

## Chapter 1 : Climate Effects on Human Evolution | The Smithsonian Institution's Human Origins Program

*Nearly Human is a album by rock musician Todd Rundgren, released by Warner Bros. Records. It was his first release in four years, although he had been active as a producer in the intervening years.*

Genetics can reveal many buried secrets. The origins of our ancestors. In this case, it may have revealed that men almost exterminated themselves some 7, years ago. The genetic indicators have been there for some time. At least among the male-transmitted genes. After a period of some 2, years of decline, there was only one fertile male left alive to mate with every 17 women. Previously, academics felt this may have had something to do with the way our ancestors explored and settled new lands. But a new study published in the science journal Nature puts forward a much more brutal proposal. Men killed most of their peers off. Cauldron of change Getty Images Europe, Asia, Africa and the Middle East may have been consumed by carnage between 5, and 7, years ago. And, as fathers pass their Y chromosome on to their sons, entire families must have been exterminated over wide areas. It was a time when the world population is estimated to have been somewhere between five and 20 million people. To leave such a stark genetic imprint behind, as many as 9. Clans form from common ancestors. They establish a strong group identity. This, in turn, promotes a sense of difference and competition with separate nearby clans. The researchers say these pressures came to a head shortly before the first civilization emerged in Sumeria about 4, years ago. They would then seize the surviving women. The slaughter was so intense that just one-twentieth of the entire male population survived. The fighting must have persisted for generations. And the first signs of civilization arose from the ashes. Their hypothesis goes something like this: Human society began to evolve away from nomadic hunters towards farming communities about 12, years ago. Suddenly, they had possessions. And as clans had begun to settle in one place, intruders were unwelcome. Such groups evolved systems of organization based on family membership " generally focused on the male chief of the clan. In terms of chromosomes, it would have appeared as though every male member of a clan had the same father. Wiping out a clan would wipe out their unique Y chromosome markers. The victorious clan would then expand to fill the void left behind. There is no direct evidence of such a world-spanning conflict. But, circumstantially, such brutal clan cleansing seems feasible.

Chapter 2 : Homo sapiens - Wikipedia

*Nearly Human is absolutely my favorite from top to bottom. The harmonies soar and the arrangements and instruments are the most sophisticated and adventurous he has ever recorded. Todd's singing and songwriting, always brilliant, are kicked up a notch or two on this collection.*

