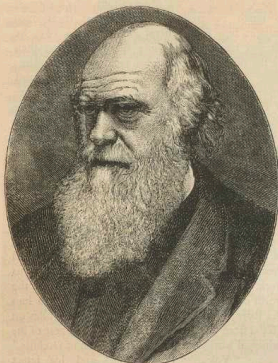


its head, and failed. No wonder that as soon as the land was enclosed it became thickly clothed with young firs. Yet the heath was extremely



CHARLES DARWIN.

barren. . . . Here we see cattle absolutely determine the existence of Scotch firs.' Then, again, there was the curious bit of connected natural history showing how the number of old maids in a village might determine the growth of the heartsease or red clover. If there were many ladies with pet cats there would be few field-mice, with few field-mice there would be more red clover, which requires the bees to fertilise it; 'hence we may infer as highly probable that if the whole genus of humble bees became extinct or very rare in England, the heartsease or red clover would become very rare, or wholly disappear.' Facts like these Mr. Darwin has marshalled by the score, and Sir John Lubbock and others, following his example, are daily extending the record. They seem simple, but they are of the utmost importance, as showing the dependence of one part of the economy of nature on another. In this way a school of biologists has been formed who have explained how animals have acquired their forms and characters; how plants have gained the beauty of their forms, the gorgeoussness of their colours, and the sweetness of their perfumes; and how by continued sexual selection the male in many

species, as the lion or the common fowl, have become strikingly handsome. Whole classes of facts have received explanation which hitherto were enigmas. Mr. Darwin had to meet the objection that the struggle for existence in the animal world seemed insufficient to account for the facts. The following extract shows how he met the argument in the case of the slowest breeding animal:—
 'There is no exception to the rule that every organic being naturally increases at so high a rate that, if not destroyed, the earth would soon be covered by the progeny of a single pair. Even slow-breeding man has doubled in twenty-five years, and, at this rate, in a few thousand years there would literally not be standing-room for his progeny. Linnæus has calculated that if an animal plant produced two, and so on, then in twenty years there would be 1,000,000 plants. The elephant is reckoned to be the slowest breeder of all known animals, and I have taken some pains to estimate its probable minimum rate of natural increase. It will be under the mark to assume that it breeds under thirty years old, and goes on breeding till ninety years old, bringing forth three pairs of young in this interval; if this be so, at the end of



SIR JOHN LUBBOCK.

(From a Photograph by the London Stereoscopic Company.)

the fifth century there would be alive 15,000,000 elephants, descended from the first pair.' Darwin's last communications to the Linnæan Society were