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Jacob van Ruisdael's Trees

by Peter Ashton, Alice I. Davies, and Seymour Slive

This article appears in conjunction with the exhibition Jacob van Ruisdael (1628-1682) on view in the Fogg Art Museum, Harvard University, 18 January-11 April 1982, and represents a collaborative venture between the Arnold Arboretum and the Fogg. Every one of Ruisdael's works, from which the details illustrated here have been taken, may be examined at the exhibition by the interested reader. The catalogue numbers cited refer to the exhibition catalogue prepared by Seymour Slive.

Modern botanical illustration, in which plants are drawn from life with careful attention to those characteristics which distinguish their species, dates from 1530 when Otto Brunfels, physician to the city of Bern, published Herbarium Vivae Eicones. The art of illustrating plants almost certainly existed in classical times, though none of these illustrations survive. On Pliny the Elder's authority, the father of botanical illustration is considered to be Cratevas, physician to Mithridates VI, a king of Pontus in the last century before Christ, though illustrated herbals seem to have been common in the Greek world by that time. From the sixth Christian century onwards, Byzantine manuscripts exist in which plants are depicted in a naturalistic manner uncharacteristic of that artistic tradition, strongly suggesting

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that the originals were classical. What are clearly the same illustrations were repeatedly copied and with time declined in quality and in realism, so that, by the fifteenth century, it would have been highly imprudent to have used a contemporary herbal for plant identification before ingestion! The illustrations by then were crude formalized caricatures of their classical antecedents. It is interesting that it was not Otto Brunfels himself who was responsible for the reawakening. He had initiated the *Eicones* from a strictly traditionalist viewpoint, with rather formalized, though elegant, illustrations of eastern Mediterranean plants from the classics which the townspeople of Bern would be unlikely to have seen. Soon, however, one Hans Weiditz took over the project. He and his assistants had the brashness, the sheer lack of good education, to introduce the wild flowers of the Bernese Oberland into the manuscript, plants which Brunfels dismissed as *herbae nudae* — destitute weeds. But they were drawn from life, and with a grace and accuracy never seen before. The illustration of the Pasque Flower, for instance, was of such quality that it was used for the type description of *Pulsatilla vulgaris* by Linnaeus two centuries later.

The great majority of individual plants illustrated up to that time were herbaceous. Only occasionally were trees represented, as in Serapion the Younger's *Herbolio Volgare*, which was compiled in Padua from an Arabic original during the last years of the fourteenth century. The technique used here is exemplified by the pine where a fine branch, with needles and cones, is superimposed on a grotesque
tennis racquet of a tree. Here the plant is not depicted to illustrate its habit, but merely as a plinth for the presentation of one branch. More often, a branch alone would be illustrated, often with a formalized rootstock to give a sense of completion. Such is the case in several illustrations of woody plants in another exotic production, the Badianus Herbal of 1552 (pl. 1). This herbal, which is in the Vatican Library, was prepared by two Aztecs in the College of Santa Cruz in New Spain, and is the earliest work on the flora of the New World, and the earliest American medical text besides.

Jacob van Ruisdael (1628–1682) lived at the time when the florilegium, an anthology in the literal sense, was born. Until the seventeenth century, botanical illustration had been confined to herbals, which are treatises on medicinal plants. Now more comprehensive scrutiny was made of the entire plant world. The precise illustration of plants in botanical and horticultural compendia was greatly facilitated by the use of intaglio prints, as seen in Crispijn van de Passe II’s Hortus Floridus, published in Arnhem in 1614. Abraham Munting’s Waare Oeffening der Planten, published in Amsterdam in 1672, though noteworthy for the descriptions it contained, illustrates trees in the manner typical of the time with depictions of detached twigs, fruits and flowers. A rare example of the illustration of a whole tree is found in a natural history encyclopedia, Historiae Naturalis de Arboribus et Plantis, published in Frankfurt in 1662 by John Jonston, who also compiled volumes devoted to fish, reptiles, insects, and birds. Amid the usual depictions of separate tree parts, there is a single plate showing a whole pear tree, but it is a decorative illustration, clearly not taken from life, neither the entire tree nor its parts. As we shall see, Munting might have hastened the development of scientific tree illustration by several hundred years had he only consulted his fellow-citizen Jacob van Ruisdael.

Parallel but not entirely separated from this tradition was the awakening of interest in the natural world displayed by Renaissance artists. Leonardo da Vinci (1452–1519) south of the Alps and Albrecht Dürer (1471–1528) to the north both produced accurate drawings of herbaceous plants, done from life, that are legion today. Their studies anticipate Brunfels’ Eicones by over a century. These artists must therefore be regarded as the true pioneers of botanical illustration. Trees crept into Renaissance paintings, first as individuals viewed through a window or in the distance behind an architectural setting, and later as components of more complete landscapes. Leonardo painted a variety of tree shapes but, apart from palms, few kinds are recognizable through depiction of diagnostic features of the whole plant. Even when details are manifest, Renaissance trees remain unidentifiable except in the most obvious cases. For example, Sandro Botticelli’s (1446–1510) Primavera of c.1478 boasts a precocious Seville orange tree, simultaneously flowering and fruiting, and with its distinctive winged leaf-stalk indicated. A northern counterpart is found in the famous Ghent altarpiece, completed in 1432 by Jan van Eyck (c.1390–1441), where the painstaking representation of leaves
and fruits betray a lumpy tree to be an apricot. When the subject is Adam and Eve in the Garden of Paradise, the apple tree is obligatory, be it in the Prado picture by Titian (1477?–1576) or in one of the many essays engraved or painted by Dürer. But these tree depictions are but a partial advance on Serapion’s, for only a part of each tree is included, again apparently to show off features of leaf and fruit; the form and branching habit, features of bark and trunk remain ignored. It is curious, incidentally, that the columnar Italian cypress, Cupressus sempervirens var. sempervirens, so universal a part of modern Italian landscape, rarely entered paintings at this time, though their distinctive shapes do appear, for instance, in the formal background of Leonardo’s Annunciation, in the Uffizi. This suggests that the tree was only widely introduced from the south relatively late, at the time when the great Baroque gardens were developed, and were still young plants during the Renaissance. This is suggested also by the modest size of the cypresses found in Giusto Utens’ late sixteenth- and early seventeenth-century paintings of Florentine gardens.

Remarkably when Jacob van Ruisdael took up his brush in the mid-1640s as a seventeen- or eighteen-year-old with a keen and penetrating interest in the countryside surrounding his home in Haarlem, he became the first artist to depict a variety of trees which are unequivocally recognizable to the botanist on account of their overall habit. To be sure, ever since Dürer executed the earliest known watercolor of a fir tree about 1495–97, now in the British Museum, the occasional artist, especially in the Netherlandish school, did produce the occasional identifiable tree. Of particular note, Hugo van der Goes (?–1482) of Ghent demonstrated great skill in the winter skeletons of trees in his celebrated Portinari altarpiece. Their fluted and fissured trunks, horizontal twigs with shoots of unequal and variable length, and a few persisting leaves, suggest that they are elms, though the trees have a rigid primitive quality. By May 1483 the famous triptych was sent from Bruges by its donor Tommaso Portinari to the Hospital of Santa Maria Nuova in Florence where it remained until it entered the collection of the Uffizi in 1900. Van der Goes’ work was collected also by the Medicis and became influential among the contemporary Florentine school.

