Vines. Two outstanding features of the New England countryside which impress visitors from Europe are the low abundant undergrowth of Vaccinium and related shrubs, and the rampant, jungle-like growth of vines. The latter give quite a tropical appearance to our thickets and woodland margins during the summer and early autumn months. Such a luxuriant tangle of climbing growth is unknown in Europe. Foremost among the strong-growing wayside climbers are different kinds of Vitis, such as the Fox Grape (Vitis labrusca), the Summer Grape (V. aestivalis), and the Frost Grape (V. vulpina). In the Arboretum vines of different sorts are freely used to cover walls and fences, and in the Shrub Garden a collection is maintained on a wire trellis supported by concrete posts. In these positions vigorous growing vines are seen to great advantage, but only those perfectly hardy can withstand such rigorous conditions. The Wine Grape of the Old World (V. vinifera) is too tender, but several oriental and a goodly number of American species thrive.

Oriental Grapevines. One of the noblest of all the Grapevines is the Japanese Vitis Kaempferi, better known as V. Coignetiae. This has broad, heart-shaped leaves, often more than a foot across, dark lustrous green and netted above, clothed on the underside with a felt of russet hairs. In the autumn the leaves change to brilliant scarlet and crimson and no vine is more striking in this respect. It is a very vigorous grower which in the moist forests of Japan climbs to the tops of trees 60 feet and more tall, and in thickets, glades, and the margins of woods and swamps makes an impenetrable jungle. The fruit is jet black, globose and edible, although harsh in flavor. It is widespread in Japan, especially in the colder parts. An equally hardy species, less vigorous in growth and with smaller leaves, is V. amurensis, widespread in eastern Siberia and throughout Korea. Another handsome species is the Japanese V. pulchra, similar in appearance to the Amur Grape but with red-veined and petioled foliage. Very distinct is V. Davidii with shoots densely clothed with prickles and large, metallic-green, heart-shaped, pointed leaves, each a foot long, pale on the underside and changing in the autumn to scarlet and crimson. Unfortunately it is less hardy than other Oriental Grapevines mentioned.
American Grapevines. On the trellis in the Shrub Garden no fewer than fourteen American species of Vitis have proved perfectly hardy. Among the handsomest are V. cinerea, V. Lecontiana and V. Doaniana. The first-named grows abundantly on the riverbanks of the Mississippi Valley from Illinois to Texas. A vigorous plant, it has leaves dark green above, ashy gray below and, like the young shoots, clothed when they unfold with a felt of gray hairs. V. Lecontiana or V. bicolor, with thick, trilobed leaves, each from 8 to 10 inches across, dark, lustrous above and glaucous below, is found from New Hampshire westward to the Mississippi Valley. A comparatively new species, native of the Texas Panhandle, is V. Doaniana. This is quite hardy in the Arboretum and is a first-class plant with large, pale bluish green leaves very firm in texture. Less vigorous, but very pleasing in habit, is the Sugar Grape (V. Champinii), with small, shining, metallic-green leaves and reddish shoots. For covering trellises, arbors and walls the native Grapevines are invaluable and their merits deserve wider recognition.

Parthenocissus quinquefolia. The Arboretum is often asked to name the hardest of self-clinging vines suitable for growing against buildings. When the foliage alone is considered the answer is Parthenocissus quinquefolia, which is hardy as far north as Ottawa and clings to walls and buildings by means of discs at the ends of the tendrils. There are several varieties, the best being murorum and Stint-Paulti, with rather broad leaves, and Engelmannii, which differs from the type only in smaller leaflets. In the trade this climber is sold usually under the name of Ampelopsis Engelmannii.

Ampelopsis aconitifolia. This luxuriant, slender-stemmed vine with finely divided foliage is a favorite plant in gardens and this favoritism is well deserved for among climbers there is no more elegant plant. Its finely divided leaves are lovely throughout the summer months, although they drop in the autumn without marked change of color. The fruit, produced in slender hanging bunches, is at first somewhat bluish changing to orange or yellow when ripe. More beautiful is A. brevipedunculata and its variety Maximowiczii, with fruits changing from a pale lilac and coppery green to bright porcelain blue. Sometimes they are whitish, and on any one plant in autumn these different colored fruits may be seen. A handsome variety is citrulloidea, whose finely divided foliage simulates that of A. aconitifolia. In gardens these plants are known generally as A. heterophylla. One is often asked how to distinguish between Vitis, Ampelopsis and Parthenocissus. Now all true Vitis have fibrous, shredding bark, whereas the other two have a firm compact bark that does not shred. The Ampelopsis climb by means of tendrils which have no discs at the tip, whereas in Parthenocissus the tendrils are furnished with adhesive discs. For adhering to walls or buildings it is always Parthenocissus that should be planted.

Tripterygium Regeli is a twining vine native of Korea and Japan, where it often scales to the top of the tallest trees. Of more than ordinary interest and beauty, this plant is deciduous and has spotted brown stems, the bark on the old stems exfoliating in layers. The
As a bush, *Tripterygium Regelii*. 
leaves are large, broadly ovate, serrate and shortly acuminate, with reddish petals, bright green and somewhat wrinkled on the upper surface. The flowers are borne in terminal, thyrsoid panicles, each from 8 to 18 inches in length. The individual blossoms are small, multitudinous in number, emit the fragrance of new mown hay, and are speedily followed by white, bladder-like fruits. For its foliage, its flowers or its decorative fruits, this climber is well worthwhile. Planted against a trellis, wall, post or tree, it makes rampant growth and flowers profusely in mid-July. By pruning it can be grown as a bush in the same manner as the Climbing Hydrangea (*Hydrangea petiolaris*) can be fashioned. In bush form both these plants are distinctly pleasing, and the fact that they can be so grown gives them a double value in gardens. *T. Regelii* was introduced into cultivation in 1905, by the Arnold Arboretum, from seeds collected by J. G. Jack, near Seoul, the capital of Korea. The plant has never suffered winter injury nor from attacks of fungus or insect pests. Readily propagated by seeds, cuttings or from suckers, which are freely produced from its roots, there is no reason why this plant should remain rare in American gardens, where for those in the colder parts it can be thoroughly recommended.

*Spiraea virginiana*, native of Virginia, North Carolina and Tennessee, is a comparatively newly discovered species, introduced into cultivation in 1907. It is a slender stemmed shrub, growing about 4 feet high, with arching branches furnished with oblong leaves, entire or with a few teeth near the apex, dull dark green above, pale below, and broad, rounded, cymose clusters of white flowers. Flowering in July it is a useful addition to gardens. In may be seen in bloom in the Shrub Garden.

**Late Spiraeas.** Among the showy shrubs at this season of the year are various Spiraeas with pink to crimson colored flowers, many of which are of hybrid origin. An old favorite is *S. bumalda* "Anthony Waterer," a low growing shrub with abundant, yard high, erect stems, each terminating in a broad flattened cluster of bright crimson flowers. Another hybrid, with pleasing pink blossoms, is *S. Margaretae*. To obtain the best results from these and their kindred the plants should be cut to the ground each spring. A group with spicate panicled masses of pink or white blossoms terminating the shoots is represented by *S. tomentosa*, the Hardhack, so abundant in moorlands of New England, the St. Lawrence Valley and elsewhere. Distinguished by the gray or yellowish gray under the surface of its leaves, this plant has little garden value. More beautiful are the western species *S. Menziesii* and *S. Dougalssii*, both with flowers of pleasing shades of pink. The white or pinkish blossomed *S. latifolia*, *S. alba*, and the Old World *S. salicifolia* also bloom at this season of the year and may be seen in the Shrub Garden.

E. H. W.