

patience, and an extremely careful manner of treating the organisms to be bred. In each individual generation, the differences of individuals are perhaps not seen at all by the uninitiated; but by the accumulation of these minute differences during a series of generations, the deviation from the original form becomes in the end very great. It becomes so great that the artificially produced form may in the end differ far more from the original form than do two so-called "good species" in their natural state. The art of breeding has now made such progress, that man can often at discretion produce certain peculiarities in cultivated species of animals and plants. To practised gardeners and farmers, you may give distinct commissions, and say, for example, I wish to have this species of plant with this or that colour, and with this or that shape. Where breeding has reached the perfection which it has attained in England, gardeners and farmers are frequently able to furnish to order the desired result within a definite period, that is, at the end of a number of generations. Sir John Sebright, one of the most experienced English pigeon-breeders, could assert that in three years he would produce any form of feather, but that he required six years to obtain any desired form of the head and beak. In the process of breeding the merino-sheep of Saxony, the animals are three times placed on a table beside one another, and most carefully compared and studied. Only the best sheep with the finest wool are selected, so that in the end, out of a great multitude, there remain only some few animals, but their wool is exquisitely fine, and only these last are used in breeding. We see, therefore, that the causes through which, in artificial breeding, great effects are produced, are unusually simple, and these