

# Ethiopia yields oldest human fossils

When—and where—was the beginning, the cradle of early man upon the earth? A succession of increasingly ancient discoveries has led some anthropologists to the point of virtually suspending their judgment, as more and more primitive examples of genus *Homo* push farther back the curtain of time. The latest addition to the growing line, announced last week in Ethiopia, shows the grounds for such conservatism, as it promises to extend human lineage as far back as four million years.

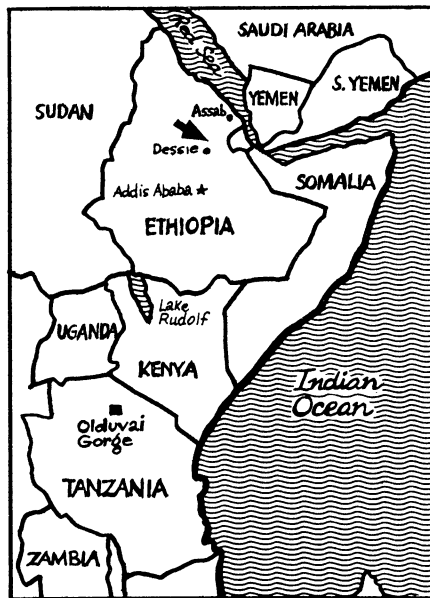
The finds—a complete upper jaw, half of another upper jaw and half a lower jaw, all with teeth—were found on Oct. 17 and 18 by Alemeyu Asfew of the Ethiopian Antiquities Commission, a member of the four-nation Afar Research Expedition. Working with D. Carl Johanson of Case Western Reserve University in Cleveland and Maurice Taieb of the French National Center for Scientific Research, he spotted the bones lying on the surface at a volcanic deposit on the Hadar, a tributary of the Awash River between the towns of Dessie and Assab in north-central Ethiopia.

The bones were in a stratigraphic level some 150 feet beneath, and thus probably much older than, a volcanic layer which has been dated (by the potassium-argon method) at from 3.01 to 3.25 million years old.

Further signs come from animal remains also found in the fossil-rich Hadar region, which is a virtual paleontologist's paradise. The Afar paleontologists have compared some of these animal fossils with well-dated samples from other sites in the East African Rift Valley System, and believe the Hadar animal samples to be at least four million years old. Because some of the animal samples were found in the same stratum as the man-like fossils, the researchers believe them to be of similar ages.

If substantiated, the Hadar find could indeed extend knowledge of man's origins back to previously unsuspected depths of the past. The small size of the teeth in the jawbones, hypothesizes Johanson, may well mean that genus *Homo* was "walking, eating meat and probably using tools, perhaps bones, to kill animals" as much as four million years ago. There is even the possibility, Johanson says, that he had "some kind of social cooperation and some sort of

## Discovery said to move human origins back to four million years ago



Fossil find in north-central Ethiopia.

communication system."

The portent of the new discovery for anthropology is immense, although likely to be controversial. While speaking in terms such as "unparalleled," "exciting," and "a major revolution in all previous thinking," Johanson and his colleagues acknowledge that the bones may be "perhaps the most provocative human fossils ever discovered on the African continent. . . . It is certain," they admit, "that anthropologists from all over the world will meet these discoveries with extreme controversy and amazement."

Controversy is nothing new to anthropology, even without hoaxes such as the fabricated "Piltdown man." Remains from Olduvai Gorge in Tanzania and Lake Rudolf in Kenya, found by Louis S. B. Leakey and his son Richard, were dated by the Leakeys at from 2 to 2.6 million years, and the older dating is still the object of heated dispute, as is the question of whether the fossils are indeed those of genus *Homo*, thought of as the "true man," or of genus *Australopithecus*, a "near man."

Late last year, Johanson discovered some man-like, three-million-year-old

bones, but determined that they belonged to *Australopithecus*. Nonetheless, the similarities between *Australopithecus* and *Homo* are enough that Johanson called his find "absolute, concrete evidence that our ancestors walked on two legs over three million years ago" (SN: 2/16/74, p. 103).

That find, which was in the Awash valley region that includes the Hadar rather than in the lower part of the Rift where the Leakeys' major discoveries were made, further supports a possibility advocated already by Richard Leakey. If *Australopithecus* lived in the same region occupied a million years before by the more highly evolved genus *Homo*, suggest Johanson and his Afar colleagues, it seems likely that the "true man" and the "near man" lived in the area at the same time.

Even so, the latest find is exciting enough on its own. "These specimens," the researchers maintain, "clearly exhibit traits which must be considered as indicative of the genus *Homo*. Taken together they represent the most complete remains of this genus from anywhere in the world at a very ancient time. All previous theories of the origin of the lineage which lead to modern man must now be totally revised. We must throw out many existing theories and consider the possibility that man's origins go back to well over four million years."

The researchers have, however, suggested one possibility that will almost certainly add controversy to an already controversial field. The part of the Awash valley where the finds were made is little more than 100 miles from the Red Sea and a near land bridge to the Middle East. A backwards chronology, from Louis Leakey's two-million-year-old find in Tanzania to his son's 2.6-million-year-old find northward in Kenya to the latest three- and four-million-year-old fossils all the way up in Ethiopia, suggest to the Afar team what they admit is a "revolutionary postulate." The cradle of humanity, they hypothesize (in the most tentative terms), may, in fact, be on the other side of that bridge, in the Middle East. Richard Leakey and others (doubtless including many of the Afar researchers) believe man's origins to lie in Africa. But the other possibility—and a revolutionary one it would certainly be—is there. □