

## Existing through Change: *Quercus alba*

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**O**n a magnificent bird's-eye-view map of the Arnold Arboretum, prepared in 1927, paths and hillsides, collections and trees are depicted in such clear detail that you can easily imagine gazing down from a floating hot-air balloon (see pages 18–19). The map hangs in the Arboretum library, and perhaps the most striking specimen is a tree drawn on the northeast slope of Peters Hill, a lone shepherd guarding an endless flock of Charles Sargent's beloved hawthorns (*Crataegus*).

This venerable singleton is a double-leadered white oak (*Quercus alba*), now towering above the Arboretum's crabapple (*Malus*) collection, which replaced most of the hawthorns after World War II. The tree reaches an impressive spread of 28 meters (92 feet) and height of 17.2 meters (56 feet)—the southwestern bole is slightly taller—but most notable is its girth, no doubt exaggerated by the twin stems, which are swollen with crown gall (*Agrobacterium tumefaciens*). A slight seam meanders through this burly base, suggesting the stems are fused at ground level, where the diameter is 2 meters (6.5 feet). Impressive is an understatement.

Despite its size (and obvious age), a glance at the tag reveals the tree's accession number: 346-2010\*A, meaning it was accessioned just eight years ago. Ordinarily, the Arboretum receives accessions as wild-collected seed, nursery purchases, cuttings from sister gardens, or other means (there are thirty-three different options), yet this tree is an "existing plant." It was officially given its unique accession number *after* it had been found growing in place.

Of the 14,722 accessioned plants in the permanent collections, almost 20 percent are existing plants. Over half of these were accessioned since 2007, through an initiative led by Manager of Plant Records Kyle Port, which officially brings important specimens from managed areas into our systems to be measured, tracked, and studied. Even without an accession number, these trees with opaque provenance received arboricultural care; curatorial record-keeping adds collections value.

Our oak first shows up in Arboretum archives on a detailed 1894 topographical survey of Peters Hill made for the City of Boston, a year before this area became part of the Arboretum. At first glance, the tree appears to be marked with an 8, but this figure actually represents the two stems. To establish a firmer age, I recently extracted an increment core and counted the rings from the southwest stem, 138 centimeters (54 inches) above the ground. The wood was hard and intact most of the way until I approached the center and hit a soft pocket. Even so, with 70 percent of the core intact, I counted 142 rings. Assuming the unrecovered portion represented an additional 60 rings, that leader reached its position in the 1810s; germination would have been several years earlier. With this information, we've affirmed the tree to be of local, wild provenance.

In 1937, Hugh Raup shared his thoughts about several existing white oaks on Bussey Hill. One tree's rings, counted after a fatal lightning strike in 1931, dated to 1666. Raup pondered what this tree had witnessed, particularly landscape changes from forest to agriculture to woodland again. Among all the changes, however, Raup stated "the later scenes [of the Arboretum] are the strangest." The bizarre combination of exotic and local plants surpassed the previous centuries' revolution: the "great white wings" of the dove tree (*Davidia involucrata*) and "impossible maples with copper-colored bark that peels off in thin sheets" (*Acer griseum*).

Change is inevitable, and the Arboretum's naturalistic landscape is no exception. In another century, perhaps a new collection will replace the Peters Hill crabapples just as they eclipsed the hawthorns. With good graces, I hope our white oak is around to bear witness to the transformation, for as Raup wrote of the Arboretum, "the only continuity is in the inherent charm of the place and in the lives of the ancient oaks."

### Literature cited

Raup, H. M. 1937. The Chinese Collection. *Bulletin of Popular Information*, Series 4, 5(5): 25–28.

