

# Human Origins

*7 million years and counting*

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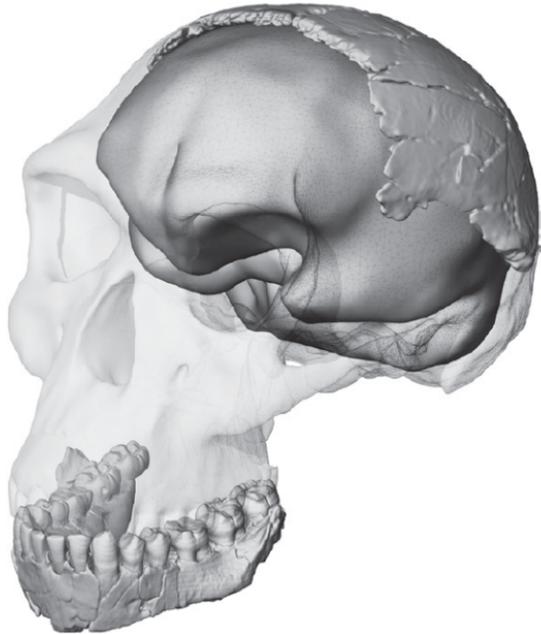
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*The Story of Human Origins – Chapter 4*



A reconstructed *Homo habilis* skull based on the bones of two specimens, one from modern-day Tanzania and one from Kenya

*The Story of Human Origins – Chapter 4*



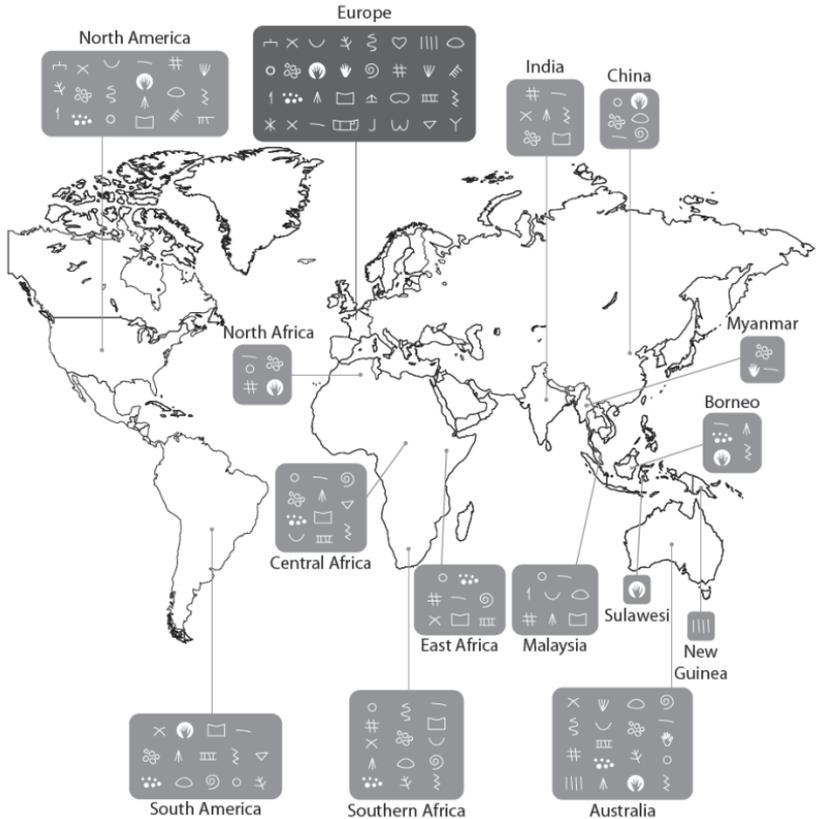
A reconstruction of the earliest known *Homo sapiens* fossils

*The Story of Human Origins – Chapter 7*



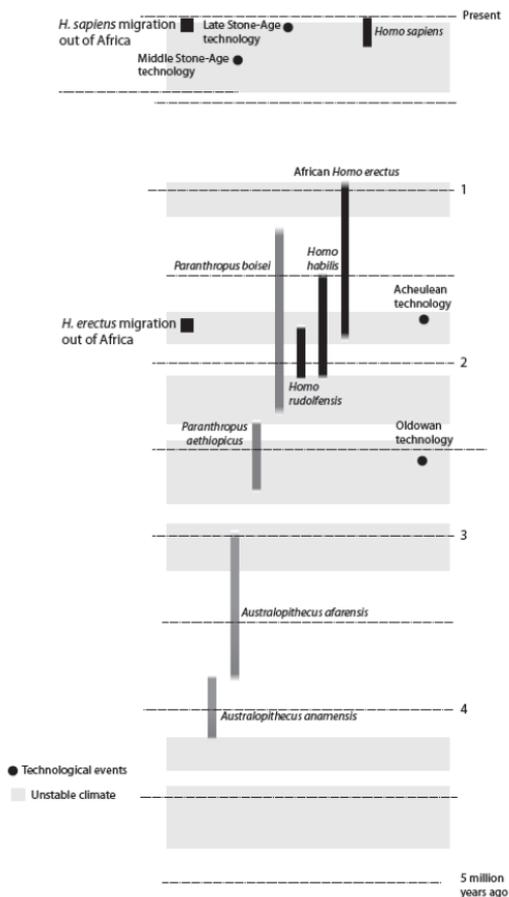
Two of the T-shaped monuments of Göbekli Tepe. What were they for?

