Some effects of the Winter. Although evidences of a severe winter are seen in dead or badly browned plants of the Red Cedar (Juniperus Virginiana), the native Arbor Vitae (Thuya occidentalis), and in many Rhododendrons in some of the Boston suburbs, evergreen plants in the Arboretum have suffered less than in several of the severe winters of recent years. The collection of conifers as a whole is in good condition. Even such trees of doubtful hardiness as the California Picea Breweriana and the Japanese Abies Mariesii, two trees which have proved difficult to establish here, are as green and fresh as they were in the autumn. The Cedars of Lebanon are uninjured, although twice in recent winters severe cold has destroyed their leaves. Plants of the native White Cedar (Chamaecyparis thyoides) in low wet ground are injured or killed, although within twenty miles of the Arboretum there are hundreds of acres of undrained swamp land covered with this tree. It is interesting that plants of the White Cedar on a comparatively dry hillside in the Arboretum have never suffered from severe cold. The Arboretum Junipers, the Japanese Umbrella Pine (Sciadopitys), the different forms of the Japanese Yew (Taxus cuspidata), and the variety repandens of the European Taxus baccata are uninjured. Other forms of the European Yew have suffered in the loss of leaves or in the ends of branches, and only the variety repandens can be depended on in New England. Our native Yew (Taxus canadensis), the Ground Hemlock of northern woods, is more badly browned than usual but will recover with the loss perhaps of a few branches. The buds of the Chinese Pinus sinensis and of some of its varieties do not appear injured, but these Pines will lose most or all of their old leaves. This
is remarkable in the case of the typical species which is a northern

tree common and of large size on the plains and mountain sides in the

neighborhood of Peking, where conditions for successful tree growth

are as unfavorable as they can well be. The fact that this tree of

northeastern Asia is not perfectly hardy here shows that the ability of

a tree to flourish in any region in which it does not grow naturally

cannot be determined by the knowledge of the climate and soil condi-
tions where it grows naturally, and that only experiments carried on

through long periods can show the value of an exotic tree in any for-

eign country. The variety densata of Pinus sinensis has suffered even

more than the type, although the plants of most of them will proba-

bly recover. This variety reaches higher altitudes than the other

Chinese Pines, growing up to 12,000 feet in western Szech'uan, where

it is common, and southward forms great forests. This tree as Wilson

saw it resembles the Scotch Pine (Pinus sylvestris) in habit and gen-

eral appearance, with a tall clean trunk, massive branches forming a

rounded or flattened head, and pale red bark on the upper stem and

branches. The variety yunnanensis of Pinus sinensis has suffered less

than the var. densata, although it is a tree of river valleys and lower

levels in southwestern Szech'uan and ranges much farther south. This

tree differs from other forms of Pinus sinensis in its longer, more

slender, darker green, drooping leaves, in its longer cones, in the

brighter red bark on the upper stems and large branches, and in its

usually more pyramidal habit. If this Pine, which was raised at the

Arboretum in 1909, really succeeds in this climate it should make a

valuable addition to the comparatively small list of ornamental conifers

which can be grown successfully in New England. In the Arboretum

Pinus Thunbergii, the great Black Pine of Japan which lines many of

the highways of southern Hondo, has again lost many leaves, and

although this tree was uninjured here for nearly a quarter of a cen-
tury it has suffered so much in some of the severe winters of recent

years that it now seems doubtful if it can adapt itself permanently to

this climate. It is unfortunate, for no Pine-tree is more picturesque

in habit or more distinct in its beautiful white buds. It is a matter

of interest that the new Chinese Spruces have been uninjured by the

winter. The introduction of these plants into cultivation is one of the

important results of the botanical exploration of China undertaken by

the Arboretum, and of these Spruces only Picea Sargentii has shown

itself unable to grow in this climate


Broad-leaved Evergreens have suffered from the extreme and unu-

usual heat of several March days followed by days and nights of low

temperature. The damage in the Arboretum is less, however, than in

several other gardens in eastern Massachusetts. The Arboretum Ro-
dodendrons, thanks to the exceptionally good position where they are

planted, look unusually well. Of the small number of species which

can be grown in this climate none have suffered, and of the Catawbi-
ense Hybrids only a few have been slightly injured in the loss of an

occasional branch or a few leaves. Laurels (Kalmia latifolia), which

are rarely hurt by extreme cold or March changes of temperature, are

now disfigured by brown and dried leaves at the ends of the branches

of several plants; and leaves on the large plants of the native Inkberry
(Ilex glabra) on Bussey Hill Road have not in any previous spring been as discolored as they are now. Many of the leaves are killed but the plants will recover, and the temporary injury should not be counted against this beautiful plant which is one of the best of the broad-leaved Evergreens which can be grown in this climate. It is a handsomer plant than the black-fruited Evergreen Ilex crenata from Japan. This Holly in both its broad and narrow-leaved forms grew well in the Arboretum during many years but has gradually been killed by cold, and the last survivor growing on Azalea Path now looks as if it could not survive. This Japanese Holly grows well and is a handsome plant in the neighborhood of Philadelphia, but the New England climate is too severe for it.

