

Omo-Kibish -- Region in Ethiopia in which ancient bones of modern humans were found.

Sterkfontein -- An area in the Gauteng province of South Africa. Its limestone caves have been a source of fossils since the 1930s.

Things To Think About

- We know today that many branches of the hominid tree died out--they were, as the segment says, offshoot species that failed to find a niche. What characteristics do you think they lacked that would have enabled them to survive? What traits were needed for a species to be successful?
- As the segment illustrates, scientists have to continually revise their theories in order to get closer to the facts. What does the study of human origins tell you about the way in which scientists work? How are they able to take small clues and construct larger theories from them? How does later evidence overturn accepted theories?
- It is considered significant that the evidence shows that the people who lived at the mouth of the Klasies River used red ochre as a coloring material. How is the use of symbols a characteristic that distinguishes modern humans?
- The evidence shows that the human family is much more united than was once believed and that we are all descendants of a small African group. How do you balance this fact with the great diversity we see among the peoples of the world?
- As discussed in the segment, australopithecines had a small brain and large gut, but Homo ergaster developed a large brain and small gut, which was advantageous. What other characteristics of the human anatomy can you think of that have enabled us to succeed and achieve things beyond the abilities of animals?

Internet Resources

<http://www.mnh.si.edu/anthro/humanorigins/> -- From the Smithsonian Institution's Human Origins Program, a rich site entitled "In Search of What Makes Us Human."

<http://www.indiana.edu/~origins/> -- From Indiana University, a site called "Human Origins and Evolution in Africa." Especially good for students.

http://www.wsu.edu:8001/vwsu/gened/learn-modules/top_longfor/lfopen-index.html -- Entitled "The Long Foreground: Human Prehistory," another excellent site for students, this one from Washington State University.

http://www.mc.maricopa.edu/academic/cult_sci/anthro/ -- A very good site on human evolution with excellent pictures.

<http://www.ucmp.berkeley.edu/> -- A vast site with a great deal of information on evolution, anthropology, and related topics. From the Museum of Paleontology at the University of California at Berkeley.

<http://www.paleoanthro.org/> -- The Web site of the Paleoanthropology Society, which includes scholarly papers on the subject.

<http://www.amnh.org/> -- The main page of the Web site of

the American Museum of Natural History, which can be searched for specific information on human evolution. Contains fascinating 3-D depictions of fossil skulls.

<http://www.uea.ac.uk/~x9706887/> -- From the University of East Anglia, a Web site called "Paleoanthropology," with specific pages on Homo ergaster, Australopithecus, and many other hominids.

<http://www.pbs.org/wgbh/aso/databank/entries/boleak.html> -- An interesting page on the Leakey family.

Other Resources

For students:

Craipeau, Jean-Loup. *Searching for Human Origins.* Barron's, 1998.

Saint-Blanquat, Henri de. *Atlas of Human Origins.* Barron's, 1999.

For adults:

Berger, Lee R., and Hilton-Barber, Brett. *In the Footsteps of Eve: The Mystery of Human Origins.* Simon & Schuster, 2000.

Johanson, Donald C. *Lucy: The Beginnings of Humankind.* Touchstone Books, 1990.

Johanson, Donald C. *From Lucy to Language.* Simon & Schuster, 1996.

Leakey, Richard, and Lewin, Donald. *Origins Reconsidered : In Search of What Makes Us Human.* Anchor, 1993.

McKee, Jeffrey Kevin. *The Riddled Chain: Chance, Coincidence, and Chaos in Human Evolution.* Rutgers Univ. Press, 2000.

McKie, Robin. *Dawn of Man: The Story of Human Evolution.* Dorling Kindersley, 2000.

Stringer, Christopher, and McKie, Robin. *African Exodus: The Origins of Modern Humanity.* Henry Holt, 1998.

Tattersall, Ian. *The Fossil Trail: How We Know What We Think We Know About Human Evolution.* Oxford Univ. Press, 1997.

Tattersall, Ian, and Schwartz, Jeffrey. *Extinct Humans.* Westview Press, 2000.

Walker, Alan. *The Wisdom of the Bones: In Search of Human Origins.* Vintage Books, 1997.

THE HUMAN JOURNEY

PART ONE: IN SEARCH OF HUMAN ORIGINS

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THE HUMAN JOURNEY

Where did we come from? When did we begin? Are we all truly members of one family? Humans have long asked themselves these questions, but only recently have they been able to answer them. THE HUMAN JOURNEY explores the origin and evolution of our species and shows how humans spread across the globe. It draws on the breakthroughs recently achieved by anthropologists and shows how they have filled in the fossil record. The series travels the Earth to illustrate how our ancestors lived, died, and laid the basis of civilization.

PART ONE: IN SEARCH OF HUMAN ORIGINS

The belief that human evolution ran in a continuous path from a single primitive apelike creature to modern Homo sapiens is almost certainly wrong. Our lineage is tangled -- more like a tree than a straight line. But while the picture of human evolution grows more complicated as scientists wrest exciting new information from fossil remains, it becomes ever more certain that Africa is the cradle of humanity. This is where our ancestors' journey began. The question is, where did they go next--and why?



After reading about the search for human origins, read the sections on vocabulary and important people and places, and study the timeline to provide a focus while viewing the program. After viewing the program, review the sections listed and consider the Things To Think About. Research topics further using the Internet and other resources provided.

