

Kemetic Astrology

Master Class

Level 1 Class 1

History of the Time Keepers



Know-Thyself Academy

Life Force Development

by Khenti Sesh Metu Degg Khet

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A History of Timekeeping: From Ancient Africa to the Modern World

I. Introduction & Timeline

This section provides an overview of the course material, outlining a timeline of major developments in timekeeping from ancient times to the present day.

It establishes the scope of the course and introduces key themes, such as the African origins of timekeeping, the influence of various cultures, and the evolution of calendars.

1986 - Present: The Calendar Project: This contemporary initiative seeks to reclaim and reconstruct a calendar system rooted in African traditions.

1582 AD: The Gregorian Calendar: This calendar, currently used worldwide, is a modified version of the Julian calendar and reflects the influence of Christianity.

45 BC: The Julian Calendar: Developed under Julius Caesar, this calendar reformed the Roman lunar calendar and introduced a solar-based system, ultimately influencing the Gregorian calendar.

305 BC: Greek Adoption of the Kemetic Calendar: This highlights the influence of ancient Kemet (Egypt) on Greek culture and timekeeping practices.

1500 - 400 BC: The Aztec and Maya Calendars: These sophisticated calendar systems demonstrate the advanced astronomical knowledge of Mesoamerican civilizations.

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A History of Timekeeping: From Ancient Africa to the Modern World

5,000 years ago: Stonehenge: This iconic prehistoric monument in England demonstrates the ancient practice of tracking celestial events.

6,000 years ago: The Kemetic Calendar: This 365-day calendar, developed in ancient Kemet, serves as the foundation for the modern calendar system.

7,000 years ago: Nabta Playa: Located in Egypt, this ancient site provides evidence of early astronomical observations and timekeeping.

8,000 years ago: Warren Field, Scotland: This site contains a Mesolithic lunar-solar calendar, highlighting the widespread use of astronomical observations for timekeeping.

11,000 years ago: Wurdi Youang, Australia: This Aboriginal stone arrangement demonstrates the astronomical knowledge and timekeeping practices of indigenous Australians.

20,000 years ago: The Ishango Bone: Discovered in Africa, this bone tool with possible mathematical markings suggests the development of early counting systems and potentially a lunar calendar.

40,000 years ago: The Lebombo Bone: This African artifact, potentially a tally stick, suggests early lunar phase counting and the potential role of women in early mathematics.

75,000 - 200,000 years ago: South African Calendar: This ancient site, potentially dating back 200,000 years, challenges conventional narratives about the origins of timekeeping and astronomy.

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II. Calendars Used Around the World

This section explores the diverse methods of timekeeping developed by humans over millennia, highlighting the different types of calendars and their cultural significance.

Solar Calendars: Based on the Earth's revolution around the sun, these calendars typically have 365 days and track the seasons. The Kemetic calendar is believed to be the first solar calendar.

Lunar Calendars: These calendars focus on the moon's phases, resulting in calendars of 354-355 days. They were used for agricultural planning, determining sacred days, and tracking time.

Solar-Lunar Calendars: These calendars combine both solar and lunar methods, accounting for both the solar year and the moon's phases.

Seasonal Calendars: These calendars track cyclical patterns in nature, particularly useful for farmers. The Kemetic agricultural cycle is an example, divided into Akhet, Peret, and Shemu.

Star Calendars: These calendars track time based on the positions of stars and constellations, marking the passage of months and seasons. The orientation of the Big Dipper, for example, can indicate the time of year.

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III. The Genome Project and Human Origins

This section delves into the scientific evidence of human origins in Africa, using genetic research to trace human migration patterns and challenge Eurocentric narratives about history.

The Human Genome Project: This international research project aimed to map and sequence all the genes in the human genome, leading to a better understanding of human evolution and migration.

Haplotypes and Haplogroups: These genetic classifications help researchers trace ancestral groupings and migration patterns within populations.

Mitochondrial Eve: This common direct maternal ancestor of all humans lived in Africa approximately 200,000 years ago, further supporting the African origin of humanity.

