

it only appear that way because the materials found in graves were more likely to endure over the centuries?

- One of the anthropologists in the segment says that he considers Neanderthals “more interesting than our modern ancestors,” because they were so like us, yet so different. Do you agree? Suppose that the Neanderthals did not die out, but lived alongside us today as a separate species. What do you think our relationship would be like?
- Do you think that the way in which early paleontologists depicted the Neanderthals was a kind of racism in which they considered their own species vastly superior? Or was it just a mistake caused by inadequate information and erroneous interpretation of the evidence?
- As the segment shows, the largest brain capacity ever recorded belonged not to a human, but to a Neanderthal. If Neanderthals had slightly larger brains than modern humans, how do you account for the fact that modern humans exhibit all the signs of greater intelligence? What can you learn about the different regions of the brain?
- The segment says that modern humans’ “strategic lifestyle” gave them the edge over Neanderthals. This was a lifestyle characterized by restlessness and curiosity. Do you think that such traits are still distinctively human? How can such characteristics both help and harm us?

Internet Resources

- http://www.neanderthal.de/e_thal/fs_1.htm -- Web site of a museum in the Netherlands devoted to Neanderthals.
- <http://www.insticeagestudies.com/index.html> -- Home page of the Institute for Ice Age Studies.
- <http://www.talkorigins.org/faqs/homs/links.html> -- A listing of links relating to a wide range of subjects in paleoanthropology.
- <http://www.talkorigins.org/faqs/homs/savage.html> -- A fascinating page showing various attempts at depicting Neanderthals.
- <http://www.gibraltar.gi/museum/p74.htm> -- A site devoted to the study of Neanderthal remains found in Gibraltar.
- <http://thunder.indstate.edu/~ramanank/index.html> -- A very useful site entitled “Neanderthals: A Cyber Perspective.”
- <http://www.sciam.com/0997issue/0997scicit4.html> -- An interesting article on the discovery of a Neanderthal bone flute that indicates that the Neanderthals played music.
- <http://www.geocities.com/CapeCanaveral/Launchpad/3917/index.html> -- A useful site entitled “In Search of Neanderthals.”
- <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.wsu.edu:8001/vwsu/gened/learn-modules/top_longfor/lfopen-index.html -- Entitled “The Long Foreground: Human Prehistory,” an excellent site for students. 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.”

Other Resources

For students:

- Craipeau, Jean-Loup.** *Searching for Human Origins.* Barron’s, 1998.
- Cumbaa, Stephen.** *Neanderthal Book and Skeleton.* Workman, 1997.
- Hayward, Linda.** *Cave People.* Putnam and Grossett, 1997.
- Osborne, Mary Pope.** *Sunset of the Sabertooth.* Random House, 1996.
- Saint-Blanquat, Henri De.** *Atlas of Human Origins.* Barron’s, 1999.

For adults:

- Bar-Yosef, Ofer.** *Geography of Neanderthals and Modern Humans in Europe and the Greater Mediterranean.* Peabody Museum of Archaeology & Ethnology, 2000.
- Berger, Lee R., and Hilton-Barber, Brett.** *In the Footsteps of Eve: The Mystery of Human Origins.* Simon & Schuster, 2000.
- Jordan, Paul.** *Neanderthal: Neanderthal Man and the Story of Human Origins.* Sutton Publishing, 2000.
- 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.
- Mellars, Paul.** *The Neanderthal Legacy.* Princeton Univ. Press, 1995.
- Shreeve, James.** *The Neanderthal Enigma: Solving the Mystery of Modern Human Origins.* William Morrow, 1996.
- Stringer, Christopher, and Gamble, Clive.** *In Search of the Neanderthals.* Thames & Hudson, 1995.
- Tattersall, Ian.** *The Fossil Trail: How We Know What We Think We Know About Human Evolution.* Oxford Univ. Press, 1997.
- Tattersall, Ian.** *The Last Neanderthal: The Rise, Success, and Mysterious Extinction of Our Closest Human Relatives.* Westview Press, 1999.
- Tattersall, Ian, and Schwartz, Jeffrey.** *Extinct Humans.* Westview Press, 2000.
- Trinkaus, Erick, ed.** *The Emergence of Modern Humans: Biocultural Adaptations in the Later Pleistocene.* Cambridge Univ. Press, 1990.
- Walker, Alan.** *The Wisdom of the Bones: In Search of Human Origins.* Vintage Books, 1997.
- The novel The Inheritors (1955) by the British Nobel laureate William Golding is an absorbing if fanciful description of the encounter between Neanderthals and early modern humans.*

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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 TWO: THE TALE OF TWO SPECIES

When modern humans journeyed out of Africa, they got a huge surprise. They were not alone! There in the Middle East, other people were living in caves and rock shelters. The truth is, the human family originally contained several species, and we are just one of them. We shared the planet for thousands of years with these similar-looking, but biologically different, beings whom, in the end, we outlasted. If we weren’t directly related to them, where did these other people--the Neanderthals--come from? In this segment we will meet that branch of the human family and learn about their lives. We will also encounter modern humans as they might have lived 40,000-100,000 years ago.



After reading about the tale of two species, 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.

Who Were the Neanderthals?

Even today, when you call someone a “Neanderthal,” you’re labeling that person as someone who is dim-witted, thick, boorish, and ugly. Ever since they were first discovered in the mid-19th century, Neanderthals have had a bad rap. With little evidence to go on, early anthropologists decided that they were indeed the oafs depicted in popular mythology.