**Gaining Access to Diverse Foods** The first known stone tools date to around 2. Making and using stone tools also conferred versatility in how hominin toolmakers interacted with and adjusted to their surroundings. Simple toolmaking by stone-on-stone fracturing of rock conferred a selective advantage in that these hominin toolmakers possessed sharp flakes for cutting and hammerstones that were useful in pounding and crushing foods. Basic stone tools thus greatly enhanced the functions of teeth in a way that allowed access to an enormous variety of foods. These foods included meat from large animals, which was sliced from carcasses using sharp edges of flakes. Bones were broken open using stones to access the marrow inside. Other tools could be used to grind plants or to sharpen sticks to dig for tubers. Tool use would have made it easier for hominins to obtain food from a variety of different sources. Tool use would have widened the diet of hominins. Meat, in particular, is a food that was obtainable in equivalent ways, with similar nutritional value, in virtually any type of habitat that early humans encountered. Although making simple toolmaking may have developed originally in one type of environment, the carrying of stone tools over considerable distances and becoming reliant on stone technology may have arisen due to the benefits of altering the diet as environments changed. The oldest known stone technology called Oldowan toolmaking involved carrying rock over several kilometers and is found associated with a variety of ancient habitats. Redistributing stone and other resources, such as parts of animal carcasses, by transporting them may have helped hominins cope with variable habitats. The Expanding World of Early Homo As predicted by the variability selection hypothesis, hominins were not found solely in one kind of habitat, but rather in a variety. A major signal of the ability to tolerate different environments was the dispersal of the genus early Homo beyond Africa into Asian environments. Early evidence of the diversity of Homo erectus environments in Asia includes the following sites: Dmanisi, Republic of Georgia, 1. This site has grasslands surrounded by mountains with forests. Hominins had access to lava as a raw material for tools. This site, located near an ancient lake, had a mixture of habitats with grasslands, bushlands and forests. Nihewan Basin, China, 1. The Nihewan sites were also near a lake. Hominin toolmakers experienced many changes in vegetation over time, with habitats ranging from forests to grasslands. This region may have been much more arid than others, and temperatures changed seasonally between warm and cold. Hominins here encountered grasslands, rivers and marine coastal environments in a tropical latitude setting. In these locations, hominin groups encountered distinctly different environments, different plants and animals and foods, and different climatic conditions a very wide range of temperature and strong variations in aridity and monsoonal rains. Hominins Persisted Through Environmental Change Environmental instability may have been a factor not only in shaping adaptations but also in contributing to the extinction of some lineages. Environmental variability associated with the extinction of large mammal species has been proposed for the southern Kenya region. Sediments, stone artifacts, and animal faunal at the site of Olorgesailie span most of the past 1. Numerous environmental shifts are recorded in the Olorgesailie deposits. The ancient lake level and its chemistry, for example, changed frequently, and sometimes the lake dried up, leaving small wetlands and streams as the main source of water in the basin. Volcanic eruptions also blanketed the landscape in ash, killing off grass and reshaping the properties of the ecosystem. An example of a hillside of sediments in the Olorgesailie region. The hillside, which represents about 10, years of time with a volcanic ash at its base dated around 1 million years ago, shows evidence of strong environmental shifts. Layers of sediments show the fluctuation between dry and wet environments and a time when volcanic ash covered the ancient landscape. Rick Potts studied the pattern of climatic turnover in the fauna and the occurrence of archeological sites at Olorgesailie and another site in southern Kenya, and found that several large mammal species that had previously dominated the fauna of this region went extinct between about , and , years ago, during a period of repeated environmental instability.

These species were replaced by modern relatives, which tended to be smaller in body size and not as specialized in diet or habitat. For example, the zebra *Equus oldowayensis* had large and tall teeth specialized for eating grass. Its last known appearance in the fossil record of southern Kenya is between , and , years ago; it was replaced by *Equus grevyi*, which can graze feed on grass as well as browse feed on leaves and other high-growing vegetation. The fossil baboon *Theropithecus oswaldi*, which weighed over 58 kg over It also went extinct between , and , years ago. Its extant relative, *Papio anubis*, is omnivorous and moves easily on the ground and in trees. Two other large-bodied animals that specialized in eating grass, the elephant *Elephas recki* and the ancient pig *Metridiochoerus*, were also replaced by related species that were smaller and had more versatile diets *Loxodonta africana* and *Phacochoerus aethiopicus*. The aquatic specialist *Hippopotamus gorgops* was replaced by the living hippopotamus, which is capable of traversing long distances between water bodies. The replacement of the specialized species by closely related animals that possessed more flexible adaptations during a time of wide fluctuation in climate was a key piece of initial evidence that led to the variability selection hypothesis. Although Acheulean toolmaking hominins were able to cope with changing habitats throughout much of the Olororgesailie record, the Acheulean way of life disappeared from the region sometime between , and , years ago, perhaps also a casualty of strong environmental uncertainty and changing circumstances. Encephalization and Adaptability Brain enlargement during human evolution has been dramatic. During the first four million years of human evolution, brain size increased very slowly. Encephalization, or the evolutionary enlargement of the brain relative to body size, was especially pronounced over the past , years, coinciding with the period of strongest climate fluctuation worldwide. Larger brains allowed hominins to process and store information, to plan ahead, and to solve abstract problems. A large brain able to produce versatile solutions to new and diverse survival challenges was, according to the variability selection hypothesis, favored with an increase in the range of environments hominins confronted over time and space. New Tools for Many Different Purposes After , years ago, hominins found new ways of coping with the environment by creating a variety of different tools. In some parts of Africa, a shift occurred in which a technology dominated by large cutting tools was replaced by smaller, more diverse toolkits. Technological innovations began to appear in the Middle Stone Age in Africa, with some early examples dating prior to , years ago. Some of the new tools provided ways for hominins to access food in new ways. Points were hafted, or attached to handles such as spear or arrow shafts, and were later used as part of projectile weapons, which allowed hominins to hunt fast and dangerous prey without approaching as closely. Barbed points were used to spear fish. Barbed points made from bone were found at the site of Katanda, in the Democratic Republic of the Congo, along with the remains of huge catfish. Grindstones were used to process plant foods. Other tools were used to make clothing which would have been important for hominins in cold environments. Regional Exchange and Social Networks Over the past , years or so, the direct ancestors of living humans developed the capacity to create new and diverse tools. Archeological discoveries show that wider social networks began to arise, enabling the transfer of stone material over long distances. Symbolic artifacts connoting complex language and the ability to plan are also evident in the archeological record of the Middle Stone Age of Africa. These findings indicate an improved capacity to adjust to new environments. Most of the past , years in East Africa was a time of strong climate oscillation. The timeline at the bottom of the image is , to 40, years ago right to left. Trading between groups to obtain materials and to cement alliances is a hallmark of modern human behavior. Larger brains and symbolic ability facilitated more complex social interactions. By , years ago, hominins were exchanging materials over distances of over km. The social bonds that were forged by exchanging materials between groups may have been critical for survival during times of environmental change when one group relied on the resources or territories of a distant group. Modern foragers use social ties to mitigate the effects of famines and droughts. Engraved ocher plaque from Blombos Cave, Republic of South Africa; about 77,â€™75, years old Evidence of the human capacity for communication using symbols is apparent in the archeological record back to at least , years old, and probably older. The use of color, incised symbols, decorative objects, and language are part of this capacity for communication. Symbolic communication may be linked with information storage. Language is an essential part of modern human communication. Language makes it possible to convey complex ideas to others. Communication of

