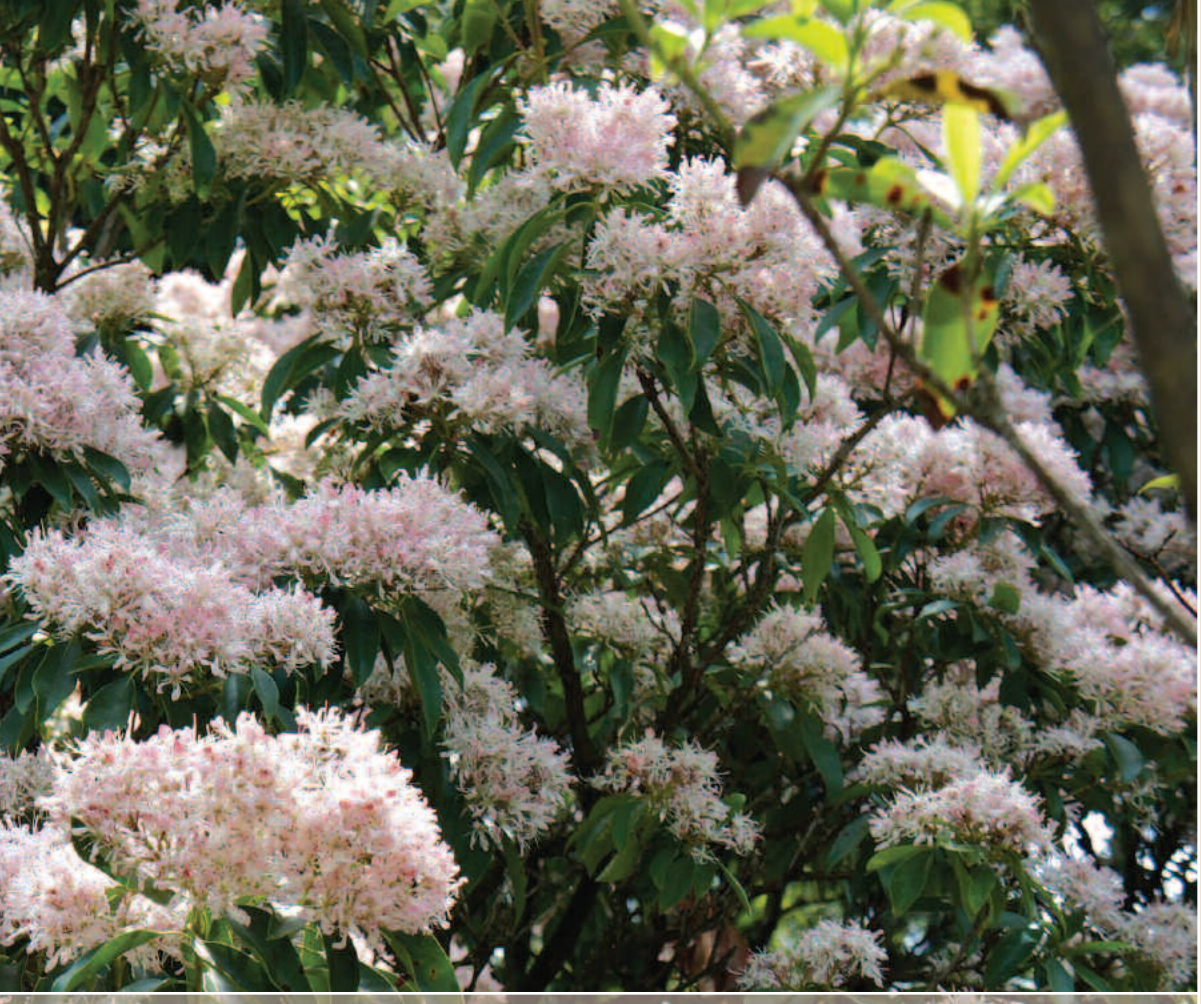
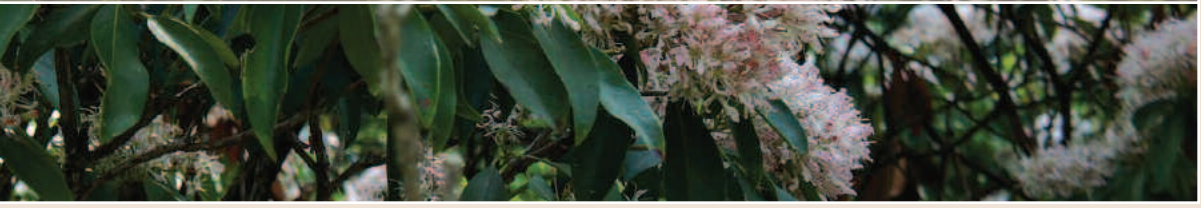