More recently, however, anthropologists have begun to piece together the true story of the Neanderthals, and it turns out to be quite different from the conventional one. Archaeologists have uncovered Neanderthal burial sites and encampments and they have found that these people, who shared the same space as modern humans for thousands of years, were not as unlike us as we might have thought.

The Neanderthals, as it turns out, were uniquely adapted to the harsh environment in which they dwelt. They fashioned stone tools, used fire, and hunted and gathered food. Their brains were large--sometimes larger than those of modern humans. They were able to plan ahead, and it’s likely that they used language and symbols. They buried their dead in rituals that show all the signs of mourning and of religious feeling. Some of the Neanderthal skeletons that have been found bear signs of illnesses or deformities that would have rendered them unable to survive without help. That they did survive shows that Neanderthals cared for needy members of their group.

And yet, for all their abilities and skills, the Neanderthals completely disappeared about 27,000 years ago, leaving only one human species left on Earth. Why they vanished has been a matter of intense speculation, but anthropologists have made great strides in solving the puzzle.

In this segment we will meet these fascinating Neanderthals, see how they shared the same space with modern humans, and learn about some theories on why they disappeared.

Vocabulary

aurochs -- An extinct large long-horned wild ox that was hunted by Neanderthals in Europe.

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 heidelbergensis -- The hominid that may be the link between Homo ergaster and the Neanderthals. Lived between 800,000 and 300,000 years ago.

Homo sapiens -- The modern human species.

hyoid -- Bone found at the base of the tongue. Its presence in hominid fossils is a likely indication of speech ability.

Ice Age -- A period during which the earth’s temperature experienced long-lasting cooling.

Levalloisian -- Name given to the flake tools made from stone by the Neanderthals. Named after the French archaeological site Levallois-Perret.

Timeline

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

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).

800,000 years ago -- Emergence of Homo heidelbergensis.

300,000 years ago -- Homo heidelbergensis disappears.

200,000 years ago -- The Great Ice Age begins to recede. Emergence of the Neanderthals.

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

100,000 years ago -- Date of the fossil remains discovered by Dorothy Garrod in Palestine.

40,000 years ago -- Modern humans move into Europe.

27,000 years ago -- Date of the last known Neanderthal remains.

1856 -- The first fossil of a Neanderthal specimen is found in Germany’s Neander Valley.

1913 -- Marcellin Boule publishes his influential but misleading work on Neanderthals.

1932 -- Anthropologist Dorothy Garrod discovers fossil remains of both modern humans and Neanderthals at Mount Carmel in Palestine.

1992 -- Joel Rak discovers the Neanderthal burial at Amud.

mandible -- The lower jaw bone. Its shape in early hominids is an important clue in classifying species.

Neanderthal -- A hominid species, sometimes classified as H. sapiens neanderthalensis, that lived in Europe and the Mid-East from about 180,000 years ago to 27,000 years ago.

Important People

Arsuaga, Juan Luis -- Spanish anthropologist; one of the foremost experts on “La Sima de los Huesos.”

Bar-Yosef, Ofer -- Israeli expert on the remains of modern humans and Neanderthals discovered in Israel.

Boule, Marcellin -- Eminent French paleontologist who published in 1913 an influential book on Neanderthals in which he wrongly depicted them as slouching semi-idiots.

Garrod, Dorothy -- British anthropologist who discovered modern human and Neanderthal remains in Palestine (now Israel).

Rak, Joel -- Israeli anthropologist who discovered the Neanderthal burial at Amud.

Important Places

Amud -- A limestone cavern in Israel that yielded the remains of a buried Neanderthal child.

Dordogne Valley -- River valley in France that was home to both Neanderthals and Homo sapiens.

Gran Dolina -- Site in Spain in which researchers have found 800,000 hominid remains.

Jebel Qafzeh (Qafzeh Cave) -- Site near Nazareth in northern Israel that contains one of the oldest burial chambers containing modern humans.

Kebara (Kebara Cave) -- Site in Israel that yielded the most complete Neanderthal skeleton ever found, it had been intentionally buried.

La Chapelle-aux-Saints -- Site in France in which the Neanderthal skeleton studied by Marcellin Boule was found.

Le Moustier -- Site of a Neanderthal encampment discovered by anthropologists in France.

Mount Carmel -- Thirteen-mile-long mountain ridge in Israel where Dorothy Garrod found a trove of Neanderthal remains.

Neander Valley -- In German, “Neanderthal” or “Neandertal.” A valley near Dusseldorf, Germany where the first Neanderthal fossil was found.

Sima de los Huesos -- “The Pit of Bones.” A site in northern Spain near Gran Dolina in which anthropologists have discovered a huge trove of remains of Homo heidelbergensis.

Skuel -- Cave in Palestine where Dorothy Garrod found an ancient cemetery containing bones of modern humans.

Tabun -- Cave in Palestine where Dorothy Garrod found the skeleton of a Neanderthal woman.

Zafarraya -- A cavern in extreme southern Spain in which was the last known Neanderthal fossil was discovered.

Things To Think About

• In several ways, the Neanderthal anatomy reflected their adaptation to the climate in which they lived. Their wide sinus cavities, for example, were adapted to a cold climate. What variations do you see among humans today that are apparently related to adaptation to climate?

• The Neanderthal burial ceremonies that archaeologists have uncovered seem to show some kind of religious feeling. Does this suggest to you that early humans constructed religion as a response to death? Or does