

# Fossil Find Fleshes Out Early Human

The record of early human evolution has, for the most part, been pieced together from fossilized fragments and partial skeletons that provide tantalizing but sketchy views of our ancient forerunners. Scientists now report, however, that the most complete skeleton of an early human ancestor ever found has been discovered in Kenya.

"The volume of information we will be able to gather from this skeleton will be quite extraordinary," says Richard Leakey, director of the National Museums of Kenya and one of the discoverers of the remains. Leakey announced the find last week in Nairobi; at the same time, Johns Hopkins University anatomist Alan Walker described it at the National Geographic Society in Washington, D.C., which funded the work along with the National Museums of Kenya.

The bones are those of a surprisingly large young male of the *Homo erectus* species who died about 1.6 million years ago. Walker estimates that the boy was about 12 years old and 5 feet 6 inches tall. As an adult, he might have reached a height of 6 feet, Walker says.

"We used to think of *Homo erectus* as rather puny and fragile," says Leakey. "This strapping youth suggests that they were better built than we imagined."

Previous specimens are too fragmentary or too badly deteriorated to allow accurate estimates of the size and growth of *Homo erectus* and other early human-related species, or hominids. The new skeleton is missing only its left arm and hand, lower right arm and most of both feet. The youth is also one of the earliest



Richard Leakey gets close to his work at a fossil site in Kenya as he digs out a bone of a youth who lived 1.6 million years ago.

known members of the *Homo erectus* species, which lived from 1.7 million to 400,000 years ago.

It is not known how the boy died; there is no sign that he suffered from a disease. This makes the skeleton more valuable for study than the only previous *Homo erectus* found with bones from below the neck, since that specimen had a bone disease that made detailed scientific analysis useless.



Reconstructed skull of a young male *Homo erectus*, who died around the age of 12.

The new find was made in August and September by a fossil-hunting team led by Leakey and Walker. The bones were found scattered in a line about 20 feet long on a slope near the western shore of Lake Turkana in northern Kenya. The remains may have washed away from the place where the youth died, says Walker. A search will be made next year for the rest of the bones.

The skeleton rested between two layers of volcanic ash that have been dated at about 1.6 million years old. Walker and Leakey conclude that the bones belong to one person because no two pieces are in the same stage of maturity. The youth's age was estimated on the basis of tooth development; some of the permanent teeth had not yet grown in. The sex was determined from the narrow shape of the pelvis, and the species is characterized by the skull's

high brow ridge.

Detailed analysis of the skeleton must wait until rock and sediment are cleaned from the bones, says Walker.

Nevertheless, he adds, the overall picture appears to confirm *Homo erectus* as a direct ancestor of modern humans. "We'll learn fascinating things about human evolution from this skeleton," notes Walker. "We can now say that we've looked like humans for 1.6 million years."

Even though the youth's skeleton is similar to those of modern humans, Leakey adds that "virtually every piece of bone shows subtle but definite differences between *Homo erectus* and modern man."

—B. Bower

## Rock-filled fossils get a new image

Alan Walker, Richard Leakey and their co-workers now face the arduous task of cleaning rock and hardened sediment off the bones of a 1.6 million-year-old youth (see story above). In some other finds, this solid matter fills delicate fossil skulls and makes cleaning for comprehensive examination impossible — but scientists at Washington University School of Medicine in St. Louis now report that they can see through rock attached to fossils with the help of computer technology.

Glenn C. Conroy and Michael W. Vannier are taking computerized tomography (CT) scans of fossil skulls filled with hardened sediment and other material. They use special computer software to transform the scans into three-dimensional images of the skulls with the rocky filling removed. In this way, any portion of a skull can also be made transparent and precise data can be collected on a fossil's area, volume and shape.

"We've opened up, I think, a whole new world of paleontology," Conroy told SCIENCE NEWS.

In the Oct. 26 SCIENCE, the researchers describe how the technique was used to



Alan Walker with bones of early human ancestor laid out before him.

Photos: National Geographic Soc.