Migration Out of Africa: Genetic evidence shows *Homo sapiens* migrating across the African continent and eventually spreading to other parts of the world between 80,000 and 50,000 years ago.

Matrilineal Inheritance: This concept, prevalent in many African cultures, aligns with the inheritance of mitochondrial DNA through the maternal line, reinforcing the importance of women in ancestry and cultural heritage.

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IV. Ancient Astronomy and Timekeeping

This section explores specific archaeological sites and artifacts from around the world, highlighting the astronomical knowledge and timekeeping practices of ancient cultures, particularly those of African origin.

South African Calendar (200,000 - 75,000 years old): This site, potentially the oldest astronomical observatory, challenges conventional timelines and emphasizes the deep roots of astronomical knowledge in Africa.

Lebombo Bone (43,000 years old): This bone tool, potentially used for lunar phase counting, suggests the early development of mathematical concepts in Africa.

Ishango Bone (20,000 years old): This bone tool with potential mathematical markings could represent an early counting system, further supporting the development of mathematical thought in ancient Africa.

Wurdi Youang (11,000 years old): This Aboriginal stone arrangement in Australia demonstrates the astronomical knowledge and timekeeping practices of indigenous cultures.

Warren Field (8,000 years old): This site contains a Mesolithic lunar-solar calendar, highlighting the widespread practice of tracking celestial events for timekeeping.

Nabta Playa (7,500 years old): This ancient site in Egypt provides evidence of early astronomical observations and potentially a calendar system aligned with the summer solstice.

Stonehenge (6,200 years old): This iconic monument, while often attributed to European cultures, likely reflects the influence of earlier astronomical knowledge originating in Africa.

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V. Kemetic Timekeeping

This section focuses specifically on the timekeeping practices of ancient Kemet (Egypt), emphasizing its sophisticated understanding of time and the cyclical nature of the cosmos.

Kemetic Concepts of Time: The Kemetic people recognized both linear time (Djet) and cyclical time (Neheh), reflecting their understanding of eternity and the recurring patterns of nature.

Kemetic Calendar: This calendar, based on a 360-day year with 12 months of 30 days each, was adjusted with five additional days to align with the solar year.

The Kemetic Week (Medju Heru): This 10-day period, often misinterpreted as a decade, demonstrates a unique approach to dividing time.

Each 10-day cycle within a month had a different name, associated with parts of the body: Tepi Medju Heru (beginning), Ab Her Medju Heru (middle), and Phwyher Medju Heru (end).

Kemetic Timekeeping Methods: The Kemetic people developed various tools and techniques for measuring time, including sundials, water clocks, and star charts, demonstrating their advanced understanding of astronomy.

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VI. Influence of Kemet on Other Cultures

This section examines the spread of Kemetic knowledge to other cultures, including Greece and Rome, highlighting the African origins of many concepts attributed to European civilization.

Stolen Legacy: This book by George G.M. James argues that many philosophical and scientific ideas attributed to ancient Greece were actually borrowed from ancient Kemet, challenging Eurocentric narratives about the origins of Western civilization.

The Four Qualities and Four Elements: This ancient theory, traced back to Kemet, suggests an understanding of opposites, transmutation, and the fundamental elements of the universe, potentially influencing later Greek philosophy.

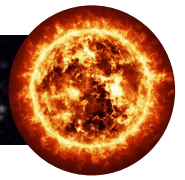
Greek and Roman Calendars: The Julian calendar, developed under Julius Caesar, was inspired by the Kemetic solar calendar and demonstrates the influence of Egyptian knowledge on Roman timekeeping practices.

VII. Conclusion

This concluding section summarizes the course's key takeaways, emphasizing the African origins of timekeeping and the enduring legacy of ancient knowledge on modern systems.

It encourages students to challenge dominant narratives and recognize the contributions of various cultures to our understanding of time and the cosmos.

