Pear-trees. The Arboretum contains one of the largest collections in the world of the wild types of Pear-trees, especially those from northern and western China. As ornamental trees none of the species from southeastern Europe compare in size or in beauty of foliage and flowers with several of the Chinese species, among which are some of the handsomest of the hardy trees of recent introduction. The earliest of the Pear-trees in the collection,

_Pyrus ussuriensis_, opened its first flowers this year on April 30th. This tree, which is common in northern China, Korea and Manchuria and the only species which has a foot-hold in Japan where it has recently been discovered, inhabits more northern and colder regions than any other Pear-tree. If any Pear-tree proves hardy therefore in the northern interior part of this continent it should be this species; and if it proves resistant to blight it should yield the hardiest of all Pear-stocks. No other species attains such a large size as is shown by the photograph made in 1919 by Wilson in Korea of a tree which was sixty feet high, with a tall trunk fourteen feet round and a head of spreading branches seventy-five feet across. The flowers are not as large as those of some of the other species, but as a flowering tree _P. ussuriensis_ is one of the most beautiful of all Pear-trees for the flower-buds and the opening flowers are deeply tinged with rose-color. The fruit is subglobose, green, hard, and from one-half to three-quarters of an inch in diameter and, like that of most wild Pear-trees, is of no comestible value. Among other Pear-trees this northern species, as a young tree at least can be easily recognized by its smooth pale bark.
A tree of northern China now considered a variety of *Pyrus ussuriensis* (var. ovidea) is an older inhabitant of the Arboretum. It blooms two weeks later than the more northern tree; the flowers are larger and pure white; the fruit, too, is larger with a yellow skin and succulent flesh and unlike that of other Pear-trees is broad at base and narrow at apex. The leaves turn brilliant scarlet; and in the autumn the large tree standing on the left hand side of the Forest Hills Road, near the Arboretum entrance, is a conspicuous object.

*Pyrus Calleryana*, a handsome and shapely tree raised from seeds collected by Wilson in western China has grown rapidly in the Arboretum where it has flowered and produced fruits for several years. This tree promises to be one of the most valuable plants introduced by the Arboretum into the United States for the inoculation of its seedlings has shown, as far as such tests prove anything, that they are immune to attacks of the blight which has been the destruction in the United States of many varieties of garden Pear-trees. Pomologists, therefore, now believe that they have found in this tree the stock which will make the cultivation of pears in this country a more certain and profitable industry than it has been since the Pear-tree blight became prevalent. Many thousand seedlings of *Pyrus Calleryana* have been raised by the Department of Agriculture of the United States and by different experimental stations from the seeds produced by the Arboretum trees, and if these seedlings prove as valuable as American pomologists now believe them to be they will show the country the value of museums like the Arnold Arboretum, and more than justify the labor and money it has expended in its explorations in eastern Asia. Unfortunately the only specimens of this tree outside of China which produce large crops of fruit are in this Arboretum, and the supply of seeds will for some time longer be insufficient to meet the demands for it. The large white flowers and ample, dark green leaves make *Pyrus Calleryana* a valuable garden plant; the small glabrous fruit is hardly more than a third of an inch in diameter.

*Pyrus serotina*, another of Wilson's introductions from western China, is of special interest to the students of cultivated fruits as it is the wild type from which have been derived the hard, round, gritty pears which have been cultivated for centuries by the Chinese and Japanese. These cultivated oriental pears are often handsome trees with beautiful flowers and greenish yellow fruits which are often extremely ornamental, but western palates and digestions cannot cope with the hard fruits with cells filled with grit. These Japanese Sand Pear-trees crossed with European Garden Pear-trees several years ago produced in the United States the Keiffer and Lecomte Pears. These, although rather hard, are handsome and suited to long shipment. Much was expected of them especially in the southern states where large orchards of these trees were planted. The trees proved so susceptible to blight that their cultivation has been practically abandoned. *Pyrus serotina* has grown with remarkable rapidity in the Arboretum and in spring is covered with large flowers more or less deeply tinged with rose and unfolding deep bronze-colored leaves.

*Pyrus Bretschneideri* is the only Chinese Pear-tree which some day
may be developed into a valuable fruit tree for the northern United States. It is one of the three species of Pear-trees raised at the Arboretum in 1883 from seeds sent here from Peking by the late Dr. Bretschneider. This tree has not been attacked by blight here and produces globose yellow juicy fruits of good flavor, and up to an inch and a half in diameter. Nothing is known to us here of this species as a wild tree but from it have evidently been developed in China the tree which produces the large round or pyriform juicy fruits of excellent flavor conspicuous in the Peking markets in September and October. The other North China Pear-trees raised from Dr. Bretschneider's seeds are *Pyrus betulaefolia* and *P. phaeocarpa*. The former is a large tree with small flowers and leaves and small globose brown fruit. It has grown rapidly, and is very hardy and at one time it was thought that it would prove a good stock on which to work orchard Pear-trees. Later it has often suffered from blight and so can now only be considered valuable as a garden ornament. Dr. Bretschneider's third species proved, when it flowered and fruited a few years ago, to be an undescribed species and it has been named *Pyrus phaeocarpa*. The small russet-brown fruit is globose on some trees and pyriform on others.