ideas and circumstances via language would have made survival in a changing world much easier. However, there is no fossil evidence for words and grammar that are the direct hallmarks of human language. Preserved pieces of pigment are one of the earliest forms of symbolic communication. Ocher and manganese can be used to color objects and skin. Paintings and drawings were also used to represent the natural world. Use of symbols is ultimately connected to the human ability to plan, record information, and imagine. Neanderthals Endured Climatic Oscillations, Too! Neanderthal populations *Homo neanderthalensis* in Europe endured many environmental changes, including large shifts in climate between glacial and interglacial conditions, while living in a habitat that was colder overall than settings where most other hominin species lived. Some of the environmental shifts they endured involved rapid swings between cold and warm climate. The Neanderthals were able to adjust their behavior to fit the circumstances. During cold, glacial periods, they focused on hunting reindeer, which are cold-adapted animals. During warmer, interglacial periods, they hunted red deer. During extreme cold periods, they shifted their range southwards toward warmer environments. Neanderthals and modern humans had different ways of dealing with environmental fluctuation and the survival challenges it posed. Modern humans, *Homo sapiens*, had specialized tools to extract a variety of dietary resources. They also had broad social networks as shown by the exchange of goods over a long distance. They used symbols as a means of communicating and storing information. Neanderthals did not make tools that were as specialized as those of modern humans who moved from Africa into Europe sometime around 46,000 years ago. The Neanderthals usually did not exchange materials over so wide a distance as *Homo sapiens*. They occasionally produced symbolic artifacts. Despite many climatic fluctuations, modern humans were able to expand their range over Europe and Asia, and into new areas such as Australia and the Americas. This evidence suggests that adaptability to varying environments was one of the key differences between these two evolutionary cousins. During the time when Neanderthals evolved in Europe, global climate fluctuated dramatically between warm and cold.