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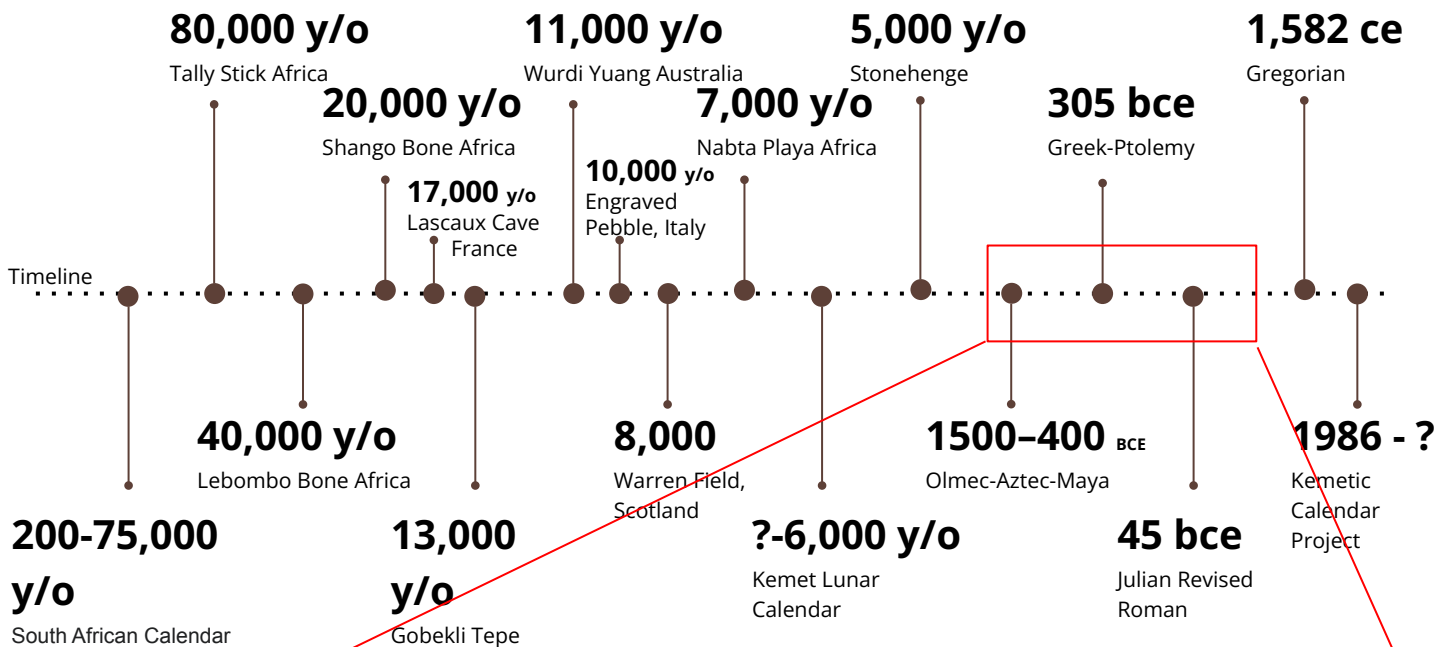
In this class we explore the history of timekeeping and calendrical systems, focusing on both ancient and modern systems.

In this class we discuss various methods of timekeeping, such as sundials, water clocks, and star clocks, with a specific emphasis on the development of the Kemetic calendar.

