

Table 5: Milestones in hominid cultural evolution

6 million to 2 million years BCE

- *Ardipithecus ramidus*, the oldest known possibly bipedal ape represented by fossils from sites in Ethiopia. These first chimp-sized pre-humans with an upright posture appearing in the East African Rift Valley are followed approximately 4 million years ago by the better-known *Australopithecus africanus*, a small-brained upright walker from the sites in northern Kenya; and *Australopithecus afarensis*, a big-faced apelike species to which the famous "Lucy" belonged.

2 million years BCE

- *Homo erectus* had a brain of 1,100 cc (three-quarters the size of anatomically modern humans), suggesting that having a large brain helped in acquisition of skills like tool using, which is not unique to humans (used by finches, chimps), tool making, and the use of fire, which is unique to humans (making possible artifacts ranging from flint axes to, more recently, computers). 98% of hominid history is defined by hunting/gathering and foraging/scavenging modes of life.

130,000 BCE

- Modern anatomy is first recognized for early *Homo sapiens* (the earliest fossils are documented in Africa with an estimated founding population of c. 10,000 people).

30,000 BCE

- Worldwide range of fully modern humans. *Homo sapiens sapiens*; theories suggest that both the ability to use language and the ability to think objectively about oneself ("self-consciousness") depended on brain growth and may have had a crucial role in ensuing human success.
- 15,000 BCE => Oldest grinding stones (with world population at c. 8 million)
- 9000 BCE => Domestication of sheep
- 8500 BCE => First semi-permanent settlements
- 8000 BCE => Barley domesticated
- 6500 BCE => Towns of a few thousand (e.g. Jericho)
- 6000 BCE => Pottery
- 5500 BCE => Irrigation
- 4500 BCE => The (pottery-making) wheel
- 3500 BCE => Uruk, Sumer, with 50,000 inhabitants

Fifteenth–twenty-first century CE

- Modernity (Early, High, Late, Post). industrial-capitalist revolution, colonialism, imperialism; 80 years from Darwin's *Origin of Species* to Hiroshima and Nagasaki; Cold War and colonization of space (Sputnik vs satellite, moon landing); population bomb and population explosion (1,000% world population increase between 1600 and 2000); globalization (revolution in transport and communications technologies, compression of space and time); biotechnology and genetic engineering; more than 6 billion humans use almost 50% of net productivity of photosynthesis (NPP) of land ecosystems and 30% overall; destruction of rain forests and globalization of environmental degradation, destruction of ozone layer; doubling of CO₂, global warming; climate change; widespread pollution (nuclear, chemical, biological), acceleration of soil erosion, desertification; mass extinction of species and the genuine possibility of a global collapse of biodiversity in the near future (ecological overshoot); global ecological restoration?

SOURCE: Adapted from Clive Ponting, *A Green History of the World: The Environment and the Collapse of Civilizations* (London: Penguin Books, 1991), p. 53.

Breswimmer, P. 121-2