In the decades preceding Ruisdael’s activity, a gradual process had taken place in Netherlandish art, especially in prints, through which the tree emerged as an independent motif, eventually constituting the subject of a finished work of art. The heroic tree — a single, monumental tree standing in splendid isolation — found its supreme expression in the works of Jacob van Ruisdael. As the subject developed, the artists interested in it turned to nature for direction with increasing frequency. Roelant Savery (c.1576–1639), for example, made a sketch in black chalk of a fir tree, now in the Darmstadt Museum, which has all the appearance of a botanically accurate “on-the-spot” notation; yet the deciduous trees in his etchings and paintings are so mannered that not a single feature decides the genus. The oak was a
clear-cut favorite with the Dutch landscapists for the role of heroic tree. Jan van Goyen (1596–1656) made an oak tree the subject of the Hermitage painting dated 1634, and Hercules Segers (c.1590–c.1633) devoted one of his rare etchings to a country road dwarfed by large oaks (unique impression in the British Museum). In both cases one or two characters serve in the identification of the tree. Other features, like the romantic bend in the trunk of Van Goyen’s oak, have little to do with the natural specimen. We suspect that the popularity of the oak rested in no small part on the fact that it is a “characterful” tree making it easier to describe than many others. Willows are even easier to recognize in seventeenth-century landscapes, but only by inference through their sitting along waterways, and on account of their being pollarded (successively lopped, for firewood and poles, above the head height of browsing cattle). Our search of the works of the Dutch school has failed to unearth a single master before Ruisdael who depicted a variety of trees using a suite of independent characters that are botanically diagnostic. In this light Holland’s greatest landscape painter can be truly regarded as the father of tree illustration.

Our ability to recognize Ruisdael’s trees is aided by the fact that his complete arboreal repertoire, with the notable exception of the Norway Spruce, was established during his formative years spent in the circumscribed landscape surrounding Haarlem in North Holland. Born in Haarlem between 1628 and 1629, Jacob lived there until about 1656 or 1657 when he made the short eighteen-kilometer move to Amsterdam where he remained until his death in 1682. Except for a journey to the border region between the eastern provinces of the Netherlands and western Germany about 1650 (there is an inadequately supported theory that he travelled through northern France about 1676 to study for a medical degree at the University of Caen), Jacob’s travels were close to home. His paintings and drawings document visits to Egmond aan Zee, the countryside near Naarden, Alkmaar, the ruins of a castle and abbey church at nearby Egmond aan den Hoef, and of course the Portuguese Jewish cemetery at Ouderkerk on the Amstel River; all are in North Holland. During his Wanderjahre in the early 1650s, the artist ventured as far as Bentheim in Westphalia, about 175 kilometers from Haarlem. Besides numerous versions of the castle at Bentheim (one is dated 1651, another 1653, see pl. 2), he painted from the province of Overijssel the town of Ootmarsum and various water mills and sluices in the Twente. On this same tour he most probably travelled south to the province of Utrecht where he made several sketches of the distant view of Rhenen.

These were early times for plant introduction, and almost a century before the major epoch for the introduction of ornamental trees began. Ruisdael’s limited arboreal repertoire in his early work reflects in a large measure the peculiarities, but in particular the poverty, of his native flora. Haarlem lies in sandy country immediately behind the mighty dune system which protects Holland from the fury of the North
Plate 2. A detail of Ruisdael's painting of Bentheim Castle (1653, Bert Collection, Blessington, Ireland. Cat. No. 14), showing the imaginary wayfaring tree blooming at the base of an imaginary castle mount.
Sea gales. This is poor agricultural land, and the trees of fertile and limestone country would be rare in the native vegetation. With its proximity to Amsterdam though, the Haarlem region became a center for the great hunting estates of the wealthy, and thus the oak forests that were the primeval cover to these thrifty soils were preserved, or periodically felled and abandoned after which the clearings would be invaded by beech. According to Karel van Mander (1548–1606), the Dutch mannerist painter and theorist, Haarlem also had a wood that had the character of a public park, or, in his words, was like a village fair. In his poem in praise of the town, composed in 1596, Van Mander tells us that south of Haarlem was its “forest” where young and old amused themselves, by sauntering and walking, picnicking and lying down in the green. He added: People, like clothing, sometimes must be aired. Around Haarlem there also would have been small farms, with orchards and hedgerows and derelict buildings around which elms, apples, elders, and hawthorns would have grown.

Ruisdael describes the oak, beech, elm, elder, wayfaring tree, apple, hawthorn, and the inevitable willow. Missing are the poplars, linden, field maple, and hazel, but that is not surprising as these genera of fertile or limy land would have been rare or even absent around the Haarlem of his time. One might have expected to find in his works the ash, aspen, alders, sweet-chestnut, birch, hornbeam, and the English “sycamore,” Acer pseudoplatanus; also the small hedgerow trees including cherry and dogwood. The sycamore, a tree from south of the Alps which already had been introduced into England in the middle ages, is easy enough to distinguish with its smooth bark and its dense compact rounded crown with palmately lobed leaves. This crown and bark seem to have been the universal favorite of the contemporary French painter Claude Lorrain (1600–1682), who worked in Rome, though the leaves he placed on his trees more resemble those of the sweet-chestnut! The silver birch, Betula pendula, too, with its delicate foliage, pendant branches and black and silvery bark is unmistakable, as to a lesser extent is the aspen. The others, however, are more or less difficult to depict from their general habit, leaf size and disposition alone. It should be borne in mind that many of the trees in Ruisdael’s paintings are unidentifiable, though rarely when serving as a major foreground subject.

One tree appears in Ruisdael’s paintings that we do not believe he ever actually saw. This is the Norway Spruce, Picea abies (pl. 3), which is now a well-known exotic, and, since it had been introduced into England by the end of the sixteenth century, contemporary introduction to Dutch soil is a possibility. However, Ruisdael’s spruces lack the detail of his other trees and we would not be able to distinguish them from other conifers were they not placed into landscapes we recognize as “Nordic.” Not until about 1660, four or five years after his move to Amsterdam, did Jacob begin painting northern landscapes replete with powerful cataracts, huge boulders and towering spruces. These motifs were not known from direct observation but
Plate 3. Ruisdael's Norway Spruce From Waterfall, with a Castle and a Cottage (detail). Fogg Art Museum, Harvard University, Cambridge, Massachusetts. Gift of Miss Helen Clay Frick. Cat. No. 34. Uncharacteristically, van Ruisdael failed to capture the distinctive pendant lateral twigs of this species.
Plate 4. The pristine branching patterns of Russdael's trees, which are revealed in young plants before reiteration: (a) the oak, (b) the hawthorn, (c) the spruce, (d) the beech and the elm, and (e) the elder.
were borrowed from the oeuvre of the Alkmaar artist Allart van Everdingen (1621–1675) who introduced and popularized northern landscape in the Netherlands. Everdingen had travelled to southern Norway and Sweden in 1644. He settled in Haarlem in 1645 and was active there until 1652 when he moved to Amsterdam. Ruisdael probably was familiar with Everdingen’s Scandinavian landscapes as a young painter in Haarlem; but he did not adopt the subject himself until the vogue for it was well-established in the leading city of the United Provinces. Market considerations seem to have played a hand. In an inventory of 1669, all three of Ruisdael’s waterfalls listed fetched considerably higher prices than his lone Haarlemjje.

The reader will be surprised to learn that the shapes of trees, which are determined by the way they grow and branch, has only been comprehensively and systematically described in the last two decades. Indeed, the botanical illustration of tree form, lacking a historical precedent in the herbal tradition, only began this century. We owe this to the French botanist Francis Hallé and his Dutch colleague Roelof Oldeman. In collaboration with Barry Tomlinson here at Harvard, they have now set their classification of tree architecture in the broader context of growth and forest dynamics. These authors recognize 23 basic architectural models to which trees can be assigned, many of which are restricted to the tropics.

We can identify Ruisdael’s principal arboreal subjects to their genus because the artist depicted more than one independent character by which they can be diagnosed. Beyond the genus we cannot go, for the species too often differ in details of leaf, flower, or fruit that are not manifest at a distance.

The oak is the outstanding example of Ruisdael’s skill, for the tree itself provides such a wealth of characteristics. Among Ruisdael’s trees, the oak, and the hawthorn are built on the same architectural model, though they differ considerably in detail (pl. 4). Its branches arise in whorls, like the spokes of a wheel, and steeply ascend from their origins on the perpendicular trunk. The branches in turn bear their twigs in the whorled manner of the trunk itself. The flowers and fruit are borne in axillary inflorescences and do not influence the branching pattern.