## The Story of Human Origins – Chapter 7



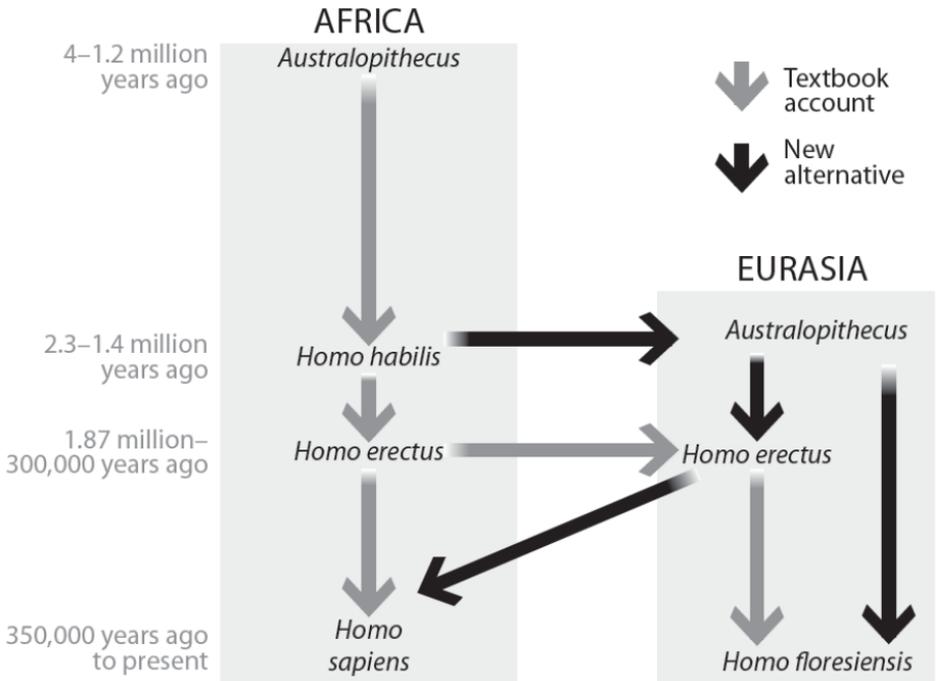
Symbols found on relics from Stone Age Europe are also found in caves across the rest of the world. Their similarities suggest that they were more than just random squiggles.

## The Story of Human Origins – Chapter 9



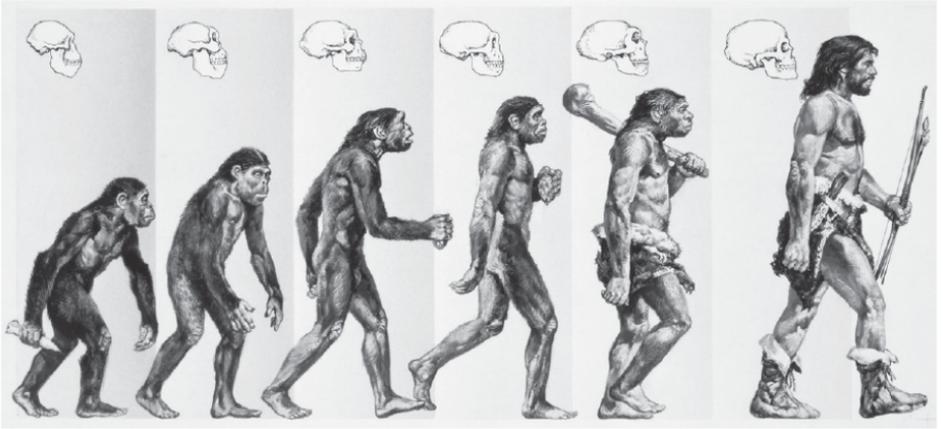
Chance alone cannot account for the close association between changing climate and significant events in hominin evolution.

