Indians,
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and with overreaching partners in trade, anxious struggles to get a living, and, at most, the sufferings of men, women, and children, wasting under cold, sickness, and famine, feebly supply, as the staple of a history, the place of those splendid exhibitions of power, and those critical conflicts of intrigue and war, which fill the annals of great empires. But no higher stake is played for in the largest sphere, than the life of a body politic; nor is the merit of that constancy which makes no account of sacrifice and suffering, to be estimated by the size of the theatre on which it is displayed." ¹

On November 15th, a party of fifteen men under Standish as leader, armed and provisioned, started off on a reconnoissance of the country. They were absent three days. Proceeding southward, on the second day they came to a tract of land which had been cultivated for corn. Here they found certain heaps of sand which they supposed to be graves, also

the remains of a hut, and a great kettle which had been some ship's kettle, and brought out of Europe. "There was another heap of sand made like the others but it was newly done, we might see how they had paddled it with their hands—which we digged up, and in it we found a little old basket, full of fair Indian corn: and digged further, and found a fine great new basket, full of very fair corn of this year, with some six and thirty ears of corn, some yellow, and some red, and others mixed with blue, which was a very goodly sight. The basket held about three or four bushels, which was as much as two of us could lift up from the ground." ¹

After some consideration as to the propriety of taking the corn, the company concluded that, under the circumstances, it was justifiable to fill the kettle with as much corn as they could carry away, and afterwards return the property to the owners if they could be found.

¹ Young's Chronicles of the Pilgrims, p. 133.
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On the evening of the third day they returned to the ship. Another expedition was soon afterwards made to the same locality, just described, where, after digging, they found several baskets full of corn and a bag of beans. Thus they procured ten bushels of grain, which they intended to retain for seed. After further delay, dependent on various circumstances, by explorations on shore, and by means of the shallop, in which the harbors were sounded, they discovered at last a spot well suited to their purposes. "We came to a conclusion, to set on the main land, in the first place, on a high ground, where there is a great deal of land cleared, and hath been planted with corn three or four years ago: and there is a very sweet brook runs under the hill side, and many delicate springs of as good water as can be drunk, and where we may harbour our shallops and boats exceeding well: and in this brook much good fish in their seasons: on the further side of the river also much corn-ground
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cleared. In one field is a great hill, on which we point to make a platform and plant our ordnance, which will command all round about. . . . The land for the crust of the earth is, a spit’s depth, excellent black mould, and fat in some places: two or three great oaks, but not very thick pines, walnuts, beech, ash, birch, hazel, holly, asp, sassafras in abundance, and vines every where, cherry trees, plum trees, and many others which we know not. Many kinds of herbs we found here in winter, as strawberry leaves innumerable, sorrel, yarrow, carvel, brooklime, liverwort, water cresses, great store of leeks and onions, and an excellent strong kind of flax and hemp. Here is sand, gravel, and excellent clay, no better in the world, excellent for pots, and will wash like soap, and great store of stone.”

Elated with their success the party of explorers returned to the vessel, and reported the good news, “which did much

1 *Idem*, p. 165.
comfort their hearts." Accordingly, in a few days afterwards, the Mayflower had brought the company to the much desired haven, to keep the Sabbath by their future home. The first needful operations on shore were at once entered upon. The company was divided into nineteen families, and a corresponding number of plots for dwellings and gardens were laid out on the opposite sides of a way along the northern side of the brook. A platform was laid for ordnance, and a building twenty feet square, for common occupation and for a storehouse, was erected.

The sad tale of the sickness, due to exposure, improper and deficient food, followed by extraordinary mortality, and the consequent reduced condition of the colony, is generally familiar, and does not here require comment. In spite of the length of the winter, which providentially had not the usual severity, a very early spring was most heartily welcomed by the much afflicted company.

"Saturday, the 3d of March, the wind
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was south, the morning misty, but towards noon warm and fair weather. The birds sang in the woods most pleasantly. At one of the clock it thundered, which was the first we heard in that country. March 19, 20, Monday and Tuesday proved fair days. We dug our grounds and sowed our garden seeds."¹ They sowed six acres of barley and pease, and set twenty acres of corn, making use of the ten bushels which they had brought from the Indian subterranean storehouses. In this work, much assistance was rendered them by Squanto, a faithful Indian, who taught them how to plant, manure with fish, and hill it. "Our corn did prove well: and God be praised, we had a good increase of Indian corn, and our barley indifferent good, but our pease not worth the gathering, for we feared they were too late sown. They came up very well, and blossomed: but the sun parched them in the blossom."² The sudden death of Governor Carver was closely connected

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with their first experience in horticultural work. Being one ever ready to serve his fellow-men in every possible manner, and to share their common labors, he was assisting them in planting. "After a short time he comes out of the field, being sick, complains of his head greatly. Within a few hours, his senses fail, and in a few days after, he dies, to our great lamentation."\(^1\) His death has been attributed to the effects of the sun, which rarely produce similar results in this climate in the month of April.

As the season advanced, they found native sallet herbs, and also grapes and berries in great abundance. "Here are grapes white and red and very sweet and strong also: strawberries, gooseberries, raspberries, & plums of three sorts, white, black, and red, being almost as good as a damson, abundance of roses, white, red, and damask: single, but very sweet indeed."\(^2\)

In the spring of the second year, the

\(^1\) *Idem*, p. 200. \(^2\) *Idem*, p. 234.
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planters had tilled sixty acres of corn, and, in addition, had vegetables in their individual gardens. Unfortunately, however, the crop was small, due, as has been reported, to imperfect cultivation, owing to the physical weakness of the company, and to having much other work upon their hands, and also to its being stolen, while still unripe, by unruly settlers under Thomas Weston at Weymouth. Some small supplies were happily obtained from the natives of the neighborhood, and by expeditions made by sea and land to the north and to Cape Cod.

After the planting of the third season, a severe drought prevailed from that time until midsummer. As a result of earnest supplication to Heaven in behalf of the colony, the abundant rains which soon followed were confidently recognized as the interposition of a special providence. At any rate they received a plentiful harvest. Moreover, the method they adopted of compelling each cultivator to bring in a competent portion for the maintenance
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of the public officers was successful. This “made all hands very industrious, so as much more corn was planted than otherwise would have been: and it gave far better content. They now went willingly into the field, and took their little ones with them to set corn, whom to have compelled would have been thought tyranny and oppression.”¹

The hardships which had been encountered by the colony at Plymouth were now greatly diminished. The increased harvests from their horticultural pursuits more intelligently conducted, the extended trading in various articles, due to their own enterprise, and the additions which had been lately made to their diminished numbers from the mother country, had contributed to these happy results.

During the struggles of the Plymouth colony for existence, attempts were made to settle other plantations in New England. During 1622, as has already been stated, a settlement under Weston was

¹Bradford, p. 134.

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commenced at Weymouth. This company not only pilfered the Plymouth people, but got them into trouble with the natives, by treating the last in a similar manner. This was, however, speedily terminated by sending against it a small force under Standish, by which means the settlement was dispersed, and soon abandoned, although, not many years after, it was permanently settled under its present name, the few inhabitants receiving an accession to their number from Weymouth in England. A few miles to the north of this, another plantation was laid out, which, coming under the jurisdiction of Thomas Morton, became an undesirable place, well known by the character of the company, whose unruly exploits were finally terminated through the exertions of Plymouth, aided by contributions to the expenses therein incurred from the small settlements and individuals scattered about Boston Bay and the coast of Maine.

Although a record exists of the several
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contributors, and the amounts given, no mention is made of their horticultural efforts beyond the statement that they are established for "planting, fishing, and trading." The largest and most important plantations in Massachusetts Bay, in which the horticultural notices are more frequent and extended than are those of Plymouth, next demand attention.
II.

THE COLONIES OF MASSACHUSETTS BAY.

The first emigration under the Massachusetts Bay Company was made with Master Endicott as Governor. Arriving at Naumkeag (Salem) in September, 1629, and uniting his own men with those who were formerly here planted, a body of fifty or sixty persons was thus made up. A second emigration, under the Reverend Francis Higginson, increased the number to two hundred more.

In a letter to England, Higginson says: "The next morning the Governor came on board our ship, and bade us kindly welcome, and invited me and my wife to come ashore and take our lod-
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ging at his house. The settlement, we are told, there consisted of about a half score of houses, with a fair house newly built for the Governor. We found also abundance of corn planted by them, very good and well-liking. . . . Our Governor hath already planned a vineyard with great hopes of increase. Also mulberries, plums, raspberries, currants, chestnuts, filberts, walnuts, small nuts, hurdleberries, and haws of white thorn, near as good as our cherries in England: they grow in plenty here. . . .

"It is a land of divers and sundry sorts all about Masathulets Bay and at Charles river is as fat black earth as can be seen anywhere: and in other places you have a clay soil, in other gravel, in other sandy, as it is all about our plantation at Salem, for so our town is now named. The fertility of the soil is to be admired at, as appeareth in the abundance of grass that groweth every where, both very thick, very long, and very high in divers places. But it groweth very wildly, with
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a great stalk, and a broad and ranker blade, because it never had been eaten with cattle, nor mowed with a scythe, and seldom trampled on by foot. It is scarce to be believed how our kine and goats do thrive and prosper here. They have tried our English corn at New Plymouth Plantation, so that all our several grains will grow here very well, and have a fitting soil for their nature. And as for fresh water, the country is full of dainty springs, and some great rivers, and some lesser brooks: and at Masathulets Bay they digged wells and found water at three foot deep in most places: and near Salem they have as fine clear water as we can desire, and we may dig wells and find water where we list.”¹

The planting of tobacco, to be considered rather as a luxury than a necessity for the plantations, called forth the following advice in Cradock's letter to Endicott in 1629. “The course you have taken in giving our countrymen their

¹ Young, Massachusetts Chronicles, p. 243.
content in the point of planting tobacco there for the present, (their necessity considered) is not disallowed: but we trust in God, other means will be found to employ their time more comfortable and profitable also in the end: and we cannot but generally approve and commend their good resolution to desist from the planting thereof, when as they shall discern how to employ their labors otherwise: which we hope they will be speedily induced unto, by such precepts and examples as we shall give them."  

Again during the same year, in the Company's first general letter of instructions to Endicott and his Council, the following words are found. "And as touching the old planters, their earnest desire for the present to continue the planting of tobacco, (a trade by this whole Company generally disavowed, and utterly disclaimed by some of the greatest adventurests amongst us, who

1 Idem, p. 136.
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absolutely declared themselves unwilling to have any hand in this Plantation if we intend to cherish or permit the planting thereof, or any other kind, than for a man's private use, for mere necessity,) we are of opinion the old planters will have small encouragement to that employment: for we find here, by late experience, that it doth hardly produce the freight and custom: . . . Nevertheless, if the old planters, (for we exclude all others,) conceive that they cannot otherwise provide for their livelihood, we leave it to the discretion of yourself and the Council there, to give way for the present to their planting of it in such manner and with such restrictions as you and the said Council shall think fitting: having an especial care, with as much conveniency as may be, utterly to suppress the planting of it, except for mere necessity. But, however, we absolutely forbid the sale of it, or the use of it, by any of our own or particular men's servants, unless upon urgent occa-
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sion, for the benefit of health, and taken privately.”