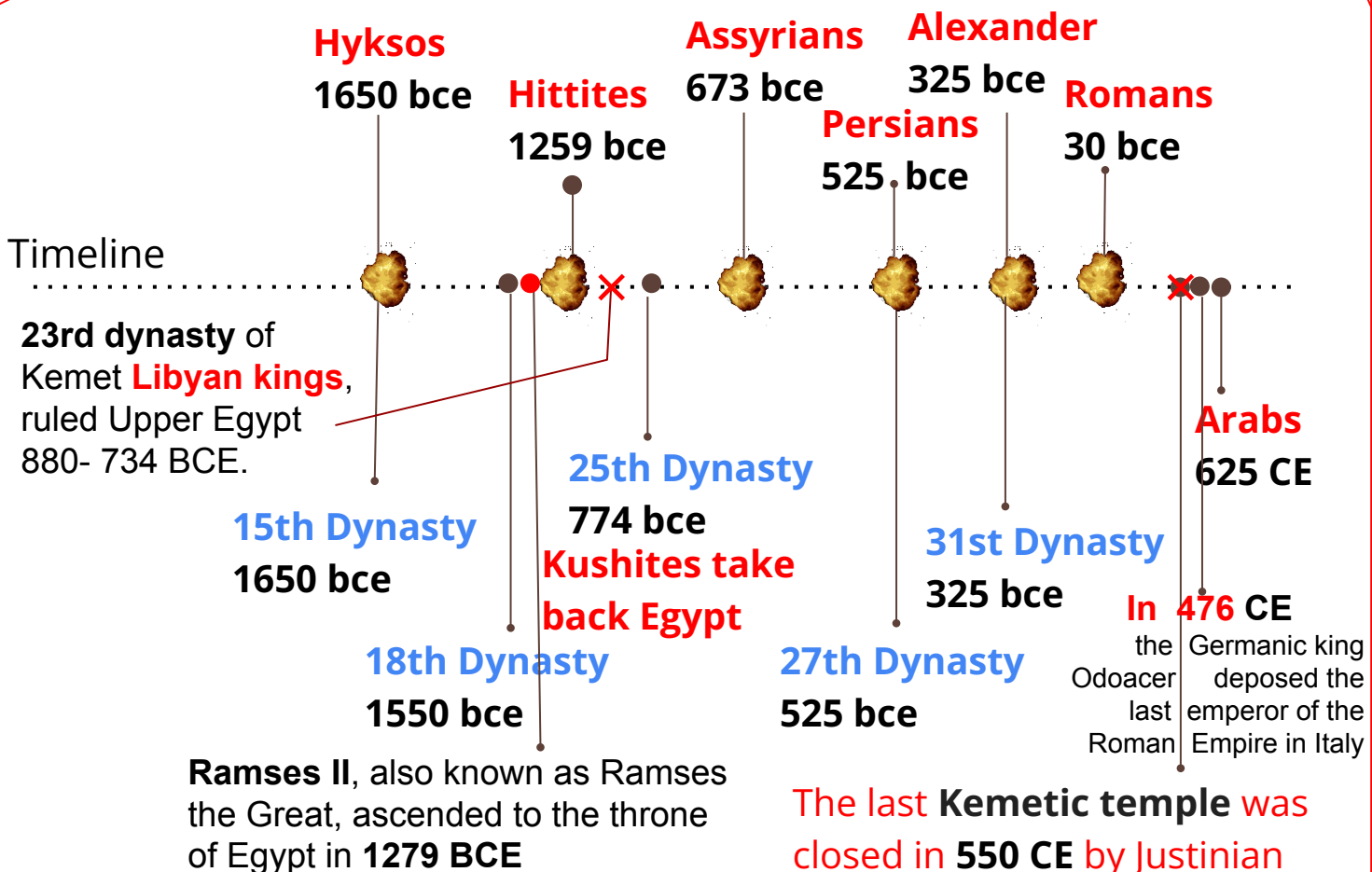
In this class we also explore the origins of calendars around the world, including lunar, solar, lunisolar, and seasonal calendars.

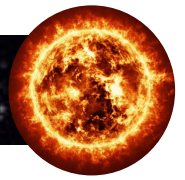
Furthermore, in this class we examine the history of human migration patterns and the genetic markers that provide evidence of these movements, particularly highlighting the role of the African Family in the development of timekeeping systems.

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Invasions of Egypt





Timeline of Events

This timeline focuses on the development of timekeeping and calendars, highlighting key events and archaeological finds related to human understanding of time. Please note that the dating of some artifacts remains subject to debate and ongoing research.

Prehistoric Era (BC)

200,000 - 75,000 years ago: Adam's Calendar (South Africa) - A collection of stone structures in Mpumalanga, South Africa, potentially used for astronomical observation. Dating is debated, with estimates ranging from 75,000 to 200,000 years old.

75,000 years ago: Possible beginning of South African calendar system in Mpumalanga.

43,000 years ago: Lebombo Bone (Africa) - A baboon fibula with incised markings, possibly used for lunar phase counting or as a tally stick.

