

Illustrated Holocene Era Timeline:

*Human Achievements, Advancements,
Innovations, and Understanding in Science
using EMILIANI's HE Calendar Reform Idea*

Before HE Edition

Before the Holocene Era: The Big Bang to the Stone Age

Circa 13,700,000,000 BHE: The universe began.^{1 2 3} Note: as of May **12019 HE** there is data to indicate the expansion of the Universe may be faster than previously measured. If so, the age of the Universe may be as young as 13 billion years, making the

¹ NASA WMAP (Wilkinson Microwave Anisotropy Probe) SCIENCE TEAM

² ALAN GUTH, *The Inflationary Universe: The Quest for a New Theory of Cosmic Origins*

³ MAX TEGMARK, *Our Mathematical Universe* and Royal Institution YouTube videos

Universe slightly younger than was previously thought. The scientific journey on this issue continues!⁴

Circa 13,400,000,000 BHE: The universe cooled to the point where the plasma became transparent to light. The cooling plasma formed the Star-stuff element Hydrogen from protons and electrons.⁵ Star-stuff elements Helium and Lithium were also formed.^{6 7}

⁴ <http://www.astronomy.com/magazine/news/2019/04/cosmic-conundrum-just-how-fast-is-the-universe-expanding>

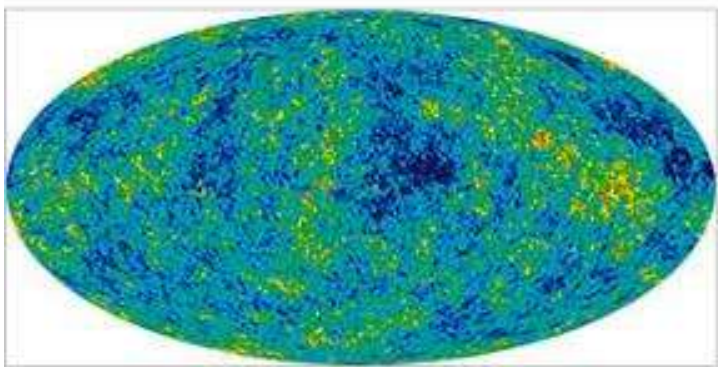
⁵ LAWRENCE M. KRAUSE *A Universe from Nothing*, page 43

⁶ https://en.wikipedia.org/wiki/Big_Bang_nucleosynthesis

⁷ https://en.wikipedia.org/wiki/Chemical_element

- ⇒ The amount of time from the previous entry to this entry is circa 300,000 years which is approximately 25 times longer than the entire Holocene Era.
- ⇒ The Cosmic Microwave Background (CMB) is the remnant of the big bang's energy and is direct evidence of the Big Bang.⁸

⁸ LAWRENCE M. KRAUSE *A Universe from Nothing*, page 42



⇒ Nine Year Microwave Sky Survey of the CMB.⁹

⁹ <https://map.gsfc.nasa.gov/media/121238/index.html>

⇒ CARL SAGAN said: “We are made of Star Stuff” in his TV series *Cosmos: A Personal Voyage*¹⁰. Throughout the Holocene Era Timeline, the term “Star Stuff” is inserted by Author / Compiler to reflect CARL SAGAN’s comment. We are made of what is in our universe and the universe is made of us. Many elements are further described with the scientist and at the HE time each was isolated.

Circa 13,300,000,000 BHE: Large volumes of matter are coaxed by gravity into forming trillions of stars in billions of galaxies. The first stars, called Population III stars, start the process of turning the light “Star Stuff” element Hydrogen into the heavier “Star Stuff” elements. Population II stars are formed early on in this

¹⁰ https://en.wikipedia.org/wiki/Carl_Sagan

process and continue today. Population I stars formed later and continue today.¹¹

⇒ Partial **12,018 HE** updated lyrics from the **11,982 HE** Monty Python “GALAXY SONG” sung by Eric Idle (which he says was accurate at the time – but of course science has moved forward, and more accurate information exists in **12,018 HE**): “Our galaxy itself contains 300 billion stars, It’s 100,000 light years side to side. It bulges in the middle 16,000 light years thick, but out by us it’s just 3 thousand light years wide. We’re 30,000 light years from galactic central point; We go round

¹¹ https://en.wikipedia.org/wiki/Chronology_of_the_universe

every 200 million years; And our galaxy is only one of millions and billions, in this amazing and expanding Universe.”¹²

Circa 13,200,000,000 BHE: The Milky Way Galaxy formed.¹³

¹² Eric Idle song updated with help from Professor BRIAN COX <http://www.comedy-songs.com/news.php?ID=38>

¹³ https://en.wikipedia.org/wiki/Milky_Way



Artist's concept of the Milky Way Galaxy, Credit JPL.¹⁴

Circa 13,200,000,000 BHE: Many Population III stars have lived their lifetimes, resulting in Hypernova stellar explosions which are

¹⁴ https://www.nasa.gov/mission_pages/GLAST/science/milky_way_galaxy.html

energetic enough to form heavier “Star Stuff” elements: Beryllium, Boron, Carbon, Nitrogen, Oxygen, Fluorine, Neon, Sodium, Magnesium, Aluminum, Silicon, Phosphorus, Sulphur, Chlorine, Argon, Potassium, Calcium, Scandium, Titanium, Vanadium, Chromium, Manganese, and Iron.^{15 16 17}

⇒ Second and third generation super novae produce heavier elements beyond iron because very massive stars live fast and die young in cataclysmic supernova explosions. In our galaxy, such stars go supernova about once a century. These explosions are far hotter than the core of our sun, hot enough to transform elements like Iron into all the heavier ones and spew them into space.¹⁸ These next heavier “Star Stuff” elements are: Cobalt,

¹⁵ https://en.wikipedia.org/wiki/Chemical_element

¹⁶ https://en.wikipedia.org/wiki/Stellar_nucleosynthesis

¹⁷ https://en.wikipedia.org/wiki/B2FH_paper

¹⁸ COSMOS, A Space Time Odyssey, by Ann Druyan Episode 6

Nickel, Copper, Zinc, Gallium, Germanium, Arsenic, Selenium, Bromine, Krypton, Rubidium, Strontium, Yttrium, Zirconium, Niobium, Molybdenum, Technetium, Ruthenium (atomic number 44, author really likes this element one because it relates my name to science), Rhodium, Palladium, Silver, Cadmium, Indium, Tin, Antimony, Tellurium, Iodine, Xenon, Cerium, Praseodymium, Neodymium, Promethium, Samarium, Europium, Gadolinium, Terbium, Dysprosium, Holmium, Erbium, Thulium, Ytterbium, Lutetium, Hafnium, Tantalum, Tungsten, Rhenium, Osmium, Iridium, Platinum, Gold, Mercury, Thallium, Lead, Bismuth, Polonium, Astatine, Radon,

Francium, Actinium, Thorium, Protactinium, Uranium, through Element with atomic number 93, Neptunium.^{19 20 21 22}

⇒ *The B2FH Paper* (See **11,957 HE²³**) comprehensively outlined and analyzed several key processes that are responsible for the nucleosynthesis of the elements heavier than iron and their

¹⁹ https://en.wikipedia.org/wiki/Stellar_nucleosynthesis

²⁰ https://en.wikipedia.org/wiki/Periodic_table

²¹ https://en.wikipedia.org/wiki/B2FH_paper

²² VERITAS IUM DEREK MULLER <https://www.youtube.com/watch?v=EAyk2OsKvtU>

²³ https://en.wikipedia.org/wiki/B2FH_paper

relative abundance by the capture within stars of free neutrons.²⁴

²⁵ ²⁶ ²⁷

Circa 4,600,000,000 BHE: Our sun was formed from the elements and material expelled by second and third generations of exploding stars.²⁸ ²⁹ Despite the lore from Superman comics, our sun is not a yellow sun, it is a white sun.³⁰

²⁴ https://en.wikipedia.org/wiki/Stellar_nucleosynthesis

²⁵ https://en.wikipedia.org/wiki/Periodic_table

²⁶ https://en.wikipedia.org/wiki/B2FH_paper

²⁷ VERITASIVM DEREK MULLER <https://www.youtube.com/watch?v=EAyK2OsKvtU>

²⁸ "Sun Fact Sheet". NASA Goddard Space Flight Center.