Among the articles “to provide to be sent to New England” by the Massachusetts Company, in 1629, are the following: “Vine-planters, wheat, rye, barley, oats, a hogshead of each in the ear: beans, pease, stones of all sorts of fruits, as peaches, plums, filberts, cherries: pear, apple, quince kernels: pomegranates, woad seed, saffron heads, liquorice seed, madder roots, potatoes, hop-roots, hemp seed, flax seed, currant plants, and madder seeds.” These seeds and roots were afterwards sent, and, according to accounts, sprung up and flourished. The mode of cultivating and manuring the soil by means of fish, was practised at first as at Plymouth. Owing, however, to the scarcity of certain kinds, such as cod and bass, it was forbidden in 1639 to use these for that purpose.

William Wood who came to New England in 1629, and returned to England in

1 Idem, p. 146.
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1633, there published, in the following year, his observations and experiences in a treatise entitled *New England's Prospect*. In speaking of the Massachusetts Plantations, he says: "The ground affords very good kitchin gardens for Turneps, Parsnips, Carots, Radishes, and Pumptions, Muskmillions, Isquouterquashes, Coucumbers, Onyons, and whatsoever growes well in England, grows as well there, many things being better and larger: there is likewise growing all manner of hearbes for meate, and medicine, and that not only in planted gardens, but in the woods, without either the art or the helpe of man, as sweet Marjoran, Purselane, sorrel, Peneriall, Yarrow, Mirtle, Saxisarilla, Bayes, &c. There is likewise Strawberries in abundance, very large ones, some being two inches about: one may gather halfe a bushell in a forenoone: In other seasons there bee Gooseberries, Bilberries, Resberries, Treackleberries, Hurtleberries, Currants, which being dryed in the Sunne
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are little inferior to those that our Grocers sell in England. This land likewise affords Hempe and Flax, some naturally, and some planted by the English, with Rapes if they bee well managed. ... The next commoditie the land affords, is good store of Woods, & that not onely such as may be needful for fewel, but likewise for the building of ships, and houses, and mills, and all manner of water worke about which Wood is needefull.' ... There be very few that have the experience of the ground, that can condemne it of barrennesse; altho many deeme itt barren, because the English used to manure their land with fish, which they doe, not because the land could not bring corne without it, but because it brings more with it: the land likewise being kept in hart the longer: besides, the plenty of fish which they have for little or nothing, is better so used, than cast away: but to argue the goodnesse of the ground, the Indians who are too lazie to catch fish,
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plant corne eight or ten years in one place without it, having very good crops. Such is the rankenesse of the ground that it must be sowne the first yeare with Indian Corne, which is a soaking graine, before it will be fit for to receive English seede."

In speaking of the varied employments of the Indian women, Wood adds: "An other work is their planting of corne, wherein they exceede our English husband-men, keeping it so cleare with their Clamme shell-hoes, as if it were a garden rather than a corne field, not suffering a choaking weede to advance his audacious head above their infant corne, or an undermining worme to spoile his spurnes. Their corne being ripe, they gather it, and drying it hard in the Sunne, conveyeth it to their barnes, which be great holes digged in the ground in forme of a brasse pot, seeled with rinds of trees, wherein they put their corne, covering it from the inquisitive search of their gurmandizing husbands, who would eate up both their allowed portion, and reserved
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... seede, if they knew where to finde it."¹

Wood's remarks upon the seasons of the year, and the relation of these to the crops produced, are remarkably correct for an observer who had spent only a short time in New England, scarcely four years.

"It hath been observed that English Wheate and Rye proves better which is winter sowne, and is kept warm by the Snow, than that which is sowne in the Spring. The summers are commonly hot and dry, there being seldom any raines: I have knowne it sixe or seaven weekes before one shower hath moistened the Plowman's labour, yet the harvest hath beene very good, the Indian Corne requiring more heate than wet: for the English Corne, it is refreshed with the nightly dewes, till it grows up to shade his roots with its owne substance from the parching Sunne. . . ."

¹ Wood's New England's Prospect, 1634, pp. 11, 15, 16, 106.
His observations upon the nature of the soil are generally more accurate and trustworthy than those by contemporary writers: "The Soyle is for the generall a warme kinde of earth, there being little cold-spewing land, no Morish Fennes, no Quagmires, the lowest grounds be the Marshes, over which every full and change the Sea flowes: these marshes be rich ground and bring plenty of hay, of which the cattle feed & like, as if they were fed with the best up-land Hay in New England: of which likewise there is great store which growes commonly between the Marshes and the Woods. This Medow ground lies higher than the Marshes, whereby it is freed from the over-flowing of the Seas: and besides this in many places where the trees grow thinne, there is good fodder to be got amongst the woods."  

The third and "great" emigration under Governor Winthrop consisted of many persons of good and competent

1 *Idem*, pp. 8, 11, 12.
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Estates. Some of these had enjoyed, in their native land, the best of society. Their family connections were honorable: their professions and occupations in life had been excellent, and every comfort which the possession of "fruitful lands, stately buildings, goodly orchards and gardens could afford, had been at their command." It was from these last, as would naturally be expected, that the advancement in the various forms of horticulture, beyond the mere production of cereals for daily bread, rapidly proceeded. While noticing, especially, the interest taken, and the practical method pursued in the planting of orchards and the production of various fruits by Endicott and Winthrop, the attempts made at Plymouth in the same direction by the earlier settlers and by Governor Prince, vestiges of which have survived to the present day, should not be overlooked. Among these may be mentioned the well established record of the apple tree planted by Peregrine White, the first child of the Pilgrims, at Marsh-
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field, in 1648; the pear tree imported by Governor Prince, in 1640, from England, and planted on his estate at Eastham; another pear tree in Yarmouth, set out by Anthony Thacher in 1640, and which was bearing fruit in 1872.

In the Old Colony, trees still exist which were planted by the first settlers or by their immediate descendants, in close contiguity to their houses, and which have produced fruit that has sustained reputation for qualities by no means inferior.

July, 1632, The Court of Assistants granted Governor Endicott three hundred acres of land, called by the Indians Birchwood, and afterwards known as his Orchard Farm. Its situation, north of Salem, was very desirable. In front of his house, on a commanding eminence, he planted his orchard. The trees were probably removed from his town residence in Salem. Among these was a pear tree, which tradition affirms was brought from England with Governor
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Winthrop in the *Arbella*, in 1630. It was situated near the house, and evidently had never been grafted, for the fruit which the tree produced during nearly two hundred years, was of inferior quality. Governor Endicott, generous, public spirited, vigorous, and useful to his fellow-planters, was much interested in horticultural pursuits, at first in the production of cereals and vegetables for the daily sustenance of the settlement, and later in the propagation of fruit trees, as is evident by his correspondence with Winthrop and others, on this special subject.

Governor John Winthrop became much engaged in assisting the humble gardening work of the first settlers, and, like Endicott, turned his attention to orchard and vine planting. September 6, 1631: "The General Court granted Governor Winthrop 600 acres of land near his house at Mistick." On this farm, to which he gave the name of "Ten Hills," he located his summer residence, and inter-
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ested himself in agriculture. Although there is no account extant in regard to the planting of orchards at this place, it may be inferred from the following letters from Endicott to Winthrop, and to his son John, that they were all thus occupied.

April 22, 1644: "I humblie and hearti-lie thanck you for your last letter of newes & for the trees you sent me. . . . I haue not sent you any trees, because I heard not from you, but I haue trees for you if you please to accept of them whensoever you shall send. I thinck it is too late to sett or remoue. I could wish you to remoue in the latter end of the yeare your trees, & I pray you send mee what you want & I will supply what I can."

To John Winthrop, Jun., at "Ten Hills," March 19, 1645: "Let mee say truelie I account not myselfe to be the lesse engaged vnto you concerning what you wrote, for any such small courtesie as a few trees. What trees you want at
any tyme send to mee for them, & I will supply youe as longe as I haue a tree.”

Wood, in his description of the various plantations of Massachusetts Bay, in 1633, says: “The next Towne is Misticke, which is three miles from Charles Towne by land, and a league and a halfe by wa- ter: It is seated by the waters side very pleasantly: there be not many house as yet. On the West side of this River the Governour hath a Farme, where he keeps most of his Cattle. On the East side is Maister Craddockes plantation, where he hath impailed a Parke, where he keepes his Cattle, till he can store it with Deere.”

April 2, 1632, Conants Island in Boston Harbor was granted to Governor Winthrop, and the name was thereafter changed to “The Governour’s Garden.” He promised for this gift to plant an orchard and a vineyard here, and engaged

2 Wood’s New England Prospect, p. 46.
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to pay yearly a fifth part of the fruits thereof forever to the governor, whoever he might be. In 1634 the rent was changed by the General Court to "a hogshead of the best wyne that shall grow there to be paide yearly, after the death of the said John Winthrop and noething before." A few years afterwards, the rent was changed to "two bushells of apples every yeare one bushell to the Governour & another to the Generall Court in winter,—the same to bee of the best apples there growing." The records of the General Court in 1640 show that "Mr. Winthrop, Senior, paid in his bushell of apples." 1 John Josselyn, Gent., in his account of his departure from New England, October 11, 1639, thus alludes to Winthrop's orchards: "The next day Mr. Luxon our Master having been ashore upon the Governorrs Island gave me half a score very fair Pippins which he brought from thence, there being not one Apple tree, nor Pear planted yet in no

1 Massachusetts Records, vol. i., p. 94.
part of the Countrey, but upon that Island.”¹

As to the planting of vineyards, it is evident that the process was not generally successful, notwithstanding the expectations of the early settlers, incited thereto by the writings of those who had visited New England. Thus Wood, who came in 1629, in describing the various woods and fruits, says: “The Home-bound tree is a tough kind of Wood, that requires so much paines in riving as is almost incredible, being the best for to make bolles and dishes, not being subject to cracke or leake. This tree growing with broad spread Armes, the vines winde their curling branches about them: which vines affoard great store of grapes which are very big both for the grape and Cluster, sweet and good: These be of two sorts, red and white, there is likewise a smaller kind of grape which groweth in the Islands which is sooner ripe and more


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delectable so that there is no knowne reason why as good wine may not be made in those parts, as well as in Bordeaux in France: being under the same degree. It is a great pittie no man sets upon such a venture, whereby he might in small time inrich himselfe, and benefit the Countrey, I know nothing which doth hinder but want of skilful men to manage such an imployment: For the countrey is hot enough, the ground good enough, and many convenient hills which lye toward the south Sunne, as if they were there placed for the purpose.”

This lack of success was also evidently due to their inexperience in the business and to the necessity of depending upon their own exertions, and without proper advice. In the letter of instructions from the Company to Endicott and his Council, in 1629, the matter in question is thus mentioned. “We take notice that you desire to have Frenchmen sent you that might be experienced in making of salt

1 Wood’s New England Prospect, p. 19.
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and planting of vines. We have inquired dilligently for such, but cannot meet with any of that nation. Nevertheless, God, hath not left us altogether unprovided of a man able to undertake that work; for that we have entertained Mr. Thomas Graves, a man commended to us as well for his honesty, as skill in many things very useful."

Mr. Graves proved a most valuable addition to the plantations of New England, for which region he entertained the most exalted ideas, as had been shown by his letters, from which quotations had been made. As to his ability in the planting of vineyards, and the manufacture of wines, there is no historical evidence.

