

is one of the most anciently cultivated plants, yet at the present day new and better varieties frequently arise. It may be that an ox will never be produced of larger size and finer proportions, or a racehorse fleetier, than our present animals, or a gooseberry larger than the London variety; but he would be a bold man who would assert that the extreme limit in these respects has been finally attained. With flowers and fruit it has repeatedly been asserted that perfection has been reached, but the standard has soon been excelled. A breed of pigeons may never be produced with a beak shorter than that of the present short-faced tumbler, or with one longer than that of the English carrier, for these birds have weak constitutions and are bad breeders; but shortness and length of beak are the points which have been steadily improved during the last 150 years, and some of the best judges deny that the goal has yet been reached. From reasons which could be assigned, it is probable that parts which have now reached their maximum development, might, after remaining constant during a long period, vary again in the direction of increase under new conditions of life. But there must be, as Mr. Wallace has remarked with much truth,³ a limit to change in certain directions both with natural and domestic productions; for instance, there must be a limit to the fleetness of any terrestrial animal, as this will be determined by the friction to be overcome, the weight to be carried, and the power of contraction in the muscular fibres. The English racehorse may have reached this limit; but it already surpasses in fleetness its own wild progenitor and all other equine species. The short-faced tumbler-pigeon has a beak shorter, and the carrier a beak longer, relatively to the size of their bodies, than that of any natural species of the family. Our apples, pears and gooseberries bear larger fruit than those of any natural species of the same genera; and so in many other cases.

It is not surprising, seeing the great difference between many domestic breeds, that some few naturalists have concluded that each is descended from a distinct aboriginal stock, more especially as the principle of selection has been ignored,

³ 'The Quarterly Journal of Science,' Oct. 1867, p. 486.