**Chapter 3 : Nearly 30, Pounds of Human Poop Removed From Mount Everest | Unofficial Networks**

*MEET HOMO NALEDI: This is a model of the newly discovered human ancestor Homo naledi. The Latin word homo refers to the classification to which human beings belong.*

**Social Life Human Characteristics: Social Life** Most non-human primates live in social groups. So how are humans different? Watch this video to find out. This video is silent. Sharing food, caring for infants, and building social networks helped our ancestors meet the daily challenges of their environments. Over time, early humans began to gather at hearths and shelters to eat and socialize. As brains became larger and more complex, growing up took longer—requiring more parental care and the protective environment of a home. Expanding social networks led, eventually, to the complex social lives of modern humans. Sharing resources

**Beginning 2. Evidence from Kanjera, Kenya** About 2 million years ago, early humans transported stone up to 12 km (7 mi) to a site at Kanjera, Kenya. There they made stone tools for butchering animals. Smithsonian scientists, working at Kanjera with colleagues from Kenya and the United States, have excavated stone tools and butchered animal bones. Different rock types have different chemical compositions. Stone tools excavated from Kanjera chemically match rocks found at natural sources up to 12 km (7 mi) away. Early humans carried the tools from these distant places, probably stopping and using them along the way. Why did they come together at these early hearths? Close by were concentrations of burned seeds and wood, marking the location of early hearths. More than a dozen hearths, dating back 1 million years, have been found at the excavation site. More time to grow

**Beginning 3. Evidence from Kanjera, Kenya** By this time, early humans had evolved much larger brains. Infants were born with small brains, enabling the head to pass through the birth canal. The brain continued to grow throughout a long childhood. During adolescence, youngsters continued to prepare for the challenges of adulthood. These stages enable us to learn, play, socialize, and absorb important experiences prior to adulthood. During childhood, human children depend on adults for food and care. During adolescence, a growth spurt occurs, and male and female body features develop. As teeth develop, new enamel layers form daily. A microscope photo showed scientists the enamel layers on one of the teeth. Explore one of the

**Earliest-known Human Shelters** Reconstruction illustration of a 1-million-year-old shelter from Terra Amata, France. This 1-million-year-old shelter at Terra Amata, France, provided protection for an early human family or social group. Scientists found post holes and other evidence of multiple shelters at this site. Some shelters were as long as 10 m (33 ft). Scientists also found fossil human feces here. They contain pollen from plants that blossom in late spring and early summer, indicating when humans occupied the shelters. Building Social Networks

**Beginning 4. Evidence from Kanjera, Kenya** Over time, humans began interacting with social groups located far from their own. By 1 million years ago, groups who lived 10 km (6 mi) apart were exchanging resources. Social networks continued to expand and become more complex. Today, people from around the globe rely on one another for information and goods. How many groups do you belong to? Modern humans are part of many communities that encourage sharing and cooperation, sometimes among people who have never even met. These alliances enrich our lives and enable us to share expertise and the risks of survival. They can also pose serious conflicts among people of different communities. These and other shells and shell beads were discovered far from the seas where they originated. By 40,000 years ago, humans were transporting decorative shells—and perhaps trading them—over areas of more than 100 km (60 mi). Through expanded social networks like these, humans increased their access to resources and thus their ability to survive. Growing Up

**These two young children, born about 3 million years apart, grew up at very different rates. As childhood lengthened, parents devoted more time and energy to caring for the young. But her brain size indicates that a human growth rate was evolving. Two-year-old Neanderthal 70,000 years old** The leg bones of this child are about the same length as those of a modern two-year-old, indicating that this young Neanderthal was growing at a modern human rate, with a long childhood. Scientists found this skeleton of a two-year-old Neanderthal lying on its back in a deep burial pit inside a cave, with a slab of limestone at the top of the head.