In practice, the basic architectural model of a tree is lost early in life through natural damage and repair, though the ascending twigs and leaf arrangement of the oak persist as evidence as we shall see. Old oaks become stag-headed, that is to say that whole branches die back without, at least in the short run, falling off, rotting and thereby anticipating the death of the whole tree. The northern European deciduous oaks *Quercus petraea* and *Q. robur* commonly live for three centuries, and the oldest known individuals are more than twice that age. They reach full height within a century. Once the crown has fully expanded, it will maintain itself for several centuries by successive dieback and replacement of whole branches, the trunk meanwhile continuing to expand and the tree thereby assuming an increasingly
venerable demeanor. The process of replacement, of dead twigs and branches, by shoots from adventitious buds from beneath the bark, is part of the process collectively known to botanists as reiteration. Reiteration of whole branches is a characteristic of the oak and the elm alone among Ruisdael's trees. Both trees, but the oak in particular, support an extraordinarily large and diverse insect fauna. The capacity to reiterate may be regarded as an adaptation to withstand their onslaught as may also, in the oak, the ability to put on a second flush of leaves if the first is devoured by gypsy moths or other herbivores. In Europe the second flush is called the lammas, as it unfolds in early August about the time of the ancient harvest festival of that name. These are some of the reasons why oaks bear such gnarled boughs, and why the trunks of free-standing trees bear swellings from which suckers can arise. In point of fact, even young oak twigs have a tendency to reiterate, as can be seen in our diagram (pl. 5) of an oak twig viewed from below. None of these features escaped Ruisdael's notice. Foremost an artist, he recognized the pictorial potential inherent in two aspects of the oak's capacity for reiteration. One is the venerability with which the persisting dead branches endow the tree. Fond of pairing oak and beech, he also used the uniformly brown autumnal leaves of the beech (a tree with a lower capacity for reiteration) as a foil for the lively play of green and brown with specks of yellow and white in the foliage of the oak, a result in part of its hosting leaves in different stages of maturity.

Taken from life, the diagram demonstrates a suite of further characters by which the oak is distinguished. The limbs are much
branched and, though the twigs are many, they extend rather little each season. Though the twigs at the branch extremities tend toward the horizontal, the others ascend sharply. The leaves are borne spirally towards the end of the shoot, and it is from their axils that the next season’s whorl of twigs will arise. The leaves broaden towards their apices and bear, in European deciduous oaks, a pronounced wavy but not toothed margin. Though leaves on one shoot do not overlap one another, those on neighboring shoots do, so the leaves on a branch create a wavy-margined silhouette not dissimilar to that of the individual leaf. Ruisdael captured this brilliantly. His mature technique was to paint enlarged oak leaf shapes. Each leaf is clearly shown in the Brunswick oak tree (cat. no. 17), datable to the early fifties, whereas generalized leaf clusters are noted in the Worcester College oak (cat. no. 18), painted a few years later. In both pictures, the crown of leaves is enhanced by shading and by the patchy introduction of autumn color. He demonstrated remarkable skill at describing the location of leaves in relation to the crown as a whole. They are perceived in a seemingly endless array of positions over and under the branches and twigs. Other Dutch landscapists usually failed on this very point, either brushing in branches that seem to hover unnaturally in front of the foliage, or suppressing the tree’s structure as far as they dared. The most talented (Van Goyen, Jan Both, Hobbema), trying to elucidate the precise branching mode of the oak, artificially exposed the limbs by arranging the leaves in regular two-ranked fashion, but
Plate 8 A drawing, from life, of the twig of European beech. In life, this twig would have been horizontal.

this device falsely represents the leaf arrangement. Jacob's more impressionistic solution is an honest compromise and achieves greater botanical accuracy.

Finally, the oak has fissured bark. The fissures are rather narrow, with flat, narrow flaking intervening surfaces which, in the cool damp climate of northern Europe, accumulate moss and lichens (pls. 6,7). Again Ruisdael perceptively caught this subtle additional combination of characters.

The habit of the European Beech, *Fagus sylvatica*, stands in stark contrast in almost every respect, even though it belongs to the same family as the oak. It shares its architecture with the elm. The sapling leader, starting erect and with spirally arranged leaves, early grows into a horizontal position when the leaves become distichous, that is to say in two ranks. Though this axis will straighten up to some extent as it matures, the trunk will be built, season by season, from successive axillary shoots each of which terminate growth with a horizontal apex in the same way. This cumbersome procedure is, surprisingly, the most widespread mode of growth among broad-leaved trees. It is remarkably versatile though. In the beech the tendency for the trunk to branch, and the absence of vertical twig endings, even in the top of the crown, are the only vestiges of the model in the mature tree. Because each successive axial shoot contributes the greater part of its length to the trunk, which straightens up as it expands, its mode of growth is
soon obscured. The only architectural feature shared by beech and oak is the lateral position of the inflorescences.

Beeches have a lower capacity for reiteration, and dead branches are brittle, falling early. Our diagram of the twig (pl. 8) indicates the pattern of branching, which is more regular than in the oak. The shoots are of two distinct types. Most apical, and some lateral, extend many centimeters a year, whereas the majority of lateral shoots extend less than two centimeters each season. This gives the impression that beech twigs branch less frequently than those of oak. What our diagram cannot clearly indicate is that the lateral branches of twigs are horizontal. In combination with the entire margins of the shiny, elliptic leaves, the greater annual extension of the terminal shoots relative to those of the oak, the decline in the size of the leaves towards the twig endings, and the tendency of the principal branches to bear horizontal or slightly ascending twigs on declining or recumbent limbs, the detailed structure of the crown is very different from that of the oak. Ruisdael emphasized the sweep that this combination of characters gives to the outermost branches of the beech, and frequently also, as in the tree overarching in the Detroit version of the Jewish Cemetery (pl. 9), by describing the individual leaves. In forest-grown beech, the horizontal banks of leaves tend to form a dense single carpet at the top of the crown. In the absence of reiteration from the trunk, they form tiers of discrete leafy platforms in
Plate 10. Details of the beech (right) and oak trunks from the painting on the front cover. The Norton Simon Foundation, Pasadena, California. Cat. No. 38
free-standing trees, and were thus depicted by the artist. The trunk itself is, of course, extraordinarily smooth, finely but distinctly hoop-marked and, in the relative absence of lichens and mosses, ashen (pl. 10). The character of the beech trunk is unmistakable in Ruisdael's paintings (pl. 11).

The architecture of elm, its pendant branches, and the branching pattern of its twigs are similar to those of the beech though the architectural construction often remains more manifest in the arching trunks and branches of the mature tree. But it is not for these reasons alone that, as Jacob indicated in his drawing (pl. 12) of a specimen of this tree, the crown has an irregular untidy appearance. This untidiness is, in part, a result of the tendency for elm branches to die back and reiterate as in the oak. In contrast to those of beeches, elm leaves are also asymmetrical, hang, are curled up along the midrib or down at the ends, while it is the largest leaves that are concentrated at the twig endings (pl. 14). These together impart a different and ragged appearance to the crown. Elm trunks are fissured and often twisted (pl. 13). The surfaces between the fissures are wide and flake irregularly, as Ruisdael so deftly exploits in his painting (pl. 15) of a shattered elm, its identity confirmed by a few persisting leaves.

The many small European trees of open places which belong to the Rosaceae, including the hawthorn, *Crataegus monogyna*, the crab, *Malus sylvestris*, and cultivated apples and pears, share a distinctive habit. Their architecture, though resembling the oak, differs because the side branches are arched and turn towards the horizontal. Even
without pruning, the leader soon loses its dominance, often also growing over to a horizontal position. Successive side branches arise, often from the upper surface of existing members, and themselves arch over to give the whole crown its distinctive appearance. Like the beech and elm, but not the oak, twigs bear dimorphic shoots, some of which in hawthorns are modified as thorns. Ruisdael painted several such trees (an example is found in Pond in the Forest in the Fogg, not in the current exhibition). It is only from their habitat in this case that we can guess whether they are thorns or unpruned fruit trees, though his pruned apple (pl. 16) is recognizable at once. Similarly, pollarded trees may be presumed to be willows (pls. 17, 18), although they could be poplars or even elms, all of which have been commonly pollarded since the middle ages. In a very few cases though, willows in full leaf also are illustrated (see cat. no. 10 and pl. 18; cat. no. 75). It is interesting that pollarded trees appear infrequently in the work of this painter in comparison with that of many of his contemporaries. They abound in the etchings, drawings and paintings datable to the first year of his activity; thereafter his interest apparently shifted to the more complex trees of the old forests.