Wood also describes other indigenous productions: "The Wallnut tree is something different from the English Wallnut, being a great deal more tough, and more serviceable, and altogether as heavie: These trees beare a very good nut, something smaller, but nothing inferior in

1 Young, Mass. Chron., p. 152.
sweetnesse and goodnesse to the English Nut, having no bitter pill. There is likewise a tree in some part of the Countrey, that beares a nut as bigge as a small peare. . . . The Cherrie trees yeeld great store of Cherries, which grow on clusters like grapes: they be much smaller than our English Cherrie, nothing neare so good if they be not very ripe: they so furre the mouth that the tongue will cleeve to the roofe, and the throate wax horse with swallowing those red Bullies (as I may call them) being little better in taste. English ordering may bring them to be an English Cherrie, but yet they are as wilde as the Indians. The Plummes of the Countrey be better for Plummes than the Cherries be for Cherries: they be blacke and yellow about the bignesse of a Damson, of a reasonable good taste. The white thorne affords hawes as bigge as an English Cherrie, which is esteemed above a Cherrie for his goodnesse and pleasantnesse to the taste.”

1 New England Prospect, p. 18.
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In addition to "Misticke," Wood thus describes the plantations through which the Massachusetts settlers were scattered, during his sojourn among them from 1629 to 1633: "Dorchester which is the greatest Towne in New England: well wooded and watered: very good arable grounds, and Hay-ground, faire Corne fields, and pleasant gardens. . . . A mile from this Towne lieth Roxberry, which is a faire and handsome Countrey-towne the inhabitants of it being all very rich. . . Vp westward from the Towne it is something rocky, whence it hath the name of Roxberry: the inhabitants have faire houses, store of Cattle, impaled Corne-fields, and fruitful Gardens. Boston is two miles North-east from Roxberry: its situation is very pleasant. . . Their greatest wants be Wood and Medow-ground, which were never in that place: being constrainyed to fetch their building-timber, and fire-wood from the Ilands in Boates, and their Hay in Loyters. . . This Towne although it be neither the
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greatest nor the richest, yet it is the most noted and frequented, being the Center of the Plantations where the monthly Courts are kept. Here likewise dwells the Governour: This place hath very good land, affording rich Corne-fields, and fruitefull Gardens: having likewise sweete and pleasant springs.

"The inhabitants of this place for their enlargement, have taken to themselves Farme-houses, in a place called Muddy-river, two miles from the Towne: where is good ground, large timber, and store of Marsh-land and Medow. In this place they keepe their Swine and other Cattle in the Summer, whilst the Corne is on the ground at Boston, and bring them to the Towne in Winter. . . . On the North-side of Charles River is Charles Towne. This Towne for all things, may be well paralel'd with her neighbour Boston, being in the same fashion with her bare necke, and constrained to borrow conveniences from the Maine, and to pro-vide for themselves Farmes in the Coun-
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trey for their better subsistence. . . .

By the side of this River is built Newtowne, which is three miles by land from Charles Towne, and a league and a halfe by water. The inhabitants most of them are very rich, and well stored with Cattell of all sorts: having many hundred Acres of ground paled in with one generall fence, which is about a mile and a halfe long, which secures all their weaker Cattle from the wilde beasts. On the other side of the River lieth all their Medow and Marsh-ground for Hay. Halfe a mile Westward of this plantation, is Watertowne: a place nothing inferiour for land, wood, medow, and water to Newtowne. . . . The last Towne in the still Bay, is Winnisimet: a very sweet place for situation, and stands very commodiously, being fit to entertaine more planters than are yet seated. The chief Islands which keepe out the Winde and Sea from disturbing the Harbours, are first Deare Island and Long Island. . . .

Divers other Islands be within these: viz.
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Nodles Ile, Round Ile, the Governours Garden, where is planted an Orchard and a vine-yard, with many other conveniences. . . . These Iles abound with Woods, and Water, and Medow-ground, and whatsoever the spacious fertile Maine affords. The inhabitants use to put their Cattle in these for safety, when their Corne is on the ground.

"The next plantation is Saugus, sixe miles North-east from Winnesmet. This towne is pleasant for situation. It has a sandy Beach two miles long at the end, whereon is a necke of land called Nahant. It is sixe miles in circumference: well wooded with Oakes, Pines, and Cedars: It is beside well watered. In this necke is store of good ground, fit for the Plow: but for the present it is onely used for to put young cattle in, and weather-goates, and Swine, to secure them from the Woolves: a few posts and rayles from the low water markes to the shore, keepes out the Woolves, and keepes in the Cat-tle. . . . On the North side of the
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Bay (on which Saugus is seated) is two great Marshes, which are made two by a pleasant River which runnes between them. At the mouth of this river runnes up a great creeke into that great Marsh, which is called Rumny Marsh, which is 4 miles long and 2 miles broad: halfe of it being Marsh ground, and halfe upland grasse, without tree or bush. . . . For wood there is no want, there being store of good Oakes, Wallnut, Cedar, Aspe, Elme. The ground is very good, in many places without trees, fit for the plough. In this plantation is more English tillage, than in all New-England, and Virginia besides: which proved as well as could bee expected, the corne being very good especially the Barly, Rye, and Oates.

"Foure miles North-east from Saugus lyeth Salem, which stands on the middle of a necke of land very pleasantly: upon this necke where most of the houses stand is very bad and sandil ground, yet for seaven yeares together it hath brought forth exceeding good corne, by being
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fished but every third yeare: in some places is very good ground, and very good timber, and divers springs hard by the sea side. Although their land be none of the best, yet beyond those rivers is a very good soyle, where they have taken farmes, and get their Hay, and plant their corne: there they crosse these rivers with small Cannowes, which are made of whole pine trees, being about two foot & a half over, and 20 foote long.

"Agowamme is nine miles to the North from Salem, which is one of the most spatious places for a plantation; being neare the sea, it aboundeth with fish, and flesh of fowles and beasts, great Meads and Marshes and plaine plowing grounds, many good rivers and harbours and no rattle snakes. In a word, it is the best place but one, which is Merrimacke, lying 8 miles beyond it, where is a river 20 leagues navigable; all along the river side is fresh marshes, in some places 5 mile broad. To conclude, the Countrie hath not that which this place cannot
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yeeld. So that these two places may containe twice as many people as are yet in new England: there being as yet scarce any inhabitants in these two spacious places. These be all the Townes that were begun, when I came for England, which was the 15 of August 1633.”¹

Wood, in his description of the plantation at Boston, makes no allusion to William Blaxton, the first settler and horticulturist upon the peninsula, except to mention that “on the South side of the River on a point of land called Blaxtons Point, planted Mr William Blackstone.”

It has been affirmed that the early colonists found this peninsula thinly wooded, most of the forest, except on the neck, having been burned by the Indians for the purpose of clearing the land and planting it with corn. Interesting as are the well-known incidents in the life of Blaxton, we are here concerned only with those which are appropriate to his horticultural work. Coming to Shawmut

¹ *New England Prospect*, pp. 41-48.
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in 1625, he selected, as the most desirable spot, the sunny southwestern slopes of Trimountain. Here he erected his cottage, and near it planted his orchard and garden. These last were well established when Winthrop and other colonists moved over, at Blaxton's invitation, from Charlestown, chiefly to obtain the pure water so abundantly offered by delicious springs. The *Massachusetts Records*, April, 1633, contain the following item: “It is agreed that William Blackstone shall have fifty acres set out for him near his house in Boston to enjoy forever.” In the following year he sold all this territory upon which stood his dwelling and orchard. This orchard, the first in New England, is spoken of in a publication of 1765, as still producing fruit, and is mentioned in the deeds of subsequent possessors. In 1635, for various reasons, Blaxton removed to Rehoboth, where he was the first settler within its original limits. Here he erected a house, and planted an orchard upon the protected slopes of Sunny
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Hill, overlooking Blackstone River, which was the first that bore apples in the State of Rhode Island, and also long continued noted for its excellent fruit. Until an advanced age, he here quietly pursued his literary and horticultural tastes, which were of the best, and for which his name should be honored.

A few years after the settlement at Plymouth, plantations had been commenced north of Massachusetts Bay, at Saco, Agamenticus, and Cochecho, as also at the mouth of the Piscataqua. These were in a languishing condition during several years. On the rivers more to the eastward plantations had also been early attempted on the Kennebec, Androscoggin, and Penobscot, almost entirely for the purposes of fishing and trading, although "farming" was also sometimes included among the incentives. Little or no horticultural efforts, however, were made beyond raising corn for sustenance.

The first settlement near the mouth of the Piscataqua was made in 1623, under
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Ambrose Gibbons, the agent of the Laconia, or Mason and Gorges colony. The object in view was "to found a plantation on this river to cultivate the vine, discover mines, carry on the fisheries, and trade with the natives." One of the favorite schemes of Mason was vine growing, and he wrote to Gibbons, saying: "I pray you look well to the vines." Gibbons answered: "The vines that were planted will come to nothing. They prosper not in the ground where they were set, but them that grow naturally are very good of divers sorts." This lovely valley was known as "The Vineyard," and in the earlier part of this century there were so many vines left, that they may have been a survival of those planted by the hands of Europeans.

The barberries, other fruits, and various herbs evidently brought from England, and that found a favorable soil and climate in this natural garden, as well as the soft fine turf, which rarely grows except where man has dealt much with the
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ground, seem to mark the locality of a very old settlement—"a settlement busy, featless, and well fed, when Plymouth colonists were defending themselves against Indians and starvation." 1

No mention is made of the cultivation of cereals, as the colony was well fostered by Mason and Gorges, who were men of means, and spent freely in behalf of the early settlers, although actuated by great expectations of amassing wealth for themselves.

Josselyn, in his account of his first voyage to New England, says: "The Twelfth day of July, 1638, after I had taken my leave of Mr. Maverick and some other Gentlemen, I took boat for the Eastern parts of the Countrie, and arrived at Black point in the Province of Main, which is 150 miles from Boston. . . . The Countrey all along as I sailed being no other than a meer wilderness, here and there by the Sea-side a

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few scattered plantations, with as few houses."\(^{1}\)

In 1639, a settlement under Mr. Wheelwright was begun on a tributary of the Piscataqua, and called Exeter. Eastward of this were large marshes which produced a native grass that was used as a fodder before a more nutritious one was raised upon the uplands. Two years previously, a settlement under the jurisdiction of Massachusetts had been started at Hampton. While the site of many of the early settlements was undoubtedly determined by the good arable soil found in the valleys of the large rivers, and the consequent better horticultural opportunities presented, there were other causes that combined to promote the advance of the last mentioned, among which the Antinomian dispersion may be included.

Almost simultaneously with the removal of Blaxton to Rehoboth and Roger Williams to Seekonk, and afterwards to Providence, there was an important

\(^{1}\) *Five Voyages, etc.*
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movement towards the west. Even previous to this period, Plymouth had sent emissaries to Connecticut River for discovery and trade, who on return reported "a fine place for plantation and trade." Later, among the Massachusetts plantations, intelligence arrived of the fertility of that region, which induced in many the wish to transplant themselves from the less productive soil upon which they had settled at first. Especially was this plan entertained by the inhabitants of Roxbury, Dorchester, Watertown, and Newtown. The principal reasons given for removal were: "1. Their want of accommodation for their cattle. . . . 2. The fruitfulness and commodiousness of Connecticut, and the danger of having it possessed by others, Dutch or English. 3. The strong bent of their spirits to remove thither."¹ There is little direct mention of horticultural work in which the early settlements in the Connecticut

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valley were engaged. The land for tillage was closely subdivided, the pasturage and forest lands were held and used in common. In the first records of the various communities most frequent allusion is made to the Indian corn, raised either by themselves, or gathered by trading with the Indians. The mode of planting had been introduced from the Plymouth and Massachusetts colonies, although the fertile, alluvial soil did not then require the application of dressing. In the settlement of Agawam (Springfield) the town was to be limited to fifty families, each head of a family to have "a house-lot and an allotment of planting grounds, pasture, meadow, marsh, and timber land." In 1645, it was voted "That if any neighbour shall desire to enclose his yard with a garden or an orchard, if his next neighbour refuse to joyne for ye one half of the said fence, he may com-pel his neighbours on each side of his lot to beare ye one halfe of his fence, and in case his neighbour shall refuse to doe his
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share of the said fence within three months after demande, He shall be liable to pay damages as two indifferent men shall award, which shall be chosen by the partyes in controversy." 1 In the same year the following vote was taken: "Whereas the Plantinge of Indian Corne in the meddowe Swamp on ye other side of Agawam river, hath occasioned a long stay after moowinge tyme before men can put over theyr Cattell thither: Therefere it is ordered that no more Indian corne shall be planted, neither in the meddowe nor in ye Swampes, that so the Cattell of all those that have alotments there may be put over by ye 15th of September." The early settlers were often much annoyed in their agricultural and horticultural affairs, by the trespassing of swine, consequently it was decreed that "All swine that breake into any man's corne ground or meddowe yt it sufficiently fenced against yoked hoggs: in case men let ye Swine run abroad unyoked if they breake

1 History of Springfield by M. A. Green, p. 78.
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in and doe any man Trespass, then master of the sayd Swine shall be lyable to pay all damages as two indifferent men shall Judge ye damage to be: but if Swine shall be yoked and runge then they are free from damages.”

