not touching the groued, and being, therefore, quite useless so far as locomotion was concerned. In still older extinct forms the two lateral toes were sufficiently developed to touch the ground, and the foot in these ancient horses became thus truly three-toed.

Some day, doubtless, geologists will be able to point to some still older horse in which the other two missing toes were developed; so that the foot would thus come to exhibit its proper complement of five toes.

With regard to the origin of the numerous varieties of the domestic pig, it seems certain that these may be divided into two great groups, derived from different parent forms. In the one group we have all the ordinary, and especially the older European breeds of pigs, which appear to have undoubtedly descended from the existing Wild Boar. In the other groups are the domesticated breeds of China, Cochin-China, and Siam, which have now been largely introduced into Europe, and have been freely crossed with the ordinary type. The parent-stock of these forms is not known; but it must have differed considerably from the Wild Boar. Both these types of pig seem, curiously enough, to have co-existed in Western Europe in the later portion of the Stone period; since the remains of both have been found in the Lake-dwellings of Switzerland. The pig supplies one of the most admirable instances of the extent to which the organization of an animal may be affected and modified by its being placed under artificial conditions. If we compare some of our domestic pigs, especially those of the most highly cultivated breeds, with the Wild Boar, or even with the gaunt old "Irish Greyhound pig," we find that the head is much shortened, the forehead has become concave, the teeth have become greatly altered in shape and position, and there are numerous other anatomical differences of a less conspicuous nature. The result of these modifications is that it would be quite impossible to recognise the identity which subsists between a prize-pig and a wild boar, if we had not overwhelming evidence to prove that the former is merely the civilised descendant of the latter. When allowed to run wild, the pig reverts more or less completely to its original condition. The males, under the circumstances, resume their tusks, the legs become longer, the body becomes more thickly clothed with hair, and the young are longitudinally banded with light-coloured stripes, like the young of the wild boar.

Our domesticated breeds of cattle appear to have unquestionably descended from several wild species, though the parent-forms have mostly disappeared at the present day. The humped cattle of India and other parts of the East have almost certainly descended from a stock different to that which has given origin to the ordinary humpless oxen. They are known from Egyptian monuments to have been domesticated at an extremely early period, but their wild form is unknown. The chief European varieties of oxen appear to have descended from at least two distinct species. The larger varieties seem to have come down from the great "wild bull" or "Urus," which existed in a wild state in Gaul at the time of Cæsar's invasion. This noble species is not now known to exist except in a very degenerate form in the so-called "wild cattle" of Chillingham, a herd of which is kept by Lord Tankerville. Another herd is similarly preserved by the Duke of Hamilton at Cadzow in Lanarkshire. These Chillingham cattle are white in colour, with a black muzzle, and with black-tipped horns, and though much smaller than the Urus, they are certainly the lineal descendants of the "mountain bull," the "mightiest of all the beasts of chase that roam in woody Caledon." The smaller European breeds of cattle appear to be descended from a now wholly extinct species, the so-called "British short-horn." The gigantic Lithuanian bison or "Aunchs" has often been regarded as the progenitor of some of the European breeds of oxen, but there is no good evidence to support this view. This magnificent animal formerly inhabited Britain and the whole continent of Europe, but it is now unknown except in a single forest in Lithuania, though it abounds still in the great mountain range of the Caucasus.

The origin of the various varieties of of the sheep is more uncertain than is the case with the varieties of oxen. According to Darwin "most authors look on our domestic sheep as descended from several distinct species; but how many still exist is doubtful. Mr. Blyth believes that there are in the whole world fourteen species, one of which—the Corsican 'mouflon'—he concludes to be the parent of the smaller short-tailed breeds, with crescent-shaped horns, such as the old Highland sheep. The larger long-tailed breeds, having horns with a double flexure, such as the Dorsets, Merinos, &c, he believes to be descended from an unknown and extinct species. M. Gervais makes six species of sheep; but concludes that our domestic sheep form a distinct genus, now completely extinct. A German naturalist believes that our sheep descend from ten aboriginally distinct species, of which only one is still living in a wild state! Another ingenious observer, though not a naturalist, with a bold defiance of everything known as geographical distribution, infers that the sheep of Great Britain alone are the descendants of eleven endemic British forms." There is thus great difference of opinion as to the exact origin of the domestic sheep; and zoologists have not even agreed as to whether our varieties of sheep have descended from a single wild form or from several. It has, however, been very generally believed that some, at any rate, of the European sheep are descended from the wild sheep or "mouflon" of Corsica, Candia and Cyprus. It is quite certain that sheep have been domesticated from the very earliest periods in Europe, and it is known that the inhabitants of the Lake-dwellings of Switzerland possessed a domesticated race of sheep, differing in some respects from any known existing breed. Almost every district in Europe has its own breed of sheep, and most Eastern countries possess peculiar varieties. Of the English sheep, the Cheviot, Leicester, Southdown, Black-faced, Welsh Mountain and Wicklow Mountain sheep may be mentioned as amongst the most important. Of the numerous races of the Continent of Europe, the most valuable is the Merino sheep of Spain, distinguished by having wool on the forehead and cheeks, by its large, ponderous, laterally convoluted horns, and by its fine, long, soft wool, arranged in silky-looking spiral ringlets. Owing to the great amount of oily matter secreted by the skin of the Merino sheep, the animal acquires a dirty and dingy appearance; but no breed yields a more valuable wool. Of the Eastern races, none is more remarkable than the fat-tailed sheep, in which the tail is so long and is so loaded with fat, that it is often placed upon a little truck and is thus wheeled about by the living animal. Other varieties are remarkable for having four, or in some cases even eight horns. The only indigenous sheep of North America is the well-known Rocky Mountain sheep or "Big-horn." This undoubtedly constitutes a distinct species, which inhabits the Rocky Mountains from their northern termination in latitude 68° to lat. 40°, and probably still further north. They are unusually fine animals, and the males are distinguished by the enormous size of their horns. The Rocky Mountain sheep has not as yet been domesticated, but there does not appear to be any valid reason why this experiment should not be satisfactorily carried out.

The different races of sheep present well marked constitutional differences, and each race has become adapted to a special kind of pasture and climate. As has been remarked by Mr. Youatt, "in all the different districts of Great Britain, we find various breeds of sheep beautifully adapted to the locality which they occupy. No one knows their origin; they are indigenous to the soil, climate, pasturage, and the locality on which they graze;