The habit of the Norway Spruce with its monopodial, that is perpendicular unbranched, trunk developed from a single annually extending leader; with its whorls of plagiotropic, that is horizontal or descending, branches which, unlike the trunk, bear distichous leaves
Plate 14. An elm twig in leaf This is the European smooth elm, Ulmus carpinifolia. Photograph from the archives of the Arnold Arboretum.

and branches; and its dark foliage is unmistakable from broad-leaved trees, even when painted at second hand (see pls. 3,5)! In addition to these trees, Ruisdael unmistakably depicted the shrub Sambucus niger, the elder (pl. 19). The botanist would identify this plant by its opposite pinnate leaves and by its broad flat inflorescences bearing dense masses of tiny tubular cream flowers (pl. 20). The habit too is characteristic. The trunk is built up by a relay of shoots much as in the beech and elm, but here each sappy shoot, standing erect, comes to arch over at its ends under the weight of its fruit, following which one or several new vertical shoots may sprout from the upper side. Unlike the beech and elm, therefore, it is the inflorescences which enforce sympodial growth through the sprouting of axillary buds. Ruisdael's elder shrubs are recognized by their disc-like white inflorescences, by a general impression of their habit, and by the pains he took to set them against a dark background, offsetting their distinctively pale green, narrow leaflets. He could have, but did not, indicate the characteristic opposite branching and pinnate leaves. Nevertheless, there is no other native shrub in the Haarlem region with which his plants could be confused.

Some of his "elders," though, have narrower, more domed inflorescences than is usual for this species. Examples may be found in several paintings (see pls. 2,21). Our suspicion that these are not elders is further strengthened by their dark foliage, the clearly indicated broadly elliptic-ovate simple leaves, and their placement as small
dense shrubs in open places. There is only one other northern Euro-
pean genus to which these plants could belong: **Viburnum**, in the
same family as elder. **Viburnum**, like elder, is a glutton for good fertile
ground, but keeps to old vegetation and is not associated with habita-
tions. The architecture of **Viburnum** is complex, as Michael
Donaghue explained in his recent article in this magazine, but Ruis-
dael’s small bushy plants, which appear to have been lopped or
browsed as is still customary, reveal nothing of their branching pat-
tern. These plants clearly match the lime-loving *V. lantana* (pl. 22),
the wayfaring tree. The wayfaring tree is very local in Holland. In
Heukel’s flora of 1911, it is recorded from some seven localities, one of
which was Haarlem, another Santpoort a few kilometers to the north.
The 1980 atlas to the Netherlands flora provides a map, and commen-
tary by R. W. J. M. van der Ham who concludes that the only reliable
records prior to 1950 are the two near Haarlem and three, hundreds of
kilometers away, in the chalk hills in the extreme southeast of the
country. The species has since then spread to several other localities
down the coast (see pl. 23). By including this plant in his coastal scene
of 1648 (pl. 21), where it is shown near the base of a dune where rich
flushes of groundwater, arising from shell accumulations in the old
beach sand, form limy patches, and in precisely the habitat at which it
occurs at present, Ruisdael seems to have demonstrated exceptional
mastery of his local flora. The great Linnaeus, who stayed as a young
man at Hartecamp, estate of Georg Clifford, to compile the celebrated *Hortus Cliffortianus*, completed in 1737, included this species. However, he cited it from Alsace, England, France, Switzerland, Etruria, and Italy, but apparently was not aware that it grew within a few miles from where he wrote! Indeed, it was first recorded in the Netherlands only in 1861, and then at St. Pietersberg in the extreme southeast.

We evaluate Jacob van Ruisdael’s achievement as a botanical illustrator fully cognizant that the trees executed by the eager youth differ both technically and thematically from those of the seasoned artist. His development as a painter of trees is, of course, part and parcel of his artistic development as a whole. If we were asked to designate the handful of years when he peaked as a scientific illustrator of trees, it would be from the end of the sixteen-forties into the mid-fifties.

In his very first pictures, those of 1646 (see pl. 18), Jacob lavished particular care on trees and shrubs, recalling the almost microscopic attention to detail exhibited by Dürer in his watercolors of herbaceous plants. The young artist applied his paint from a laden brush point in miniscule but distinct thick dabs. He gives the impression of each leaf accounted for in the foliage and builds up moss and lichen on bark with layers of paint so sculptural in quality that our tactile senses are aroused. Yet, he still was learning how to translate the forms he saw
Plate 17 (left). An old pollarded willow, and behind it an oak, on the banks of a stream. From Landscape with a Cottage, 1646 Kunsthalle, Hamburg Cat No 1
Plate 18 (below) A pollarded crack willow, Salix fragilis, near Weston Zoyland, Sedgemoor, England, which, as its name suggests, was settled by Dutch drainage engineers in the era of Jacob van Ruisdael Photograph by P. Ashton
in nature into paint on canvas — these first efforts are on a par with Van Goyen's best oaks, falling short of complete botanical accuracy. In the next few years, as Jacob mastered the various characters that identify trees, they assumed a more assertive role in his landscapes.

Frederick Law Olmsted used to comment on the sedateness of west European woodlands. This quality is largely attributable to the persistence until modern times of venerable oaks in the landscape, particularly as isolated trees but also in ancient woods and forests. Grandeur is the outstanding quality of Ruisdael's trees. And the grandest of his trees, usually oaks, appear in the early sixteen-fifties. Botanically accurate and enlarged to heroic proportions, they dominate the compositions. By the mid-fifties, we find these giants pushed back from the foreground into the middle distance where they create an impression of sedateness and help serve in the clarification of a more orderly space. Jacob's paint continued to be grainy and his colors relatively vivid. The skill he had acquired as botanical illustrator is well exemplified by his handling of the tree trunks in the forest scene at Worcester College, Oxford (cat. no. 18). Here, oak is placed next to beech. Where ravaged bark has peeled away, the paint is thin; light brown or brownish-orange is used to represent the tree core. Then a viscous paint, applied more broadly than in those first years, gives shape to the bark. On the oak touches of white on dark brown suggest moss and lichen; on the beech a range of pigment from black to dark grey to light grey to white captures the ashen character of the tree.

In the sixties Ruisdael continues to stress the heroic quality of massive trees but they no longer seal off the middle ground (see front cover). Their powerful forms are now combined with the effects of distant vistas. By the seventies their use as compositional accents grows more restrained. During the course of the following years the artist concentrates on panoramic views, seeking the ultimate degree of openness and height. Less interested in the confining space of deep forests, he paints marines, beach scenes, cityscapes and views of the open countryside. His paint grows thinner, his color less resonant. The mood of his landscapes shifts from heroic to idyllic. No longer is there a role for a mighty tree. Its strong vertical accent would have disrupted the subtly gradated spatial recession of his extensive vistas. The fate of the Norway Spruce is a case in point. By the early seventies firs virtually disappear from his paintings of waterfalls, their overt verticality was incompatible with the sought effect of great distance.

What we have seen, in brief, is the artist shifting his tree motifs from foreground to middle distance to background in the course of his career. And as obviously is expected, the descriptive care that went into the early trees and shrubs which served as major foreground subjects no longer is at work in the late years when they are but incidental elements observed from afar.