The general planting of orchards did not engage the attention of the eastern or Connecticut valley settlers at a very early period. As in the Plymouth or Massachusetts Bay colonies, the cultivation of the cereals and the requisite vegetables for sustenance was of course the first horticultural matter which required their exertions. And yet the enactment passed by the Court of Massachusetts in 1646, and the similar laws by authority in other plantations, show the interest taken in all branches of horticulture from the very first. This was that the person who should be known to rob any orchard or garden, or who should injure or steal any graft or fruit tree, should forfeit treble damages to the owner.

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Records are extant of the setting of orchards in Saco, York, and in other plantations in Maine, dating almost from their existence as centres of civilization. In Connecticut, there are also scattered notices of fruit trees still lingering as relics of ancient orchards.

In this connection, the following correspondence with Governor John Winthrop, Jr., is of interest. George Fenwick of Saybrook, writes May 6, 1641: "I haue receaued the trees yow sent me, for which I hartily thanke yow. If I had any thing heare that could pleasure yow yow should frely command it. I am prettie well storred with chirrie & peach trees, & did hope I had had a good nurserie of aples, of the aples yow sent me last yeare, but the wormes have in a manner destroyed them all as they came up."

John Mason also writing from Saybrook in 1654, says to the Governor, "forget not to provide for the planting some trees at spring." In the following year he wrote to Mrs. Winthrop: "I haue sent ten apple
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trees by Goodman Stoylyon to your selfe. I suppose they will, most of them, be planted in the north end of your orchard. I would have sent more if I had thought there were a place. I haue alsoe sent Thomas Bayley thirty grafted trees, as hee desired mee.”

From this period up to the middle of the seventeenth century, there are few references to the horticulture of the New England plantations. Josselyn, who came to this country in 1665, on his second voyage, in his account enumerates the English towns upon the coast of Rhode Island and Connecticut followed by those on the Connecticut River, and those belonging to the Plymouth and Massachusetts Colonies, but refers to the orchards only as follows: “Our fruit Trees prosper abundantly, Apple trees, Pear-trees, Quince-trees, Cherry-trees, Plum-trees, Barberry-trees. I have observed with admiration, that the Kernels sown or the

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Succors planted produce as fair & good fruit, without grafting, as the tree from whence they were taken: the Countrey is replenished with fair and large Orchards. It was affirmed by one Mr Woolcut (a magistrate in Connecticut Colony) at the Captains Messe (of which I was) aboard the Ship I came home in, that he made Five hundred Hogsheads of Syder out of his own Orchard in one year. Syder is very plentiful in the Countrey, ordinarily sold for ten shillings a Hogshead.

"The Quinces, Cherries, Damsons, set the Dames a work, Marmalad and preserved Damsons is to be met with in every house. It was not long before I left the Countrey that I made Cherry wine, and so may others, for there are good store of them both red and black. Their fruit trees are subject to two diseases, the Meazels, which is when they are burned and scorched with the Sun, and lowsiness, when the woodpeckers job holes in their bark: the way to cure
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them when they are lowsie is to bore a hole in the main root with an Augur, and pour in a quantity of Brandie or Rhum, and then stop it up with a pin made of the same Tree."

The plantation by the French refugees was commenced in 1686, upon a grant of land which had been made in 1683 by the Massachusetts General Court to certain Scotch people who contemplated settlement in this country. This grant, known as the Oxford, was situated in the Nipmuck country and consisted of about 2500 acres, which, although generally covered with forest, had upon its plains, open areas, cultivated by the Indians for corn and vegetables. The meadows upon the streams were considered valuable for the grass they yielded. In fact, this region was decided to be well selected on account of its ability to supply the means of subsistence. As the stipulated time for occupying the land by the Scotch set-

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tlers had for various reasons expired, the grant was open to the Huguenots, a great proportion of whom, soon after their arrival in Boston, removed to Oxford. The location of the chosen settlement was about a mile and a half southeast of the present village. Mills for grinding grain and furnishing lumber were first provided. Upon the eastern borders of the plains, near the meadows and stream, houses were erected. Upon an eminence commanding their hamlet, a suitable fort was built for protection against the Indians. "From the evidences of their skill in cultivation, it is easy to believe that during their residence here these people wrought a great change in the aspect of the place, and by their well directed labour, wide and fertile fields and fruitful gardens were made to flourish where before existed only the unprofitable growths of the original forests."

"According to good authority, there was a garden outside the fort on the west, containing asparagus, grapes, plums,
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cherries, and gooseberries. There were more than ten acres cultivated around the fort. Such a garden in the wilderness, when we consider circumstances, seems a strange thing, but doubtless a refined taste and a desire to perpetuate in this new western home some of the sweet memories of sunny France had much to do with its existence."

"They were acknowledged to be the best agriculturists, wine growers, merchants, and manufacturers in France. No heavier crops were grown in France than on the Huguenot farms in the southwest provinces. The diligence, skill, and labour with which they subdued the stubborn soil and made it yield its increase of flowers and fruits and corn and wine bore witness in all quarters to the toil and energy of the men of the religion."

From the foundation of the colony, in 1686 to the spring of 1694, there were

1 The Huguenots in the Nipmuck Country, George F. Daniels.
2 Smile's History of the Huguenots.
gradual growth and prosperity, but now the threatening aspect of the Indians paralyzed the promising success. The plantations and homes were deserted and the settlers hastened for safety to their strongholds; the fields of grain, fruits, and gardens were left unprotected to the range of wild animals and cattle. A fearful massacre of a family decided their fate. Hastily gathering their few valuables, the entire company returned to Boston. Documentary evidence shows that a temporary re-settlement of the place was made in 1700, but owing to menacing Indians a final abandonment of the settlement took place before 1713.

The Huguenots that settled in and about Boston, in spite of their numerous hardships "brought with them qualities that were needed at that day. They brought a buoyancy and a cheerfulness, that must have been contagious, even amidst pervading austerity." ¹ Wherever they went,

¹ *The Huguenot Emigration to America*, B. C. W. Baird.
they carried with them a taste for the beautiful, a taste which was not only innate, but which had been promoted during the journeys between the seaboard and the Nipmuck country, when as they slowly accompanied their household goods, they had ample opportunity to observe the grandeur of the primeval forests and the wonderful vegetation which they contained: the shrubs and myriads of plants clothed in brilliant colors, the ferns that grew in the greatest luxuriance, the climbing vines, especially the grape, its delicious fruit so familiar and welcome to them, hanging in abundant clusters, and the great variety of tempting wild berries. The taste for the beautiful was manifested by them within the city, not only in the culture of lovely flowers and fine vegetables, but of choice fruit, especially of pears, some trees of which remained in the gardens of the Faneuils and Johonnots until the mansions were destroyed. A refugee, in a letter from Boston to his family in
France, says: "Vegetables as cabbages, turnips, onions, and carrots are cheap and in abundance. Moreover there are quantities of wild nuts, chestnuts and hazel-nuts. The fruit is small but wonderfully palatable. I am assured that the woods are full of strawberries in their season. No one doubts that the vine will do very well; some plants that have been set out in the country have put forth."

We have already noticed the earliest introduction of the cultivation of fruit, especially in the Plymouth and Massachusetts plantations. Few records exist of the horticultural progress during the succeeding one hundred years,—except the statement that the gardens of New England, fifty years after the settlement of the country, were as well stocked as they were many years after this,—until a paper was published in the Philosophical Transactions, communicated in 1726 by Hon. Paul Dudley, in which he speaks of the size and cultivation of fruit and vegetables in Roxbury, but makes no
mention of flowers. "Our apples are without doubt as good as those of England, and much fairer to look to, and so are the pears, but we have not got all the sorts. Our peaches do rather excel those of England, and then we have not the trouble or expense of walls for them: for our pear trees are all standards, and I have had in my own garden seven or eight hundred fine peaches of the Rare-ripes, growing at a time on one tree. Our people, of late years, have run so much upon orchards, that in a village near Boston, consisting of about forty families, they made near three thousand barrels of cyder. This was in the year 1721. And in another town of two hundred families, in the same year I am credibly informed they made near ten thousand barrels. Our peach trees are large and fruitful, and bear commonly in three years from the stone. Our common cherries are not so good as the Kentish cherries of England, and we have no Dukes or Heart cherries, unless in two or three gardens."
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Justice Dudley also gives some remarkable instances of vegetable growth.

The gardens of Boston, in the fullest acceptation of the term, combining the useful and ornamental, the orchard, the vegetable and flowering plants, were found, in the first half of the eighteenth century, mostly attached to the residences of the more wealthy citizens. References are occasionally and briefly made by writers to a few which existed many years previously. Thus the house of Governor Winthrop, which stood nearly opposite the foot of School Street, was with the garden attached called "The Green." We obtain a mere glimpse of the disposition and size of the garden from any accounts extant. When the house was destroyed by the British, they cut down a fine row of buttonwoods that skirted the enclosure. There were lanes which ran up from the harbor's edge that bounded Winthrop's garden, as also those of the neighborhood. It was in this that the Governor hospitably entertained D'Aul-
nay and his attendants. "The Lord's day they were here, and the Governour, finding that the place where they lodged would not be convenient for them that day, invited them home to his house, where they continued private all that day until sunset, and made use of such books as he had, Latin and French, and the liberty of a private walk in his garden, and so gave no offence."

Among the earliest gardens of which we have any decided record, may be mentioned that of Gamaliel Wayte on "Ye Mylne Street," which was afterwards, and has since been known as Summer Street. Wayte came over with Edward Hutchinson, and although called a planter was soon recognized as an excellent horticulturist, and his garden, which was planted in 1642, was well known for its delicious fruits, and continued long afterwards to remain beautified by many flowering plants. This street afterwards became noted for many other gardens, which

1 Winthrop's History of New England.
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contributed to render it one of the most delightful of the city. Here were the estates of the Coffins, Geyers, Barrells, Russells, Prebles, Lydes, and others, divided into orchards and gardens, "and these hospitable residents could set before their guests cider of their own manufacture, or butter from their own dairies. As late as 1815, there was a pasture of two acres in Summer Street, and the tinkling of cow-bells was by no means an unusual sound there."

