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“HOW OLD IS MAN?”

The antiquity of man is discussed in an article recently contributed by Theodore Roosevelt to the *National Geographic Magazine*.¹⁾ The article purports to give a brief summary of that which has been ascertained by anthropological science in answer to the question, “How old is man?” and by reason of the distinguished name of its author has received wide attention. Mr. Roosevelt intends to trace the prehistory of man, “the history of his development from an apelike creature struggling with his fellow-brutes.” He refers to a past geologic age, when “man was slowly developing from the half-human to the wholly human,” “from a strong and cunning brute into a man having dominion over all brutes, and kinship with worlds lying outside and beyond our own,” and intends to summarize “all that has been discovered and soundly determined” since Darwin wrote his *Descent of Man*. Mr. Roosevelt refers with undisguised disdain to those who once “disbelieved in the antiquity of man,” and his article leaves no doubt in the reader’s mind that in the opinion of Mr. Roosevelt this disbelief in the evolutionistic thesis concerning the origin and ancestry of man has been amply proven unfounded by the facts. His assertions are made with a calm emphasis, which cannot fail to impress the unsophisticated reader. We are invited to consider “man as he was up to the end of paleolithic times.” “*The records show that man has lived in France for at least 100,000 years.*”

The illustrations which accompany the article add to the

1) February, 1916: “How Old Is Man?”

impression that the question "How old is man?" may now be answered with the testimony of well-established scientific proof; for have we not here the "Ape-man of Java, a Pre-human Creature, Who Lived Probably 500,000 Years Ago"? Have we not a head reconstructed on the Piltown Skull? Do we not observe the trend towards the human in the reconstructed Neanderthal Man on page 120? Does not a half-tone on page 124 show this same Neanderthal Man chipping a piece of flint into arrow-heads, and the Cro-Magnon Man in the act of drawing a bison on the wall of his cave? The unavoidable impression is conveyed that we are moving along lines well established by scientific research, and that it is no longer "necessary to argue with those who disbelieve the antiquity of man." It is with this latter presumption that we intend to deal in our discussion of Mr. Roosevelt's article. Frankly, *we disbelieve* the antiquity of man, and it is our purpose to show that Mr. Roosevelt has, in his discussion of the question, "How old is man?" introduced no facts which have caused us to waver in our adherence to the record in Genesis, and, furthermore, that the distinguished contributor to the *National Geographic Magazine* has withheld from his readers certain facts, which, if presented, would have materially depressed the interest of the public in his conclusions.

Mr. Roosevelt's article is, in substance, a *resumé* of Mr. Henry F. Osborn's book *Men of the Old Stone Age*, which, in his opinion, sums up the assured results of research, and constitutes the unanimous consensus of scholarship. Is Mr. Roosevelt right in both these assumptions? Only when the question is approached: Whence did these various forms of ape-man originate, and how are they related to one another and to recent man? does the author caution his readers that here Mr. Osborn "states his conclusions as strong probabilities, not certainties." But this closing paragraph of Mr. Roosevelt's article serves the purpose of deepening the impression that all that has been said about the nature and antiquity of the fossil remains in the preceding paragraphs is based upon

the unquestioned and unanimous agreement of scholarship. Again we ask, Is Mr. Roosevelt justified in this initial assumption? The question can best be answered by taking up seriatim the evidence adduced for the evolutionistic view of human origins.

PITHECANTHROPUS ERECTUS.

Pithecanthropus Erectus is the name invented by Haeckel for the "missing link," and given by Dr. Eugene Du Bois, a Dutch physician, to certain remains discovered by him on the island of Java in 1891. The remains consist of "an imperfect cranium, a femur bearing evidence of prolonged disease, and a molar tooth." (Dana, *Manual of Geology*, p. 1036.) The discoverer of these bones asserts that he found them in Pleistocene deposits, and believes that they are the remains of a being between the man-apes and man. Prof. Virchow and other specialists in anatomy examined this find. It was established that the femur was found a year after the cranium. The *Encyclopedia Britannica* (Vol. XXII, p. 336) describes the skull as follows: "The forehead is extremely low, with beetling brow-ridges, and the whole calvarium presents a curiously gibbon-like aspect." Some regard the remains as belonging to a low-grade man or to an idiot. (Dana, *l. c.*) The cubic measurement of the skull is 60 cubic inches, about that of an idiot, that of a normal man being 90 cubic inches and that of an ape 30. These specimens were found in separate places. The skull is too small for the thigh-bone. The age of the strata in which they were found is uncertain. The assumptions on which the claims made for these bones are based are the following: First, that they are as old as claimed, 100,000 years at least, or a million, as stated by some. Secondly, that these bones belong to the same individual. Thirdly, that they are the remains of a full-grown individual. Fourthly, that they are the remains of a human or semihuman being. An authority of the first rank, Prof. Klaatsch, of Heidelberg University, says that the *savants* may be right in inferring from the fragmental Javan remains that they belong either to the

