

THE RIDDLE OF THE UNIVERSE

the relations of *palingenesis* to *cenogenesis* which I have exposed in them has been confirmed subsequently by a number of works of other zoologists. That theory makes it possible to follow nature's law of unity in the innumerable variations of animal embryology; it gives us for their ancestral history a common derivation from a simple primitive stem form.

The far-seeing founder of the theory of descent, Lamarck, clearly recognized in 1809 that it was of universal application; that even man himself, the most highly developed of the mammals, is derived from the same stem as all the other mammals; and that this in its turn belongs to the same older branch of the ancestral tree as the rest of the vertebrates. He had even indicated the agencies by which it might be possible to explain man's descent from the apes as the nearest related mammals. Darwin, who was, naturally, of the same conviction, purposely avoided this least acceptable consequence of his theory in his chief work in 1859, and put it forward for the first time in his *Descent of Man* in 1871. In the mean time (1863) Huxley had very ably discussed this most important consequence of evolution in his famous *Place of Man in Nature*. With the aid of comparative anatomy and ontogeny, and the support of the facts of palæontology, Huxley proved that the "descent of man from the ape" is a necessary consequence of Darwinism, and that no other scientific explanation of the origin of the human race is possible. Of the same opinion was Karl Gegenbaur, the most distinguished representative of comparative anatomy, who lifted his science to a higher level by a consistent and ingenious application of the theory of descent.

As a further consequence of the "pithecoïd theory"