are the parents, now all commingled together, of the various cultivated kinds. In the same manner as we have often seen with domesticated animals, the supposed multiple origin of the cabbage throws no light on the characteristic differences between the cultivated forms. If our cabbages are the descendants of three or four distinct species, every trace of any sterility which may originally have existed between them is now lost, for none of the varieties can be kept distinct without scrupulous care to prevent intercrossing.

The other cultivated forms of the genus Brassica are descended, according to the view adopted by Godron and Metzger,[75] from two species, *B. napus* and *rapa*; but according to other botanists from three species; whilst others again strongly suspect that all these forms, both wild and cultivated, ought to be ranked as a single species. *Brassica napus* has given rise to two large groups, namely, Swedish turnips (believed to be of hybrid origin)[76] and Colzas, the seeds of which yield oil. *Brassica rapa* (of Koch) has also given rise to two races, namely, common turnips and the oil-giving rape. The evidence is unusually clear that these latter plants, though so different in external appearance, belong to the same species; for the turnip has been observed by Koch and Godron to lose its thick roots in uncultivated soil; and when rape and turnips are sown together they cross to such a degree that scarcely a single plant comes true.[77] Metzger by culture converted the biennial or winter rape into the annual or summer rape,—varieties which have been thought by some authors to be specifically distinct.[78]

In the production of large, fleshy, turnip-like stems, we have a case of analogous variation in three forms which are generally considered as distinct species. But scarcely any modification seems so easily acquired as a succulent enlargement of the stem or root—that is, a store of nutriment laid up for the plant's own future use. We see this in our radishes, beet, and in the less generally known "turnip-rooted" celery, and in the finocchio, or Italian variety of the common fennel. Mr. Buckman has lately proved by his interesting experiments how quickly the roots of the wild parsnip can be enlarged, as Vilmorin formerly proved in the case of the carrot.[79]

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[75] Godron, 'De l'Espèce,' tom. ii. p. 54; Metzger, 'Kohlarten,' s. 10.

[76] 'Gardener's Chron. and Agricult. Gazette,' 1856, p. 729. *See*, more especially, ibid., 1868, p. 275: the writer asserts that he planted a variety of cabbage (*B. oleracea*) close to turnips (*B. rapa*) and raised from the crossed seedlings true Swedish turnips. These latter plants ought, therefore, to be classed with cabbages or turnips, and not under *B. napus*.

[77] 'Gardener's Chron. and Agricult. Gazette,' 1855, p. 730.

[78] Metzger, 'Kohlarten,' s. 51.

[79] These experiments by Vilmorin have been quoted by many writers. An eminent botanist, Prof. Decaisne, has lately expressed doubts on the subject from his own negative results, but these cannot be valued equally with positive results. On the other hand, M. Carrière has lately stated ('Gard. Chronicle,' 1865, p. 1154),