²⁹ Bonanno, A.; Schlattl, H.; Paternò, L. (2008). "The age of the Sun and the relativistic corrections in the EOS". *Astronomy and Astrophysics*. 390(3): 1115–1118. arXiv:astro-ph/0204331. Bibcode:2002A&A...390.1115B.doi:10.1051/0004-6361:20020749.

³⁰ Neil deGrasse Tyson explains 10 Things You have Heard and Re-told



Photo of our white sun.³¹

Circa 4,550,000,000 BHE Gravity congeals the stellar cloud of star stuff elements from which our sun was formed into the beginnings of our solar system, including planet Earth.^{32 33 34}

⇒ More updated lyrics from Monty Python's "THE GALAXY SONG": "Just remember that you're standing on a planet that's

³¹ Photo taken by Paul Premack, in the Southern Caribbean

³² https://en.wikipedia.org/wiki/Clair_Cameron_Patterson

³³ JULI PERETO <http://www.im.microbios.org/0801/0801023.pdf>

³⁴ BBC Men of Rock 2 of 3 Moving Mountains
<https://www.youtube.com/watch?v=w1wH3cGQLjE>

evolving and revolving at 900 miles an hour. That's orbiting at 19 miles a second, so it's reckoned, A sun that is the source of so much power. The sun and you and me and all the stars that we can see, are moving at six million miles a day in an outer spiral arm, 200,000 miles an hour, Of the galaxy we call the Milky Way.³⁵

Circa 4,100,000,000 BHE to 3,700,000,000 BHE: Abiogenesis: the first basic life forms evolved on Earth.^{36 37}

Circa 3,000,000,000 BHE: It was at this point that blue-green algae started to develop on Earth. Photosynthesis is the process by which

³⁵ Eric Idle song updated with help from Professor BRIAN COX <http://www.comedy-songs.com/news.php?ID=38>

³⁶ JULI PERETO <http://www.im.microbios.org/0801/0801023.pdf>

³⁷ <https://en.wikipedia.org/wiki/Abiogenesis>

plants use light to produce complex carbohydrates and release oxygen as a waste product. These changes in oxygen levels triggered the move toward biodiversity on Earth.³⁸

Circa 3,000,000,000 BHE to Circa 2,000,000,000 BHE: Most of the extra oxygen produced went into the oxidation of iron.³⁹ The Earth rusted.⁴⁰

Circa 500,000,000 BHE: As land plants began to grow on Earth, atmospheric oxygen reached the level of around 21%, where it has remained ever since.⁴¹

³⁸ PAUL PARSONS & GAIL DIXON, *The Periodic Table*

³⁹ PAUL PARSONS & GAIL DIXON, *The Periodic Table*

⁴⁰ Paul Premack

⁴¹ PAUL PARSONS & GAIL DIXON, *The Periodic Table*

Circa 450,000,000 BHE: The beginning of Amphibia.⁴² This means the beginning of amphibian life on Earth started circa 3 billion 650 million years after the first basic life forms began evolving on Earth.

Circa 300,000,000 BHE: The land-based egg.⁴³

Circa 300,000,000 BHE: The beginning of reptiles.⁴⁴

Circa 300,000,000 BHE: The beginning of dinosaurs.⁴⁵

⁴² ISAAC ASIMOV: ASIMOV'S Chronology of the World

⁴³ ISAAC ASIMOV: ASIMOV'S Chronology of the World

⁴⁴ ISAAC ASIMOV: ASIMOV'S Chronology of the World

⁴⁵ ISAAC ASIMOV: ASIMOV'S Chronology of the World

Circa 220,000,000 BHE: The beginning of placental mammals.⁴⁶

Circa 100,000,000 BHE: The beginning of primates.⁴⁷

Circa 100,000,000 BHE: Plants covered the surface of the earth for 100's of millions of years before they grew their first flower--- just before the extinctions of the dinosaurs.⁴⁸

Circa 65,000,000 BHE: The end of large land dinosaurs.⁴⁹

⁴⁶ ISAAC ASIMOV: ASIMOV'S Chronology of the World

⁴⁷ ISAAC ASIMOV: ASIMOV'S Chronology of the World

⁴⁸ COSMOS, A Space Time Odyssey, by Ann Druyan Episode 6

⁴⁹ ISAAC ASIMOV: ASIMOV'S Chronology of the World

Circa 40,000,000 BHE: The beginning of monkeys.⁵⁰

Circa 30,000,000 BHE: The beginning of apes.⁵¹

Circa 5,000,000 BHE: The beginning of hominids, the fossil ancestor of humans.⁵² Wait about 4.7 million years for humans (See **circa 300,000 BHE**).

Circa 3,980,000 BHE: Bipedal species emerged, *Australopithecines* Genus *Homo*.⁵³

⁵⁰ ISAAC ASIMOV: ASIMOV'S Chronology of the World

⁵¹ ISAAC ASIMOV: ASIMOV'S Chronology of the World

⁵² https://en.wikipedia.org/wiki/Human_evolution#First_fossils

⁵³ ISAAC ASIMOV: ASIMOV'S Chronology of Science and Discovery



Australopithecus Africanus reconstruction, San Diego Museum of Man, photographer unknown.⁵⁴

- Author / Compiler note: Science has determined it took individuals in those bipedal species circa 580,000 years to start making tools and to launch the Stone Age.

Circa 3,400,000 BHE: During **12,010 HE**, fossilized animal bones bearing marks from stone tools were found in the Lower Awash

⁵⁴ https://en.wikipedia.org/wiki/San_Diego_Museum_of_Man

Valley in Ethiopia. Discovered by an international team led by SHANNON MCPHERRON.⁵⁵

Circa 3,300,000 BHE: Kenya: Archaeological discoveries in Kenya in **12,015 HE**, identifying possibly evidence of hominin use of tools, have indicated that Kenyanthropus platyops (an early hominin species) were the earliest known tool users⁵⁶.

⁵⁵ https://en.wikipedia.org/wiki/History_of_Ethiopia#Prehistory

⁵⁶ <https://en.wikipedia.org/wiki/Kenyanthropus>



Pliocene *Kenyanthropus platyops* skull, photographer and location unknown⁵⁷

⁵⁷ <https://en.wikipedia.org/wiki/Kenyanthropus>

Circa 3,200,000 BHE: Ethiopia, “Lucy,” Bipedal walking.⁵⁸



⁵⁸ [https://en.wikipedia.org/wiki/Lucy_\(Australopithecus\)](https://en.wikipedia.org/wiki/Lucy_(Australopithecus))

Lucy skeleton reconstruction at the Cleveland Museum of Natural History.⁵⁹

⇒ Discovered by DONALD JOHANSON, MAURICE TAIEB, YVES COPPENS AND TOM GRAY.⁶⁰

Circa 2,900,000 BHE to 2,700,000 BHE: Ethiopia: the species who made the Pliocene tools remains unknown. Fragments of *Australopithecus garhi*, *Australopithecus aethiopicus* and *Homo*, possibly *Homo habilis* have been found in sites near the age of the Gona tools. Stone tools had been found several sites at Gona, Ethiopia, on the sediments of the paleo-Awash River, which serve to date them. All the tools come from the Busidama Formation,

⁵⁹ [https://en.wikipedia.org/wiki/Lucy_\(Australopithecus\)](https://en.wikipedia.org/wiki/Lucy_(Australopithecus))

⁶⁰ [https://en.wikipedia.org/wiki/Lucy_\(Australopithecus\)](https://en.wikipedia.org/wiki/Lucy_(Australopithecus))

which lies above a disconformity, or missing layer, which would have been from 2.9 to 2.7 million years ago.⁶¹



Gona tools, photographer and location unknown.⁶²

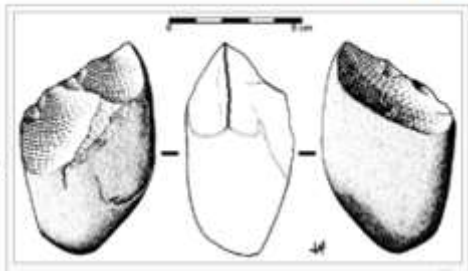
⁶¹ https://en.wikipedia.org/wiki/Stone_Age