most manlike of apes or the most apelike of men, but that the creature does *not* supply the missing link in a pedigree beginning in a simian and ending in *homo sapiens*.

Upon such a floating foundation of scientific surmise Mr. Roosevelt presumes to build a very substantial structure. He says: After the prehuman days of man, probably branching off from the stem of the anthropoid apes, comes "the famous ape-man of Java, the pithecanthropus, the prehuman creature, — probably, however, only collaterally in our line of ancestry, — who appeared at the dawn of the Pleistocene. This being was already half-way upward from the beast, half-way between true man and those Miocene ancestors of his who were still on the psychic and intellectual level of their diverging kinsfolk, the anthropoid apes. He, or some creature like him, was in our own line of ascent during the uncounted ages when our ancestors were already different from all other brutes, and yet had not grown to be really men. He probably used a stone or club at need; and about this time may have begun very rudely to chip or otherwise fashion stones to his use." All this detail concerning the pithecanthropus from its Miocene "ancestors" to its rudely fashioned tools is purely the product of imagination, starting from three or four broken bones and the evolutionary theory. We have not seen Mr. Osborn's book, upon which Mr. Roosevelt relies for his facts. Possibly it treats the pithecanthropus as an ancestor in the direct line of the descent of man. If it does, the author stands alone among modern scientists, who are substantially agreed with Dr. Klaatsch that the being of which Du Bois discovered the remains is not "probably," but most certainly, outside the direct line of human descent. These bones, then, have no place in a discussion of the question, "How old is man?"²⁾

2) To build upon such slight evidence a theory of human descent is hazardous also in view of the fact that the evidence of bones and other remains is now generally suspected. It has been found that even in the case of recent remains, as in criminal trials, experts are often unable to decide whether they are human or brute, recent or remote, and what part of the frame they occupied.

THE PILTDOWN SKULL.

“After the ape-man of Java,” continues Mr. Roosevelt, “we skip a quarter of a million years or so—according to Mr. Osborn’s conservative figuring—before we get our next glimpse of a near-human predecessor of ours. This is the Heidelberg Man, who lived in the warm second interglacial period, surrounded by a fauna of huge and fearsome beasts, which included the saber-tooth and the hippopotamus, etc. He was a chinless being, whose jaw was still so primitive that it must have made his speech imperfect; and he was so much lower than any existing savage as to be at least specifically distinct, that is, he can be called ‘human’ only if the word is used with a certain largeness. Again we make a long skip, this time of somewhat over a hundred thousand years, and come to the Piltdown Man, or near-man—a being seemingly little more advanced than the man of Heidelberg, and in some ways less so, for he possessed apelike canine teeth.” In a burst of confidence the author then admits that there is room for “considerable difference of opinion” regarding the age of these “very early near-human remains,” and their exact relation to the human race; yet this admission, if anything, deepens the impression that as to the near-human characteristics of all these remains and their significance as evidence of brute ancestorship of man there can be no manner of doubt. What are the facts?

Mr. Roosevelt, on page 119, shows a reproduction of the Piltdown Man, “believed to have lived in England and France 100,000 to 300,000 years ago.” The wide disparity of these estimates of antiquity should in themselves bid one pause before one accepts the very unprepossessing creature depicted here as an ancestor of man. Our faith in this reconstruction is yet more rudely shaken when the testimony of Dr. Arthur Keith, the anatomical expert of the Royal College of Surgeons of England, is heard. It is true that Dr. Smith Woodward and Dr. Charles Dawson, in reconstructing a man from the Piltdown³⁾ skull, built up something essentially monkey-like,

3) Discovered in 1912 on Piltdown Common, near Uckfield, Sussex, England.

with receding forehead, projecting brows, and a gorilla-like lower jaw. Prof. Keith, checking up on this reconstruction, comes to an entirely different conclusion. He finds that the work of Drs. Dawson and Woodward was done in open defiance of all that scientists know about skulls, whether ancient or modern. He writes:—

“That the Piltdown find is the most important discovery of its kind ever made will be freely granted by all who have inquired into man’s ancient history.

