

or biennials, which therefore are capable of rapid propagation, and thus of improvement. Sea-kale, asparagus, common and Jerusalem artichokes, potatoes, and onions, must be excepted, as they are perennials: but onions are propagated like annuals, and of the other plants just specified, none, with the exception of the potato, have yielded in this country more than one or two varieties. In the Mediterranean region, where artichokes are often raised from seed, there are several kinds, as I hear from Mr. Bentham. No doubt fruit-trees, which cannot be propagated quickly by seed, have yielded a host of varieties, though not permanent races; but these, judging from pre-historic remains, have been produced at a comparatively late period.

A species may be highly variable, but distinct races will not be formed, if from any cause selection be not applied. It would be difficult to select slight variations in fishes from their place of habitation; and though the carp is extremely variable and is much attended to in Germany, only one well-marked race has been formed, as I hear from Lord A. Russell, namely the *spiegel-carpe*; and this is carefully secluded from the common scaly kind. On the other hand, a closely allied species, the gold-fish, from being reared in small vessels, and from having been carefully attended to by the Chinese, has yielded many races. Neither the bee, which has been semi-domesticated from an extremely remote period, nor the cochineal insect, which was cultivated by the aboriginal Mexicans,⁴⁸ has yielded races; and it would be impossible to match the queen-bee with any particular drone, and most difficult to match cochineal insects. Silk-moths, on the other hand, have been subjected to rigorous selection, and have produced a host of races. Cats, which from their nocturnal habits cannot be selected for breeding, do not, as formerly remarked, yield distinct races within the same country. Dogs are held in abomination in the East, and their breeding is neglected; consequently, as Prof. Moritz Wagner⁴⁹ remarks, one kind alone exists there. The ass in England varies much in

⁴⁸ Isidore Geoffroy Saint-Hilaire, 'Hist. Nat. Gen.,' tom. iii. p. 49. 'On the Cochineal Insect,' p. 46.

⁴⁹ 'Die Darwin'sche Theorie und das Migrationsgesetz der Organismen,' 1868, p. 19.