The ARNOLD
ARBORETUM
of HARVARD UNIVERSITY
BOSTON PARKS AND RECREATION DEPARTMENT



Boston's Arnold Arboretum: A Multihued Jewel

TEXT AND PHOTOGRAPHS BY DANIEL MOUNT



When I arrived at the information desk at the Arnold Arboretum one day last June, the receptionist—being a good host—kindly apologized for there "not being much in bloom now." I had taken a red-eye flight from Seattle to Boston the previous night and, with the urgency of a pilgrim, had simply dropped my bags at my hotel and headed out to the most famous and best-documented woody-plant collection in North America. My

ABOVE: *Kalmia latifolia* 'Polypetala'
INSET LEFT: Arborway Gate leads into 265-acre Arnold Arboretum.

host shared with me a foldout map that showed the easiest way to the mountain laurel (*Kalmia latifolia*) collection, which was sure to be in bloom. Oddly enough, despite the host's concern, I had not come to see flowers. All I knew at that moment was that a walk through the young, effervescent green of late spring would be the best antidote to the fatigue of spending the night upright and sleepless in the sterile bowels of a jet.

I thanked my host and wandered off into the Arnold and into June, the greenest month I know. I immediately felt comfortable in the landscape, and I was not hard-pressed to find green. The expansive lawns with towering specimen trees, typical of 19th-century parks, were lush with growth. But the Arnold, which opened to the public on March 26, 1872, is unique in its position among such parks: It is the first American public arboretum.

The historian Ida Hays, in her book "Science in the Pleasure Ground: A History of the Arnold Arboretum," sees the birth of the Arnold as a culmination of many trends and ideals in 19th-century American society. At that time, Boston was nearly 200 years old and a very prosperous city. As a center of post-Revolutionary War cultural life, it was home to the Transcendentalists, Quakers and Unitarians, who all were trying to create a peaceable new kingdom in the recently established nation. One can see the beginnings of our current green movement in the thoughts and developing practices of the time, as we shall see below.

One man moved by these ideas was Benjamin Bussey, a self-made businessman who acquired a large tract of land in West Roxbury outside of Boston. As a member of the Massachusetts Society for Promoting Agriculture, he was inspired by the Society's new ideas for land management. He let portions of his holding revert back to forest, but this did not stop him from collecting ornamentals and landscaping portions of his estate in the grand English landscape tradition that was popular in the new country at the time. Nor did it keep him from

ABOVE: *Hydrangea heteromalla* in full bloom in June.

farming; he had extensive and productive orchards and raised a wide variety of livestock. Bussey also generously opened his land to the public because he believed exposure to nature is a refreshing part of human experience. In this sense, his land had already entered the public domain before he bequeathed it to Harvard College in 1842 for use in the advancement of agriculture.