**Pieris (Andromeda) floribunda**, judged by an experience of fifty years, is the only broad-leaved Evergreen to which nothing ever happens here. Borers do not weaken the stems, the leaves are never discolored, and the flower-buds formed in autumn and conspicuous during the winter are never injured by the lowest temperature which has been recorded in southern New England. It is a round-topped shrub of compact habit, occasionally eight or ten feet across and four or five feet high, with small pointed, dark green leaves and short terminal clusters of white flowers. A native of high altitudes on the southern Appalachian Mountains, this Pieris is rare and local in distribution as a wild plant, but for more than a century it has been esteemed in England and largely propagated by English nurserymen. Plants can now be found in several American nurseries.

**Prunus subhirtella** will be in bloom when this bulletin reaches its Massachusetts readers, and when it is covered with its drooping pink flowers this, the Spring Cherry of the Japanese, is the most charming plant which can be seen in the Arboretum at any time during the entire year. It has been described as the most floriferous and delightful of all the Japanese Cherries; and it is certainly the most satisfactory of them all in this country, for it is hardy, the flower-buds are rarely injured, and the flowers last in good condition longer than those of any other Cherry-tree. This tree or large bush is not known as a wild plant, and although it has been much planted in the gardens of western Japan it is rarely seen in those of Tokyo and Yokohama. For this reason perhaps it has not often been imported from Japan into the United States and Europe. Another reason for its rarity is the fact that although it bears every year abundant fruit, the seeds do not produce plants similar to the parent but always trees of its varieties, principally the var. ascendens which is a narrow tree fifty or sixty feet high with a tall trunk. This tree has the rather small drooping flowers of the better known Weeping Japanese Cherry (*P. subhirtella pendula*) which is not now uncommon in American gardens. For these reasons the typical *Prunus subhirtella*, a plant of the first class for the decoration of northern gardens, is still extremely rare in this country. It can be increased from cuttings without much trouble but a better way to propagate it is by grafts on its own seedlings. If anyone wants to raise stock for this purpose seeds can be obtained from the Arboretum.
Prunus serrulata var. sachalinensis, sometimes called the Sargent Cherry, should also be in flower at the end of this week. It is believed to be the handsomest of the large Cherry-trees of eastern Asia. First raised at the Arboretum in 1890 from seeds brought from Japan by Dr. William Sturgis Bigelow of Boston, this tree has grown well here.

Prunus concinna. As usual this Chinese Cherry is the first of its genus to open its flowers in the Arboretum. It is a tree-like shrub three or four feet high, with a single stem. The flowers, which appear before the leaves, are produced in the greatest profusion in few-flowered clusters, and their bright red calyx makes a handsome contrast with the white petals. The loose lustrous red bark of this plant is perhaps its most attractive character, and for this beautiful bark it is well worth a place in our gardens, although several of the Asiatic Cherries are superior to it as flowering plants. *Prunus concinna* can be seen in the collection of Chinese shrubs on the southern slope of Bussey Hill.

Plum-trees are often beautiful objects when in flower, and the value of several of the American Plums for the decoration of parks and gardens has not yet been generally recognized in this country. One must travel in early spring through southern Kansas, eastern Oklahoma and eastern Texas, where Plum-trees and Plum-bushes are more numerous and of more different kinds than in any other part of the world, to realize how wonderful these plants are when covered with flowers. *Prunus nigra*, the so-called Canada Plum, is the earliest of these trees to flower here. It is a native of the northern border of the United States from New Brunswick westward, and is distinguished from the more southern *Prunus americana* by its larger and earlier flowers, by the blunt teeth of the leaves, and by the darker and closer bark. The flowers turn pink as they fade. The next Plum-tree in the collection to flower is *Prunus salicina* which is the most important Plum-tree of eastern Asia, and is best known perhaps as the origin of the so-called Japanese Plum now largely cultivated in the United States. The Arboretum plants were raised from seeds collected by Wilson in western China and their flowers will be opening during the next week. The flowers of *Prunus nigra* and *Prunus salicina* will soon be followed by those of *Prunus americana*, of the eastern United States, of the blue-fruited *P. alleghamen-sis*, a native of southern Connecticut and western Pennsylvania, and a species of considerable ornamental value, of *P. Watsonii*, the Sand Plum of Kansas and Oklahoma, of *P. Munsoniana* of the Kansas and Texas region, and of *P. hortulana*, a native of the region from southern Illinois to southern Missouri and Oklahoma. This is perhaps the handsomest of the American Plum-trees, and with the exception of *P. maritima* of the New England coast, the last to flower. In cultivation it is a round-topped tree with wide-spreading branches. The flowers are small, only half an inch in diameter, and open before the leaves which are long-pointed and lustrous. The globose fruit is scarlet, very lustrous and perhaps is more beautiful than that of any of the American species. The Plum-trees will be found at the entrance to the Shrub Collection from the Meadow Road, and there is a supplementary collection with many American species and varieties near the top of Peter's Hill.