

kernel lies in a roomy cavity surrounded only by the pulp. The climate of North America appears to be singularly favourable for the production of new and good varieties; Downing describes no less than forty, of which seven of first-rate quality have been recently introduced into England.<sup>75</sup> Varieties occasionally arise having an innate adaptation for certain soils, almost as strongly pronounced as with natural species growing on the most distinct geological formations; thus in America the imperial gage, differently from almost all other kinds, "is peculiarly fitted for *dry light* soils where many sorts drop their fruit," whereas on rich heavy soils the fruit is often insipid.<sup>76</sup> My father could never succeed in making the Wine-Sour yield even a moderate crop in a sandy orchard near Shrewsbury, whilst in some parts of the same county and in its native Yorkshire it bears abundantly: one of my relations also repeatedly tried in vain to grow this variety in a sandy district in Staffordshire.

Mr. Rivers has given<sup>77</sup> a number of interesting facts, showing how truly many varieties can be propagated by seed. He sowed the stones of twenty bushels of the greengage for the sake of raising stocks, and closely observed the seedlings; all had the smooth shoots, the prominent buds, and the glossy leaves of the greengage, but the greater number had smaller leaves and thorns." There are two kinds of damson, one the Shropshire with downy shoots, and the other the Kentish with smooth shoots, and these differ but slightly in any other respect: Mr. Rivers sowed some bushels of the Kentish damson, and all the seedlings had smooth shoots, but in some the fruit was oval, in others round or roundish, and in a few the fruit was small, and, except in being sweet, closely resembled that of the wild sloe. Mr. Rivers gives several other striking instances of inheritance: thus, he raised eighty thousand seedlings from the common German Quetsche plum, and "not one could be found varying in the least, in foliage or habit." Similar facts were observed with the Petite Mirabelle plum, yet this latter kind (as well as the Quetsche) is known to have yielded some well-established varieties; but, as Mr. Rivers remarks, they all belong to the same group with the Mirabelle.

*Cherries* (*Prunus cerasus*, *avium*, &c.).—Botanists believe that our cultivated cherries are descended from one, two, four, or even more wild stocks.<sup>78</sup> That there must be at least two parent species we may infer from the sterility of twenty hybrids raised by Mr. Knight from the morello fertilized by pollen of the Elton cherry; for these hybrids produced in all only five cherries, and one alone of these

<sup>75</sup> 'Gardener's Chronicle,' 1855, p. 726.

<sup>76</sup> Downing's 'Fruit Trees,' p. 278.

<sup>77</sup> 'Gardener's Chronicle,' 1863, p. 27. Sageret, in his 'Pomologie Phys.,' p. 346, enumerates five kinds which can be propagated in France by seed:

see also Downing's 'Fruit Trees of America,' p. 305, 312, &c.

<sup>78</sup> Compare Alph. De Candolle, 'Geograph. Bot.,' p. 877; Bentham and Targioni-Tozzetti, in 'Hort. Journal,' vol. ix. p. 163; Godron, 'De l'Espèce,' tom. ii. p. 92.