"Missing Link" Skulls Doubted

Evolution

Pithecanthropus, the "man of Java," and Eoanthropus, the "dawn man" of Piltdown, England, are looked upon with doubting eyes by Gerrit S. Miller, Jr., curator of mammals of the U. S. National Museum. In the annual report of the Smithsonian Institution, just off the press, he sums up all the arguments thus far advanced both for and against the recognition of these two extinct species as links between human and simian, and ends by remanding the case pending the discovery of further evidence. This is in direct opposition to the opinions of perhaps a majority of anthropologists, and certainly to the popular impression regarding these fossils which has come to regard them as unquestionably human, though resembling the apes more than modern man does.

After reviewing the fragmentary and scattered nature of the finds, and calling attention to the lack of certain parts that would solve the riddle if they could only be found, Mr. Miller concludes:

"Two facts, if no others, must be admitted to stand out from the maze of opinion which we have been trying to follow—namely, that these fossils have furnished an unparallleled stimulus to investigation, and that the things most needed now are more fossils and many of them. While awaiting these further discoveries we should not hesitate to confess that in place of demonstrable links between man and other mammals we now possess nothing more than some fossils so fragmentary that they are susceptible of being interpreted as such links or as something else."

Mr. Miller emphasizes that this does not imply a rejection of the evolutionary idea in general or as applied to the origin of man.

It merely means that in his opinion the collections of bone fragments under discussion cannot be regarded as certainly having pertained to creatures intermediate between man and some kind of ape.

The Java ape-man, or *Pithecanthropus,* was discovered in a river-gravel deposit at Trinil, Java, by a Dutch physician, Eugene Dubois, in 1891 and 1892. The find consisted of the top of the skull, three teeth and a thigh-bone. All scientists agree on one point and on one point alone. They regard the skull-cap as an entirely unique fossil, quite unlike anything else that has ever been discovered. But when it comes to interpreting this bone and the others associated with it, they disagree violently on no less than fifteen controversial points.

The discovery of *Eoanthropus* dates a couple of decades later than that of the Java ape-man. Like the *Pithecanthropus* remains, these fossils were found in gravel, at Piltdown, England. Search through several seasons turned up a number of scattered bone fragments representing two skulls, with part of the lower jaw and several teeth. Here again there is only one point of full agreement. All scientists are at one in stating that the skull fragments are genuinely human. But again when it comes to interpreting all the fragments found, they disagree on twenty points.

For these reasons Mr. Miller believes that scientists should not try to form definite conclusions from the material now in hand, but should suspend judgment until further search brings in additional fossils, especially of bones still missing.

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In This Issue

For a Place in the Sun

Biology

The futuristic mushroom-like objects pictured on the cover of this week's SCIENCE NEWS-LETTER are not mushrooms at all, but the spore-boring bodies of one species of the lowest of all plants (or is it animals?), the Mycetozoa, as seen through the enlarging lens of Cornelia Clarke's camera.

The mushroom shape seems to be one of the first things a plant "thinks of" as a means for finding a place in the sun, or as in the present instance, a vantage-point in the air whence its spores may be launched. The simplest thing to do is just spread out flat, like a crustose lichen. The next simplest, when there isn't enough flat space left in the world and one must rise up and offer vertical surfaces as well as horizontal, is the sphere or one of its modifications, adopted by puffballs on land and also by no end of sessile marine animals.

Then come stalked structures, especially the stalked cone, adopted by mycetozoa, mushroom, algae and many animals.

There is a limit to the size attainable by a stalk-supported solid, or nearly solid, top. The difficulties of getting sufficient nourishment through the stalk, and of sustaining weight on top of it, keep the size down to a few inches at most. Hence various devices for maintaining the desirable shape while the size increases, serving the triple end of lightening weight, letting in air and increasing total surface. Mushrooms have gills, pores or teeth; vascular plants have branches and leaves. But all of them, up to the lordly *Sequoia gigantea,* repeat over and over again the basic shape-invention of their *n*-th degree ancestor, the slime-mould.

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Moths are active all the year round in buildings where the temperature remains at 70 degrees Fahrenheit or higher.

The silk industry was kept within the borders of China in early times by a rigid restriction against exporting the silkworms or revealing the secrets of making silk.

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