⁶² www.dailymail.co.uk



Oldowan tradition chopper, photographer and location unknown.⁶³

Mode I: The Oldowan Industry



⇒ A typical Oldowan simple chopping tool. This example is from the Duero Valley, Valladolid, artist unknown.⁶⁴

Circa 2,600,000 BHE: The old sites containing tools are dated to 2.6–2.55 million years ago. One of the most striking circumstances

⁶³ <https://en.wikipedia.org/wiki/Oldowan>

⁶⁴ <https://en.wikipedia.org/wiki/Oldowan>

about these sites is that they are from the Late Pliocene, where previous to their discovery tools were thought to have evolved only in the Pleistocene. ROGERS and SEMAW, excavators at the locality, point out that: "...the earliest stone tool makers were skilled flintknappers The possible reasons behind this seeming abrupt transition from the absence of stone tools to the presence thereof include ... gaps in the geological record."⁶⁵

⁶⁵ https://en.wikipedia.org/wiki/Stone_Age



Obsidian projectile point, photographer and location unknown.⁶⁶

Circa 2,580,000 BHE: *Homo erectus*; *Homo erectus* may be divided into:

⁶⁶ <https://en.wikipedia.org/wiki/Oldowan>

⇒ *Homo erectus sensu stricto*, African origins⁶⁷ and *Homo erectus sensu lato*, Asian origins.⁶⁸



⇒

Reconstruction of a *Homo erectus* specimen from Tautavel, France, photographer unknown.⁶⁹

⁶⁷ https://en.wikipedia.org/wiki/Homo_erectus

⁶⁸ https://en.wikipedia.org/wiki/Homo_erectus

⁶⁹ https://en.wikipedia.org/wiki/Homo_erectus



Skull of *Homo erectus*, Indian Museum, photographer unknown.⁷⁰

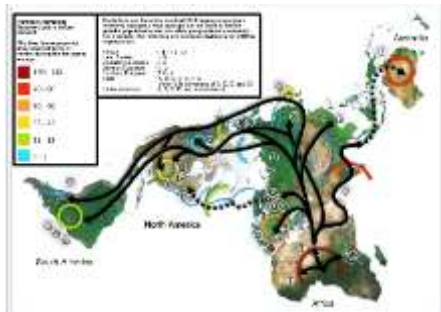
⁷⁰ https://en.wikipedia.org/wiki/Homo_erectus



Dmanisi skull 3, Fossils skull D2700 and D2735 jaw, two of several found in Dmanisi in the Georgian Caucasus, photographer and location unknown.⁷¹

⁷¹ https://en.wikipedia.org/wiki/Homo_erectus

Circa 1,989,999 BHE: Early migrations and expansions across continents began with the migration out of Africa of *Homo erectus*.⁷²



Map of POSSIBLE early human migrations, according to

⁷² https://en.wikipedia.org/wiki/Early_human_migrations

mitochondrial population genetics. Numbers are millennia before the present.⁷³

Circa 1,000,000 BHE: End of *Australopithecines*.⁷⁴

Circa 498,999 BHE: Primates first tamed and used fire.⁷⁵

Circa 300,000 BHE: At Jebel Irhoud, a site near Marrakesh that was first discovered by barite miners in the **11,960s HE**, holds fossils which are the earliest known remains of *Homo Sapiens*. These

⁷³ <https://en.wikipedia.org/wiki/Prehistory>

⁷⁴ ISAAC ASIMOV: ASIMOV'S Chronology of Science and Discovery

⁷⁵ ISAAC ASIMOV: ASIMOV'S Chronology of Science and Discovery

fossils suggest our species may have emerged more than 100,000 years earlier than previously thought.⁷⁶



12,017 HE: DR. JEAN-JACQUES HUBLIN seeing the finds at

⁷⁶ <https://www.history.com/news/how-homo-sapiens-fossils-found-in-morocco-may-rewrite-the-human-story>

Jebel Irhoud (Morocco), is pointing to the human skull (Irhoud 10) whose orbits are visible just beyond his finger tip. (Credit: SHANNON MCPHERRON, MPI EVA Leipzig, License: CC-BY-SA 2.0).⁷⁷

Circa 200,000 BHE – Circa 144,000 BHE: Africa, time of “mitochondrial Eve” and “Y-chromosomal Adam” *homo sapiens* in Africa.⁷⁸

Circa 189,999 BHE: Homo Sapiens Neanderthalensis emerged in Europe.⁷⁹

⁷⁷ <https://www.history.com/news/how-homo-sapiens-fossils-found-in-morocco-may-rewrite-the-human-story>

⁷⁸ https://en.wikipedia.org/wiki/Mitochondrial_Eve

⁷⁹ ISAAC ASIMOV: ASIMOV'S Chronology of Science and Discovery

Circa 183,000 BHE: Ethiopia: Rare *homo sapiens* fossils, from Kibish, Ethiopia.⁸⁰



The bones of an early member of our species *Homo Sapiens*,

⁸⁰ <https://www.sciencedaily.com/releases/2005/02/050223122209.htm>

known as “Omo 1” were excavated from Ethiopia’s Kibish rock formation, photographer and location unknown.⁸¹

⇒ Pushing the emergence of *Homo Sapiens* from about 160,000 years ago back to about 300,000 years ago “is significant because the cultural aspects of humanity in most cases appear much later in the record – only 50,000 years ago. Which would mean [many thousands of] years of *Homo Sapiens* without evidence of cultural stuff, such as evidence of eating fish, of harpoons, anything to do with music (flutes and that sort of thing), needles, even tools. This stuff – evidence- all comes in very late, except for stone knife blades, which appeared between 50,000 and 200,000 years ago.”⁸²

⁸¹ <https://www.sciencedaily.com/releases/2005/02/050223122209.htm>

⁸² <https://www.sciencedaily.com/releases/2005/02/050223122209.htm>



A selection of prehistoric stone tools, photographer and location unknown.⁸³

Circa 170,000 BHE: *Homo Sapiens* first start to wear clothing.⁸⁴

Circa 119,999 BHE: The island of Crete is an early center of development.⁸⁵



Stone tools indicating ocean exploration capabilities of early humans. Photographer and location unknown.⁸⁶

⁸³ https://en.wikipedia.org/wiki/Stone_tool

⁸⁴ ISAAC ASIMOV: ASIMOV'S Chronology of the World

⁸⁵ ISAAC ASIMOV: ASIMOV'S Chronology of the World

⁸⁶ <http://www.nytimes.com/2010/02/16/science/16archeo.html>

Circa 100,000 BHE: India: The Bhimbetka rock shelters are an archaeological site of the Paleolithic exhibiting the earliest traces of human life on the Indian sub-continent.⁸⁷

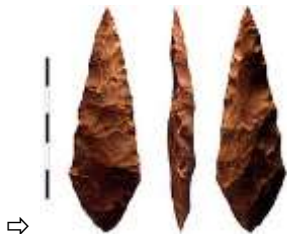


⇒ Current entrance to the Bhimbetka rock shelters, photographer unknown.⁸⁸

⁸⁷ https://en.wikipedia.org/wiki/Bhimbetka_rock_shelters

⁸⁸ https://en.wikipedia.org/wiki/Bhimbetka_rock_shelters

Circa 100,000 BHE – circa 77,000 BHE, to circa 61,000 BHE: South Africa: Blombos Cave is an archaeological site located in Blombosfontein Nature Reserve, about 300 km east of Cape Town on the Southern Cape coastline, South Africa.⁸⁹



⇒ Bifacial silcrete point from M1 phase (**61,000 BHE**) layer of Blombos Cave, South Africa.⁹⁰

⁸⁹ https://en.wikipedia.org/wiki/Blombos_Cave

⁹⁰ https://en.wikipedia.org/wiki/Blombos_Cave



- Tool from Toolkits at Blombos Cave, photographer and location unknown.⁹¹



● Engraved ochre Tool from Toolkits at Blombos Cave, photographer and location unknown.⁹²

⁹¹ https://en.wikipedia.org/wiki/Blombos_Cave

⁹² https://en.wikipedia.org/wiki/Blombos_Cave



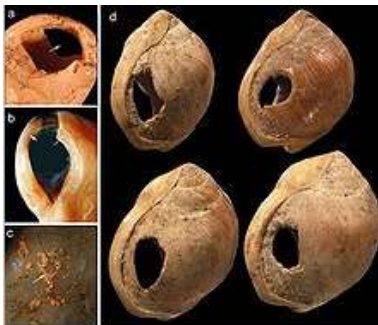
- Tool from Toolkits at Blombos Cave, photographer and location unknown.⁹³