Upon the eastern and southern slopes of Cotton, afterwards Pemberton, Hill, were the residences and gardens of Endicott, Vane, Bellingham, Cotton, Faneuil, Davenport, Oxenbridge, and others. These estates, at an early period, were terraced and planted with vines, fruits, ornamental and flowering shrubs, according to the taste then prevalent in England. And thus they were continued in the possession of the succeeding owners, until finally all were swept away by the ruthless rage for improvement. As a
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type of these, may especially be mentioned the Faneuil mansion, nearly opposite the King's Chapel, which was afterwards purchased by William Phillips, senior. With this estate I was intimately acquainted. The deep court-yard, in front ornamented by flowers and various shrubs, was divided into an upper and lower level surface by a high, sloping, grassy bank, surmounted by a richly wrought iron railing adorned with gilt balls. The edifice was of brick, having over the entrance door a semicircular balcony. The terraces, which rose from the paved court behind the house, were supported by heavy walls of granite, and ascended by steps of the same material. Upon these were planted numerous choice grape vines and fruit trees of various sorts, while beds of flowers, ornamental trees, and shrubs were otherwise tastefully arranged.

The most extensive and highly embellished garden of this locality was that of Gardiner Greene, in which he had one
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of the first greenhouses in Boston, and cultivated in the open air the Black Hamburg and Chasselas grapes, peaches, apricots, nectarines, as also plums and a great variety of pears. The entire grounds were adorned by both nature and art.

Occupying the southern slope of Cotton Hill and on Beacon Street was the fine mansion of Lieutenant-Governor Phillips, which afterwards belonged to Edward Bromfield. Behind this was a paved court-yard and a large terraced garden, noted for its flowers and fruits, and also for some noble trees, which were destroyed by the British for fuel.

Adjoining this estate was that of Governor Bowdoin, upon which was a very large garden, extending back to the present Ashburton Place, and famous for the finest fruit in the greatest variety and abundance.

Farther to the westward, and just beyond the present State House was the well known Governor Hancock mansion, with the adjoining nursery, pasture, or-
chards, and garden. The latter, which extended back to Mt. Vernon Street, and received constant accessions from England, was laid out in flower-beds bordered with box, while large box trees, and a great variety of fruit, among which were several immense mulberries, occupied the remaining space.

At the north end of the town, previous to the Revolution, were the residences of Governors Thomas Hutchinson and Frankland, both of which had extensive gardens, which were well stocked with the flowers and various fruits of those days. The old Bowling Green, afterwards Bowdoin Square, was the locality of many fine old ancestral estates with acres of gardens, orchards, and stately trees. Here the Bootts lived, their garden being long celebrated for its choice fruits and rare plants, which were obtained through the influence of Dr. Francis Boott, who was well known as a botanist in England. Here also were the homes of the Gores, Parkmans, Lymans, Coolidges, and
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others, to all of which were attached gardens more or less extensive.

Space will not allow the mention of other gardens of more or less notoriety in other parts of Boston in former days, nor of the "Training Field" or Common, nor of the origin of the present Public Garden, commenced in 1859. There was, however, in connection with the establishment of this enterprise a provision made for the instruction and benefit of the public which is now known to but few of the present inhabitants. This consisted in the conversion of a huge circus building that stood on land west of the corner of Beacon and Charles Streets, into an immense conservatory for plants and birds. The plants were arranged in the four galleries according to a proper classification. The birds were a fine collection of European and tropical songsters, among which were some rare specimens. The following extract is from a newspaper of the day, and gives some idea of its contents: "We advise our friends
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who are as usual seeking amusement during the Christmas holidays not to omit looking in at the Public conservatory. There are above one thousand Camelia Japonica plants, some of the largest now in full splendor, and others, on the point of bursting their beautiful buds. Among them are at least twenty full-grown trees, ten to thirty years old. It is calculated that during the next five or six weeks several thousand Camelia blossoms will expand: hundreds are now in full bloom, and contrast beautifully with the dark glossy foliage."

This conservatory proved one of the greatest attractions that could be offered by a city, and I remember with many pleasant associations the charming scene presented, as one passed within its doors, especially during the inclement season. Unfortunately the building with its contents was entirely destroyed by fire.

In entering upon any description of the estates and gardens which have occupied the territory of several miles in
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almost every direction about Boston, the wonderful landscape beauty which it presented and still presents, should be taken into consideration. Few districts of equal extent in any portion of the continent offer a greater diversity of surface, distributed into lofty hills, craggy peaks, moderate undulations, valleys, forests, streams, lakes, and bordered by the ocean, which combines with its grandeur the beauty of the islands, bays, promontories, and the variety in the cliffs and caverns of the shore.

Coming to this domain, our forefathers, while they naturally contrasted the graceful and subdued features of English landscape with those evinced by rugged New England, could not have been insensible to the attractions she spread before them, or to the facilities offered for the full enjoyment of the same. It was in unison with this landscape beauty, that the district occupied gradually became converted into a cordon of suburban plantations, large and small, that en-
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circled the infant town of Boston nestled among its hills.

While the struggles for the sustenance of life would allow the early settlers little opportunity for attention to aesthetic principles, yet their humble homes, with the surrounding orchards and gardens, all so well chosen as to position, gave evidence of their influence. The style of architecture, where any pretence to such was adopted, was the result of the experience taught by the severity of the climate, and it will be readily allowed by the tasteful, that the plain cottages and unadorned old houses, that are now so much admired, where allowed to exist, were more in keeping with their environment and with the habits of the people, than the pretentious buildings which have usurped their places.

Only a comparatively few of the multiplicity of estates which have been held in the suburbs of Boston can here receive even brief attention. The notices and descriptions of Dorchester and Roxbury
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by Johnson, Wood, and Josselyn, as these plantations presented themselves to their inspection between 1635 and 1663, have been given in our previous pages. These two localities were noticed for their early attention to the culture of fruit. It was not until the colonial times that there is allusion to an estate which possessed a garden of special note, and this belonged to Governor Oliver, and was laid out in the style which was still common in England. Amid those of note in Dorchester, for their horticultural tastes and for their success in the cultivation of fruit, especially of the pear, may be mentioned the Downers, Voses, Sumners, Wilders, and in Roxbury, prior to the present century, Judge John Lowell, John Prince, Aaron Williams, Rufus Amory, Samuel Ward, and Samuel Walker. The gardens, orchards, farms, and nurseries of many of these were long noted for the production of new varieties of fruit, vegetables, and flowers, for the introduction of greenhouses and conservatories, and in a few
cases for fine illustrations of landscape gardening.

In 1662, that portion of Dorchester, then called Unguety and afterwards Milton, became the locality for many fine estates which have been well known for their horticultural products and for their pleasant rural surroundings. Here, before the Revolution, was the summer residence of Governor Thomas Hutchinson, celebrated for its appointments. Perhaps no section of our suburbs of equal size is better cultivated, and nowhere is the union of wealth with country felicity more complete than is now seen in the possessions of the Forbeses, Kidders, Peabodys, Cunninghams, Russells, and others.

Muddy River, Brookline, was also early and widely known for the horticultural advantages which it offered. Wood, in his *New England Prospect*, speaks of this place with the other hamlets as encircling the "old plain neck" of Boston "with an unfading wreath of bloom and
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...verdure." Grants of land were made to prominent individuals in all these, and sometimes, especially at Muddy River, "to the poorer sort." Here, in latter days, among the patrons of horticultural improvements may be numbered the Aspinwalls, Amorys, Sullivans, Lees, Perkinses, Lymans, Sargents.

In the early part of this century Colonel T. H. Perkins and his brother Samuel erected large greenhouses and glass structures for the cultivation of rare fruits and flowers, and laid out the grounds at great expense "until it was considered the most advanced in horticultural science of any in New England."

The estate of Thomas Lee, during his life, was remarkable for its diversity of surface, for its lawns kept in the most exquisite condition, and for its collection of rare trees and shrubs. The owner was widely known for his love of everything pertaining to natural beauty. After his death the grounds passed into the possession of Ignatius Sargent, who had great...
success in grape culture. "Under the super-
vision of his son, Professor Sargent, this place, with its magnificent landscape, its conservatories of plants, and its ex-
tensive collection of conifers, rhododen-
drons, and azaleas, is thrown open to the public every year. With its extensive and rare collection of native and foreign trees and shrubs, and its wide and grand em-
brace of one hundred acres in extent, this estate is one of great interest for the study of landscape and ornamental cul-
ture." ¹

Cambridge, which has been noted from the middle of the last century for its gar-
dens and ornamental grounds, has also given great attention to the production of fruits and to the establishment of ex-
tensive experimental grounds and nurse-
ries. Conspicuous among these last were those of Hovey & Co., which have long given to them a wide reputation both at

home and abroad. Among the early estates of note was that of Thomas Brattle, who returned after the Revolution and took possession of the grounds of his father who had laid them out in the formal style then common in Europe. These grounds were extensive, stretching from the banks of the Charles to the estate of the Vassalls.

The Craigie property, the mansion of which has been so long and so well known for its spacious and graceful proportions, and also for its many honored occupants, formerly extended back and included the present Observatory Hill which bore a summer-house. The space immediately about the mansion was ornamented with a garden during the latter part of the last century, in which were planted numerous trees, shrubs, and flowers, some of which still remain. A greenhouse was also erected by Mr. Craigie, which was probably the first in Cambridge.

In the vicinity there were numerous other estates in the possession of wealthy
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and cultivated families, to which were attached ample orchards, gardens, and fields, while the proximity of the Charles, of Fresh Pond, and of Mt. Auburn, with its forests, dells, and heights, made up a country of singularly picturesque beauty which contributed greatly to the satisfaction and pleasure of the owners and of their many friends.

Newton, with its numerous villages, which has well earned the name of the "Garden City," and the adjacent Brighton, have both become well known at the present day, for the advances made in the science and practice of horticulture. Within their borders the first nurseries of any special note in New England were established, one by John Kenrick, in Newton, in 1791, and another by Jonathan Winship, in Brighton, in 1816. Both of these were extensive, and were the means by which Boston and many other places were supplied with ornamental trees and shrubs, fruits and flowers. In the first part of the century, James Hyde com-
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menced a nursery of fruit trees and carried on the business successfully for many years in Newton. He afterwards associated with him his son, J. F. C. Hyde, who has for many years been distinguished for his great love for rural pursuits, in which he has much practical knowledge and skill. Other well-known admirers of horticultural and agricultural pursuits have made Brighton their residence, and have there established their prosperous careers. Among these should be enumerated the Brecks and W. C. Strong.

Watertown and Waltham, even before the present century, have been the abode of several wealthy men whose estates were recognized as among the best conducted in New England. The Cushing place, with its spacious gardens, greenhouses, and ornamental grounds, all of which were liberally thrown open to the public, is still pleasantly remembered by many.

"Waltham House" estate was purchased in 1795 by Theodore Lyman, who

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erected the mansion, and arranged the grounds in a manner to rival some of the princely possessions of England. Its noble trees, lake, gardens, terraces, lawns, and deer-park have continued to exhibit all the features which belong to refinement and taste in connection with rural improvement. There is no better example of quiet, unassuming, beautiful landscape gardening in the vicinity of the metropolis.

Other estates in Waltham, with which historical associations are connected, might be mentioned. Among these was that of Governor Christopher Gore, originally comprising several hundred acres, many of which were tastefully embellished, and with a fine mansion, made suitable for the life of a country gentleman. Since his death, it has generally been preserved in good condition, and has lately been distinguished for the glass structures in which are grown large quantities of fruit, flowers, and vegetables.
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Charlestown has possessed many notable gardens during the present century, and among these "Pleasant Hill," belonging to Joseph Barrell, deserves mention on account of its extent and its accessories, constituting what was then termed a "show-place."

