

have taken any, a real "stunning," but unfortunately haphazard, consideration of the relative values of the bones, powerful but not sufficient evidence being adduced in favour of him, with a special stroke. Here, however, we touch on the ground allotted to Darwin or Huxley, which would lead us away from our present inquiry. This we may mention in closing the paragraph that provisionally introduced, and the page. No authority of any explicit promise to trace our domestic pigs to more than two parent stocks, the species wild boar and the breed which is wrongly called the Indian, since no wild aboriginal Indian India, the best-known domesticated breeds having been imported from Siam and China. We would refer the reader to portraits, as page 77 of the first volume, of the head of a wild boar, and that of "Golden Days," a pig of the Yorkshire breed, the latter portrait from a photograph. Two animals more than either it would be impossible to describe. Perhaps the public will be inclined to treat plays with more reverence when they are introduced by Mr. Darwin than "the constitution of the skull in the most highly civilized man and a wild boar;" and the newly introduced laws of the skull is common to all pigs which improved up to the same standard. It is a little disappointing, however, to read, a little further on, that this essential change is due partly to man's breeding the pig for certain purposes, namely, for the greatest amount of food and fat! Food, as might have been expected, plays a large part in producing modifications, but most people will probably be surprised to learn that, whilst the length of the intestine in proportion to that of the body in the wild boar is 9 to 1, in common domestic pigs it is 12 to 1, and in the Siam breed as 16 to 1. Many pages are devoted to the consideration of changes effected in our domestic cattle. Mr. Darwin makes a proposed remark whilst dealing with this branch of his subject. The ordinary breeds of Shorthorn or Hereford, Leicester or Southdown, never suppose that they have been derived from common progenitors. The ordinary animal, who knows nothing about breeding, looks to think that they spring from one stock. But the latter is stated to coincide that closely related species found in a state of nature as in spring, refuse to make any such connection. The change in rabbits is particularly curious and interesting. The Hissalpin breed are white, with the exception of the ears, nose, all four feet, and the upper side of the face, which are all brownish black. They were only lately raised as a specifically distinct, and named *Lepus Nivivus*. Their origin is now well known, and Mr. Darwin is able to tell us how they were produced. He also gives some remarkable particulars about the Flemish blue rabbits, which have certainly originated since the year 1620, but which, if these latter had not been known, would have been raised as a distinct species. The morphological variations in rabbits are peculiarly striking. The common statement that only the cranium of the bones which give attachment to muscles vary in shape, and that only parts of slight importance become modified under domestication, is completely upset by the drawings given in the chapter especially devoted to them. As Mr. Darwin says, rarely anybody will pretend that the occipital foramen, or the zygoma, or the third cervical vertebra, is a part of slight importance. Hardly anything can be more certain than that, if the vertebrae of the waist and of the lower back had been found fossil to special paleontologists would have attributed them to different species. Not to name other biological results, domestication has induced the following changes in the rabbit. The third cervical vertebra has assumed characters proper to the fourth; and analogous changes have been noted in the eighth and ninth dorsal vertebrae. The skull has increased in length, and the horizontal orbital bones have become highly variable, and even the position of the condyle of the lower jaw has been modified. But it is in his chapter on pigeons that Mr. Darwin is most interesting. It is impossible to deny that, if the poster, the English carrier, the short-necked English tumbler, and others had been found wild, they would all have been raised as distinct species. Yet the 130 different kinds of pigeons which have been separately raised and which breed true are all descended from the Columba livia, or rock-pigeon.

What do all these facts tend to show? That plasticity of organization, submitted to changed conditions of life, to even one or total change of certain organs, necessarily results in considerable variations. Then the principle of correlation steps in; so that, if one organ be affected, another will suffer change in consequence. Interbreeding, then, aids the progress of modification, and produces characters for domestication.

As long as we have made out our real appreciation of all the successive modifications, we are granted approval regarding that, we have got what we call a new new species. But, supposing that all the birds could be lost, and that we were for the first time writing out the original parent stock, and the very last and furthest derived variation of all, our ideas on the subject would be very different, and free from that projection with which they are now miserably infected. That this comes in nature in the struggle for existence is of the very essence of Mr. Darwin's theory, already defined in the "Origin of Species," and to be dealt upon will more fully in the present volume of which we have spoken. We must not anticipate their contents. We have professed to give the reader some idea of what he will find in these volumes, though we ought to add that he will find much more than what could possibly be even alluded to in this brief notice. We also purposely abstain from stating Mr. Darwin's theory of Progression, introduced at the end of the second volume. Our real object is to draw more and more readers to his works. They will meet everything to interest and nothing whatsoever to shock or disgust. For while we dissent at once about the theory of this most original and conscientious student of nature, it is simply impossible to deny that his inquiry and his results are valuable contributions towards that broader study of the question which the most modern school of philosophers are only now commencing.

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"Worms!" The very word is repulsive; it calls up the hideous, creeping, slow, disgusting creatures which haunt the under-world of our globe, and fill the ordinary mind with images of horror and disgust. A man is thought experimentally fortunate if he retains, like the poet Cowper, from setting his foot upon a worm. "What is the good of them?" most often have been asked, when the parasites larvæ of a spoiled of mould which is found full of these wriggling larvæ. Probably many people incline to believe that they were really created for the express purpose of being food for angels, and it is thought an exceptional proof of strength, when they are thrust on a fork, to remark "that even the worms will turn." To the horror and loathing, moreover, provoked by the ordinary appearance of the earth-worm is added a certain spinal distillate. The springs from the absurd and mistaken idea that the unguine creatures have to do with the decomposition of buried corpses. People hate the obscure animal, popularly said to play under-boards to all folk, although as a matter of fact worms seldom burrow deeper than a few inches, except to go to sleep. Suddenly, however, the gentle creature of genius has shown into the dark region where these despised beings dwell and work. A great sensation, to whose admirable features of inquiry nothing is "creases or creases," has brought out into full light the nature and function of earth-worms, with the touch of proving that there is almost no creature so selfish, mean, or a civilized being, even more than to the humblest object. Dr. Dobson has for many years past closely studied these among other neglected features of our common planet, and now gives us the fruits of his investigations in a little volume bearing the title of "The Earth-Worms and Earth-worms." At the work of his transcendently patient intellects they give breaks over the degraded, writhing, obscure worm. Instead of being mean, or even harmful, it turns out that we could never do without these humble creatures. They, and they alone, in their countless millions, and by their ceaseless labour, have made the globe what it is, fit for agriculture and the residence of man. The bulk of the human or vegetable world of his globe is what it is, fit for agriculture and the residence of man. The bulk of the human or vegetable world of his globe is what it is, fit for agriculture and the residence of man.