Our designation of the years around 1650 as the apogee of Ruisdael's career as a scientific illustrator of trees is based on several criteria. The most obvious is the accuracy with which he charac-
tizes his various trees at this time. A second involves the question of habitat. Jacob’s fondness for the wayfaring tree is manifest by its prominent position in the foreground of his most impressive painting of Bentheim castle, dated 1653 (see pl. 2). According to Hegi, the wayfaring tree has not been recorded in the Bentheim region. This raises an important point regarding Ruisdael’s approach to landscape during his early maturity. At least from the early fifties onwards, total veracity is not an end for him. He continues to render the specifics with astonishing truth — the habit of a tree, the outline of a church or town, the properties of clouds and water — but he begins to embellish the whole and, more important from our viewpoint, to ignore ecological propriety to suit the dictates of his own imagination. In the case of Bentheim, as Jakob Rosenberg demonstrated with a photograph of the site published in 1928 (see cat. no. 14, fig. 24), Ruisdael aggrandized his subject by placing the castle on a lofty mountain, whereas its true location is but a gentle hill. And now we discover the painter importing a lime loving shrub from the dunes near Haarlem to the Dutch-German border region to enliven his foreground. He took other liberties with trees. A striking example is Cleveland’s landscape with a windmill of 1646 (see cat. no. 10, pl. 17), a scene Ruisdael sketched and painted again in the early fifties (cat. no. 10 and pl. 18), but with a willow replacing the oak. In an etching datable to the first half of the fifties (cat. no. 108), a powerful oak rises out of the stagnant water of a
swamp. By the mid-sixties, beech joins oak in the water in some of his most celebrated wooded scenes (cat. nos. 36,37). Neither tree thrives with water-logged roots. The romantic habitat was provided by Ruisdael. (Incidentally, these trees also depart from strict botanical accuracy by exhibiting Savery-like mannerist contortions in their trunks and branches.) A similar process took place regarding the borrowed tree, the Norway Spruce. An important motif in the early Nordic scenes, it soon acquired a foreign partner, the half-timbered house of the Bentheim region (cat. no. 34). Oddly enough, Everdingen painted "Nordic" log cabins until he was enticed by Ruisdael's example to introduce Westphalian architecture into his own waterfalls. By the end of his career, Ruisdael took the Norway Spruce out of its mountainous setting and placed it in the park of a Dutch country house (cat. no. 54), but his tendency to depart from biological veracity prevents us from confirming whether he was representing a genuine introduction.

One wonders, of course, why this painter, alone among his contemporaries, took so much trouble to make his trees identifiable. Was he motivated by interest in the tree solely for its own sake, or were the trees he painted charged for him with other levels of meaning. Long before Ruisdael's day, the studies of the Dutch humanists provided a ready vehicle for general awareness of the classical tradition. Interest in the ancient world in northern Europe reached its horticultural culmination in the first half of the eighteenth century in the allegorical landscapes contrived in English parks by William Kent (1685–1748), whose web of vistas and artfully juxtaposed scenes tested the visitor's knowledge of the ancients as if a participant in some gargantuian crossword puzzle.

The trees which Ruisdael painted are very widespread in Europe and Russia, and have been associated with the Caucasian tribes since before they spread westwards. The tree most steeped in history, allegory and ritual is without doubt the oak. It was regarded by the Romans as the first of all trees having sprouted from Rhoecus, one of the giants slain by Jupiter. Acorns are said to have once provided a staple, and are still a famine food. The oak is the tree of Zeus, and the myth that its stag-headed crown attracts lightning has persisted to the present day. The most celebrated of the sacred groves of classical Greece, at Dodona, was a mixed stand of oak and beech. The oak would have been the evergreen Mediterranean, Q. ilex, but its reputation would have been translated to the deciduous northern species without difficulty. Besides, oaks were already the leading tree in northern lore. They were favored by the druids, who worshipped in groves of oak and fed on acorns. Hollow knotted trees, in an ancient stand that once existed at Stoe Heddinge, Zeeland, were known as the Elle-King's soldiers: By day they were indeed trees, but at night they marched off to fight for the elves. The beech, though less celebrated was nevertheless the vehicle, according to Lucian, through which the oracle was delivered at Dodona. In medieval times elders were regarded as guardian trees, and their natural tendency to estab-
lish near houses was encouraged. This custom may have originated from pre-Christian mythology. In German and Scandinavian tradition, the tree harbors a Hylde-moer, or Earth-mother: a wood spirit which avenges all harm done to the plant or its abode. In the *Voyage and Travaile* of Sir Richard Mandeville, however, it is claimed that Judas hung himself on an elder.

A clearer component of seventeenth-century Dutch consciousness than the humanists' study of the classics is derived from the popular enjoyment of emblem literature. This practice encouraged the reading of moralistic and religious meanings into the simplest objects of everyday life. Recently, Michael Loren Perlmutter, a Fine Arts graduate student at the Fogg, searching for sixteenth- and early seventeenth-century emblems of trees that might have bearing on Ruisdael’s trees, came up with a wealth of examples. He linked the tall Norway Spruce in the Fogg's *Waterfall* (pl. 3) to an emblem labeled “Erectae ad Sydera Crescunt” (“They grow straight up to the stars”), showing trees growing from a mountain top and, in propounding the ideal of steadfastness, metaphorically equating height to virtue. Exposed roots, like those of the great oak tree clinging fast to an eroded bank in the Brunswick painting (cat. no. 17), he associated with an emblem entitled “Virtutis Radices Altae” (Virtues of Deep Roots”), in which the roots hold a tree firm against a storm, an analogy made with the strength of virtue resisting adversity. He pointed out the more obvious vanitas or momento mori connotations inherent in the dead or broken trees that abound in Ruisdael’s landscapes, and he examined a host of Christian ideas concerning allegorical contrasts of Life and Death, Good and Evil evoked by any pairing of dead and live trees.

Besides the generalized tree iconography presented by Perlmutter, there exists a body of emblems that are specific to tree genus, which ought to be more to the point when dealing with an artist who has an unusual talent for accurate tree description. Of particular interest is Andrea Alcinati’s *Emblematum Liber*, first published in 1531, and frequently reprinted. The edition published at Lyon in 1550 includes fourteen tree emblems in the customary form of motto, picture and Latin epigram. In it the oak, *Quercus*, is identified as a symbol of honor; the willow, *Salix*, as a symbol of infertility; and the fir tree, *Abies*, as signifying strength through resistance. With the exception of the oak, Ruisdael’s trees are infrequent emblem subjects, more usual are trees with stronger biblical or classical identities, such as the palm, laurel, olive tree, cypress, and fig.

Despite the demonstrable richness of tree imagery, we lack clear evidence that the artist himself ordinarily intended his trees as allegorical symbols of any kind. The two versions of the famous *Jewish Cemetery* (cat. nos. 20,21) provide an important exception. (Another may be the Budapest Oak, see cat. no. 4.) Jacob’s sketches of the actual gravesite in the Portuguese Jewish cemetery at Ouderkerk, now in the Teyler Museum (cat. nos. 76,77), show the tombs surrounded by unassertive shrubs and low trees of unspecified type. The
tombs alone reappear in the Detroit and Dresden paintings; and they are set into quite a different milieu. Into both compositions the painter adds a small waterfall, a rainbow and a large ruin, and also a dead beech prominently displayed in the right foreground against a stand of living trees, a broken oak or oak stump near the rushing water, and unmistakable elder bushes as a backdrop for the central tomb. This suggests that these pictures were intended as moralizing allegories on the transience of all earthly things. And in the case of the elders, perhaps plant genus is significant. If not a specific reference to Judas, the elder has enjoyed a long history as a symbol of sorrow and death.

We may hesitate to accept Ruisdael as a persistent painter of allegorical landscape. No such qualms disturb our acceptance of him as a pioneer naturalist, antedating Gilbert White by a century. At the onset of his career he displayed a perspicacious grasp of the close marriage between native trees and their chosen habitat.

