

gave up the attempt as too difficult for any one except a professed botanist. Most of the varieties present such inconstant characters, that when grown in poor soil, or when flowering out of their proper season, they produced differently coloured and much smaller flowers. Cultivators speak of this or that kind as being remarkably constant or true; but by this they do not mean, as in other cases, that the kind transmits its character by seed, but that the individual plant does not change much under culture. The principle of inheritance, however, does hold good to a certain extent even with the fleeting varieties of the Heartsease, for to gain good sorts it is indispensable to sow the seed of good sorts. Nevertheless, in almost every large seed-bed a few almost wild seedlings reappear through reversion. On comparing the choicest varieties with the nearest allied wild forms, besides the difference in the size, outline, and colour of the flowers, the leaves sometimes differ in shape, as does the calyx occasionally in the length and breadth of the sepals. The differences in the form of the nectary more especially deserve notice; because characters derived from this organ have been much used in the discrimination of most of the species of *Viola*. In a large number of flowers compared in 1842 I found that in the greater number the nectary was straight; in others the extremity was a little turned upwards, or downwards, or inwards, so as to be completely hooked; in others, instead of being hooked, it was first turned rectangularly downwards, and then backwards and upwards; in others, the extremity was considerably enlarged; and lastly, in some the basal part was depressed, becoming, as usual, laterally compressed towards the extremity. In a large number of flowers, on the other hand, examined by me in 1856 from a nursery-garden in a different part of England, the nectary hardly varied at all. Now M. Gay says that in certain districts, especially in Auvergne, the nectary of the wild *V. grandiflora* varies in the manner just described. Must we conclude from this that the cultivated varieties first mentioned were all descended from *V. grandiflora*, and that the second lot, though having the same general appearance, were descended from *V. tricolor*, of which the nectary, according to M. Gay, is subject to little variation? Or is it not more probable that both these wild forms would be found under other conditions to vary in the same manner and degree, thus showing that they ought not to be ranked as specifically distinct?

The *Dahlia* has been referred to by almost every author who has written on the variation of plants, because it is believed that all the varieties are descended from a single species, and because all have arisen since 1802 in France, and since 1804 in England.¹⁸⁸ Mr. Sabine remarks that "it seems as if some period of cultivation had been required before the fixed qualities of the native plant gave

¹⁸⁸ Salisbury, in 'Transact. Hort. Soc.,' vol. i. 1812, pp. 84, 92. A semi-double variety was produced in Madrid in 1790.