⁹³ https://en.wikipedia.org/wiki/Blombos_Cave



● Snail Shells Tool from Toolkits at Blombos Cave, photographer and location unknown.⁹⁴

⁹⁴ https://en.wikipedia.org/wiki/Blombos_Cave



- Blombos Cave shell beads, photographer and location unknown.⁹⁵

Circa 78,000 BHE: Besides Blombos Cave, there are a number of African and Middle Eastern sites that all have yielded strong evidence for the early use of personal ornaments: Skul and Qafzeh,

⁹⁵ https://en.wikipedia.org/wiki/Blombos_Cave

Israel;⁹⁶ Oued Djebbana, Algeria; ⁹⁷ Grotte des Pigeons, Rhafas, Ifri n'Ammar and Contrebandiers, Morocco.^{98 99}

Circa 82,000 BHE: Prehistoric religions emerge. Prehistoric humans explained natural phenomena by attributing causation to active

⁹⁶ BAR-YOSEF MAYER, DANIELLA E. VANDERMEERSCH, BERNARD AND BAR-YOSEF, OFER (12,009HE) *Shells and ochre in Middle Paleolithic Skhul and Qafzeh, Israel: indications for modern behavior.* Journal of Human Evolution; VANHAEREN, MARIAN, et al. (12,006HE) Middle Paleolithic Shell Beads in Israel and Algeria. Science

⁹⁷ VANHAEREN, MARIAN, et al. (12,006 HE) Middle Paleolithic Shell Beads in Israel and Algeria. Science

⁹⁸ BOUZOUGGAR, A., et al. (12,007 HE) 82,000-year-old shell beads from North Africa and implications for the origins of modern human behavior. Proceedings of the National Academy of Sciences of the United States of America, 104, 9964-9. d'ERRICO, FRANCESCO, et al. (12,009 HE) *Out of Africa: modern human origins special feature: additional evidence on the use of personal ornaments in the Middle Paleolithic of North Africa. Proceedings of the National Academy of Sciences of the United States of America.*

⁹⁹ https://en.wikipedia.org/wiki/Blombos_Cave

agents, which they treated as their “gods”.¹⁰⁰ However, their curiosity and desire to seek explanations eventually will lead to scientific inquiry and illustrates the need to continue to move beyond superstition.

Circa 78,000 BHE, France: The location where current day scientist BRUCE HARDY and his colleagues have found slender 0.7-millimeter-long plant fibers that are twisted together near some stone artefacts at a site in south-east France that was occupied by Neanderthals 90,000 years ago. Such fibers are not twisted together in nature, says the team, suggesting that the Neanderthals were responsible.¹⁰¹

¹⁰⁰ https://en.wikipedia.org/wiki/Prehistoric_religion

¹⁰¹ Quaternary Science Reviews, doi.org/pzx

Circa 72,000 BHE: Morocco, Taforalt in Morocco; small perforated seashell beads are evidence of personal adornment found anywhere in the world.¹⁰²



The Bead Evidence: The shells belong to the species *N.*

¹⁰² <http://www.pnas.org/content/104/24/9964.long>

gibbosulus living today only in the eastern Mediterranean. The few known Pleistocene specimens are bigger than the modern representatives and show a thicker parietal shield size distribution of the Taforalt specimens is significantly different ($P < 0.0001$) from that of a modern biocoenosis, photographer and location unknown.¹⁰³

Circa 50,000 BHE: Outdated beginning of “modern humans.”¹⁰⁴ (See **Circa 300,000 BHE** for current evidence.)

Circa 39,999 BHE: Sydney, Australia - Aboriginal stone tools.¹⁰⁵

¹⁰³ <http://www.pnas.org/content/104/24/9964.long>

¹⁰⁴ ISAAC ASIMOV: ASIMOV'S Chronology of the World

¹⁰⁵ <https://strathbogierangesnatureview.files.wordpress.com>



Possible examples of these Aboriginal tools, photographer and location unknown.¹⁰⁶

¹⁰⁶ <https://strathbogierangesnatureview.files.wordpress.com/2012/07/dscf0534.jpg>

Circa 39,000 BHE: “Counting” in prehistory was first assisted by using body parts, primarily fingers; roughly coinciding with the appearance of behavioral modernity and before the development of agriculture.¹⁰⁷

Circa 39,000 BHE: In hunter-gatherer, pre-agricultural times, the human life expectancy was about 20-30 years.¹⁰⁸ (Note: the next major increase in human life expectancy is not for another circa 50,870 years – until **11,870 HE** when science and medical advancements started to benefit people and helped average age expectancy reach about 40 years.)¹⁰⁹

¹⁰⁷ https://en.wikipedia.org/wiki/History_of_ancient_numeral_systems

¹⁰⁸ CARL SAGAN, *The Demon-Haunted World; Science as a Candle in the Dark* p.10

¹⁰⁹ CARL SAGAN, *The Demon-Haunted World; Science as a Candle in the Dark* p.10

Circa 35,000 BHE: Cro-Magnon colonization of Europe.¹¹⁰



The "Old man of Cro-Magnon", Musée de l'Homme, Paris.¹¹¹

¹¹⁰ <https://en.wikipedia.org/wiki/Cro-Magnon>

¹¹¹ <https://en.wikipedia.org/wiki/Cro-Magnon>



Tool from Cro-Magnon – Louis Lartet Collection.¹¹²

Circa 33,000 BHE: The finds in the Grotta del Cavallo, Apulia, Italy, and Kents Cavern, Devon, have been confirmed as some of the earliest known remains of *Homo Sapiens* in Europe.¹¹³

Circa 33,000 BHE: Europe's Neanderthals may have begun making a relatively sophisticated bone tool called a “lisseur”, possibly to

¹¹² <https://en.wikipedia.org/wiki/Cro-Magnon>

¹¹³ <http://www.bbc.com/news/science-environment-15540464>

prepare animal skins, it is similar to those produced by our species.¹¹⁴



Four views of the most complete lissoir found during excavations at the Neanderthal site of Abri Peyrony in France, artist and photographer unknown.^{115 116}

¹¹⁴ <https://www.theguardian.com/science/2013/aug/12/neanderthals-invented-tool-leather-lissoir>

¹¹⁵ Photograph: Abri Peyrony/Pech-de-l'Azé I Projects

¹¹⁶ <https://www.theguardian.com/science/2013/aug/12/neanderthals-invented-tool-leather-lissoir>

Circa 33,000 BHE: Western Australia, Carpenters Gap Rock Shelter.¹¹⁷



Ground edge tiny hard stone Axe Flake, photographer and location unknown.¹¹⁸

¹¹⁷ <http://www.abc.net.au/news/2016-05-11/world's-oldest-known-ground-edge-stone-axe-fragments-found/7401728>

¹¹⁸ <http://www.abc.net.au/news/2016-05-11/world's-oldest-known-ground-edge-stone-axe-fragments-found/7401728>

<https://www.bing.com/images/search?q=susan+o%27connor+axe+flake&view=detailv2&&id=A55A98EABB84E3489B132BA55C2A870D9E9CEDA5&selectedIndex=3&ccid=e4hyO58%2b&simid=608026744578574860&thid=OIP.M7b88723b9f3e6e1ce05f0fbfae4dc11do0&ajaxhist=0>

Circa 32,000 BHE: Germany, Paleolithic flute.¹¹⁹



Aurignacian flute made from animal bone, Geissenklösterle (Swabia).¹²⁰

Circa 31,000 BHE: Altai Mountains, Siberia: Denisova hominin lived. Denisova hominins or Denisovans are Paleolithic members of the Homo genus that may belong to a previously unknown species of human. The Denisovans occupied a vast realm stretching from the

¹¹⁹ https://en.wikipedia.org/wiki/Paleolithic_flutes

¹²⁰ https://en.wikipedia.org/wiki/Paleolithic_flutes

chill expanse of Siberia to the steamy tropical forests of Indonesia - suggesting the third human of the Pleistocene displayed a level of adaptability previously thought to be unique to modern humans.¹²¹



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Circa 30,000 BHE: Spain, Altamira Cave, El Castillo,¹²³