Medford still exhibits within its limits the Royal house, with its gardens, ornamented in the style once deemed appropriate to its stateliness. Here also are the large estates of the Brookses and others who have attractive gardens and conservatories.

Arlington, Lexington, Concord, Woburn, and other towns in their vicinity, have been prominent in horticultural pursuits, especially in the production of fruit and vegetables, thereby supplying our markets in a manner not surpassed in other cities.

Salem, from the early days of this century, and even before this period, has had stately residences with their attendant orchards, gardens, and ornamental
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grounds. It was in this town that the Derbys had their residence, with every accompaniment that the lovers of horticulture could supply. Here was the pomological garden of Robert Manning, established for the purpose of collecting, testing, and identifying the varieties of fruit trees that would bear the climate of New England. This work was continued with great zeal until interrupted by his death, which occurred after nearly twenty years of labor. It was afterwards assumed by his son, the present competent and faithful Secretary of the Massachusetts Horticultural Society, who thus speaks of his father: "To him more than to any other one in his day—perhaps it would be just to say more than to all others—were the public indebted for the introduction of new and choice fruits, for the identification of the different varieties, for the correction of their nomenclature, and the testing of their qualities, and he was acknowledged to be the highest authority in regard to the names and
synonymes of fruits." It was to the inhabitants of Salem that the tomato was first introduced, and by them rejected.

Directly upon the North Shore, the remarkable success of Frederick Tudor in contending with our northern climate deserves a brief notice. At Nahant, in an open field where there was neither tree nor shrub, he made a large garden which he enclosed with a high double palisade as protection from the winds. Here he raised a variety of large and delicious fruit.

Dedham has had many horticulturists who have been recognized as warm patrons of the art. In former years, the residences of Edward Dowse and Fisher Ames were well known far and near for their situation, orchards, gardens, and plantations. Later, those of Wight, Richards, and the Rands have been familiar to the public for the cultivation of fruit, and for the superior collections of greenhouse and orchid plants.

On the South Shore at Braintree, now
Quincy, the Quincy estate, as it passed from generation to generation, should be cited as one where horticultural and agricultural pursuits received every attention. The property originally consisted of several hundred acres, and upon a portion which bordered upon the sea a stately mansion was erected by the third proprietor, Josiah Quincy, in 1770, and orchards with gardens planted. In 1784 the estate was bequeathed to President Quincy, who, being a great lover of nature, laid out the grounds with much taste.

"Obstructions to the views were removed, walls and fences levelled, lawns, with trees and shrubs judiciously disposed, replaced the court-yard and gardens, and the approach to the house was turned through an avenue of elms, a third of a mile in length, planted by Mr. Quincy in 1790."¹ New orchards, especially of pears, and vegetable gardens,

¹ Memoir of the Life of Susan E. M. Quincy, 1861.
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were planted, while every improvement in agriculture was sought and obtained. Broad fertile fields, dotted with noble aged oaks and pines, stretched away beyond the farm buildings, while the views from the mansion, combining on the one side Massachusetts Bay, the islands, and distant Boston, and on the other, the forest-clad Blue Hills, and the intervening country: both combined to endear the homestead to its owners and to gratify its numerous guests.

Wellesley contains the property of H. H. Hunnewell, which is too well-known at the present day to warrant any long description. The wonderful changes which have been wrought through his instrumentality upon this region, form one of the best examples of the evolution of horticulture that could be brought forward. The ornamental portion of the estate, consisting of about forty acres, was at the time of purchase a plain with sandy soil, covered by worthless trees and shrubs. These were entirely eradicated,
the land deeply ploughed and enriched, and converted into a velvety lawn of several acres which spread in front of the mansion. Thoroughly constructed roads and paths, planted on either side with the best hardy trees and shrubs, were so arranged about the premises as to command the most charming vistas. Groups of conifers and evergreens with the choicest rhododendrons and azaleas filled the grounds. Fruit and vegetable gardens, surrounded with ornamental hedges, plant-houses, fruit-houses, conservatories, and other buildings devoted to horticultural purposes, occupied a large space. The beautifully expanded lake with the Italian garden upon its borders, considered as choice landscape features, add greatly to this noted estate.

Such a generous patron of the horticultural art as Mr. Hunnewell has always proved, deserves and receives the admiration of the public.

An attempt to give a more extended account of the estates and gardens in and
about Boston, or even to enumerate those which have long graced the principal cities and towns of New England (and of these there are many that well deserve notice), would far exceed reasonable limits. It can therefore only be here stated that in whatever direction the attention should be turned, there would be found ample evidence of the wonderful advance of horticulture, in other words, of its evolution, during the present century, as seen in the better cultivation of orchards and gardens, the larger and better supply of fruit, vegetables, and flowers, as also in the ornamentation of estates, large and small, and, in fine, in every possible improvement which can be directly or indirectly applied to this noble art.

It remains to consider the principal factors which have conduced to these beneficial results. First and foremost among these may be placed the establishment of horticultural societies. It was not until the close of the Revolution that horticulture or agricul-
ture revived from the depression which they had undergone during that tedious war, although both were at a low ebb before that period. The earliest societies for the advancement of agriculture were formed in Philadelphia and in South Carolina, which were soon after followed by the Massachusetts Society for Promoting Agriculture. In this last society, there were contributors to the Massachusetts Agricultural Repository, the earliest publication in the country of this character; these also published articles on horticulture. No decided interest in this art took place, however, until, in 1801, a movement was made towards the establishment and endowment of a Botanic Garden at Cambridge, which was effected through generous subscriptions and contributions by the Massachusetts Society for Promoting Agriculture, and by private individuals. The garden of several acres was laid out, and a Professor of Botany appointed, in connection with Harvard College. Much influence was
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doubtless thus exerted in the formation of the Massachusetts Horticultural Society in 1829. This society was preceded by the New York and Pennsylvania Societies, and also by two similar ones in Western New York. The early success of these societies was greatly due to the efficiency of the London Horticultural Society, of which some of our distinguished men were chosen members.

It is not necessary to enter into the details of the history of the origin of the Massachusetts Horticultural Society, but it should be recognized that, once established upon a firm basis, its influence had the effect to create other societies of a similar character, especially in the Eastern States. The horticultural spirit thus awakened by these means had the effect to bring together those who were especially interested in matters pertaining to the art, and thereby to promote that interchange of sentiment and diffusion of knowledge which are so essential in all arts and sciences. Previous to these con-
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ditions, thus so happily introduced, horticulture was pursued by its votaries as they pleased. "Every one pursued his own course, neither acquainted to any great degree with the improvements of his neighbour, nor assisted by his advice, nor excited by his success. Horticulture had its own charms to recommend it, and these were many and various; but its cause wanted all that aid which is derived from the union of numbers deeply interested in the pursuit of a common and favourite object. Our Society was established to remedy this important disadvantage, to bring the friends of horticulture into close contact."

Among the direct and beneficial effects attained by the Massachusetts Horticultural Society have been the vast improvement in gardens and farms, and consequently in their productions. While other similar associations in New England may be rightfully included as instrumental in this excellent work, we may certainly claim a priority and special
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object for the above society. In the early part of this century, there was scarcely a garden that was managed with horticultural skill, and much less were there any farms which were conducted on scientific principles, although efforts in this direction were induced by the formation of the Massachusetts Society for Promoting Agriculture in 1792. Moreover, previous to this time, neither in Great Britain nor in this country, had any newspaper or magazine devoted to agriculture been issued.

By opening a correspondence with the British and Continental societies, not only many new ideas were received by the Massachusetts Horticultural Society in the cultivation of the garden, but also fruits, seeds, plants, and everything pertaining thereto. By the establishment of frequent horticultural exhibitions, at which suitable premiums were offered for the best productions of the garden, a powerful stimulus in the diffusion of knowledge in this direction was brought.

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into action. A great increase in the number of gardens and nurseries also soon became manifest through the influence indirectly put forth by the society, upon city merchants and others of wealth, to dwell in the suburbs or in the country, and to participate in the simple pleasures offered by a rural life not only to themselves but to their families.

The spread of information in every subject relating to horticulture by means of its publications and by its library, proved a beneficial medium of the society, not only throughout New England, but through the country generally. Before the society was commenced, there was not a journal or periodical devoted to the sole subject of horticulture, but soon after, in addition to its own publications, there were several which contained the experience and practices of those most capable in the art.

One of the most useful and commendable acts of the society was the founding of the Mount Auburn Cemetery and
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Experimental Garden. This project of rural burial originated with a few of the distinguished men of Boston, some of whom had connected themselves with the society. In addition to the principal design in view of rendering this beautiful locality an appropriate place for interment, it was thought that the laying out of the grounds should offer a pleasing and instructive example of landscape gardening. This last proposition was fittingly made at the close of an address delivered before the society. "I would render such scenes more alluring, more familiar, and imposing, by the aid of rural embellishments. The skill and taste of the architect should be exerted in the construction of the requisite departments and avenues; and appropriate trees and plants should decorate its borders; the weeping-willow, waving its graceful drapery over the monumental marble, and the sombre foliage of the cypress should shade it; and the undying daisy should mingle its bright and glow-
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ing tints with the native laurel of our forests." Although the original intention of the society was not fully carried out, owing to its severance from the Proprietors of the Cemetery of Mount Auburn, yet the work it had accomplished led to the dissemination of refined taste for rural improvement, and to the establishment of other beautiful cemeteries, not only about Boston, but in various parts of New England. Moreover, through the same influence, cities, towns, and villages have been induced to pay greater attention to their burial places and to the sepulture of the dead.

It is in landscape gardening that horticulture rises to the dignity of an art, and the influence created in this direction through the Massachusetts Horticultural Society has indeed been wonderful. This result has in great measure been brought about by the offer of prizes for the best laid out grounds, and for essays on the principles that should govern the art, which essays, having been read by the
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authors and fully discussed at the meetings of the society, were afterwards published in its Transactions. By these means certain axioms were established, and have to a great extent been practised.

First, although owing to circumstances which must govern the arrangement of an estate, be it large or small, and which depend upon its situation and surroundings, as well as upon the habits, associations, and tastes of the owner, no fixed laws can be laid down which are applicable in all cases, yet there are certain general principles to be recognized, if success is to be attained. Among these should be included congruity or fitness. This should always be kept in view in the garden art, and yet it is a principle that is perhaps most frequently violated, a violation more striking and more quickly detected in small estates than in large. There should be unity, one expression or leading feature in harmony with the characteristics which individually distin-
guish the three forms of modern landscape gardening, and to whichever one is appropriate, the others should be subordinate.

These three forms are known as the Gardenesque, the Picturesque, and the Formal or Geometrical. As presented in natural scenery, the Gardenesque or Beautiful, as it is often termed, is characterized by easy-flowing lines, by the absence of abruptness, by moderate undulations of the surface, and in trees by roundness, fulness, and luxuriance of growth. In water, by the tranquil lake, spread out between sloping banks, or by the gently flowing stream.

In the Picturesque, on the contrary, the land surface is marked by abruptness and irregular outlines. The trees by ruggedness, as in the oak, and by rigidity and wildness, as shown by the pitch pine when it approaches maturity. The lake has steep and rocky shores, while the streams, shut in between precipitous banks, are hurled along in a tumultuous, uncontrollable course.
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The Formal, Geometrical, or Ancient style of landscape gardening does not present variations which strongly mark the other two forms, both of which are founded on intrinsic qualities that are exhibited in natural scenery: "the one on smoothness, the other on roughness—the one on gradual, the other on sudden variation—the one on ideas of youth and freshness, the other on that of age and even of decay." 1 The Formal consists of regularity, uniformity, rigidity, and mathematical precision, developing only those primitive ideas of beauty which are found in regular methods and straight lines.