*The Story of Human Origins – Chapter 10*



We used to think our genus *Homo* evolved in Africa but recent finds suggest that our ancestors may have taken a detour to Eurasia.

*The Story of Human Origins – Chapter 10*



'The March of Progress', a simplified vision of human evolution.

## *Fifty ideas*

*This section offers ideas for how to explore the subject of human evolution in greater depth.*

*Ten places to visit*

- 1 **Atapuerca Mountains, Spain.** This archaeological site is a UNESCO World Heritage Site, noted for the large numbers of *Homo heidelbergensis* remains. More information at [www.atapuerca.org/](http://www.atapuerca.org/)
- 2 **Dmanisi Museum-Reserve, Georgia.** This site has yielded some of the oldest hominin remains outside Africa. The museum is open seasonally. Details at [http://museum.ge/index.php?lang\\_id=ENG&sec\\_id=51](http://museum.ge/index.php?lang_id=ENG&sec_id=51)
- 3 **Lake Turkana, Kenya.** This rich hominin fossil site is covered by three national parks: Sibiloi, South Island and Central Island. Sibiloi contains the archaeological sites. More information at [www.kws.go.ke/national-parks](http://www.kws.go.ke/national-parks)
- 4 **Cradle of Humankind, South Africa.** This sprawling series of limestone caves has yielded many crucial fossils, including the first specimens of *Australopithecus sediba*. There is a visitor centre and exhibition called Maropeng. More information at [www.maropeng.co.za/](http://www.maropeng.co.za/)
- 5 **Neanderthal Museum, Germany.** Located in the region where the Neanderthals were first identified from fossils, this museum recounts the story of humanity. Visitor information at [www.neanderthal.de](http://www.neanderthal.de)
- 6 **Smithsonian National Museum of Natural History, Washington, DC, USA.** The Hall of Human Origins contains a wealth of information. More information at <https://naturalhistory.si.edu>
- 7 **Zhoukoudian Caves, China.** At this site, archaeologists discovered the famous Peking Man fossils – most

of which were sadly lost during the Second World War. There is a museum on the site. Details at [www.china.org.cn/english/MATERIAL/31256.htm](http://www.china.org.cn/english/MATERIAL/31256.htm)

- 8 **Ngorongoro Conservation Area, Tanzania.** This World Heritage Site encompasses Oldupai (previously Olduvai) Gorge, where many hominin fossils have been found, and the famous preserved *Australopithecus* footprints at Laetoli. More information at [www.ngorongorocrater.org](http://www.ngorongorocrater.org)
- 9 **Naturalis Biodiversity Centre, Netherlands.** This museum houses many crucial fossils, including some of the first *Homo erectus*. It is closed for refurbishments until the end of 2018. Details at [www.naturalis.nl](http://www.naturalis.nl)
- 10 **Blackwater Draw National Historic Landmark and Museum, New Mexico, USA.** This museum is near the site of the first Clovis excavation, which purported to reveal how the Americas were first colonized. Information at [www.bwdarchaeology.com/](http://www.bwdarchaeology.com/)

*Ten quotes*

- 1 ‘Among the multitude of animals which scamper, fly, burrow and swim around us, man is the only one who is not locked into his environment.’ (Jacob Bronowski, *The Ascent of Man*, 1973)
- 2 ‘If it be an advantage to man to have his hands and arms free and to stand firmly on his feet, of which there can be no doubt from his pre-eminent success in the battle of life, then I can see no reason why it should not have been advantageous to the progenitors of man to have become more and more erect or bipedal.’ (Charles Darwin, *The Descent of Man*, 1871)
- 3 ‘Doing palaeoanthropology is much like doing a jigsaw puzzle without a picture of the pattern.’ (William H. Calvin, *A Brain for all Seasons: Human Evolution and Abrupt Climate Change*, 2002)
- 4 ‘With the throwaway line, “Why don’t you call her Lucy?” came total commitment from everyone on the team by breakfast the next day. “When are we going back to the Lucy site?” people asked. “How old do you think Lucy was when she died?” Immediately she became a person.’ (Donald Johanson, discoverer of the ‘Lucy’ fossil, interviewed by *Scientific American* in 2014)
- 5 ‘I sometimes try to imagine what would have happened if we’d known the bonobo first and the chimpanzee only later – or not at all. The discussion about human evolution might not revolve as much around violence, warfare and male dominance, but rather around sexuality,

