

Finding Lucy: The Leakeys and the Search for Human Origins

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The skeleton of Lucy, discovered in Africa in 1974, is 3.2 million years old. Photo: Alain Nogues/Sygma/CORBIS

Most scientists agree that humans came from Africa. Scientists believe this because fossilized bones and skulls were uncovered there. Ash from volcanoes was found near the bones. By testing the ash, scientists could tell their ages. The bones and skulls are up to 4.4 million years old.

Based on the fossils, scientists found that humans and chimpanzees shared the same line for almost all of our history. Then, about 5 million to 7 million years ago, a new line split off from the chimpanzees. The new group left the rain forest or jungle. They moved to the open savanna. The old group in the rain forest kept evolving. Two of its species still exist: the chimpanzee and the bonobo.

The new group in the savanna evolved over thousands of years. It formed into many species. Finally, only one was left: humans, or *Homo sapiens*. All the species before us (including chimpanzees) are called "hominins."

Try visualizing it like this. Imagine your mother holding hands with her mother, and your grandmother holding hands with her mother. Imagine this chain continuing. Go back in time 5 million years. The final hand would belong to an unknown kind of ape. Scientists sometimes called this ape the "missing link." Its descendants evolved into chimpanzees, bonobos, and, eventually, your mother.

Paleoarchaeologists have to decide which bones belong to separate species. They mostly agree on three species before *Homo sapiens*. The oldest was *Australopithecus*. They lived 2 million to 4 million years ago. *Homo habilis* lived 1.8 million to 2.5 million years ago. The closest to our times was *Homo erectus* who lived 2 million to 4 million years ago. Some of these species lived at the same time.

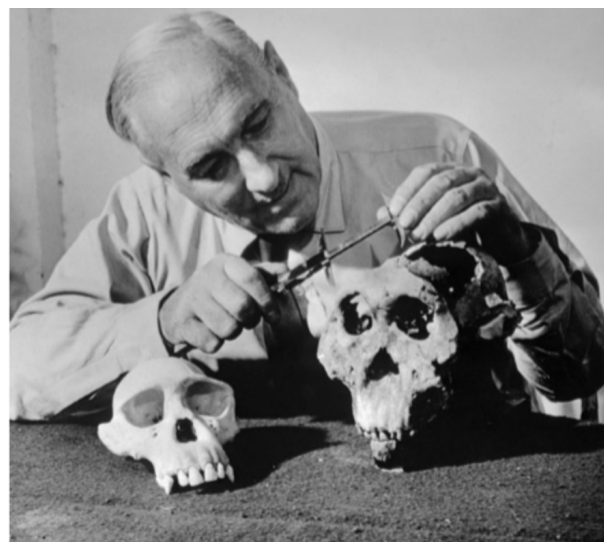
What scientists now know took many years to figure out. The first early human fossil bones were found in Europe. For example, Neanderthal bones were discovered in Germany in 1857.

Most scientists in the early 1900s thought *Homo sapiens* evolved in Europe. Africa was not considered a possibility.

The Leakeys look to Africa

When did anyone start looking in Africa for hominine fossils? In 1913 a *Homo sapiens* skeleton was found in Tanzania. Then, in 1924, a child's skull was found there. But archaeologists did not believe these bones mattered. The first discovery that scientists took seriously was made by Louis and Mary Leakey.

Louis Leakey was born in Kenya. Louis's parents were missionaries from England. Louis spent much of his childhood hunting with the local Kikuyu boys. He spoke the Kikuyu language. As a child, he went through ceremonies with other Kikuyu. At the age of 13, Louis built his own house, as was Kikuyu custom. At 16, he moved to London for college. There he became an archaeologist.



Louis Leakey measures an ancient skull found in Tanzania

Mary grew up in England. Each year her father took the family traveling. He showed Mary archaeological sites in France. She was only 13 when he died. Afterward, her mother sent her to strict Catholic schools in London. Mary rebelled and was kicked out several times. At 17, she took charge of her own education. She learned to fly a glider, and began taking classes in archaeology.

Mary and Louis met in London in 1933. They married in 1936.

Louis chose to study the Great Rift Valley in Africa.

The Great Rift Valley is a huge crack in the African plate. Plates cover the Earth's crust. When they collide, earthquakes and volcanoes can happen.