Another self-made man, James Arnold (whose name later became attached to Harvard's arboretum), was a whaler by trade yet took great interest in horticulture. With his wife, Sarah, Arnold used his fortune to create a celebrated garden in New Bedford, Massachusetts. His generous bequeathal of funds to three trustees, "to be applied by them for the promotion of Agriculture, or Horticultural improvements, or other Philosophical or Philanthropic pursuits," would eventually help fund the building of Arnold Arboretum. One of the trustees, Arnold's brother-in-law George B. Emerson, was an educator and strong supporter of new practices in forestry; he also supported studies of the New England forest, which had been extensively cleared by his day. Long before carbon sequestration was on anyone's mind, Emerson was a proponent of forest conservation. He believed the benefits of well-managed forests included stabilized and improved soils, moderation of the climate, and the provision of materials for fuel and construction. Along with the Harvard botanist Asa Gray, he helped establish botany as a field of study at Harvard and was integral in turning Bussey's land into a woody-plant collection, which was named the Harvard Botanical Garden.

At the same time, in England, the Scottish botanist and garden writer John C. Loudon coined the word "arboretum" to describe the collections of woody plants that were starting to grow there, both in numbers and popularity. Loudon set forth some guiding principles for developing such collections into arboreta. First, he defined an arboretum as a tree and shrub collection that includes only woody plants that are hardy outdoors where the garden is located. Second, an arboretum should be all-inclusive, with at least one specimen grown of every species fitting this criterion. Third, the plants must be arranged in a rational order, preferably according to the natural system of classification put forward by Bentham and Hooker in their book "Genera Plantarum" (1862)—which advocated a new system dividing plants into monocots, dicots and gymnosperms, but did not yet acknowledge evolutionary relationships. And last, Loudon concluded, the collection must be labeled. These guiding principles, which are still used by arboreta today, influenced the first director of the Arnold Arboretum, Charles S. Sargent.

Sargent, a member of a wealthy Boston family, had grown up seeing the development of many private pleasure gardens and plant collections in the Boston area. He was only 32 when he became director of the Harvard Botanical Garden and its newly created woody-plant collection, the Arnold Arboretum, in 1873.

In 1874, a 120-acre section of the Harvard-owned Bussey estate was allocated to the new arboretum. As director, one of the first things Sargent did was to survey Bussey's farm, which Sargent described as "worn out." Despite this assessment, he documented 123 woody species on the site. Eighty of those were indigenous to the place, and the rest were ornamentals or orchard fruits that Bussey had planted.

Red oak (*Quercus rubra*), white oak (*Q. alba*) and black oak (*Q. velutina*); American beech (*Fagus grandifolia*); and sugar maple (*Acer saccharinum*)—all accessioned at that time—are still present in the Arboretum's living collections. American elms (*Ulmus americana*), white pines (*Pinus strobus*) and a large stand of hemlock (*Tsuga canadensis*) dominated the landscape. Among the non-natives Bussey planted for their ornamental value, Sargent encountered southern trees like catalpa (*Catalpa bignonioides*) and tulip tree (*Liriodendron tulipifera*), and European natives like horse chestnut (*Aesculus hippocastanum*) and Scotch pine (*Pinus sylvestris*). He also found great hedges of lilacs

(*Syringa vulgaris*), which were popular with visitors in Bussey's day.

Sargent was an energetic man and began his new project of developing an arboretum with zeal. He started with editing. Thinning and managing a woodlot was a relatively new concept at the time, and the Arnold became a demonstration ground for arboriculture. In its first year, the nascent Arboretum raised 267 kinds of woody plants from seeds, although Sargent's enthusiasm for an "all-inclusive" collection became, over time, focused on the natives of eastern North America, primarily of New England.

Sargent, intrigued by the design work Frederick Law Olmsted and Calvert Vaux were doing in New York's Central Park, invited Olmsted to work with him on the Arnold Arboretum. Their 25-year collaboration involved politics and planning, construction and collecting, and—of course—waiting. Due to Olmsted's insistence, neighboring properties were annexed, until the original 120-acre parcel of Bussey's land expanded to the 265-acre park of today. Olmsted deferred a great deal of the layout of the collection to Sargent, whose knowledge of dendrology he considered far superior to his own. Meanwhile, Olmsted designed the carriageways, bridges, ponds and footpaths that transect the park to this day. In the process of designing and planting Arnold Arboretum, Sargent and Olmsted created a template for future arboreta throughout North America and the world.