The European Pears, which are of smaller size, flower later than the Chinese species. The original Pear collection is on the left hand side of Forest Hills Road and a larger and more complete collection has recently been planted in the hollow at the eastern base of Peter's Hill. The best specimens of the species introduced by Wilson from western China will be found on the southern slope of Bussey Hill.

Shad Bushes, as the American species of Amelanchier are often called, are beautiful and interesting trees or shrubs which bloom in early spring and several of them are now conspicuous in the Arboretum. Amelanchier like Crataegus and Prunophora, the name of the Plum group in Prunus, is a genus almost entirely confined to North America. One small, shrubby species grows on the mountains of central Europe and another shrubby species in China and Japan. The other species are American and grow from the shores of the Atlantic to those of the Pacific and from Canada to the shores of the Gulf of Mexico. The first of the Shad bushes to flower here, *Amelanchier canadensis*, opened its flower-buds on the 30th of April. This is a tree occasionally 70 feet high with a trunk 18 inches in diameter. Rare and of comparatively small size in Canada and New England, it grows to almost its largest size in western New York, and in the Gulf States, where it is found as far west as western Louisiana, it is the only species. Long confused with the common tree species of the northern states, *A. laevis*, it is still rarely cultivated and a comparatively new introduction into the Arboretum. Here it is perfectly hardy and promises to become a large tree. As it flowers at the same time as the early flowered Japanese Cherry-trees it should prove a good subject to plant with them. A dwarf northern Shad Bush *Amelanchier Bartramiana*, flowered this year as early as *A. canadensis*. This is an inhabitant of cold, northern swamps, but is now well established in the Arboretum. It is a slender shrub with small flowers arranged, not in racemes, like those of the other species, but in one or two-flowered clusters. In early spring it is distinct in the yellow bronze color of the unfolding leaves.
Amelanchier laevis and A. oblongifolia form part of the native flora of the Arboretum and flower a few days later than A. canadensis. The former is a tree which grows naturally on dry upland wooded slopes and under favorable conditions becomes 40 feet high and forms a trunk from 12 to 18 inches in diameter. This tree is easily recognized, when it is in flower by the dark red-brown color of the leaves. There are native trees of this Amelanchier on the wooded slope on the left hand side of Forest Hills Road back of the Crabapple collection. Amelanchier oblongifolia is a large shrub, rather than a tree, and is an inhabitant of the borders of swamps where it grows usually in moist, only partly drained soil. This plant is conspicuous as the leaves unfold as they are thickly covered with silvery white hairs. The many large specimens of this shrub which can be seen from the drives make the early days of May an attractive time to visit the Arboretum.

Prunsepia sinensis is again covered with clusters of bright yellow flowers which spring from the axils of the half-grown leaves. This Prunsepia is a tall broad shrub with long spreading and arching branches and stems armed with many spines. It is perfectly hardy and the handsomest shrub Manchuria has yet contributed to western gardens. There are only two specimens in the Arboretum and these came here from Petrograd in 1903 and 1906, and it has been found difficult to propagate them by cuttings. Fortunately last year one of the plants produced for the first time a few seeds and these have germinated, so there is reason to hope if the Arboretum plants become more fruitful that this species will be a common ornament in northern gardens. It has much to recommend it as a hedge plant. The species from northern China, P. uniflora, is a spiny shrub with small white flowers, and although it has little beauty, its value for forming impenetrable hedges may prove considerable.

Some Japanese Cherries. In the last issue of this Bulletin a few of the Japanese Cherry-trees growing in the Arboretum including Prunus serrulata var. sachalinensis were described. Two varieties of this tree which blossom later are now in flower — the vars. spontanea and pubescens. The former is a widely distributed tree in central and southern Japan, Korea and western China. The flowers are rather smaller and of a paler pink in color than those of the var. sachalinensis; the var. pubescens differs from it in the pale under surface of the leaves which are more or less thickly covered with hairs. Although the flowers are smaller than those of var. sachalinensis these trees are valuable because they prolong the season of bloom of the pink flowered tree Cherries. They can be seen on the southern slope of Bussey Hill and in the Peter's Hill Nursery.

For the next few weeks a guide will meet visitors to the Arboretum on Sunday afternoons at three o'clock, starting from the Forest Hills gate.