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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 (*Thuja 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 (*Chamæcyparis 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 conditions where it grows naturally, and that only experiments carried on through long periods can show the value of an exotic tree in any foreign country. The variety *densata* of *Pinus sinensis* has suffered even more than the type, although the plants of most of them will probably 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 general 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 century 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 unusual 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 Rhododendrons, 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 Catawbiense 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

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