Prehistory: Our Ancestors Emerge

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Evidence of the origins of *Homo sapiens sapiens*, the species to which all humans belong, comes from a small, but increasing, number of fossils, from genetic and anatomical studies, and from interpretation of the geological record. Most scientists agree that humans evolved from apelike primate ancestors in a process that began millions of years ago. Although all humans living today are members of a single subspecies, the fossil record confirms that our ancestors coexisted with a number of similar species throughout evolution. Current theories trace the first hominid (upright walking, humanlike primate) to Africa, where several distinct species appeared 5-7 mil years ago (MYA). These species lived in a variety of environments throughout the continent including swampy forests, woodlands, and open savannas. In addition to Australopithecus—best known from “Lucy,” an Ethiopian specimen found in 1974—these early hominid species include such recent discoveries as Sahelanthropus, Ardipithecus, Kenyanthropus, and Orrorin.

Our own human ancestry arose 2-3 MYA, when hominin species began to produce elaborate stone tools. The oldest tools are dated to 2.5-2.6 MYA from Ethiopia, and were made by systematically removing sharp flakes from a core. This produced tools for scraping meat and sinew, as well as a sharp chopping implement useful for obtaining marrow from long bones. Although we cannot determine whether these early hominids had the ability to speak, they were social animals, lived in semi-permanent camps, and had a food-gathering economy. A closer ancestor, *Homo erectus*, appeared in Africa 1.8 MYA and was the first to leave the continent, spreading into Asia by 1.3 MYA, and Europe by 800,000 years before the present (BP). It had a skeletal structure similar to modern humans, hunted, learned to control fire, and may have had primitive language skills.

Europe has provided a particularly rich set of fossil evidence. Human-like in many important respects, Neanderthal appeared c. 200,000 BP, had sophisticated tools and developed social culture, and was well adapted to the harsh climate of Ice Age Europe. Recent genetic evidence supports the theory that Neanderthal was a distinct species that in some places coexisted with, but probably did not interbreed with, early modern humans (also called Cro-Magnons). A similar situation may have occurred in Asia, where more primitive species of *Homo* coexisted with early modern humans 100,000-150,000 BP.
Further study of *Homo antecessor*, a new species identified in Spain, may clarify the relationship between anatomically modern *Homo sapiens* and Neanderthals in Europe.

The 1st *Homo sapiens sapiens* originated in E Africa 100,000-200,000 BP. The oldest modern human fossils are dated to 160,000 BP, and were found at the Ethiopian site of Herto in 2003. Our species quickly spread. Humans were living in Israel by 100,000 BP, and in Romania by 35,000 BP. Migration from Asia to Australia via the Timor Straits took place as early as 100,000 BP. Archaeological evidence for the crossing from Asia to the Americas by land bridge dates to the end of the last Ice Age, at 14,000 BP; however, genetic data suggest that people arrived in the Americas 18,000 to 14,000 years ago, settling in both N and S America.

A variety of cultural modes—in tool-making, diet, shelter, social arrangements, and spiritual expression—arose as humans adapted to different geographic and climatic zones and the knowledge base grew. Sites from all over the world show seasonal migration patterns and efficient exploitation of a wide range of plant and animal foods.

Fire-making probably began 1 MYA in Africa and spread to Asia and Europe. Hearths were used in North Israel by c. 750,000 BP, and by 465,000 BP in West France. Fire-hardened wooden spears, weighted and set with small stone blades, were fashioned by big-game hunters 400,000 BP in Germany. Scraping tools, dated 30,000-200,000 BP in Europe, North Africa, the Middle East, and Central Asia, suggest the treatment of skins for clothing. By the time Australia was settled, human ancestors had learned to navigate in boats over open water. The earliest bone tools found so far were developed 80,000 BP in the Congo basin by fishermen, who created sophisticated fishing tackle to catch giant catfish.

About 60,000 BP the earliest immigrants to Australia carved and painted designs on rocks. Painting and decoration flourished, along with stone and ivory sculpture, from 35,000 BP in Europe, where more than 200 caves show remarkable examples of naturalistic wall painting. A variety of musical instruments, including bone flutes with precisely bored holes, have been found in sites dated to 40,000-80,000 BP.

Shortly after 11,000 BC, among widely separated communities, a series of dramatic technological and social changes occurred, marking the Neolithic, or New Stone, Age. As the world climate became drier
and warmer, humans learned to cultivate plants and domesticate animals. This encouraged growth of permanent settlements. Manufacture of pottery and cloth began at this time. These techniques precipitated a dramatic increase in world population and social complexity.

Sites in the Americas, SE Europe, and the Middle East show roughly contemporaneous (8000-10,000 BC) evidence of Neolithic traits. Dates near 3000-6000 BC have been given for E and S Asian, W European, and sub-Saharan African Neolithic remains. Farming spread rapidly throughout the Mediterranean, perhaps in 100-200 years. The variety of crops—field grains, rice, maize, squash, and roots—and a mix of other characteristics suggest that this adaptation occurred independently in each region.

ASSIGNMENT:

1. **Draw a chart which demonstrates both the physical (the body) and social (skill development) evolution of the human.**
2. **Draw a map which demonstrates the regions in which humans and human-like beings originated and/or lived.**