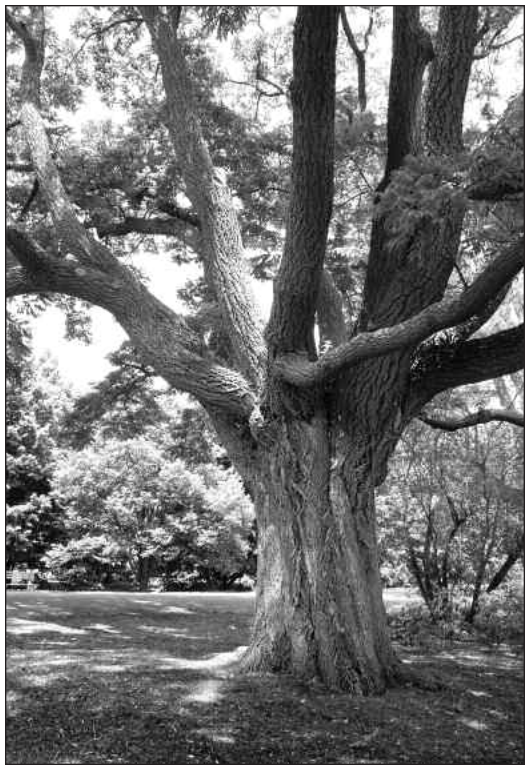
Sargent's connection to European botanical

ABOVE: *Silphium petiolaris* and cattails in The Meadow, with the *Salix* collection in the background.
OPPOSITE TOP: A *Taxus cuspidata* donated by the Hunnewell Pinetum in 1884.
OPPOSITE BOTTOM: *Dipelta floribunda* (bracts).

institutions brought many new species into the burgeoning collections. He took collecting trips throughout New England and to the Southeast. He also traveled westward with the eminent St. Louis-based botanist George Engelmann. You must remember there were no "red-eyes" at that time; traveling by train, carriage and horseback, Sargent and Engelmann covered great expanses of Colorado and the West Coast, from San Francisco to British Columbia, recording what they saw and collecting herbarium specimens and seeds.

In the early 1890s a new building was constructed to house the Arboretum's library, herbarium and administrative offices. It was named after H.H. Hunnewell, a relation of the Sargent family who provided the funding. Hunnewell had a keen interest in trees, particularly conifers, and was developing a pinetum at his estate in Wellesley. (A massive *Taxus cuspidata*, donated from this collection to the Arnold in 1884, still grows in the conifer collection.) In 1892, Sargent—curious about Asa Gray's groundbreaking hypothesis connecting the floras of eastern Asia and eastern North America—was off to Japan to see for himself the commonalities between the plants of these distant parts of the world. This was only the beginning of an ongoing exchange of ideas and plants between the Arnold and the Far East. English plantsman Roy Lancaster lauds Sargent by saying "his encouragement and support of plant exploration... in the Far East on the Arboretum's behalf was perhaps his most enduring contribution to temperate gardens." The Sargent's cherry (*Prunus sargentii*), which Sargent had carried back as seed from Hokkaido, is just one example of this contribution.

Sargent, learning as he worked, quickly became a landscape designer, an administrator and a leading dendrologist. His 14-volume "The Silva of North America" and the more compact version, "A Manual of the Trees of North America



Exclusive of Mexico," are still in use.

Today the Arnold Arboretum remains a healthy and vibrant institution, despite its age. There have been five directors since Sargent died in 1927, all of them making important contributions to the Arnold during its last 85 years. As of March 2012, the Arnold possesses 15,101 individual plants, including nursery holdings. The plants represent 96 families, 338 genera and 2,171 species. And the numbers continue to grow. Michael Dosmann, Curator of Living Collections, estimates the Arboretum accessions to be between 400 and 600 seeds, cuttings and plants a year. Plant Records Manager Kyle Port checks the entire permanent collection for labels every five years. In 2011, Port hung 2,471 aluminum tags.

