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THE DISCOVERY OF TERTIARY MAN¹

By Dr. HENRY FAIRFIELD OSBORN

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THE discovery of Quaternary man was the central biological achievement of the nineteenth century. For twenty-four centuries the largely speculative idea of a natural rather than a supernatural origin of man had been slowly developing through the observations of zoologists and the dissections of comparative anatomists. From the time of Anaximander (547 B. C.), of Galen (131 A. D.), of Leibnitz (1700), of Buffon (1755), of Goethe (1790), of Erasmus Darwin (1794), of Lamarck (1809), of Chambers (1844), of Leidy (1847-1873) to that of Charles Darwin (1859-1871), one bit of evidence after another was added from comparative anatomy, until in the sixteenth century comparative zoology contributed the strong likeness to man of the anthropoid apes—the chimpanzee and

gorilla of Africa, the gibbon and orang of eastern Asia. The most significant and prophetic observations in comparative anatomy were those of Goethe in the discovery of a separate intermaxillary bone in the upper jaw of man which both he and Leidy rightly interpreted as linking men with the apes and other primates in which the upper jaw is composed of two bones. Up to 1859 the relatively new science of paleontology had contributed nothing, because the female Neanderthal skull of Gibraltar in 1848 and the male Neanderthal calvarium of Germany in 1856 were misinterpreted by Virchow, Huxley and other anatomists.

I emphasize comparative anatomy and zoology, for as regards *direct* evidence our speculative position toward Tertiary man in 1929 is very much the same as Lamarck's and Darwin's speculative position toward Quaternary man between 1809 and 1871, because we are still largely dependent upon the facts afforded by

¹ Address of the retiring president of the American Association for the Advancement of Science, Des Moines, December 27, 1929.

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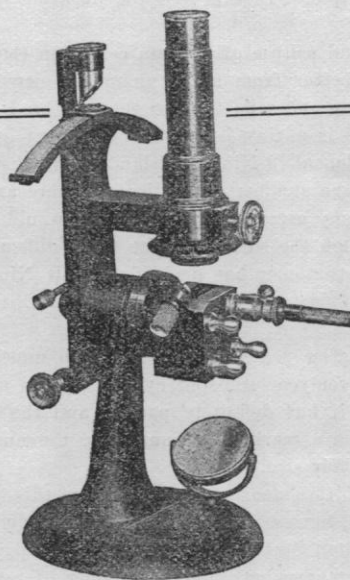
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