¹²¹ http://www.bradshawfoundation.com/origins/denisova_hominin.php

¹²² http://www.bradshawfoundation.com/origins/denisova_hominin.php

¹²³ <http://whc.unesco.org/en/list/310>



Altamira Cave, Oldest known cave paintings, photographer unknown.¹²⁴

¹²⁴ <http://whc.unesco.org/en/list/310>

Circa 30,000 BHE – 20,000 BHE: Australia: First human settlement of Aboriginal Australians in the areas which are now known as Sydney, Perth, and Melbourne.¹²⁵



Bradshaw rock paintings found in the north-west Kimberly Region of Western Australia.¹²⁶

¹²⁵ <http://www.australiaforeveryone.com.au/wa/bradshaw-art.htm>

¹²⁶ <http://www.australiaforeveryone.com.au/wa/bradshaw-art.htm>

Circa 29,999 BHE – Circa 1 HE: Australia: Kakadu National Park is a protected area in the Northern Territory of Australia, 171 km southeast of Darwin. The site was added to the Australian National Heritage List in **12,007 HE**. There are more than 5,000 recorded art sites illustrating Ubirr Aboriginal culture over thousands of years. The archaeological sites demonstrate Aboriginal occupation for at least 20,000 and possibly up to 40,000 years.¹²⁷

¹²⁷ https://en.wikipedia.org/wiki/Kakadu_National_Park



The Ubirr Aboriginal rock art site, photographer unknown.¹²⁸



Rock art painting at Ubirr, photographer unknown.¹²⁹

¹²⁸ https://en.wikipedia.org/wiki/Kakadu_National_Park

¹²⁹ https://en.wikipedia.org/wiki/Kakadu_National_Park

Circa 29,999 BHE – Current times HE: Africa, San People inhabit the Kalahari Desert.¹³⁰



Rock paintings in the Cederberg, Western Cape, photographer unknown.¹³¹

¹³⁰ https://en.wikipedia.org/wiki/San_people

¹³¹ https://en.wikipedia.org/wiki/San_people



San paintings near Murewa, Zimbabwe, photographer unknown.¹³²

¹³² https://en.wikipedia.org/wiki/San_people



San paintings near Murewa, photographer unknown.¹³³

¹³³ https://en.wikipedia.org/wiki/San_people

Circa 29,000 BHE: Remains of humans found to have lived in Australia; named Mungo Man, Mungo Lady; oldest known ritual cremation, the Mungo Lady, in Lake Mungo, Australia.¹³⁴



Image of bones of Mungo Man, photographer unknown.¹³⁵

¹³⁴ https://upload.wikimedia.org/wikipedia/commons/f/fc/Mungo_Man.jpg

¹³⁵ https://upload.wikimedia.org/wikipedia/commons/f/fc/Mungo_Man.jpg



Image of Mungo Lake where remains of Mungo Man and Mungo Lady were discovered.¹³⁶ Photographer unknown.

¹³⁶ <http://www.donsmaps.com/images17/mungophotob.jpg>

Circa 28,000 BHE: New Guinea: some of the first farmers came to New Guinea from the South-East Asian Peninsula.¹³⁷

Circa 28,000 BHE – 23,000 BHE: Germany: oldest known figurative art; the artifact currently is displayed in the Ulm Museum, Germany.¹³⁸

¹³⁷ https://en.wikipedia.org/wiki/List_of_countries_and_islands_by_first_human_settlement

¹³⁸ <https://en.wikipedia.org/wiki/Lion-man>



Löwenmensch, a lion-headed figurine found in Germany, dating to circa 35,000 to 40,000 years ago, photographer unknown.¹³⁹

Circa 24,999 BHE: discovered in the Lebombo Mountains located between South Africa and Swaziland, *The Lebombo bone*: is the

¹³⁹ http://www.loewenmensch.de/lion_man.html

oldest mathematical fossil. It has tally marks, counting aids other than body parts, in the form of notched bone.¹⁴⁰

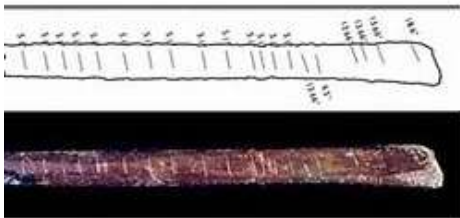


Image and drawing of *Lebombo Bone*; artist, photographer, location unknown.¹⁴¹

¹⁴⁰ <http://www.math.buffalo.edu/mad/Ancient-Africa/lebombo.html>

¹⁴¹ <https://trueddotorg.files.wordpress.com/2014/04/lebombo.png>

Circa 24,999 BHE: It is thought that human beings developed language circa **24,999 HE** as evidenced by cave paintings from the period of the Cro-Magnon Man (**c. 39,999 BHE- c. 19,999 BHE**) which appear to express concepts concerning daily life. These images suggest a language because, in some instances, they seem to tell a story (say, of a hunting expedition in which specific events occurred) rather than being simply pictures of animals and people.¹⁴²

¹⁴² <https://www.ancient.eu/writing/>

Circa 23,000 BHE: France: one of the oldest carved figurative art of a human figure.



Photo of *Venus of Laussel* in Musée d'Aquitaine in Bordeaux, France.¹⁴³

¹⁴³ https://en.wikipedia.org/wiki/Venus_of_Laussel

Circa 23,000 BHE: Hohle Fels is a cave in Schelklingen, Germany, “*Venus of Hohle Fels*” figurine of a woman hewn from the ivory of a mammoth tusk.¹⁴⁴



Photo of Discovered in **12,008 HE** by a team from the

¹⁴⁴ https://en.wikipedia.org/wiki/Venus_of_Hohle_Fels

University of Tübingen, led by archaeologist NICHOLAS CONARD.¹⁴⁵ Two views of the *Venus of Hohle Fels* 35,000-year-old figurine (height 6 cm (2.4 in)), which may have been worn as an amulet and is the one of the earliest known depiction of a human being in prehistoric art.¹⁴⁶

Circa 23,000 BHE: France, The Chauvet-Pont-d'Arc Cave in the Ardèche department of southern France is a cave that contains some of the best-preserved figurative cave paintings in the world as well as other evidence of Upper Paleolithic life. It is located near the commune of Vallon-Pont-d'Arc on a limestone cliff above the former bed of the Ardèche River, in the Gorges de l'Ardèche.¹⁴⁷

¹⁴⁵ https://en.wikipedia.org/wiki/Hohle_Fels

¹⁴⁶ https://en.wikipedia.org/wiki/Venus_of_Hohle_Fels

¹⁴⁷ https://en.wikipedia.org/wiki/Chauvet_Cave



Closed to the public, this photo is a replica of Paintings in the Chauvet Cave.¹⁴⁸

¹⁴⁸ https://en.wikipedia.org/wiki/Chauvet_Cave

Circa 23,000 BHE: Japan, fragments from ground edge axes appear.¹⁴⁹

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Circa 22,000 BHE: Republic of Georgia: twisted rope; team of archaeologists and paleo biologists discovered flax fibers that are more than 34,000 years old, which were made by early humans. The fibers were discovered during systematic excavations.¹⁵¹

¹⁴⁹ Professor SUSAN O'CONNOR, from the Australian National University School of Culture, History and Language, <http://esciencenews.com/articles/2016/05/10/archaeologists.find.worlds.oldest.axe.australia>

¹⁵⁰ Jomon Era Japan: http://www.microsofttranslator.com/bv.aspx?ref=SERP&br=ro&mkt=en-US&dl=en&lp=JA_EN&a=http%3a%2f%2fjomon-japan.jp%2fkids%2fsee%2foutline%2f

¹⁵¹ <http://news.harvard.edu/gazette/story/2009/09/oldest-known-fibers-discovered/>



Clay bearing a textile imprint together with a cast.¹⁵²



One photo from the collection on the website.¹⁵³

¹⁵² <http://news.bbc.co.uk/2/hi/science/nature/790569.stm>

¹⁵³ <https://news.harvard.edu/gazette/story/2009/09/oldest-known-fibers-discovered/>

⇒ “This was a critical invention for early humans. They might have used this fiber to create parts of clothing, ropes, or baskets — for items that were mainly used for domestic activities,” says BAR-YOSEF. The items created with these fibers increased early humans’ chances of survival and mobility in the harsh conditions of this hilly region. The flax fibers could have been used to sew hides together for clothing and shoes, to create the warmth necessary to endure cold weather. They might have also been used to make packs for carrying essentials, which would have increased and eased mobility, offering a great advantage to a hunter-gatherer society.¹⁵⁴

¹⁵⁴ <https://news.harvard.edu/gazette/story/2009/09/oldest-known-fibers-discovered/>

Circa 21,000 BHE: Siberia: domestication of dogs. A 33,000-year-old domesticated dog skull bone was found in a Siberian mountain cave in the Atlai Mountains.¹⁵⁵



Photo of the 33,000-year-old dog skull; Photographer: Greg Hodgins, location unknown.¹⁵⁶

¹⁵⁵ <https://www.sciencedaily.com/releases/2012/01/120123152528.htm>

¹⁵⁶ <https://www.sciencedaily.com/releases/2012/01/120123152528.htm>

⇒ The dog skull presents some of the oldest known evidence of dog domestication and, together with an equally ancient find in a cave in Belgium, indicates that modern dogs may be descended from multiple ancestors.¹⁵⁷ ¹⁵⁸ Dogs accompanied humans while hunting and gathering,¹⁵⁹ and have remained companions to humans until modern times.