How far these various expressions of natural scenery can be introduced into landscape gardening without undue encroachment upon or violation of them, is an important consideration which should never be neglected. "It may be worthwhile then to specifically inquire how far the imitation of nature is possible and right. They who would imitate nature

1 On the Picturesque, by Avedale Price.
must do so in another way than by copying her piecemeal. They ought indeed to be imitators but not copyists, transcribing her spirit, and not her individual expressions; her general countenance and aspect, and not her particular features."

The Beautiful or Gardenesque form of landscape gardening is characterized by the freedom of nature. The grace, beauty, and harmony which belong to it may exist alone, or it may be blended to a certain degree with the Picturesque. Attempts at the artificial production of undulations of the surface of the ground, except to the most limited extent, is a foolish expenditure of time and money for private individuals to undertake. The plantations, composed of trees and shrubs selected for their luxuriance and symmetry, should be so grouped as to afford them full development, and in thinning out those of native growth, the same laws must be followed as occasion may demand.

1 How to Lay Out a Garden, by Edward Kemp.
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The walks and avenues, as a general rule, should follow the natural shape of the surface, and avoid all abrupt angles.

In the Picturesque form, art should be chiefly confined to those portions of the estate which are immediately adjacent to the buildings. Elsewhere the surface of the ground is still to be marked by extreme naturalness. In the formation of plantations, uniformity is to be avoided, but a predominance should be given to those trees that possess boldness and irregularity of outline. The groups thus formed should be allowed to mingle with each other, and to grow without special restraint. Copses of woods of native growth must be left untouched. Walks and roads, although more or less angular, should be without formality, and carried over streams by means of arched stone bridges, constructed free from ostentation.

As the Geometrical style, by reason of its adjuncts, as terraces, balustraded walls, flights of steps, and other orna-
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mental objects, which carry the form and outlines of the buildings into the garden and adjacent grounds, is more closely allied to Architecture than the others, the subject necessarily requires here brief consideration.

There are certain general principles in Architecture that must be recognized by those who would succeed in Garden Art. Of these may be mentioned Fitness, Purpose, and Style. Fitness is seen not only in the proper arrangement of the dwelling, but in its situation as regards salubrity and comfort, and in the material of which it is constructed. The principal objection to wood, which is so universally used even in the suburban districts of New England, lies in its lack of solidity and durability, qualities which are essential in building material. On this point Downing¹ very truly says: "In point of taste, a house built of wood strikes us the least agreeably, as our pleasure in beholding a beautiful form is marred by the idea

¹ Landscape Gardening.

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of the frailness of the material composing that form. The force with which it strikes a European accustomed to solidity and permanence in a dwelling, is the best proof of the truth of our remark." The same criticism applies to all the appurtenances of the garden and adjoining grounds, as balustrades, steps, pedestals, obelisks, etc., when made of wood.

Brick or stone forms the most suitable material for most purposes allied to Architecture. In rural districts objections are often made to the first of these, owing to the ugly combinations not unfrequently seen, and to the unharmonious color which they present. Brick, however, is susceptible of very pleasing effects if artistically managed; and, as to color, when enshrouded in a drapery of any of the beautiful vines now in such common use, nothing could be more satisfactory to the refined taste.

In Architecture, Purpose is suggested by certain features of a building, such as the windows, chimneys, porches, etc., of
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the dwelling-house. If then these are essential to the expression of this principle, they should be made prominent, or at least not concealed. In this connection the selection of colors to be given to buildings, wherever deemed necessary, may be properly considered. Those should be chosen which harmonize with the natural objects about them. For country residences, neutral tints are always to be preferred to the positive colors. The weather-stained tint of the old New England homestead offers the most useful lesson possible in the way of harmonious coloring.

The principle of Style is also of great importance. Here there are certain rules to be observed, whatever may be the style adopted. Unity is essential—an adherence to the particular one chosen, without admixture with another. There should also be uniformity and symmetry as well as adaptation to the uses intended. The style of the cottage must be simple and unobtrusive, while that of the villa or

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mansion may be more elaborate and stately. All houses should be in unison with the surroundings. If these are quiet and beautiful, partaking of the Garden-esque form, then the dwelling should correspond by simplicity of outline and by a certain refinement, as shown in the Italian and in other classical modes of architecture. If the adjacent grounds are wild and picturesque, the architectural style will admit of more irregularity, and of a ruder kind of ornamentation.

With the Geometrical form of the gardening art is closely associated the style of architecture of the days of Henry and Elizabeth. "Gardening and Architecture, like all the fine arts, have much in common. And that department of architecture which belongs to the garden more exclusively, has especially a great affinity with gardening in its broader principles. In fact, there is much more relation between the two than is usually admitted. Modern tendencies in gardening have been too much away from its character as
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an art, and the more it is restored to its legitimate position, the more nearly will it be brought into kindred with architecture.” It is thus Kemp fitly writes.

For suburban places and small country estates, where there is little opportunity for variety and irregularity, the formal garden, with its symmetrical uniformity, its walks bordered with box or holly, its green alleys and bowers of topiary work, its parterres, vases, statues, fountains, and sun-dials, is well suited. So also in the squares and small parks of cities this form of garden art might be introduced with excellent effect, while at the same time it would serve an admirable means of instructing the people in the evolution of horticulture. In a modified way, these gardens were more or less adopted by our forefathers in New England as pleasant reminders of other homes across the sea.

“It appears to me that it is an inestimable advantage as it regards our gardens, that the former taste of the nation has
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differed so much from its present one. Without this, what a loss of variety we should have suffered! If the taste of the present generation had been that of all past ages, what could there have been in the gardens of our past kings, nobles, and historical characters to mark them as strongly and emphatically as they are now marked? They now, indeed, seem to belong to men and things gone by. There is something in them of a sombre and becoming melancholy. They are in keeping with the houses they surround, and the portraits in the galleries of those houses. Our historic memories are intimately connected with such places. Our Howards, Essexes, Surreys, and Wolseys, were the magnificent founders and creators of such places: and in such, Shakespeare and Spenser, Milton and Bacon and Sidney mused."

In the consideration of the gardening art, wherever it is to be employed, it must be determined how closely nature

1Howitt's *Rural England.*

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and art can be related to each other. Although unity is an essential principle, and one which must be kept in harmony with the characteristics of the form of garden art that is selected, yet rigid adherence to such need not interfere with the proper introduction of variety. The individual who truly loves nature, will be guided by following out her schemes, which vary indefinitely, and he will thus be led to the exercise of original thought. When it has once been irrevocably decided that the highest art is found in following the suggestions of nature, then the conventionality so frequently practised and the consequent monotony so often seen, may be avoided. There is something better to be acquired than a mere imitation of our neighbors. Between the lawns, walks, and shrubbery of the Gardenesque, so often deemed "artistic," and the only possibility for beautiful grounds—the wildness of the Picturesque, requiring little or no interference with nature,—the Geometrical
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style, so intimately connected with Architecture,—between these types, there are numerous modifications that are appropriate and will be adopted by those of refined taste.

Simplicity, convenience, and seclusion are essential elements to be recognized in the laying out of grounds, and neither of these should be sacrificed to ostentation or extravagance. Especially is the latter, with its attendant repose, indispensable for the comfort and enjoyment of the home. This may be obtained by a judicious arrangement of trees and shrubbery, which would afford protection without the exclusion which is suggested by high walls, fences, and close hedges.

Another of the most useful means of spreading a knowledge of the gardening art, and of disseminating a more refined taste for rural improvement among the people, was the offer of prizes by the Massachusetts Horticultural Society for the best laid out grounds, which offer originated in the following recommenda-
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tion made in 1850 by the president in his customary address.

"Premiums should be offered, and gratuities be given, by the society, under the direction of a committee appointed for that purpose, whose duty it should be to visit and examine such places as the proprietors should invite them so to do, at such times and as often as they might deem proper, without any previous notice having been given to the gardener, superintendent, or other person having charge of the same, that the committee might be able to form a correct judgment as to the general management and state of cultivation on the premises, and to report to the society the most successful cultivators at home, as the other committees report the finest products exhibited in the hall of the society."

The excellent advice given by Downing many years ago in one of his Essays is here worthy of mention: "We think there can scarcely be a question that an examination of the best examples of taste
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in rural improvement at home, is far more instructive to an American, than an inspection of the finest country places in Europe: and this chiefly, because a really successful example at home is based upon republican modes of life, enjoyment, and expenditure. For the same reason we think those places most instructive and best worthy general study in this country, which realize most completely our ideal of refined country life in America. To do this, it is by no means necessary to have baronial possessions, or a mansion of vast extent. No more should be attempted than can be done well, and in perfect harmony with our habits, mode of life, and domestic institutions. Hence, small suburban residences, like those in the neighborhood of Boston, are perhaps better models or studies for the public generally, than our grander and more extensive seats. It is better to attempt a small place, and attain perfect success, than to fail in one of greater extent.”

1 Rural Essays, by A. J. Downing.
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The Bussey Institution and Arnold Arboretum, the Boston Metropolitan System of Parks in New England, as also the Central Park of New York and the Chicago Exhibition have proved great object lessons, and have thus appealed to the nobler faculties of the public generally. At the same time, these happy effects have more or less direct connection with the influences diffused by horticultural societies, especially by the Massachusetts Society.

Window Gardening, an art of great antiquity, may here be appropriately mentioned as one of the advantages derived from the Massachusetts Society. By teaching children and even adults the proper mode of raising flowering and other plants in pots, by encouraging the gathering of wild flowers preceded by instruction as to the seasons and localities when and where they were to be found, the observing faculties have been educated and refining tastes have been diffused. The love for natural beauty
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thus awakened, is not confined to the window gardens of the narrow lanes and streets of the city, but finds its way to the yards and small garden plots of the suburbs, and even to the country villages, thereby contributing to their improvement, and rendering the homes of the humble more attractive. Through the same medium, the establishment of public-school gardens has led to the study by the pupils of the growing plants, from the earliest period of germination to the full maturity.

In an admirable paper, entitled Historical Sketch of English Horticulture, read before the Massachusetts Society recently, the author says: "The common people of Britain, from time immemorial, have taken great interest in every thing that added to the beauty and comfort of their homes. The fondness of the people for detached homes, surrounded or approached by a garden, seems inborn; for when compelled to live in towns where a garden is impossible, tracts of
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land in the immediate suburbs are rented and divided up into separate gardens. A spirit of rivalry exists among them as to who can raise the best crops, and when a cottager takes any particular fruit, flower, or vegetable in hand as a hobby, he is bound to show something creditable, even when cultivating it under the most adverse circumstances. This spirit of emulation is kept up, in a great measure, by the almost universal practice of holding periodical shows in all parts of the country. Some of the more enthusiastic growers will travel many miles previous to the time of holding their own show, just to keep posted on what their rivals are doing, and to learn how the pet specimens of others compare with their own products. It was remarkable that some of the most successful growers were those who followed an entirely different calling for their daily bread.”

The hints thus given might well be introduced into our own country.

1 Samuel Henshaw, Staten Island, N. Y.
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As the homes of the people, not only in the Old but in the New World, openly reveal their civilized or their barbarous condition—their thrift and advancement, or their sloth and consequent degradation, Village Improvement is a subject of vast importance. It is a mighty factor in the hands of the horticultural societies, and should be greatly encouraged as the happy medium for the promotion of æsthetic, hygienic, instructive, and ennobling principles.