- empathy, caring and cooperation.’ (Frans de Waal, *Our Inner Ape: The Best and Worst of Human Nature*, 2005)
- 6 ‘Being somewhat of a curmudgeon, what does an odd population of mini-hominins on an isolated island really tell us about us? You could almost say, so what?’ (Anthropologist Richard Leakey on the ‘hobbit’ *Homo floresiensis*, interviewed by *New Scientist* in 2009)
- 7 ‘We may feel humbled by the survival of our species, though set about by vicissitudes, and we may marvel at our ancestors’ ingenuity and adaptability – but we must remember ... that they were just *people* – like you and me.’ (Alice Roberts, *The Incredible Human Journey*, 2010)
- 8 ‘Anyone who has experienced first hand the overwhelming power of the life-sized painted bulls and horses in the Lascaux Cave of south-western France will understand at once that their creators must have been as modern in their minds as they were in their skeletons.’ (Jared Diamond, *Guns, Germs and Steel*, 1997)
- 9 ‘Believe it or not – and I know that most people do not – today we may be living in the most peaceable era in our species’ existence.’ (Steven Pinker, *The Better Angels of Our Nature*, 2011)
- 10 ‘If I thought of man as the final image of God, I should not know what to think of God. But when I consider that our ancestors, at a time fairly recent in relation to the earth’s history, were perfectly ordinary apes, closely related to chimpanzees, I see a glimmer of hope. It does not require very great optimism to assume that from us human beings something better and higher may evolve.’ (Konrad Lorenz, *On Aggression*, 1963)

*Ten questions to ponder*

- 1 Why are we the only hominin species still alive?
- 2 Did Neanderthals have religious beliefs?
- 3 Why did Stone Age people paint on cave walls?
- 4 Why did we lose almost all our body hair?
- 5 Would you have sex with a Neanderthal? What about a *Homo erectus*?
- 6 Is there anything genuinely unique about us as a species?
- 7 Why did our ancestors become farmers and city-dwellers?
- 8 Could Lucy the *Australopithecus* speak?
- 9 If a Neanderthal got dressed in human clothes and went for a walk, would people in the street realize who he/she was?
- 10 How many hominin species are left for us to find?

*Twenty key discoveries*

- 1 **1829:** Fragments of a human skull are found in a cave in present-day Belgium. The 'Engis 2' skull is the first ever hominin fossil found. It is now known to belong to a Neanderthal.
- 2 **1856:** The first Neanderthal fossil to be identified as such, Neanderthal 1, is discovered in the Neander Valley in Germany.
- 3 **1891:** Eugène Dubois discovers the first *Homo erectus* on the island of Java. He calls it 'Java Man'.
- 4 **1907:** The first *Homo heidelbergensis* is found in a sand-pit in Germany.
- 5 **1909:** A gold prospector finds a fossil primate, later known as *Proconsul* and dated to about 24 million years ago.
- 6 **1924:** The Taung Child, the first fossil of an *Australopithecus*, is found in South Africa. It is described by Raymond Dart the following year.
- 7 **1959:** Mary Leakey finds a cranium called 'Nutcracker Man'. After a protracted debate, it is decided that it belongs to *Paranthropus boisei*.
- 8 **1960:** Jonathan and Mary Leakey discover 'Johnny's Child', the type specimen of *Homo habilis*.
- 9 **1964:** Excavations begin in the Atapuerca Mountains in Spain, home of Sima de los Huesos (the 'Pit of Bones').

- 10 **1971:** At Lake Turkana in Kenya, Richard Leakey discovers a lower jaw, which he identifies as belonging to *Homo ergaster*.
- 11 **1974:** Lucy, a 3.2-million-year-old *Australopithecus afarensis*, is discovered by Donald Johanson and colleagues in Ethiopia.
- 12 **1984:** Kamoya Kimeu discovers ‘Turkana Boy’, the most complete hominin skeleton ever found. It is thought to be a *Homo erectus*.
- 13 **1994:** Tim White describes *Ardipithecus ramidus*, discovered in Ethiopia.
- 14 **2000:** Brigitte Senut discovers *Orrorin tugenensis*, one of the oldest known hominins, in Kenya.
- 15 **2001:** A team of archaeologists discovers *Sahelanthropus tchadensis*, another ancient hominin, in Chad.
- 16 **2003:** *Homo floresiensis* is discovered on the island of Flores, Indonesia. Because of its diminutive stature, it is nicknamed the ‘hobbit’.
- 17 **2008:** The first *Australopithecus sediba* is found by Lee Berger’s son in South Africa.
- 18 **2010:** Svante Pääbo announces the discovery of the Denisovans, identified by genetic analysis of a lone finger bone found in Denisova Cave in Siberia.
- 19 **2013:** Two cavers discover fossils of *Homo naledi* in the Rising Star cave system in South Africa. The species is later described by Lee Berger.
- 20 **2017:** The oldest known fossils of our species are found in Morocco. They are 350,000 years old.