Circa 20,000 BHE: Japan, Okinawa, Yamashita-cho cave, Naha city, Human Bone artifacts in a layer of ash.¹⁶⁰

¹⁵⁷ <https://www.sciencedaily.com/releases/2012/01/120123152528.htm>

¹⁵⁸ <http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0057754>

¹⁵⁹ http://en.wikipedia.org/wiki/Origin_of_the_domestic_dog

¹⁶⁰ https://en.wikipedia.org/wiki/List_of_countries_and_islands_by_first_human_settlement

Circa 19,999 BHE: *Homo Sapiens* became dominant.¹⁶¹

Circa 18,000 BHE: India: Author / Compiler note: this entry is 80,000 years after the first Bhimbetka Rock Shelter BHE entry in this HE timeline because scientists have dated the rock paintings tradition which began in Bhimbetka rock shelters in India to this time in the HE.¹⁶²

¹⁶¹ ISAAC ASIMOV: ASIMOV'S Chronology of Science and Discovery

¹⁶² https://en.wikipedia.org/wiki/Bhimbetka_rock_shelters



Entrance of Bhimbetka, photographer and date unknown.¹⁶³

¹⁶³ https://en.wikipedia.org/wiki/Bhimbetka_rock_shelters



More photos of The Bhimbetka rock shelter and art, photographer and date unknown.¹⁶⁴

Circa 18,000 BHE: Russia, Sungir: first human burial site in Russia.¹⁶⁵

Circa 16,000 BHE to circa 12,000 BHE: Fired Clay; Czech Republic; or between Southern Russia and Spain.¹⁶⁶ The earliest ceramics made by humans were pottery objects (i.e. pots or vessels) or figurines made from clay, either by itself or mixed with other

¹⁶⁴ https://en.wikipedia.org/wiki/Bhimbetka_rock_shelters

¹⁶⁵ https://en.wikipedia.org/wiki/List_of_countries_and_islands_by_first_human_settlement

¹⁶⁶ <http://news.bbc.co.uk/2/hi/science/nature/790569.stm>

materials like silica, hardened, sintered, in fire.¹⁶⁷ *The Venus of Dolni Vestonice* figurine and a few others from locations nearby are the oldest known ceramic articles in the world.¹⁶⁸



Multiple views of the rarely displayed, ceramic Venus figurine *Dolní Věstonice*.¹⁶⁹

¹⁶⁷ <https://en.wikipedia.org/wiki/Ceramic>

¹⁶⁸ https://en.wikipedia.org/wiki/Venus_of_Doln%C3%AD_V%C4%B9stonice

¹⁶⁹ https://en.wikipedia.org/wiki/Venus_of_Doln%C3%AD_V%C4%B9stonice



When the *Venus of Dolni Vestonice* has to be moved, elaborate precautions are taken. Here is a photo of Venus arriving under armed escort at the Vienna Natural History Museum for the exhibit in the summer of **12,008 HE**. It was a very rare display of the *Venus of Dolni Vestonice*, photographer unknown.¹⁷⁰

¹⁷⁰ <https://www.youtube.com/watch?v=zAtmX5m12Jc>

Circa 13,000 BHE: Art, lamps.¹⁷¹

Circa 13,000 BHE: Africa: *The Ishango Bone* (discovered in the Democratic Republic of Congo) portrays what are believed to be a series of Prime numbers, and a lunar phase calendar.¹⁷²

¹⁷¹ ISAAC ASIMOV: ASIMOV'S Chronology of the World

¹⁷² https://en.wikipedia.org/wiki/Ishango_bone



Ishango Bone on exhibition at the Royal Belgian Institute of Natural Sciences.¹⁷³

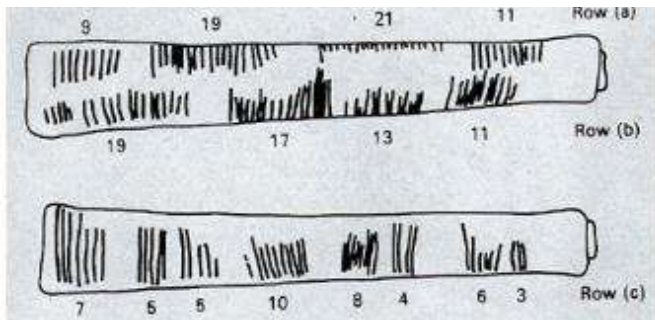
¹⁷³ https://en.wikipedia.org/wiki/Ishango_bone



Other photos of *the Ishango Bone*, circa 12,000 years younger than *the Lebombo bone*, it is the second oldest mathematical object.¹⁷⁴

¹⁷⁴ <http://www.math.buffalo.edu/mad/Ancient-Africa/ishango.html>

⇒ Some say that *the Ishango Bone* is the oldest table of prime numbers. MARSHACK later concluded, on the basis of his microscopic examination, that it represented a six-month lunar calendar or prime numbers or a menstrual calendar.¹⁷⁵



⇒

Recent studies with microscopes illustrate more markings and it

¹⁷⁵ <http://www.math.buffalo.edu/mad/Ancient-Africa/ishango.html>

is now understood the bone is also a lunar phase counter. Who but a woman keeping track of her cycles would need a lunar calendar? Were women our first mathematicians?¹⁷⁶

Circa 11,000 BHE - 4,000 BHE: Jerimalai cave site in East Timor. Earliest evidence of advanced deep-sea fishing technology at the site demonstrates high-level maritime skills and, by implication, the technology needed to make ocean crossings to reach Australia and other islands, as they were catching and consuming large numbers of deep-sea fish such as tuna.¹⁷⁷

¹⁷⁶ <http://www.math.buffalo.edu/mad/Ancient-Africa/ishango.html>

¹⁷⁷ http://archive.archaeology.org/1203/trenches/jerimalai_cave_east_timor_fish_hooks.html



“Reeling in Evidence of Early Fishing.” SUE O’CONNOR, an archaeologist at Australian National University, coauthored a study on the finds.¹⁷⁸

Circa 9,999 BHE: Modern humans had roamed the world by land. The men, women and children took advantage of access to Australia from South Eastern Asia and to North America from Northeastern

¹⁷⁸ http://archive.archaeology.org/1203/trenches/jerimalai_cave_east_timor_fish_hooks.html

Asia. They found their way to Japan. They found their way to South America.¹⁷⁹

Circa 8,000 BHE: Oil Lamp invented; Bow and Arrow used.¹⁸⁰

Circa 8,000 BHE: Italy, Sicily: Human cranium dated by gamma-ray spectrometry.¹⁸¹

Circa 7,000 BHE: Pennsylvania, USA: evidence of colonization of North America, Meadowcroft Rockshelter.¹⁸²

¹⁷⁹ ISAAC ASIMOV: ASIMOV'S Chronology of Science and Discovery page 8

¹⁸⁰ ISAAC ASIMOV: ASIMOV'S Chronology of Science and Discovery

¹⁸¹ https://en.wikipedia.org/wiki/List_of_countries_and_islands_by_first_human_settlement