Oliver Rackham has described how the oak was the dominant tree in the primeval urwald, or wildwood, of northern Europe on freely draining soils; and how surviving giants often indicate where fragments have persisted. Some that remain in the great estates about Haarlem are thought to be examples. Beech is generally associated with oak in these old forests, but when abundant is indicative of past felling or natural disturbance. The elm, on the other hand, is very much a village tree; in nature confined to the fringes and gaps of the forest. Frequently pollarded in former times, its foliage provided fodder, its fibrous inner bark bast for matting, rope, baskets and, in ancient times, sandals. The hawthorn shares this habitat, while the elder, which is confined to fertile limy patches and may not have occurred in the wildwood of Haarlem, has a penchant for cracks in mortar, in walls and ruined buildings, and the middens of derelict farmyards. The wayfaring tree though, like the oak, is a plant of ancient vegetation, but of a very different and characteristic type as the painter noticed himself. Whatever the reason for Ruisdael’s interest in trees, his early paintings are a valuable, unequivocal testimony of the flora in the Haarlem region of the seventeenth century, for his ancient oaks and beeches, his elms, wayfaring trees, and elders can only have been taken from life. For instance, Dr. van der Ham (personal comment and in the Atlas) believes that the wayfaring tree, which was first recorded in the Dutch coastal dunes in 1877, owes its origin there to relatively recent escape from gardens, in which it is frequently cultivated in Holland. The berries are avidly eaten by birds who disperse the seeds. Ruisdael’s paintings provide evidence that the plant is more likely a native, and has existed there for centuries longer than previously realized.

We have made several other discoveries from our interdisciplinary study of Ruisdael’s trees. First, the “stock” of trees he learned to depict as a young artist in the 1640s served him for the rest of his career. The only later addition was a tree we believe he never saw, the Norway Spruce encountered in the Scandinavian landscape paintings of Allart.
van Everdingen. Second, by the early 1650s, as the creation of a wider range of moods became increasingly important to him, he felt free to take liberties with a tree's natural habitat. This enabled him to transport a coastal shrub to a hilly region and to soak the roots of a giant beech or oak in murky swamp water. Third, we are missing something. Where are all the drawings, the studies made out-of-doors of the trees growing around Haarlem? Were they deemed so unimportant that they went out with the daily trash? Ruisdael’s rare etchings executed between 1646 and about 1655 (only thirteen are known) afford us a clearer impression of his linear vocabulary for tree forms than the few drawings we can cite. Finally, the ease with which the botanist can identify Ruisdael’s trees has several uses. There have been frequent errors concerning the genus of Ruisdael’s trees which stem from ignorance of botany rather than from ambiguity in the artist’s description. His beeches sometimes are identified as birches, a tree, to our knowledge, he never painted. Beeches also are confused with oaks. The detail of the great landscape illustrated on the front cover of this issue is a case in point. Actively traded in this century under the title The Three Old Oaks, it recently was redubbed The Three Old Beeches. This still is off the mark, for represented in this huge landscape is but one beech and two oaks in an almost paradigmatic exhibition of the differences between the two trees. The botanist is able to identify the foreground trees in almost all of Ruisdael’s paintings, and to learn to anticipate the characters by which the painter distinguished them. It should be of more than casual interest to art historians that the instances in which the botanist is unable to identify the prominent trees in works attributed to Ruisdael’s hand, like as not, involve attributions already considered dubious on purely stylistic grounds.

We became increasingly uneasy, as we prepared this article, that we were making claims for our artist in excess of his real talent. Nevertheless, these claims center around one quality of his which is rare in an artist, and so extraordinarily difficult to attain, that he does in our view possess an artistic stature greater than his current reputation. During one brief period of his life, between 1647-1651, young Ruisdael depicted trees and their landscape with such precision, such penetrating perception of the reality itself, that even the botanist today can see no distortion or schematic generalization, but a real tree as he perceives it. Yet Ruisdael, as we have seen, was no mere substitute for the photographer, for his method was to approximate on the basis of careful selection. He made conscious choices of the attributes he wished to use in order to encapsulate an arboreal character. His choices have proven right for all centuries, and are validated through the independent conclusions of the systematic botanist.

In conclusion, the painter’s perception of the color and form of familiar trees can lead us to new discoveries. For instance, our realization that Ruisdael carefully coupled multicolored oaks with uniformly brown beeches sent us outside to look afresh at the autumnal
Plate 21 (below). A flowering wayfaring tree at the base of a dune, topped by an oak, from Dunes by the Sea (1648), one of Ruisdael's earliest paintings, now in a private collection. Cat. No 8 Plate 22 (right). A coppiced wayfaring tree, in fruit, on a chalk hill in Dorset, England Photograph by P. Ashton.
oak and beech. He had signaled for us an important phenomenon caused in part by the different capacities of the two trees for reiteration. Jacob van Ruisdael, who lived a full century before Linnaeus' *Species Plantarum* and therefore knew nothing of our modern descriptive system in botany, combined unprecedented truth to nature and pictorial genius to give us an insight which the botanist can still value. He forces us to look more carefully at what it is that gives each tree its distinction. Had botanists and artists worked more closely, the mysteries of tree architecture might have been unravelled two centuries earlier. He can even help casual visitors to a gallery be more discriminating when they next visit the nursery for a plant with which to embellish the view from their garden window.
Acknowledgments

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Sources and Further Reading


Perlmutter, Michael L. Ruisdael's Trees and Their Historical Roots. Fine Arts seminar paper presented to Professor Seymour Slive, May 1981. Harvard University, Cambridge, Massachusetts.


The European beech, *Fagus sylvatica* L. Fagaceae, is a majestic tree indigenous to the moist, densely shaded forests of England and Europe, which graced royal parks and grand estates. It is not surprising then that *Fagus sylvatica*, despite its beauty and widespread use in Europe during the 17th and 18th centuries, was not found in America until the early 1800's. The early American settler depended on plants for food rather than ornamental value, as indicated by planting lists of early American nursery catalogues which offer primarily fruit trees, fruit-bearing shrubs and herbaceous material. It was not until the romantic, picturesque landscape movement and real estate development in 19th century America that the European beech appeared in American nurseries.

It is not entirely clear exactly when the European beech was introduced into America. The noted Swedish botanist and horticulturist, Peter Kalm, reports seeing *Fagus sylvatica* in the woods outside Philadelphia in 1748 (Kalm, 1972), and both Washington and Jefferson include it in their planting lists. This is undoubtedly the native American beech, *Fagus sylvatica americana* (F. sylvestris), now

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named *Fagus grandiflora* Ehrh. (Loudon, 1842). In his 1814 and 1824 editions of *A Collection of Plants of Boston and its Environs*, Jacob Bigelow mentions only *Fagus ferruginea* or the red beech. In 1859, however, Andrew Jackson Downing, the great 19th century horticulturist, describes "the finest Copper Beech in America, fifty feet tall" (Downing, p. 150), growing on the grounds of Thomas Ash, Esq., Throgs Neck, N.Y. It would seem then that the copper beech, *Fagus sylvatica f. atropunicea* must have been introduced earlier than 1820. According to Professor Charles S. Sargent, the European beech first appeared that year in an American nursery catalogue. Another source notes that the copper beech originated first in England in 1830 with George Loddgeis (Wyman, 1971). David Hosack, founder of the Elgin Botanic Garden in New York City, America’s first botanic garden and the present site of Rockefeller Center, planted the magnificent weeping beech, *Fagus sylvatica pendula* at Hyde Park, New York in the early 1800’s. The exact date is undetermined.

The native range of *Fagus sylvatica* is from northern Europe to the western frontier of Russia, south to the Mediterranean and Crimea. It usually grows in pure stands as its dense shade and shallow root system suppress the growth of other species. In Europe it is found commonly on limestone soil but when planted will grow on almost any soil type.

The history of *F. sylvatica* (Figure 1) is an interesting one.
Neolithic and preglacial deposits in England show remains of the beech. It was known to the Greeks and Romans. Sixteenth century British writers speak of the beech nuts being used to fatten deer and swine. It also offers food to wildlife, shade to cattle, and was an important timber tree and source of fuel. For centuries it has been recommended for shady walks, avenues and hedges.