The Arnold continues its long commitment to studying the flora of Asia and supports studies in a diverse range of disciplines, including evolutionary biology, plant physiology, biodiversity

ABOVE: An *Acer saccharinum,* the largest tree in the Arboretum, was started from seed in 1881.

and ecology. This eminent collection and research facility attracts researchers from England and Europe, as well as the U.S. And it works in partnership with the Smithsonian Institute on research in tropical areas around the world. In January of 2011, the Arboretum opened the Weld Hill Research Facility, a state-of-the-art LEED Gold building—a further indication of the institute's commitment to these areas of research.

I gave myself a generous three days to wander over and around the three drumlins that punctuate the topography of the Arnold Arboretum. It is a landscape shaped by glaciers, with outcroppings of Roxbury puddingstone and swampy lowlands, and has the third-largest hill in the Boston area, Peter's Hill, with a 180-degree view of downtown Boston. It is easy to forget that the Arnold is a landscape also shaped by man. Today, the "worn out" farmland Sargent and Olmsted shaped into a jewel-like park seems casual, even wild, in parts.

I walked Olmsted's now blacktop-covered gravel carriageways, as well as his footpaths and mown lawns, and waded through rain-soaked swards to get closer to interesting specimens. At such moments, history seemed to vanish. What mattered was the here and now: the vibrant and ripe greens of June.

And the flowers; there were plenty of flowers! I may have missed the mid-May Lilac Sunday, when 30,000 visitors throng the park, but I did not miss the blooming Kentucky and American wisterias, hydrangeas and buddleias. And, of course, the mountain laurels. If you've ever tried to grow them in the Pacific Northwest, you would no doubt be envious, like me, of the magnificent stands the Arnold possesses.

Finally, I crossed Bussey Brook, one of the last open tributaries to Boston's Charles River, in search of the Arboretum's biggest, oldest and rarest plants. Why did I need to stimulate myself with the pursuit of superlatives, while other people were happy to jog, walk their dog, or make out with their girlfriend on a bench? It was just a park. But what a park!

I was surprised to find out that the biggest tree in the collection was a 130-year-old silver maple (*Acer saccharinum*). The oldest happens to be a 275-year-old bonsai in the Larz Anderson Bonsai Collection, part of the Arboretum since the 1940s. The rarest most probably is Sargent's oak (*Quercus* x *sargentii*), an inter-specific hybrid between the English oak (*Q. robur*) and the Chestnut oak (*Q. prinus*), which exists only at the Arnold and a few other botanical institutions around the world. Sargent himself collected the seed at his home estate in Brookline in 1877. The over 130-year-old specimen is as stately an oak as I've ever seen.

And there were plants I'd never seen before, such as false indigo bush (*Amorpha fruticosa*). Why have I never run into or seen in Pacific Northwest gardens this sometimes invasive plant, which is native from coast to coast? Or rosy dipelta (*Dipelta florabunda*), with its bright-pink bracts and glossy foliage making it look like a giant begonia? But I do know why Farges's filbert (*Corylus fargesii*) isn't available: It is a recent introduction from China by the Arnold that has a fine pyramidal form and beautiful, exfoliating bark; ease of cultivation should make it popular with landscapers and gardeners in the future.

Even I become exhausted by plants after a while and must find a bench. (The grass was much too wet to sit on during the rainy days of my visit.) "It must reveal its 'green' as multi-hued," wrote Ida Hay of the Arnold Arboretum, "and its 'open space' as truly full with plants and the stories of the people who got them and nurtured them on its undulating acres." So I sat in this truly multihued green and watched a jogging mother push a tandem stroller with sleeping twins—and wondered what sort of conveyances would carry visitors over Olmsted's carriageways 1000 years from now. ~

Daniel Mount is an estate gardener and garden writer. He lives on a small farm in the Snoqualmie Valley. Read more of his reflections on plants and gardening at www.mountgardens.com.