¹⁸² https://en.wikipedia.org/wiki/Meadowcroft_Rockshelter

⇒ The remarkably complete archaeological site located near the Ohio River, 27 miles west-southwest of Pittsburgh shows the earliest known evidence of human presence and the longest sequence of continuous human occupation in the New World.¹⁸³

¹⁸³ https://en.wikipedia.org/wiki/Meadowcroft_Rockshelter



Outside view of Meadowcroft Rockshelter, PA, United States.¹⁸⁴



Photo of Meadowcroft Rockshelter by heinzhistorycenter.org.¹⁸⁵

Circa 5,300 BHE: Lascaux, France: cave painting of the Magdalenian Culture (**Circa 4,981 BHE – Circa 1 HE**). Currently only 5 people a day / 5 days a week are allowed in the actual cave. Visitors are directed to the replica Lascaux II.¹⁸⁶

⇒ It has been suggested that the complexity of the later cave art represents an attempt by Magdalenian man using “sympathetic magic” to cause the animals, they had hunted to almost extinction to once more become abundant.¹⁸⁷

¹⁸⁵ https://en.wikipedia.org/wiki/Meadowcroft_Rockshelter

¹⁸⁶ <http://www.ancient-wisdom.com/francelascaux.htm>

¹⁸⁷ <https://www.britannica.com/topic/Magdalenian-culture>



Photo of **11,940 HE** entrance to Lascaux Cave, France.¹⁸⁸

¹⁸⁸ <http://www.ancient-wisdom.com/francelascaux.htm>



“The Main Hall, photographer unknown.”¹⁸⁹

¹⁸⁹ <http://www.ancient-wisdom.com/francelascaux.htm>



“The Hall of Bulls”, photographer unknown.”¹⁹⁰

¹⁹⁰ <http://www.ancient-wisdom.com/francelascaux.htm>

Circa 4,981 BHE – Circa 1 HE: Magdalenian Culture in France and later Magdalenian sites have been found from Portugal in the west to Poland in the east.

⇒ The Magdalenian epoch was a long one, represented by numerous stations, whose contents show progress in the arts and general culture. It was characterized by a cold and dry climate, the existence of humans in association with the reindeer, and the extinction of the mammoth. The use of bone and ivory for various implements, already begun in the preceding Solutrean epoch, was much increased, and the period is essentially a bone period. The bone instruments are quite varied: spear-points, harpoon-heads, borers, hooks, and needles.¹⁹¹

¹⁹¹ <https://en.wikipedia.org/wiki/Magdalenian>

Circa 4,500 BHE – 9,700 HE: Japan Jōmon period Japan was inhabited by a hunter-gatherer culture, which reached a considerable degree of cultural complexity.¹⁹²



Photo of example of *Earliest Incipient Jomon Pottery* Tokyo National Museum, Japan, photographer unknown.¹⁹³

¹⁹² https://en.wikipedia.org/wiki/Jomon_period

Circa 2,999 BHE: Ancient Cyprus.¹⁹⁴

Circa 2,000 BHE: Herding.¹⁹⁵

Circa 500 BHE – to current: Native American Tribes.¹⁹⁶

¹⁹³ https://en.wikipedia.org/wiki/Jomon_period

¹⁹⁴ Author / Compiler's daughter Tiffany Premack introduced knowledge of Ancient Cyprus

¹⁹⁵ ISAAC ASIMOV: ASIMOV'S Chronology of the World

¹⁹⁶ <http://www.native-languages.org>



Per Native Tech: Map of Culture Areas and the Locations of 32 Native American Tribes: NORTHEAST: 1. Virginia

Algonquian; 2. North Carolina Algonquian; 3. Delaware; 4. Pequot; 5. Eastern Niantic; 6. Narragansett; 7. Wampanoag; 8. Eastern Abenaki; 9. Penobscott; 11. Huron; 10. Iroquois (Seneca, Mohawk, Onondoga); LAKES: 12. Fox; 13. Sauk; 14. Menomini; 15. Winnebago; 16. Kickapoo; 17. Ottawa; 18. Chippewa; SOUTHEAST: 19. Cherokee; 20. Creek; 21. Seminole; 22. Choctaw; PRAIRIE: 23. Shawnee; 24. Miami; 25. Illinois; 26. Arikara; PLAINS: 27. Arapaho; 28. Lakota; 29. Crow; 30. Blackfeet; PLATEAU: 31. Flathead; BASIN: 32. Paiute.¹⁹⁷

⇒ This is a list of all known Native American Tribes and languages:

- Abenaki (Abnaki, Abanaki, Abenaqui), Acatec, Achi, Achumawi (Achomawi), Acoma, Adai, Ahtna (Atna), Ais,

¹⁹⁷ Tara Prindle **11,994 HE**: <http://www.nativetech.org/clothing/regions/regions.html>

Akimel O'odham, Alabama-Coushatta, Aleut, Alsea, Alutiiq, Algonquians (Algonkians), Algonquin (Algonkin), Alsea, Andoke, Anishinaabe (Anishinabemowin, Anishnabay), Antoniaño, Apache, Apalachee, Apalachicola, Applegate, Arabela, Arapaho (Arapahoe), Arara, Arawak, Arikara, Arua, Ashaninka, Assiniboine, Atakapa, Atikamekw, Atsina, Atsugewi (Atsuke), Araucano (Araucanian), Avoyel (Avoyelles), Aymara, Aztec,

- Babine, Bannock, Bare, Bari, Baure, Beaver, Bella Bella, Bella Coola, Beothuks, Bidai, Biloxi, Black Carib, Blackfoot (Blackfeet), Blood Indians, Bora,
- Caddo (Caddoe), Cahita, Cahto, Cahuilla, Calusa (Caloosa), Carib, Carquin, Carrier, Caska, Catawba, Cathlamet, Cayuga, Cayuse, Celilo, Central Pomo, Chahta, Chalaque, Chappaquiddick (Chappaquiddic, Chappiquidic), Chatot, Chawchilla, Chehalis, Chelan, Chemehuevi, Cheraw, Cheroenhaka, Cherokee, Chetco, Cheyenne (Cheyanne),

Chiaha, Chickasaw, Chilcotin, Chimariko, Chinook, Chinook Jargon, Chipewyan, Chippewa, Chitimacha (Chitamacha), Choctaw, Cholon, Chontal de Tabasco, Chukchansi, Chumash, Clackamas (Clackama), Clallam, Clatskanie, Clatsop, Cmique, Cochimi, Cochiti, Cocopa (Cocopah), Coeur d'Alene, Cofan, Columbia (Columbian), Colville, Comanche, Comcaac, Comox, Conestoga, Coos (Coosan), Copalis, Coquille, Cora, Coree, Coso, Costanoan, Coughatta, Cowichan, Cowlitz, Cree, Creek, Croatan (Croatoan), Crow, Cuna, Cucupa (Cucapa), Cupa, Cupik (Cuit),

- Dakelh, Dakota, Dawson, Deg Xinag (Deg Hit'an), Delaware, Deline, Dena'ina, Dene, Dene Tha, Diegueno, Dine (Dineh), Dogrib, Dumna, Dunne-za,
- Eastern Inland Cree, Eastern Pomo, Eel River Athabascan, Eeyou, Endeve, Eno, Entiat, Erie, Eskimo, Esselen, Etchemin, Euchee, Excelen, Eyak,
- Flathead Salish, Fox,

- Gabrielino, Gae, Galibi, Galice, Garifuna, Gitxsan (Gitksan), Gosiute (Goshute), Grand Ronde, Grigra, Gros Ventre, Guarani, Guarijio, Gulf, Gwich'in (Gwichin, Gwitchin),
- Haida, Haisla, Halkomelem, Hän, Hanis, Hare, Hatteras, Haudenosaunee, Havasupai, Hawaiian, Heiltsuk, Heve, Hiaki, Hichiti (Hitchiti), Hidatsa, Hocak (Ho-Chunk, Hochunk), Hoh, Holikachuk, Hoopa, Hopi, Hualapai, Huichol, Huichun, Humptulips, Hupa, Huron,
- Illini (Illiniwek, Illinois), Inca, Ingalik, Innoko, Innu, Inuktitut (Inupiat, Inupiaq, Inupiatun), Iowa-Oto (Ioway), Iroquois Confederacy, Ishak, Isleño, Isleta, Itza Maya, Iynu,
- Jaqaru, James Bay Cree, Jemez, Juaneno (Juaneño), Jumano,
- Kainai (Kainaiwa), Kalapuya (Kalapuyan), Kalina, Kallawaya, Kanien'kehaka (Kanienkehaka), Kalispel, Kansa (Kanza, Kanze), Karankawa, Karkin, Karok (Karuk), Kashaya, Kaska, Kaskaskia, Kathlamet, Kato, Kaw, Kawki, Keres (Keresan), Kickapoo (Kikapu), Kiliwa (Kiliwi),