Literature abounds with references to the beech. Both Virgil and Pliny mention it. The Roman muses of Virgil lie beneath the shade of "beechen boughs." Pliny writes of a grove of beech trees consecrated to Diana. Crispus, a celebrated orator, considered one of these trees of such surpassing beauty that "he not only delighted to repose beneath its shade but frequently poured wine on the roots, and used often to embrace it" (Loudon, 1838, p. 1956). Robin Hood leads his merry men through beechen woods, and Germanic legends tell of the purple beech springing up from the blood of five brothers murdered in the forest. The beech is a trysting tree. Its smooth bark has recorded the names and poems of lovers from Roman times to the present: "Or shall I rather the sad verse repeat which on the beech's bark I lately writ?" (Virgil), "Who shall grave on the rind of my smooth beeches some beloved name?" (W.C. Bryant). Although Shakespeare does not mention specific tree species in any of his works, he must have had the beech in mind when Orlando says, "These trees shall be my books and in their barks my thoughts I'll character . . . Carve on every tree" (As You Like It, Act III Scene 2). Keats' nightingale sings in "some melodious plot of beechen green." From America Robert Frost describes the beech in his poem "A Boudless Moment":

"He halted in the wind, and what was that
Far in the maples, pale, but not a ghost?
. . . . A young beech clinging to its last year's leaves."

Perhaps the most famous poetic reference is Thomas Campbell's (1805) "The Beech Tree's Petition":

"Oh, leave this barren spot to me!
Spare, woodman, spare the beechen tree!
Though bud and flow'ret never grow
My dark unwarming shade below;
Nor summer bud perfume the dew,
Of rosy blush, or yellow hue;
Nor fruits of autumn, blossoms born,
My green and glossy leaves adorn,
Nor murmuring tribes from me derive
Th' ambrosial amber of the hive;
Yet leave this barren spot to me
Spare, woodman, spare the beechen tree!
. . . . . . .
Since youthful lovers in my shade
Their vows of truth and rapture made,
And on my trunks' surviving frame
Carved many a long forgotten name . . .

. . . . . .
As love's own altar, honour me:
Spare, woodman, spare the beechen tree."

Such quotations already give a good description of the form of the beech. Of all the forest trees, it is the most recognizable for its smooth, silvery-gray bark. In its native habitat, it is known for its wide spreading form (Figure 1) or as a smooth, tall column if growing closely together with other beeches in a forest grove (Figure 2). F. sylvatica was used as an avenue tree in Europe in the 17th and 18th centuries, but its tendency to branch down to the ground necessitating laborious pruning brought an end to this landscape use of beeches. The beech is attractive at every season. In the spring the new foliage of the beech is "one of the most beautiful objects in nature in May — a tender, shimmering green of a shade not quite matched by any other tree" (Bean, 1951, p. 5). In summer, the shade it provides also has no equal. The fall foliage of the many varieties of Fagus sylvatica turns brilliant hues of orange, red, purple and russet brown in comparison to that of
the American beech which turns a rusty-yellow color. There are other
differences as well. The leaves of *F. sylvatica* are shorter and less
coarsely toothed, ovate or elliptic-acute versus the ovate-oblong and
acuminate leaves of *F. grandifolia*. The petiole of *F. sylvatica* is more
pubescent and the buds are smaller. The trunk and the whole tree is
shorter, and the color of the bark is slightly darker gray. It does not
sucker like the American species, and the exposed roots of the mature
*F. sylvatica* form great swellings at its base. The wood of the Euro-
pean beech is hard and brittle. It is prolific in varying forms, lasting
for centuries, which include many purple varieties, and also cut-
leaved, columnar, weeping, round-leaved and twisted forms. The
weeping form (*F. pendula*) has several magnificent examples in the
New York area which are over 150 years old.

Because of the richness of variety of *Fagus sylvatica* (Bean, 1976,
in his monumental encyclopedia, lists 23 clones), I will limit my
observations to the typical form of *Fagus sylvatica* and two of its most
widely used color variants, the purple beech and the copper beech,
both now classified as *Fagus sylvatica* f. *atropunicea* (Rehder,
1949). The examples used are limited to Boston, Brookline and Cam-
bridge. It is obvious that many other magnificent specimens exist in
Boston and environs which could not be mentioned here.

It would be difficult to describe the European beech's attributes for
landscape use any better than J. C. Loudon, the well-known English
horticulturist:

"As an ornamental tree for the park and lawn, especially
near the mansion, the beech has many important advan-
tages. Though its head is more compact and lumpish than
that of the oak, the elm or the ash, yet its lower branches
hang down to the ground in more pliant and graceful forms
than those of any of these trees. The points of these
branches turn up with a curve, which though not pictur-
esque, has a character of its own, which will be found gener-
ally pleasing. The leaves are beautiful in every period of
their existence; nothing can be finer than their transparent
delicacy, when expanding, and for some weeks afterwards.
In summer their smooth texture, and their deep, yet lively
green, are highly gratifying to the eye; and the warmth of
their umber tint, when they hang on the trees during the
winter season, as contrasted with the deep and solemn
green of pines and firs, has a rich, striking, and most agree-
able effect in landscape" (Arboretum Britannicum, 1838,
p. 1965).

The European beech played an important role in the 19th century

* In the nursery trade the purple beech is often called variety *purpurea* and
the copper beech variety *cuprea*. 
landscape movement in America which brought the English landscape into American suburbs, 'rural cemeteries' and city parks. The influence of 19th century American authors in their writings about the American wilderness, forests and agriculture, and about their travels abroad shaped an attitude toward nature and design of the land. Frederick Law Olmsted, Washington Irving and James Fenimore Cooper all recorded their trips abroad, including descriptions of English park scenery and the gigantic trees in the landscape. The 19th century American romantic view of nature as a work of art, growing out of the 18th century English view of the picturesque, classical and naturalistic landscape, called for the use of large trees with beauty, distinctive form, foliage and color. The smooth-barked beech with the soft and flowing lines of its branches set against a smooth, crisp lawn, embodied the picturesque and beautiful (or classical) attributes applied to the landscape by the 18th century landscape gardener, Humphrey Repton. Downing and his followers recommended the use of large ornamental, exotic shade trees for the American front yard. The copper beech was often used.

Boston and its environs provides an excellent example of romantic landscape and picturesque parks. In fact, Robert Morris Copeland, the 19th century landscape gardener and town planner, and author of Country Life, who emphasized the design and maintenance of ornamental grounds, wrote a pamphlet about Boston entitled "The Most Beautiful City in America." Downing, who through his writings and journals, had a great influence on the American landscape, was enormously impressed by Boston. "The environs of Boston are more highly cultivated than most of any other city in North America. There are here whole rural neighborhoods of pretty cottages and villas, admirably cultivated . . . The owner of a small cottage residence may have almost every kind of beauty and enjoyment in his grounds that the largest estate will afford so far as regards the interest of trees and plants" (Downing, p. 37). Downing encouraged the planting of large forest trees, acknowledging that "we Americans are proverbially impatient of delay, and having the feeling that it requires 'an age' for forest trees to 'grow up' . . . . (but) we can hardly conceive a more rational source of enjoyment than to be able to walk, in the decline of years beneath the shadow of umbrageous woods and groves, planted by our own hands, and whose growth has become almost identified with our own progress and existence" (Downing, p. 39). The new suburban homes, according to H. W. Sargent in 1875, represented for Americans, a "country-place" as the ancestral estate had done in the past (Downing, p. 576). He recommends, in an appendix to Downing's Treatise, new trees for the villa gardens which are "striking and distinct" (Downing, p. 585), among them the purple and weeping beech.

The expansion of Boston and subsequent development of subdivisions was greatly enhanced by connecting parkways and parklands. Frederick Law Olmsted, the great landscape architect and
parkmarker, was also a town-planner. He believed that development should be sensitive to topography and natural planning and provide "a tasteful and convenient disposition of shade trees" (Reps, 1965, p. 344). To Olmsted, the informal and picturesque was greatly preferable to the rigid grid pattern of many cities across America. His design plans provided room for large trees and a park-like atmosphere in the city's midst. Several neighborhoods in Brookline were laid out by Olmsted in this manner.