**Chapter 4 : Men nearly caused human extinction 7, years ago, new theory states**

*Song for song, Nearly Human is his best record since The Hermit of Mink Hollow, since not only is the bulk of the album filled with charging blue-eyed soul like "The Want of a Nail" or sweet ballads like "Parallel Lines," but because there are no novelties, and the cover choice (Elvis Costello's "Two Little Hitlers") is fresh and surprising.*

Features compared are the braincase shape, forehead, browridge, nasal bone, projection, cheek bone angulation, chin and occipital contour. The cranium lacks a pronounced occipital bun in the neck, a bulge that anchored considerable neck muscles in Neanderthals. Modern humans, even the earlier ones, generally have a larger fore-brain than the archaic people, so that the brain sits above rather than behind the eyes. This will usually though not always give a higher forehead, and reduced brow ridge. Early modern people and some living people do however have quite pronounced brow ridges, but they differ from those of archaic forms by having both a supraorbital foramen or notch, forming a groove through the ridge above each eye. In current humans, often only the central section of the ridge is preserved if it is preserved at all. This contrasts with archaic humans, where the brow ridge is pronounced and unbroken. Neanderthal and AMH brain sizes are in the same range, but there are differences in the relative sizes of individual brain areas, with significantly larger visual systems in Neanderthals than in AMH. The central part of the mandible forming the chin carries a triangularly shaped area forming the apex of the chin called the mental trigon, not found in archaic humans. Compared to archaic people, modern humans have smaller, lower faces. Body skeleton structure The body skeletons of even the earliest and most robustly built modern humans were less robust than those of Neanderthals and from what little we know from Denisovans, having essentially modern proportions. In ancient people, particularly Neanderthals, the distal bones were shorter, usually thought to be an adaptation to cold climate. Human genetic variability, Race and genetics, and Sexual selection in humans Following the peopling of Africa some, years ago, and the recent Out-of-Africa expansion some 70, to 50, years ago, some sub-populations of H. Combined with archaic admixture this has resulted in significant genetic variation, which in some instances has been shown to be the result of directional selection taking place over the past 15, years, i. Introgression of genetic variants acquired by Neanderthal admixture have different distributions in European and East Asians, reflecting differences in recent selective pressures. A study reported that Neanderthal-derived variants found in East Asian populations showed clustering in functional groups related to immune and haematopoietic pathways, while European populations showed clustering in functional groups related to the lipid catabolic process. Larger cranial volume is associated with climatic region, the largest averages being found in populations of Siberia and the Arctic. An even more recent adaptation has been proposed for the Austronesian Sama-Bajau, developed under selection pressures associated with subsisting on freediving over the past thousand years or so. Behavioral modernity is taken to include fully developed language requiring the capacity for abstract thought, artistic expression, early forms of religious behavior, [80] increased cooperation and the formation of early settlements, and the production of articulated tools from lithic cores, bone or antler. The term Upper Paleolithic is intended to cover the period since the rapid expansion of modern humans throughout Eurasia, which coincides with the first appearance of Paleolithic art such as cave paintings and the development of technological innovation such as the spear-thrower. The Upper Paleolithic begins around 50, to 40, years ago, and also coincides with the disappearance of archaic humans such as the Neanderthals. The term "behavioral modernity" is somewhat disputed. It is most often used for the set of characteristics marking the Upper Paleolithic, but some scholars use "behavioral modernity" for the emergence of H. These are also known as "European early modern humans" in contrast to the preceding Neanderthals. Further reports of research on cave sites along the southern African coast indicate that "the debate as to when cultural and cognitive characteristics typical of modern humans first appeared" may be coming to an end, as "advanced technologies with elaborate chains of production" which "often demand high-fidelity transmission and thus language" have been found at Pinnacle Point Site 5â€”6. These have been dated to approximately 71, years ago. The researchers suggest that their research "shows that microlithic technology originated early in South Africa, evolved over a vast time span c. Since sea levels were low due to

so much water tied up in glaciers , such marshlands would have occurred all along the southern coasts of Eurasia. The use of rafts and boats may well have facilitated exploration of offshore islands and travel along the coast, and eventually permitted expansion to New Guinea and then to Australia. Retrieved 12 January  
Origins of Anatomically Modern Humans. *Regnum animale* 10th ed. Retrieved 19 November Some scholars include humans of up to , years ago under the same species. See *Handbook of Death and Dying* , Volume 1. *Masters of the Planet: The Search for Our Human Origins*. Unfortunately this consensus in principle hardly clarifies matters much in practice. The only widely recognized archaic subspecies is H. However, Linnaeus postulated four other extant subspecies, viz. This classification remained in common usage until the mid 20th century, sometimes alongside H. *Proceedings of the National Academy of Sciences*. Wiley-Blackwell *Encyclopedia of Human Evolution*. *Journal of Mammalogy* , p. This usage is abandoned by the s, and H. This usage persists alongside H. *An Introduction to Philosophy of Human Nature* , p.

