

to render it probable that a pendulous habit would in all cases be strictly inherited. But let us look to the other side. Mr. MacNab⁴² sowed seeds of the weeping beech (*Fagus sylvatica*), but succeeded in raising only common beeches. Mr. Rivers, at my request, raised a number of seedlings from three distinct varieties of weeping elm; and at least one of the parent-trees was so situated that it could not have been crossed by any other elm; but none of the young trees, now about a foot or two in height, show the least signs of weeping. Mr. Rivers formerly sowed above twenty thousand seeds of the weeping ash (*Fraxinus excelsior*), and not a single seedling was in the least degree pendulous: in Germany, M. Borchmeyer raised a thousand seedlings, with the same result. Nevertheless, Mr. Anderson, of the Chelsea Botanic Garden, by sowing seed from a weeping ash, which was found before the year 1780, in Cambridgeshire, raised several pendulous trees.⁴³ Professor Henslow also informs me that some seedlings from a female weeping ash in the Botanic Garden at Cambridge were at first a little pendulous, but afterwards became quite upright: it is probable that this latter tree, which transmits to a certain extent its pendulous habit, was derived by a bud from the same original Cambridgeshire stock; whilst other weeping ashes may have had a distinct origin. But the crowning case, communicated to me by Mr. Rivers, which shows how capricious is the inheritance of a pendulous habit, is that a variety of another species of ash (*F. lentiscifolia*), now about twenty years old, which was formerly pendulous, "has long lost this habit, every shoot being remarkably erect; but seedlings formerly raised from "it were perfectly prostrate, the stems not rising more than two "inches above the ground." Thus the weeping variety of the common ash, which has been extensively propagated by buds during a long period, did not with Mr. Rivers, transmit its character to one seedling out of above twenty thousand; whereas the weeping variety of a second species of ash, which could not, whilst grown in the same garden, retain its own weeping character, transmitted to its character the pendulous habit in excess!

Many analogous facts could be given, showing how apparently capricious is the principle of inheritance. All the seedlings from a variety of the Barberry (*B. vulgaris*) with red leaves inherited the same character; only about one-third of the seedlings of the copper Beech (*Fagus sylvatica*) had purple leaves. Not one out of a hundred seedlings of a variety of the *Cerasus padus*, with yellow fruit, bore yellow fruit: one-twelfth of the seedlings of the variety of *Cornus mascula*, with yellow fruit, came true:⁴⁴ and lastly, all the trees raised by my father from a yellow-berried holly (*Ilex aquifolium*), found wild,

⁴² Verlot, op. cit., p. 93.

⁴³ For these several statements, see Loudon's 'Gard. Magazine, vol. x. 1834, pp. 408, 180; and vol. ix.,

1833, p. 597.

⁴⁴ These statements are taken from Alph. De Candolle, 'Bot. Géograph., p. 1083.