Out of Africa

When the theory of evolution began to be widely accepted in the late 19th century and scientists began to ponder the origins of humankind, one of the most obvious questions to ask was: Where did we come from? Where was our original home? The answer was by no means obvious, and many researchers were of the opinion that Asia was the most likely candidate. But within the last century, anthropologists have discovered enough fossils to conclude that modern humans originated in Africa. The next question was: When? That answer, too, was painstakingly pieced together from the fossil record, and the story begins far back in time, indeed.

Searching for the fossils that reveal the story of human evolution is a difficult process. It takes patience and a willingness to work in harsh conditions. Bones and artifacts have to be dug out of the earth with great care so that they will not be damaged and clues to their age will not be disturbed. In addition, these "digs," especially in Africa, can take place in extreme temperatures. Another factor is probably just as important--luck. Often anthropologists or their assistants will stumble across an important fossil when they least expect it.

In this segment we will meet some of these dauntless fossil hunters, learn about the discoveries they made, and see how they put together some difficult clues in order to fill in the long story of human evolution. We will also meet the extinct creatures that they found, some of which are our own ancestors.

Vocabulary

Acheulian -- The name given to the style of specialized stone tools invented by Homo ergaster. Named after St. Acheul in France, where they were first discovered in the 1830s.

Australopithecine -- An extinct hominid that first appeared some 4.5 million years ago in southern and eastern Africa.

carnivorous -- Feeding on animal tissues.

herbivorous -- Feeding on plants.

hominid -- A primate (including human) that stands erect and walks on two feet.

Homo ergaster -- An extinct hominid species that first appeared in East Africa and then quickly spread into Asia, where it evolved into Homo erectus. Homo sapiens arose in Africa from a population descended from Homo ergaster.

Homo habilis -- An extinct hominid species that lived in Africa between 2 million and 1.5 million years ago. The earliest known member of the genus Homo, which includes modern humans.

Timeline

5.5 million years ago -- The first primates begin to walk on two legs.

3.5 million years ago -- Two males and a female Australopithecine leave the Laetoli footprints, the first record of upright walking.

3.3 million years ago -- Date of the Australopithecus skull found at Sterkfontein.

2 million years ago -- Homo ergaster appears in East Africa. The species soon moves up the Great Rift valley and migrates out of Africa.

1.7 million years ago -- Earliest evidence of Homo ergaster in Java (Indonesia).

1.4 million years ago -- The Australopithecines become extinct.

200,000 years ago -- The Great Ice Age begins to recede.

130,000 years ago -- As the climate turns moister and warmer, Homo sapiens migrates out of Africa. Date of the finds at Omo-Kibish.

1967 -- Richard Leakey unearths "Kibish man," a modern human 130,000 years old, in Ethiopia.

1969 -- Richard Leakey begins exploring Koobi Fora in Kenya.

1974 -- The Australopithecus skeleton known as "Lucy" is discovered in Ethiopia.

1978 -- Mary Leakey finds the Laetoli footprints.

1984 -- Richard Leakey and Alan Walker discover "Turkana boy."

December 1998 -- Ronald Clarke and his assistants discover a complete Australopithecus skull at Sterkfontein in South Africa.

Homo sapiens -- The modern human species.

Ice Ages -- Periods during which the earth's temperature experienced long-lasting cooling.

Khoisan -- An ethnic group living mostly in the Kalahari Desert of Namibia and Botswana that has the most concentrated mix of ancient human genes in the world.

"Lucy" -- The name given to the most complete Australopithecus skeleton yet found. Discovered in Ethiopia in 1974 by Donald C. Johanson.

ochre -- An iron ore pigment that's usually red or yellow. Its use by early peoples indicates a life structured by the use of symbols.

paleomagnetic dating -- A method of dating fossils that uses the residual magnetism found in ancient rocks or clay objects, such as pots. These materials retain the patterns that existed in the Earth's magnetic fields at the time of their formation.

primates -- The order of animals that includes humans, apes, monkeys, and related forms such as lemurs.

"Turkana boy" -- The name given to the most complete Homo ergaster skeleton ever found.

Important People

Clarke, Ronald -- South African anthropologist who discovered Australopithecus remains at Sterkfontein.

Deacon, Hilary -- Anthropologist who studied early modern human remains found at the mouth of the Klasies River in South Africa.

Leakey -- A well-known family of anthropologists who found important fossil records in East Africa. Louis Leakey began hunting for fossils in the 1920's. His wife Mary, whom he married in 1933, joined in his quest. Their son Richard and his wife Meave continued the family tradition and also made valuable discoveries.

Walker, Alan -- British anthropologist who, with Richard Leakey, discovered "Turkana boy."

Important Places

Bodo -- Site of hominid fossil discoveries in Ethiopia.

Great Rift Valley -- A geological fault system that runs through East Africa from the Red Sea to Mozambique.

Kabwe -- Site of hominid fossil discoveries in Kenya.

Klasies River -- South African river that empties into the ocean at the southern tip of Africa. Excavations there have yielded fossils of early modern humans.

Koobi Fora -- Region in Kenya in which Richard Leakey discovered the coexistence of two hominid species living simultaneously some 2 million years ago.

Laetoli -- Location in Tanzania where Mary Leakey found the oldest known primate footprints.

Lake Turkana -- A large lake in southwestern Ethiopia and northwestern Kenya. A well-known source of hominid fossils.