

A MAN APE WHO WALKED ERECT.

PITHECANTHROPUS ERECTUS. (MAN APE WHO WALKED ERECT.)

SCIENCE ITS MISSING LINK

Bones of an Animal Which Was Nearer Man Than Monkey Found in Java.

THE CHIMPANZEE, THE HIGHEST TYPE OF APE.



DUBOIS'S PITHECANTHROPUS ERECTUS. THE APE MAN



A PADUAN NATIVE THE LOWEST TYPE OF MAN.



Mos Valuable Discov- ery, Although Evolution Had Already Been P With It.

DR. EUGENE DUBOIS has discovered the missing link between man and the apes. The discovery was made several years ago, but its importance was not at first recognized. Now Professor Marsh, of Yale, Professor Haeckel, of Berlin, and the world's leading scientists declare that Dr. Dubois has indeed found the link which completes the chain of evolution.

Dubois found a fossil skull, a thigh bone and two molar teeth on the bank of the river Bengawan in Central Java. The brain capacity of the skull is as far below that of the lowest existing man, the Papuan, as it is above that of the highest known ape, the chimpanzee. The teeth also show a mixture of human and ape characteristics. The formation of the skull and thigh bone indicate that the animal walked in an upright position. The animal is not human, yet nearer to man than to the ape.

Professor Marsh declares positively that the remains are those of a creature intermediate between man and the higher apes. Science has, however, already proved its theory of evolution without the aid of this most valuable find.

"IT WAS THE MISSING LINK."

By O. C. Marsh, Professor of Paleontology and Curator of the Peabody Museum at Yale University.

DR. DUBOIS has proved to science the existence of a new prehistoric anthropoid form, not human indeed, but in size, brain power and erect posture, much nearer than any animal hitherto discovered, living or extinct.

Whatever light future researches may throw upon the affinities of this new form that left its remains in the volcanic deposits of Java during later Tertiary time, there can be no doubt that the discovery itself is an event equal in interest to that of the Neanderthal skull.

The man of the Neander valley remained without honor, even in his own country, for more than a quarter of a century, and was still doubted and reviled when his kinsmen, the men of Spy, came to his defence, and a new chapter was added to the early history of the human race.

The ape-man of Java comes to light at a more fortunate time; when the zeal for exploration is so great that the discovery of additional remains may be expected at no distant day. That still other intermediate forms will eventually be brought to light, no one familiar with the subject can doubt.

After careful study of all the Pithecanthropus remains, and of the evidence presented as to the original discovery, the position in which the remains were found and the associated fossils, my own conclusions may be briefly stated as follows:

- 1. The various specimens of Pithecanthropus apparently belonged to one individual.
2. This individual was not human, but represented a form intermediate between man and the higher apes.

an index of 70 degrees. It is distinguished from that of anthropoid apes by its larger size and its higher arching on the crown. The upper surface is also without ridges.

It is easily distinguished from the skull of the orang-outang, which is brachycephalic or broad-headed. In its smooth upper surface and general form it shows a resemblance to the skull of the chimpanzee, and still more so to that of the gibbon.

These are the varieties of apes whose skulls are most human in appearance. Pithecanthropus lacks the enormous bony crests which mark the skull of the gorilla.

Although the skull is not human it is, according to Professor Marsh and Dr. Dubois, nearer to man than the ape, and intermediate between the two.

One of the teeth found is the last right upper molar. It is very human in appearance. It has a triangular surface and three roots. The grinding surface is concave and less rough than in existing apes. The diverging roots are an apelike feature.

The thigh bone, which is from the left side, belonged to a full adult animal. In form and size it resembles a human femur so strongly that only a very scientific examination would distinguish one from the other. The bone is very long, its greatest

gave to his discovery the name of "Pithecanthropus Erectus," meaning "erect man."

In 1895 Dr. Dubois brought his specimen to the Congress of Zoologists, held at Berlin. Among those who saw the fossil his statements were Professor Haeckel, of Germany; Sir William Flower, of England; and Professor O. C. Marsh, of the United States.

These and other scientists, and themselves convinced that the remains of the missing link. Professor Haeckel asserts that they belong to the last division of the tertiary, which preceded the present period. It has hitherto been believed that did not exist as early as the tertiary.

Dr. Dubois asserts that the normal human skulls of the ape have been those discovered by Professor Haeckel in the Neanderthal valley, Germany. They are known as the No. 1, Spy No. 2 and the Neanderthal skulls.

The lowest existing human being known to man is the Papuan, who is allied to the Bushman.

Dr. Dubois's skull is universally recognized as human, but it is about as far from the Papuan skull as that of Pithecanthropus is above the highest ape. The bottom with the chimpanzee.

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THE missing link between man and the ape is found. It was discovered in Java by Dr. Eugene Dubois.