A comparison of the first exhibitions of the Massachusetts as also of other Eastern Horticultural Societies, gives evidence of the astonishing advances that have been made in the variety and improvement of all horticultural productions during the past century. In the fruits, most wonderful changes have been brought about in pears, apples, grapes, and the smaller fruits. The varieties of vegetables have been vastly multiplied and improved, while a few new species have been introduced. The proof of
these statements is abundantly shown in the markets of New England and in the great demand for seeds, plants, fruit and ornamental trees, not to mention the multitudinous utensils employed in their culture. The number of florists, and the fine display made in their store windows, with the numerous venders in the public streets, testify to the increased love for flowers among the public.

The vast quantities of fruit which have lately been brought into New England, not only from the Southern and Western States, but from foreign countries, and the methods by which much is preserved by refrigeration and by other processes, may be attributed to the necessity of supplying wants to which all classes of the people have now become habituated, and which have resulted from the appreciation of good fruit which was unknown to the early settlers, and due to the skilful efforts of past members of our Horticultural Society.

One of its former presidents, who is
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still esteemed for his knowledge and interest in horticultural pursuits, says in one of his addresses to the members: "Largely from the award of prizes by the Society and the stimulus of honorable competition, has resulted the fact that there is a wider and more general distribution of the various fruits among all classes in Eastern Massachusetts than in any other portion of our country: and possibly we may extend the comparison to any country. Of course we do not refer to the extensive orchards in other sections, to local communities of fruit growers, or to the bountiful prodigality of Nature in particular fruits in favored localities. What we do affirm is this: that our thousands of freeholds, extending from a quarter of an acre up to the ample estate, are, to a good degree, supplied with the various kinds of fruits, and that this is in marked contrast with the homes in other portions of our country and in Europe. Our Society has done a most important work in stimulat-
ing a general love of culture and in increasing the extent of planting upon our small homesteads. . . . Who can estimate the elevating influence and the stability which would be given to the laboring classes, by thus beautifying their homes, and strengthening their local attachments?"  

Allusion has been made to the literature of horticulture in New England both before and after the establishment of the society. Almost entirely due to its agency, in addition to the publication of its own Transactions, several journals and periodicals were started. Among these should be mentioned the American Farmer and the New England Farmer. Two works, The New American Gardener, by T. G. Fessenden, and a Treatise on the Cultivation of Flowers, appeared early in Boston. Several horticultural works published in Europe were republished here. In later years, the

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1 Address of W. C. Strong, 1871, History of the Massachusetts Horticultural Society, 1871.
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publications in every department of horticulture, especially in botany, have been numerous. Among the writers on this subject in New England may be noticed Cutler, Peck, Harris, Dewey, Bigelow, Boott, Oakes, Gray, Tuckerman, Goodale. Upon other subjects relating to every division, the names of the authors from year to year are too many for these pages. It is sufficient to say that most are invaluable to the libraries of similar societies.

Libraries containing a good collection of publications are, as Bacon says, "the shrines where all the relics of the ancient saints full of true virtue, and that without delusion or imposture, are preserved and reposed." Such are essential to the individual who desires to keep up with the advance of an art, by comparing his own work with that of others who have preceded him or who are his contemporaries. His own experience may teach him much that would be useful, but to command that which is not his own, is to possess advan-

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tages which the true scientist can alone appreciate.

Thus the development of horticulture, as far as it concerns New England, has been traced from the period when it began to unfold. Crude and unsatisfactory as it was in those early years of want and suffering, still it was by its patient propagation that life was sustained and progress gradually made by the feeble colonies, who labored under the disadvantages that arose not only from ignorance of the climate but from the want of suitable implements, as also of domestic animals to relieve them in their labors. The Colony of Massachusetts Bay had opportunities from the first that those of Plymouth and other settlements had not possessed.

Encumbered as all were at the commencement, the revolution of the years brought with them gradual improvement in all that pertains to the cultivation of the soil for the mere production of daily food, which soil was by no means generally fertile.

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Horticulture, in the strict definition of the word, is applied to the culture of gardens, and to these the labors of the early settlers were for the most part necessarily restricted, consisting of the raising of corn, a few vegetables, and, later, the planting of occasional orchards. The instruction necessary in the art of growing maize was communicated by the aborigines. This, as might be conjectured from the descriptions given, was extremely simple and quickly acquired by the early colonists. For the methods of preserving and storing the maize as practised by the Indians, they had no necessity, but in its preparation for food they obtained useful information from their savage neighbors.

After the first years, having provided for the scarcity of provisions by planting more extensively the necessary crops, attention was paid to the cultivation of fruit, which consisted of seedling varieties. The process of grafting was known to only a few, and the means of obtaining
good material for the purpose were very difficult. The produce of the seedlings, on account generally of its inferior qualities, was mostly converted into cider.

In the Massachusetts Colony, owing to foresight in the interests of the emigrants by the agents abroad, provision was made for their wants by sending them stones of all kinds of fruit, also various seeds and roots. Consequently, a better and more varied quality of fruit was secured to them at a comparatively early period.

The progress of horticulture in all its branches was very gradual in New England during more than a century and a half; after the close of the Revolution, however, a new impulse was given to it, which has been maintained with increasing progress to the present period. While the same may be said of all Europe during the identical era, yet the remarkable variation has been more apparent in this country, owing to the characteristics of its people, and to the circumstances which have been related. From a sterile
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wilderness, it is rapidly becoming a productive garden.

Having sufficiently narrated the advance of horticulture since the creation of the various societies devoted to the cause in the Eastern States, it may be well to consider briefly, to what extent of perfection this unfolding of the art is to attain, and by what means the progress in improvement in the same may safely, properly, and speedily be effected.

As regards education in the art, it may be said that, while college work fits a man, if he is properly trained, for a successful career in any avocation, without practical knowledge and experience, he is not an horticulturist, nor is he fitted for a landscape gardener, nor can he compete with the individual who has these qualities combined with college education. It therefore follows that practical knowledge in horticulture, as in all the arts and sciences, is the sine qua non if actual progress is to be expected.

In this connection a word may be
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added as to the value of the Horticultural Division of the various Experiment Stations, for which such large appropriations have been made by Government.

There are certainly good reasons why this special division should receive particular attention and even more than the others that have kindred problems to be solved. First, horticultural pursuits have more claims upon the stations, from the fact that the produce of the garden and orchard are more subject to loss by disease, insects, and climate than are those which are purely agricultural.

Not only is this statement applicable to the garden and orchard, but also to similar pursuits conducted under glass structures; the extent to which these have reached, presents the most remarkable example at the present day, of the progress of the horticultural art.

The first allusions to glass culture in England are found in the essays of Bacon, where he refers to the protection of tender fruits by means of a system of
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stove heating. Worlidge refers to Evelyn's *Terra*, in which remarks are made upon proper heating, and in a letter to a friend, written in 1668, by Evelyn, who says, "Stoves absolutely destroy our conservatories," from both of which sources it may be readily conjectured that the science of heating glass structures by the proper use of suitable fuel was in its early infancy, and was not developed until experience had gradually taught the method best adapted in those days to the object in view.

The first greenhouse in Boston, and probably in New England, was the one built by Andrew Faneuil in the early part of the eighteenth century. At a later period others are mentioned, notably that of Gardiner Greene, to which reference has been made in the preceding pages. It was not until the dawn of the present century, that the culture of fruits, flowers, and vegetables under glass was gradually undertaken and pursued with decided success.
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This was especially the case in the neighborhood of Boston, where there were several greenhouses erected at an early period. In Roxbury, were those of the Lowells and of John Lemist, which last was famous for its camellias and roses, also for its grapes. In Dorchester, among others which might be mentioned, were those of the Sumners, which afterwards, with the estate, passed into the hands of Marshall P. Wilder, and thereby brought forth fruits unto perfection. In Brookline, during the first decade of this century, were erected the extensive greenhouses of Colonel Perkins and of his brother, in which were cultivated, with marked success, flowers and fruits, particularly the Hamburg and Muscat grapes. In Watertown, the conservatories of Mr. Cushing, for their excellent construction, and culture of fruits, flowers, and vegetables, had a widespread reputation. At a later period, in Brighton, were those of Joseph Breck, devoted to the production of ornamental and green-
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house plants, and also the glass-houses of Horace Gray, the most extensive then known in the United States, in which were annually produced enormous quantities of the choicest foreign grapes. The property afterwards came into the possession of Mr. W. C. Strong, who, under one continuous roof of glass, containing 18,000 square feet, raised a great abundance of roses, carnations, and other flowers that were sent to the markets of New York and Boston.

On the estate of Mr. Hunnewell at Wellesley, the conservatories and houses devoted to every variety of plant life, and known far and wide for the methodical manner in which they are constantly maintained, have been previously noticed.

At the present day, the amount of the horticultural productions under glass culture in Massachusetts, especially about Boston, is almost beyond calculation, the markets being thereby abundantly supplied with the greatest variety of vegetables and the smaller fruits.
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The various Experiment Stations have proved a great stimulus to the increase and success of these structures, by means of scientific investigations diligently pursued, the results of which are given by publications, many of which being well written, prove satisfactory, practical guides.

In contending with the various insects and diseases which have so rapidly increased during the last few years, these same stations have become most excellent allies in various ways. Among the publications issued by the Horticultural and Entomological Divisions of the various Institutions, those of Cornell University may be mentioned as excellent models. With others, The Japanese Plums, The Spraying of Orchards, Peachyellows, The Dwarf Lima Beans, The Crysanthemums, Leaf Curl and Plum Pockets, The Peach Industry, The China Asters, The Quince, On Certain Grass Insects, are practical and useful.

The investigators connected with the
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Hatch Experiment Station of the Massachusetts Agricultural College have also published valuable papers. Among these, *On Fungicides and Insecticides, Four-lined Leaf-Bug, Tests of Grapes*, have proved advantageous to all interested. The important subject of fertilizers, both natural and artificial, their value to different crops, the mode of application, and requisite amount, has received much careful research by competent persons connected with the several State stations. The results have been most satisfactory.

Next, the taxation upon the land devoted to these purposes is proportionately higher than it is upon that appropriated to ordinary farming. The outlay for labor, fertilizing materials, implements, and seeds is also larger. However, as time advances, more reliable and satisfactory results in the interests of horticulture may be expected from the stations, in which the investigations will be better organized and completed.

At the present time, it is impossible to
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foresee the advance that horticulture promises to make. Already among the enterprising people of New England, enormous strides forward of progress are constantly being made. The conditions of the soil, and its adaptation to the better growth of plants, the relation of light to their production, the effects of irrigation, and the warmth of the soil by artificial means, are among the subjects which are being investigated, not to speak of the knowledge already acquired by examination into many other processes.

The possibilities of horticulture seem almost infinite. The misty atmosphere that now envelops many of these is destined to be cleared by means of botanical research and patient investigation.

Thus the unfolding of horticulture in New England, as in all other parts of the globe, will become better understood and appreciated. As the germination of the plant, from its most rudimentary condition until its full completion and attainment of purpose for which created,
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may be followed, taking into consideration, also, that the elements of its growth may pass from old to new parts, and from generation to generation: so the evolution of gardening has been here outlined from the rudimentary condition that it presented upon these shores of Massachusetts Bay more than six generations since, to the advanced position it now occupies in the last decade of the present century.

It is self-evident that at every stage of evolution, both in the natural and in the spiritual world, all its processes have had a wisely ordained beginning and a continuous omnipotent guidance.

THE END.