This latter plant, in its cultivated state, differs in scarcely any character from the wild English carrot, except in general luxuriance and in the size and quality of its roots; but ten varieties, differing in the colour, shape, and quality of the root, are cultivated in England and come true by seed.[80] Hence with the carrot, as in so many other cases, for instance with the numerous varieties and sub-varieties of the radish, that part of the plant which is valued by man, falsely appears alone to have varied. The truth is that variations in this part alone have been selected; and the seedlings inheriting a tendency to vary in the same way, analogous modifications have been again and again selected, until at last a great amount of change has been effected.

With respect to the radish, M. Carrière, by sowing the seed of the wild *Raphanus raphanistrum* in rich soil, and by continued selection during several generations, raised many varieties, closely like the cultivated radish (*R. sativus*) in their roots, as well as the wonderful Chinese variety, *R. caudatus:* (see 'Journal d'Agriculture pratique,' t. i., 1869, p. 159; also a separate essay, 'Origine des Plants Domestiques,' 1869.) *Raphanus raphanistrum* and *sativus* have often been ranked as distinct species, and owing to differences in their fruit even as distinct genera; but Professor Hoffman ('Bot. Zeitung,' 1872, p. 482) has now shown that these differences, remarkable as they are, graduate away, the fruit of *R. caudatus* being intermediate. By cultivating *R. raphanistrum* during several generations (ibid., 1873, p. 9), Professor Hoffman also obtained plants bearing fruits like those of *R. sativus.*

Pea (*Pisum sativum*).—Most botanists look at the garden-pea as specifically distinct from the field-pea (*P. arvense*). The latter exists in a wild state in Southern Europe; but the aboriginal parent of the garden-pea has been found by one collector alone, as he states, in the Crimea.[81] Andrew Knight crossed, as I am informed by the Rev. A. Fitch, the field-pea with a well-known garden variety, the Prussian pea, and the cross seems to have been perfectly fertile. Dr. Alefeld has recently studied[82] the genus with care, and, after having cultivated about fifty varieties, concludes that certainly they all belong to the same species. It is an interesting fact already alluded to, that, according to O. Heer,[83] the peas found in the lake-habitations of Switzerland of the Stone and Bronze ages, belong to an extinct variety, with exceedingly small

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that he took seed from a wild carrot, growing far from any cultivated land, and even in the first generation the roots of his seedlings differed in being spindle-shaped, longer, softer, and less fibrous than those of the wild plant. From these seedlings he raised several distinct varieties.

[80] Loudon's 'Encyclop. of Gardening,' p. 835.

[81] Alph. De Candolle, 'Géograph. Bot.,' 960. Mr. Bentham ('Hort. Journal,' vol. ix. (1855), p. 141) believes that garden and field peas belong to the same species, and in this respect he differs from Dr. Targioni.

[82] 'Botanische Zeitung,' 1860, s. 204.

[83] 'Die Pflanzen der Pfahlbauten, 1866, s. 23.