Downing was equally enthusiastic about Brookline: "The whole of this neighborhood is a kind of landscape garden, and there is nothing in America... so inexpressibly charming as the lanes which lead from one cottage, or villa, to another... the open gates, with tempting vistas and glimpses under the pendent boughs, give it quite an Arcadian air of rural freedom and enjoyment. These lanes are clothed with a profusion of trees and wild shrubbery... and curve and wind about, in a manner quite bewildering to the stranger who attempts to tread them alone; and there are more hints here for the lover of the picturesque in lanes, than we ever saw assembled together in so small a compass" (Downing, p. 40). Downing advocated the use of the beech in cities: "its thick and impenetrable mass of foliage... and density... makes it well suited to shut out unsightly buildings or other objects" (Downing, p. 149).

David Sears, a Brookline developer in the 1830s, and known for building the Sears Chapel which overlooks the Boston Park System, provided one of the finest and earliest examples of the use of Fagus sylvatica in America. Between Kent Street and Hawes Street in Brookline is Longwood Mall (or Square), listed now in the National Register of Historic Places, where 15 F. sylvatica and F. s. atropunicea were planted by Sears (Figure 3) between 1826 and 1838. Since then, 14 additional beeches have been planted. All of them are substantial trees with the original trees averaging heights of 70 feet. Figure 4 shows the magnitude of these impressive trees. For anyone who does not know this idyllic setting, it is worth a visit, not only to see some of the oldest Fagus sylvatica in America, but for a unique and pleasant walk in a beautiful small park surrounded by lovely, historic houses (Figure 5). The trees are informally grouped creating spaces of varying sizes and allowing passage and viewing throughout the area. Considering the small size of the mall (35 x 300 yards), the variety of visual experiences is significant.

C. S. Sargent served on the Brookline Park Commission while he was director of the Arboretum and took a great interest in these trees. He describes them in a 1925 Horticulture article as "probably the finest grove of the European Beech in the United States."

Many other specimens of grand beeches grace the streets and front lawns of Brookline and Boston. Two outstanding examples of F. s. atropunicea (copper beech) stand on the lawn of the Elisha T. Loring house at 21 Mill Street in Dorchester. Figure 6 shows the immensity of one of the trees which measures over 6 feet in diameter and is approx-
Figure 3. A 1918 plan showing the 15 original beech trees planted by Donaud Sears in the 1830's. The arrow points to the largest tree, 36 inches in diameter in 1918, its diameter as of November 1981 was 5¼ feet. Twenty-nine specimens now stand in the mall, including the original 15.
approximately 70 feet tall. The spread of the mass of roots at the base is over 8½ feet, and the branches which engulf the front yard and hang over the entire street spread 70 feet. There are several other beeches in this historic neighborhood which, according to residents, remains much the way it was almost 150 years ago. It is conceivable, since the house is placed in the middle of the lot, that the house was planned around the larger of the two beeches, which now flank the entrance walk. It is more likely, however, that the trees were planted shortly after the house was built in 1845.

The creation of 'rural cemeteries', forerunners of city parks, in American cities was a direct result of the picturesque landscape movement, the growing economy, and the rise of technology and of a middle class. They were one of those "grand improvements in civilization", according to Downing. Literary people and captains of industry were instrumental in their establishment. These cemeteries became sylvan retreats for the public, a more tranquil environment outside the city in which to take Sunday walks and drives, meet with friends and visit the graves of departed ones. The scale and opulence of the cemeteries were symbolic of the times. The emphasis on the planting of beautiful majestic trees assured a place to the noble beech. At Mt. Auburn Cemetery in Cambridge, consecrated in 1831 as the first rural cemetery in America, and a gathering place for literary figures of Boston, the large avenues are all named after large trees, and there are several great, old specimens of European beech. A particularly beautiful F. s. atropunicea which is over 100 years old and measures
5 feet in diameter lends grandeur and stateliness to its environment. The weeping beech, *F. s. pendula*, is a particularly fitting choice for the setting. Forest Hills Cemetery in Boston, founded in 1848, echoes the same magnificence. As at Mt. Auburn, the grounds contain huge lofty European beeches which spread their protective branches over the gravestones below.

Early in the 19th century, the public outcry for green open space within the city of Boston brought about the opening of the first public Botanic Garden in America in 1828. It was run by a group of private citizens until 1852 when the city offered a competition for a landscape plan which was won by George V. Meacham. The plan was executed and by 1880, 1500 trees had been planted in the Public Garden. Among them were four European beeches.

The relationship of the garden suburbs to the adjoining parkland was part of Olmsted's master plan for the park system. An excellent example of this is Jamaica Park and the houses which bordered it. Because of the tree lined, connecting parkways and abutting parkland, it was difficult to tell where front lawns left off and parkland began. Ample space was provided for large trees. These provided a shelter and effective screen from the turmoil of city traffic.

Although Olmsted was not against the use of some exotic trees in the Boston Park System, as mentioned elsewhere in this issue, his planting lists for the Boston Park System indicate only the American beech. On the Pine Bank, the former site of the Perkins Estate, overlooking Jamaica Pond, there are a few *F. sylvatica*, one of which was most likely planted by the Perkins family. John Pettigrew, the park superintendent of Boston, who took over the planting of the Boston
Figure 6 (left). Fagus sylvatica atropunicea (copper beech) at 21 Mill Street, Dorchester, in the front yard of the 1845 Elisha T. Loring House. The author stands next to this tree to show its immense size. Photograph by P. Del Tredici. Figure 7 (below). A grove of European beeches bordering Scarboro Pond at Franklin Park, Boston. Photograph by C. McMurtrie.
Park System from the Olmsted firm in 1897, appears to have included
the European beech for Franklin Park, surely because it blended har-
moniously with the native woodlands. A beautiful grove of *F. syl-
vatica* overlooks Scarboro Pond and provides the desired bordering
effect (Figure 7). These trees were probably planted around 1900. On
the southern edge of Country Park Meadow along Circuit Walk is
another stand of beech. The silvery trunks and great branches spread-
ning high above the rolling smooth meadow are a magnificent sight.

Another famous Olmsted park, the Arnold Arboretum, boasts a
superlative collection of *Fagus sylvatica*. The 20th century horticul-
turist, Donald Wyman, a staff member of the Arboretum for 33 years,
wrote that *F. sylvatica* and its varieties should head the list of desira-le shade trees. Curiously, E. H. Wilson does not mention the Euro-
pean beech collection in his book on the Arnold Arboretum, *America's
Greatest Garden*, although we know he is an enthusiast of beeches
from his other writings. The Arboretum’s collection, on the slope near
the South Street Gate, comprises 56 individuals including 20 var-
ieties. One of the largest trees in the collection, *F. s. atropunicea*, is
on the other side of the slope, on the former site of the Bussey Insti-
tute. Its origin is unknown but its huge size (70' x 70' and 5' in
diameter), suggests that it is at least 100 years old. The oldest tree in
the collection is the typical form *F. sylvatica*, grown from seed
supplied by Meehan & Co. in 1875. The illustration on the inside back
cover of this issue shows the elephantine, silvery smooth trunk with
the typical spreading roots of a venerable tree.

The role that the European beech played in the American land-
scape movement of the 19th century is captured well by Henry W.
Sargent: “One can hardly imagine, without having seen it, the sensa-
tion of entering a place through dark Yews, the dwarfer Weeping
Hemlock, the Purple Oak, Purple Beech, the deep, red Atropurpurea
Maples, and gradually driving into the sunlight effect of the Silver and
Golden Retinisporas, Golden Yews (and) Golden Arborvitae…” (1977,
pp. 587–8).

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Right: Trunk showing the magnificent size of a specimen of *Fagus sylvatica* at the Arnold Arboretum. Back cover: An ancient pedunculate oak, *Quercus robur,* in Pinnock's Wood, New Forest, England, one of the few relics of the primeval Northwest European wildwood. Photograph by P. Ashton.