

I will conclude this chapter by some remarks on an important subject. With animals such as the giraffe, of which the whole structure is admirably co-ordinated for certain purposes, it has been supposed that all the parts must have been simultaneously modified; and it has been argued that, on the principle of natural selection, this is scarcely possible. But in thus arguing, it has been tacitly assumed that the variations must have been abrupt and great. No doubt, if the neck of a ruminant were suddenly to become greatly elongated, the fore limbs and back would have to be simultaneously strengthened and modified; but it cannot be denied that an animal might have its neck, or head, or tongue, or fore-limbs elongated a very little without any corresponding modification in other parts of the body; and animals thus slightly modified would, during a dearth, have a slight advantage, and be enabled to browse on higher twigs, and thus survive. A few mouthfuls more or less every day would make all the difference between life and death. By the repetition of the same process, and by the occasional intercrossing of the survivors, there would be some progress, slow and fluctuating though it would be, towards the admirably co-ordinated structure of the giraffe. If the short-faced tumbler-pigeon, with its small conical beak, globular head, rounded body, short wings, and small feet—characters which appear all in harmony—had been a natural species, its whole structure would have been viewed as well fitted for its life; but in this case we know that inexperienced breeders are urged to attend to point after point, and not to attempt improving the whole structure at the same time. Look at the greyhound, that perfect image of grace, symmetry, and vigour; no natural species can boast of a more admirably co-ordinated structure, with its tapering head, slim body, deep chest, tucked-up abdomen, rat-like tail, and long muscular limbs, all adapted for extreme fleetness, and for running down weak prey. Now, from what we see of the variability of animals, and from what we know of the method which different men follow in improving their stock—some chiefly attending to one point, others to another point, others again correcting defects by crosses, and so forth—we may feel assured that if we