

peculiarities. But we should bear in mind that in all the varieties of the potato, the tubers differ much more than any other part.

The potato affords the best evidence of the possibility of the formation of graft-hybrids, but we must not overlook the account given of the origin of the famous *Cytisus adami* by M. Adam, who had no conceivable motive for deception, and the exactly parallel account of the origin of the Bizzarria orange, namely by graft-hybridisation. Nor must the cases be undervalued in which different varieties or species of vines, hyacinths and roses, have been grafted together, and have yielded intermediate forms. It is evident that graft-hybrids can be made much more easily with some plants, as the potato, than with others, for instance our common fruit trees; for these latter have been grafted by the million during many centuries, and though the graft is often slightly affected, it is very doubtful whether this may not be accounted for, merely by a more or less free supply of nutriment. Nevertheless, the cases above given seem to me to prove that under certain unknown conditions graft-hybridisation can be effected.

Herr Magnus asserts with much truth that graft-hybrids resemble in all respects seminal hybrids, including their great diversity of character. There is, however, a partial exception, inasmuch as the characters of the two parent forms are not often homogeneously blended together in graft-hybrids. They much more commonly appear in a segregated condition,—that is, in segments either at first, or subsequently through reversion. It would seem that the reproductive elements are not so completely blended by grafting as by sexual generation. But segregation of this kind occurs by no means rarely, as will be immediately shown, in seminal hybrids. Finally it must, I think, be admitted that we learn from the foregoing cases a highly important physiological fact, namely, that the elements that go to the production of a new being, are not necessarily formed by the male and female organs. They are present in the cellular tissue in such a state that they can unite without the aid of the sexual organs, and thus give rise to a new bud partaking of the characters of the two parent-forms.