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The Rise of Evolution

Lecture IV Part II.

EVOLUTION BEFORE DARWIN

It would come as a shock to those who imagine that evolution began with Darwin if they were to look into Disraeli's novel *Tancred*, published more than 20 years before Darwin's *Origin of Species* appeared. In this book a fashionable lady speaks as follows: "You know, all is development. The principle is perpetually going on. First, there was nothing, then there was something; then—I forget the next—I think there were shells, then fishes; then we came—let me see—did we come next? Never mind that; we came at last. And at the next change there will be something very superior to us—something with wings. Ah! that's it: we were fishes, and I believe we shall be crows. But you must read it." When her companion replies, "I do not believe I ever was a fish," the lady continues: "Oh! but it is all proved . . . you understand, it is all science; it is not like these books in which one said one thing and another the contrary, and both may be wrong. Everything is proved—by geology, you know."

In having his characters speak in this fashion, Disraeli was reflecting the contemporary great interest in a book called *Vestiges of Creation* that had appeared in 1844. This book presented a thorough-going idea of evolution. It was published anonymously and many guesses were made about its authorship, some even attributing it to Prince Albert, the husband of Queen Victoria. G. M. Young, a prominent English historian, has said: "*The Vestiges of Creation*, was a natural sensation; translated into golden verses by Tennyson, evolution almost became a natural creed." Charles Darwin read the book with great care and made extensive notes in the margin of his copy but Huxley wrote a savage review, in which he strongly attacked many of its statements, using such phrases as "mean view of Nature," "pretentious nonsense" and "foolish fancies." The book did not have much standing among reputable scientists, but in the world of fashion and intellectual dilettanteism it was very influential.

Forty years later the fact came out that the author of the *Vestiges of Creation* was Robert Chambers, a well-known publicist who had spent two years in the study of scientific material in order to write it.

Others at this time, including both scientists and philosophers, also promulgated evolutionary theory. Among

them was Herbert Spencer who in various writings between 1844 and 1850 popularized the idea of evolution. Spencer declared that he saw only two possible alternatives, "the theory of special creation" and "the theory of progressive development." He declared that the first of these was "intrinsically incredible," and that therefore the second must be true.

At this time the force of the evangelical revival of the previous century was largely waning. Comparatively few men, like Herbert Spencer, were ready to attack Christianity directly and forcibly, but many who desired to escape from the Biblical teachings were moving toward the idea of evolution, even though as yet no name with a reputation for clear thinking and solid research could be advanced to promote it.

HOW DARWIN CONCEIVED HIS IDEA OF "NATURAL SELECTION"

Darwin tells us that during a number of years he pondered over the many types of life in the world and wondered how such variety had come into existence. One day in October, 1838, while recovering from an illness, he amused himself by reading a book by Thomas Robert Malthus called *An Essay on Population*. This book had been much discussed since the appearance of its first edition in 1797. Malthus advanced the idea that mankind keeps increasing geometrically while its food supply increases only arithmetically and that therefore wars, pestilence and famine are unavoidable, unless some other means of checking the increase of population should be found.

As Darwin read this book he thought of the great number of animals and plants that are produced and how comparatively few of them manage to survive and in turn to produce offspring. Then it occurred to him that this might be the key to the origin of the many types of plants and animals that exist. Since no offspring is exactly like its parent he assumed that in time a great variety would proceed from any one source. Out of this great variety it would be those most fitted to meet the conditions of their environment or to overcome the attacks of their environment or to overcome the attacks of their natural enemies that would survive and produce further offspring. Thus a gradual change would occur. Darwin thought of this change as being quite unlimited, and therefore able