Kiowa, Kiowa Apache, Kitanemuk, Kitsai, Klallam, Klamath-Modoc, Klickitat, Koasati, Konkow, Kootenai (Ktunaxa, Kutenai), Koso, Koyukon, Kulanapan, Kumeyaay (Kumiai), Kuna, Kupa, KUnited Statesn, Kuskokwim, Kutchin, Kwakiutl (Kwakwala), Kwantlen,

- Laguna, Lake Indians, Lakhota (Lakota), Lassik, Laurentian (Lawrencian), Lenape (Lenni Lenape), Lillooet, Lipan Apache, Listiguj (Listuguj), Lnuk (Lnu), Lokono, Loup, Lower Umpqua, Luckiamute, Luiseño, Lumbee, Lummi, Lushootseed,
- Mahican, Maidu, Maina (Mayna), Makah, Makushi, Maliseet (Maliceet), Mandan, Mapuche (Mapudungun), Maricopa, Mattole, Matlatzinca, Mayan, Mayo, Meherrin, Mengwe, Menominee (Menomini), Meskwaki (Mesquakie), Methow, Miami-Illinois, Mical, Miccosukee, Michif, Micmac (Mi'gmaq), Mikasuki, Mi'kmaq, Mingo, Minqua, Minsi, Minto, Miskito (Mosquito), Missouriia, Miwok (Miwuk),

Mixe, Mixtec (Mixteco, Mixteca), Mobile, Mobilian Jargon, Mococo, Modoc, Mohave, Mohawk, Mohegan, Mohican, Mojave, Molale (Molalla, Molala), Monacan, Monache (Mono), Montagnais, Montauk, Multnomah, Munsee (Munsie, Muncey, Muncie), Muskogee (Muscogee, Mvskoke), Musqueam, Mutsun,

- Nabesna, Nahane (Nahani), Nahuat, Nahuatl, Nakoda (Nakota), Nambe, Nanaimo, Nanticoke, Nantucket, Narragansett, Naskapi, Natchez, Natchitoches, Natick, Naugutuck, Nauset, Navajo (Navaho), Nawat, Nespelem, Neutral, Nez Perce, Niantic, Nipmuc, Nisenan, Nisga'a (Nisgaa), Nlaka'pamux (Nlakapamux), Nooksack (Nooksak), Nootka (Nutka), Nottoway, Nuuchahnulth, Nuxalk,
- Ocuilteco, Oconee, Odawa, Ofo, Ohlone, Ojibwa (Ojibway, Ojibwe, Ojibwemowin), Okanagan (Okanogan), Okmulgee, Omaha-Ponca, Oneida, Onondaga, O'odham (Oodham), Opata, Osage, Otchipwe, Otoe, Ottawa, Ozette,

- Pai, Paipai, Paiute, Palouse, Pamlico, Panamint, Papago-Pima, Pascua Yaqui, Passamaquoddy, Patuxet, Patwin, Paugussett (Paugusset), Pawnee, Pecos, Pee Dee, Peigan, Pend D'Oreille, Pennacook, Penobscot (Pentagoet), Pensacola, Peoria, Pequot, Petun, Picuris, Piegan (Piikani), Pima, Pima Bajo, Pipil, Piscataway, Pit River, Plains Indian Sign Language, Pojoaque, Pomo (Pomoan), Ponca, Poospatuck (Poosepatuck), Popoluca (Popoloca), Potawatomi (Pottawatomie, Potawatomie), Powhatan, Pueblo, Puquina,
- Quapaw (Quapa), Qualicum, Quechan, Quechua, Queets, Quilcene, Quileute, Quinault, Quinpiac,
- Raramuri, Red Indians, Restigouche, Rumsen, Runasimi,
- Saanich, Sac, Saliba, Salinan, Salish, Samish, Sanpoil, Santee, Santiam, Santo Domingo, Saponi, Sarcee (Sarsi), Sasta, Satsop, Savannah, Sauk, Saulteaux, Sechelt, Sekani, Seminoles, Seneca, Seri, Serrano, Shakori, Shanel, Shasta, Shawnee (Shawano), Shinnecock, Shoshone (Shoshoni),

Shuar, Shuswap, Siksika, Siletz, Sinkyone, Sioux, Siuslaw, Skagit, Skin, S'Klallam, Skokomish, Slavey (Slave, Slavi), Sm'algyax, Snohomish, Sooke, Southern Paiute, Spokane (Spokan), Squamish, Steilacoom, Stockbridge, Sto:lo, Stoney, Suquamish, Suruwaha, Susquehannock, Swampy Cree, Swinomish,

- Tachi (Tache), Tagish, Tahltan, Taino, Takelma, Takla, Tanacross, Tanaina, Tanana, Tangipahoa, Tano, Taos, Taposa, Tarahumara, Tataviam, Tehachapi, Ten'a, Tenino, Tepehuano, Tequesta, Tesuque, Tewa, Thompson, Tigua, Tillamook, Timbisha, Timucua, Tinde, Tiwa, Tiwanaku, Tjekan, Tlahuica, Tlingit, Tohome, Tohono O'odham, Tolowa, Tongva, Tonkawa, Towa, Tsalagi (Tsa-la-gi), Tsilhqot'in, Tsimshian, Tsuu T'ina, Tualatin, Tubar (Tubare), Tulalip, Tunica, Tupi, Tuscarora, Tutchone, Tutelo, Tututni, Twana, Twatwa, Tygh,

- Uchi (Uche), Ukiah (Uki, Ukia), Umatilla, Unami, Unkechaug, Uru, Ute,
- Virginia Algonquian,
- Waco, Wahkiakum, Wailaki, Walapai, Walla Walla, Wampanoag, Wanapam, Wanki, Wappinger, Wappo, Warm Springs, Wasco-Wishram, Washo (Washoe), Wateree, Waxhaw, Wea, Wenatchee, Wendat, Weott, Wichita (Witchita), Willapa, Winnebago, Wintu (Wintun), Wishram, Wiyot, Wyandot (Wyandotte), Wynoochee,
- Yakama (Yakima), Yamasee, Yamel, Yanesha, Yaquina, Yavapai, Yaqui, Yellowknife, Yokuts (Yokut), Yoncalla, Yucatec Maya (Yucateco, Yucatan), Yuchi, Yuki, Yuma, Yupik (Yuit), Yurok,
- Zapotec, Zia, Zoque, Zuni.¹⁹⁸

¹⁹⁸ <http://www.native-languages.org/languages.htm>

Circa 500 BHE: Cyprus, Aetokremnos:¹⁹⁹ evidence of humans using fire – burned bones of megafauna including pygmy elephants and the Cyprus Dwarf Hippopotamus.²⁰⁰

Circa 400 BHE: Columbia, El Abra: Stone, bone and charcoal artifacts.²⁰¹

Continue with the Holocene Era Timeline PDF to see how using CESARE EMILIANI'S calendar reform idea continues to put the accomplishments of humanity in an functional flow of time! ...

¹⁹⁹ <https://en.wikipedia.org/wiki/Aetokremnos>

²⁰⁰ Tiffany Premack, and

https://en.wikipedia.org/wiki/List_of_countries_and_islands_by_first_human_settlement

²⁰¹ https://en.wikipedia.org/wiki/List_of_countries_and_islands_by_first_human_settlement

About the Author / Compiler



Wife, Mom, Daughter, Law Office Business Manager, **11,990 HE** White House Honoree, Artist, Freedoms Foundation of Valley Forge Honoree, homeowner, EV driver, Recycling enthusiast, Starry Skies / Dark Skies enthusiast, Certified Laughter Yoga Leader, Ballroom dancer, Struggling author, friend to a few, acquaintance to a few more, SA Life Sunday Woman Honoree, sewing enthusiast, retired teacher for Junior Achievement – Favorite classes taught: “Enterprise in Action” and “Personal

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