Mountains and volcanoes line the Great Rift Valley. When the volcanoes erupt, they shoot off ash. As the ash lands, it buries and fossilizes bones. This makes the valley a great spot to find fossils. The fossils remained buried under layers of soil for millions of years. But, as the Earth shifts, the

fossils are moved closer to surface. Then, we can find them.

Life in the field

Life was an adventure for Louis and Mary in the Great Rift Valley. They lived in tents or mud huts. Gas lamps provided light at night. They lived on fish, canned food, rice, and corn meal. Sometimes Louis hunted gazelles for meat. Lions prowled their camps at night.

The Leakeys lived outdoors in some of the most beautiful scenery in the world. Volcanic mountains surrounded them. The Serengeti Plain spread out before them. Rhinos, giraffes, lions, leopards, antelope, and zebra lived on the plains. The couple worked with a dental pick and an artist's brush.



Mary and Louis Leakey examine skull fragments

Louis and Mary found many fossils of extinct animals. But finding human fossils was more difficult. In 1948, Mary discovered a primate skull. They thought it might be the "missing link" connecting apes and humans. It turned out not to be. In 1959, Mary discovered a skull that was 1.75 million years old. The find made the Leakeys famous. In 1960, Louis found the hand and foot bones of a 12-year-old. He named it *Homo habilis*, a new species of hominin.

Finding Lucy

Meanwhile, other scientists were searching for fossil bones in Africa. The next spectacular find took place in the Ethiopian part of the Great Rift Valley. In 1974, Donald Johanson, an archaeologist, found parts of a skeleton that was 3.2 million years old. They were the oldest hominine bones yet discovered. Johanson nicknamed the female skeleton "Lucy."

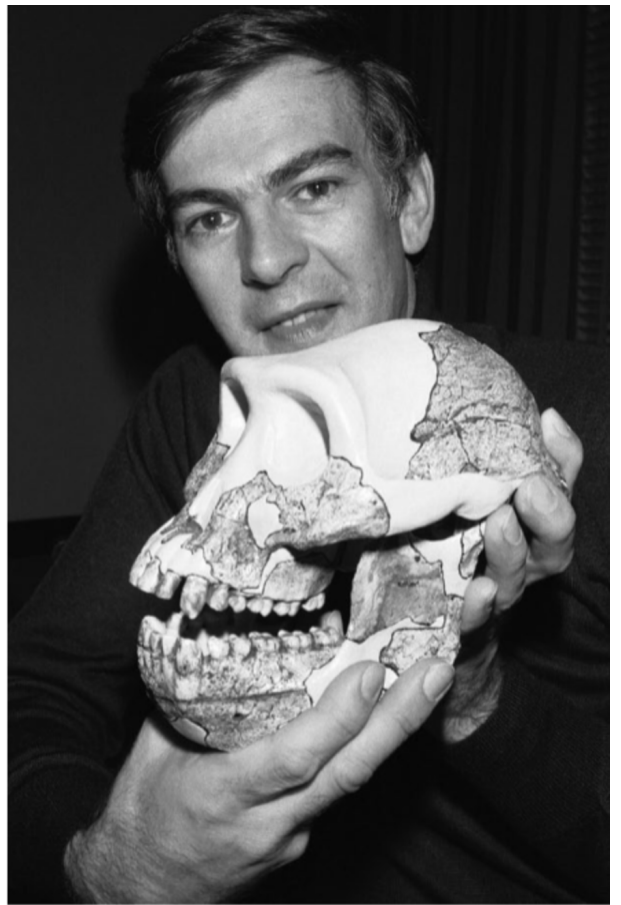
Lucy was just 3 1/2 feet tall. The foot, leg and pelvis bones showed that Lucy walked upright. This was evidence that as humans evolved they began walking upright before their brains grew larger.

The Leakey legacy

Louis died in 1972. In 1976, Mary found an astonishing set of hominine footprints. They had been preserved in volcanic ash. The soil there was up to 3.8 million years old. The discovery added more evidence that hominins of that time walked upright.

Mary died in 1996 at age 84.

Thanks to the work of the Leakeys, there is proof that *Homo sapiens* originated in Africa. It is clear that humans separated from chimpanzees 5 million to 7 million years earlier. Recent genetic testing has confirmed it. At a time when few others could think it, the Leakeys showed that humankind began in Africa.



American archaeologist Donald Johanson holds up a plaster cast of the "Lucy" skull