## Chapter 5 : Social Life | The Smithsonian Institution's Human Origins Program

*Human resources managers are employed in nearly every industry. They work in offices, and most work full time during regular business hours. Some must travel to attend professional meetings or to recruit employees.*

While our ancestors have been around for about six million years, the modern form of humans only evolved about 200,000 years ago. Civilization as we know it is only about 6,000 years old, and industrialization started in earnest only in the 18th century. The effects of humans on Earth cannot be understated. Every year, we fell forests and destroy other natural areas, driving species into smaller areas or into endangerment, because of our need to build more housing to contain our growing population. Enormous chunks of ice break off the Petermann Glacier in Greenland. The first tangible link to humanity started around six million years ago with a primate group called *Ardipithecus*, according to the Smithsonian Institution. Based in Africa, this group began the path of walking upright. This is traditionally considered important because it allowed for more free use of the hands for toolmaking, weaponry and other survival needs. Next came *Paranthropus*, which existed between about one million and three million years ago. The group is distinguished by its larger teeth, giving a wider diet. The *Homo* group including our own species, *Homo sapiens* began arising more than two million years ago, the museum said. Our species was distinguished about 200,000 years ago and managed to survive and thrive despite climate change at the time. While we started in temperate climates, about 60,000 to 80,000 years ago the first humans began straying outside of the continent in which our species was born. *GOCE* view of Africa.. These people made it to India, then by 50,000 years ago, southeast Asia and Australia. A little after this time, another group began an inland journey across the Middle East and south-central Asia, positioning them to later go to Europe and Asia, the magazine added. This proved important for North America, as about 20,000 years ago, some of these people crossed over to that continent using a land bridge created by glaciation. From there, colonies have been found in Asia dating as far back as 14,000 years ago. The first human mission to space took place April 12, 1961, when Soviet cosmonaut Yuri Gagarin made a single orbit of Earth in his spacecraft, *Vostok 1*. Since then, our colonization efforts in space have focused mostly on space stations. The men died during re-entry June 29 due to spacecraft decompression, meaning no further flights went to that station. There have been other space stations since. A notable example is *Mir*, which hosted several long-duration missions of a year or more including the longest single spaceflight duration of any human to date, 355 days, by Valeri Polyakov in *The International Space Station* launched its first piece Nov. 1998. The first humans to start the continuous occupation included Expedition 1 members Bill Shepard U.

## Chapter 6 : How Long Have Humans Been On Earth? - Universe Today

*Human papillomavirus (HPV) is a very common virus; nearly 80 million people "about one in four" are currently infected in the United States. Learn how you can protect the children in your life from this cancer-causing virus.*

## Chapter 7 : StarVR One: 90 FPS, SteamVR Tracking With "Nearly"™ Human FoV

*DNA sequence comparisons that include all the relevant data plainly show that the human and chimp genomes are not nearly identical at all. Instead, they are as distinct as one might expect based on the obvious differences in the resulting anatomies and behavioral capacities.*

## Chapter 8 : Nearly Human - Wikipedia

*Tiger Woods during a practice round for the Masters golf tournament on calendrierdelascience.com Credit David J. Phillip/Associated Press Like a lot of golfers, I'm rooting for Tiger Woods this weekend.*

## Chapter 9 : Nearly Human - Todd Rundgren | Songs, Reviews, Credits | AllMusic

## DOWNLOAD PDF HUMAN AND NEARLY HUMAN

*In fact, one could say that foraging made us human. As fruit trees in the rain forest became less abundant in the cooling, drying climate, the hominines who survived had to find other food sources. As they did, many traits evolved: walking on two feet (bipedalism), loss of most hair, smaller intestines, larger brains, and better communication.*