“Nothing can detract from the debt which we owe to Charles Dawson and Dr. Smith Woodward on this score. It was natural that they should be influenced by the beliefs of the time. The evidence as regards antiquity of the Piltdown race pointed, in their opinions, to a very early phase of the Pleistocene period. It was the date at which man should still be struggling toward a human form, if the accepted opinion was well founded.

“In the chin region of the lower jaw of the Piltdown skull the discoverers found that the characters were absolutely apelike, absolutely unhuman. The characters of the chin dominated their work when they came to fit the parts of the skull together; so certain were they that they had found a real intermediate stage between ape and man that they abandoned all the precepts of the ordinary anatomist. It was recognized that all the parts of the skull, barring their massive thickness, had the same characters as modern man, only the chin was different. In the skull, eventually reconstructed, representing the form of man’s head in the early Pleistocene, one could recognize a mixture of features, recalling a microcephalic idiot’s skull on the one hand and a chimpanzee’s on the other.

“This hybrid skull was received with open arms by the orthodox anthropologists. They were comforted to know that their beliefs had been well founded, even if their early-Pleistocene ancestors proved to be but half an ape. As for myself, it was necessary to examine again my facts, inferences, and beliefs, and see how they could be fitted to meet the evidence

yielded by Piltdown; for at first I accepted implicitly the skull reconstructed.

“Until Mr. Dawson’s discovery I was certain we had followed the modern man back beyond the middle of the Pleistocene, and on other evidence had postulated that long before the dawn of the Pleistocene period it would be found that man had attained a full-sized brain. There were also the important discoveries of Benjamin Harrison and J. Reid Moir. They had found flints which had been shaped by the hand of man before the middle of the Pliocene period.

“Matters had reached this stage when I returned from a glorious golfing holiday in Cornwall early in the summer of the present year. On my return I found waiting me excellent casts of the various fragments of the Piltdown skull, which had been prepared by F. O. Barlow. Sitting down to mark out these Piltdown fragments on a modern skull in order that visitors to the museum of the Royal College of Surgeons might quickly perceive how they differed from the corresponding parts of modern man, I was surprised to find that the area of the ancient parts was much larger than their modern representatives. I also observed that the squamosal—the bone which forms the side of the skull between the ear and the forehead—was much larger than in modern skulls.

“That was altogether unexpected, as in all ancient skulls, especially skulls of the Neanderthal race, this bone is particularly small. My curiosity was aroused. I soon saw that the parts of the reconstructed Piltdown skull had been apposed in a manner which was in open defiance of all that was known of skulls ancient and modern, human and anthropoid. Articulating the bones in a manner which has been accepted by all anatomists in all times, I found that the brain-chamber, instead of measuring 1,070 cubic cm., as in Dr. Smith Woodward’s reconstruction, measured 1,500 cubic cm.—a large brain-chamber for even modern man.

“Comparing the impressions left by the convolutions of the brain on the Piltdown skull with those on a modern skull,

I found a close correspondence. It was then apparent a very great mistake had been made; the ancient man of Piltdown *had a brain as big as modern man.*"

Until the controversy has been settled by the scientists now at loggerheads over the Piltdown skull, no one should pass off one of the several "reconstructions" of the Piltdown Man with an air of scientific finality, as is done by Mr. Roosevelt in the *National Geographic Magazine*. An honest presentation of the facts would not have ignored the wide divergency in the opinions of Drs. Woodward and Dawson, and Dr. Keith, and the controversy which the disagreement of these leaders has called forth. The statement that there is "room for considerable difference of opinion" as to the age of these specimens and their relation to human ancestry does not touch the matter which concerns us here. The impression is left by Mr. Roosevelt's article that, whatever the age of these fossils, and whatever their relationship to our race, the reconstructions based upon them, — with "primitive jaw," "chinless being," "lower than any existing savage," etc., — are the unquestioned result of scientific research. *They are not.* Until the leading authorities have settled their dispute concerning the appearance of the man of Piltdown, that specimen must be ruled out, even on scientific grounds, as evidence pointing to the descent of man from animal ancestors.

TH. GRAEBNER.

(To be continued.)