Science had already thoroughly established and proved its doctrine of evolution, as was fully told several two weeks ago. In the Sunday Journal that man is descended from a common parent with the apes. Science knew that somewhere there existed an animal midway between man and the highest type of ape. It has now been found.

This missing link is Pithecanthropus Erectus, the ape-man of Java.

In his now celebrated address made at the Congress of Zoology in Cambridge, Professor Haeckel recently declared that the doctrine of evolution was established. In saying this he expressed not only his own opinion, but that of the leading men of science of the civilized world. He is the most eminent zoologist in Germany. Those who now oppose the doctrine of evolution are an inconsiderable remnant in the community of scientists.

Attention has been attracted chiefly to Professor Haeckel's leading assertion that evolution is fully proved. The public was surprised to find that the entire scientific world had advanced to the point of making this assertion. Evolution, indeed, has made immense strides within a few years.

Professor Haeckel briefly sketched the recent history of the doctrine of evolution. He declared that there was no missing link and spoke of the fossils discovered by various investigators, and finally by Dr. Dubois, as links in the chain.

When Professor Haeckel declared that Dr. Dubois's discovery was the missing link he made a statement even more in-

teresting than that evolution was proved. It has not yet received the attention it deserves.

Dubois brought his discovery to Europe in 1895 and it was received with incredulity or without favorable expressions of opinion. The unscientific public then lost sight of it. Meanwhile it was slowly and

thoroughly studied by men of science until the conclusion was finally reached that it was the missing link.

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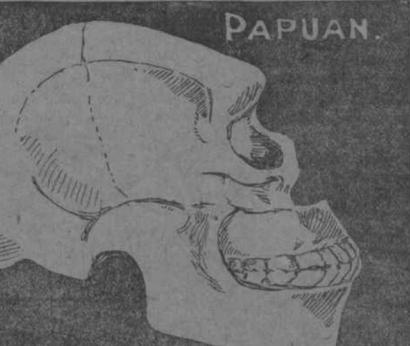
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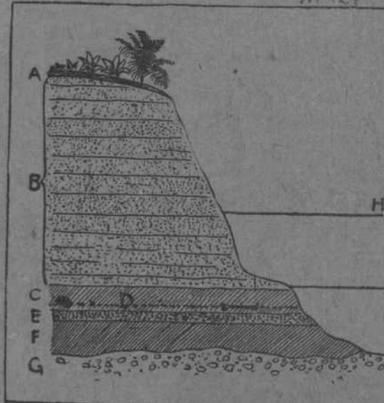
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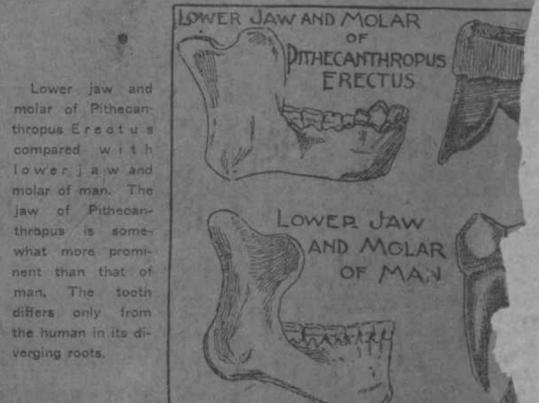
These Skulls Prove that Pithecanthropus Erectus is Nearer the Lowest Man, the Papuan, than the Highest Ape, the Chimpanzee.



Strata near Tor-nil, Java, in which remains were found, showing that they belong to Pliocene period, preceding present geological epoch. A, vegetable soil; B, sand rock; C, bed of lapilli rock; D, level in which the four remains were found; E, conglomerate; F, clay rock; G, marine breccia; H, rainy season level of river; I, dry season level of river.



the river. The tooth was found first in September, 1891, in the left bank of the river, about three feet below the water level in the dry season, and thirty-five or forty feet below the plain in which the river has cut its bed. A month later the skull was discovered, only three feet from the place where the tooth lay. In August, 1892, the femur also was found, about forty-five feet from the locality where the other specimens were imbedded. Later in October of the same year, a second molar was obtained at a distance of not more than nine feet from where the skull was found and in the direction of the place where the femur was dug up a third tooth, a lower premolar has very recently been found. Dr. Dubois, a trained zoologist and physiologist, was quick to perceive that the remains were those of either a man or an ape. Then a question of tremendous importance presented itself to him: Was the animal either a man or an ape, but a link between the two? He measured the skull very carefully. He found that the brain cavity was much larger than in the highest ape, but less than in man. The capacity of the skull was about two-thirds that of the average civilized man. The head is an elongated oval in outline, and therefore belongs to the type known as dolichocephalic or long-headed. It has



Lower jaw and molar of Pithecanthropus Erectus compared with lower jaw and molar of man. The jaw of Pithecanthropus is somewhat more prominent than that of man. The tooth differs only from the human in its diverging roots.