20,000 years ago: Ishango Bone (Africa) - A bone tool featuring markings interpreted as tally marks or evidence of early mathematical understanding. Possible use as a lunar calendar.

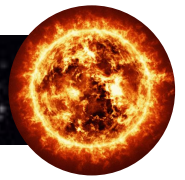
11,000 years ago: Wurdi Youang (Australia) - An Aboriginal stone arrangement in Victoria, Australia, possibly used for astronomical observation, including marking solstices and equinoxes.

9,500 years ago: Nabta Playa (Africa) - An early Neolithic site in the Nubian Desert with stone circles and alignments, believed to have been used for astronomical observation and marking the summer solstice.

8,000 years ago: Warren Field (Scotland) - A Mesolithic site with a series of pits potentially used as a lunisolar calendar, predating the Mesopotamian calendar.

6,000 years ago: Development of the ancient Kemetic (Egyptian) 365-day calendar.

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Ancient Era (BC)

5,000 bc: Construction of Stonehenge (England) begins.

4,800 bc: Establishment of the Nubian Empire in northeastern Africa, known for its astronomical knowledge.

2,100 bc: Diagonal star clocks appear in coffin lids in ancient Kemet.

1,500 bc: Development of water clocks in ancient Kemet.

1,324 bc: Earliest known representation of the Tebbin (ouroboros) symbol found in King Tutankhamun's tomb.

1,259 bc: The Hittites invade Kemet.

673 bc: The Assyrians invade Kemet.

5th Century BC: The Persians conquer Kemet from the Assyrians.
Classical Antiquity (BC - AD)

46 BC: Julius Caesar reforms the Roman calendar, creating the Julian calendar based on the Egyptian solar calendar.

30 BC: The Roman Empire conquers Egypt.

1st Century AD: Claudius Ptolemy writes his astronomical work, Almagest, which promotes the geocentric model of the universe.

Middle Ages (AD)

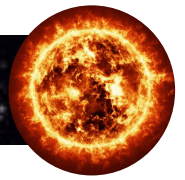
7th Century AD: Brahmagupta, an Indian mathematician, contributes significantly to arithmetic.

700 AD: The Arabs conquer Egypt.

750 - 1250 AD: Moorish scholars translate Greek and Roman texts into Arabic, preserving knowledge during the European Dark Ages.

1085 AD: The Moors conquer Spain.

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Modern Era (AD)

13th Century AD: The Arabic numeral for zero enters Europe.

14th Century AD: Ibn Battuta, a Maghrebi explorer, travels extensively and documents his journeys, including observations about matrilineal societies in Africa.

1582 AD: Pope Gregory XIII introduces the Gregorian calendar, a modification of the Julian calendar, to address inaccuracies and align Easter with the spring equinox.

17th Century AD: Widespread use of the Arabic numeral zero in Europe begins.

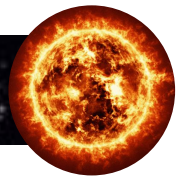
1954 AD: Stolen Legacy by George G.M. James is published, arguing for the Kemetic origin of Greek philosophy.

1986 AD: The Calendar Project, aimed at creating a calendar by and for people of African descent, is initiated by Sister Rkhty Amen.

1990 - 2003 AD: The Human Genome Project maps and sequences the human genome, leading to advancements in understanding human genetic history and the development of the Haplotype Map.

1997 AD: The fossil skulls of Homo sapiens idaltu, considered direct ancestors of modern humans, are discovered in Ethiopia.

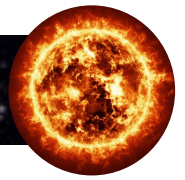
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Here are 8 Questions From what you learned so far.

- 1.** According to Diodorus, who were the Chaldeans, and what knowledge did they cultivate?
- 2.** What event marked the beginning of over 800 years of construction and alteration in ancient Kemet?
- 3.** Besides the Lebombo Bone, what other timekeeping artifacts from Africa are mentioned in the timeline on page 2 and page 5?
- 4.** What is the estimated age of the ancient Kemetian calendar, and what type of calendar did they initially use?
- 5.** What historical events highlight the interaction of different cultures with ancient Kemet?
- 6.** When was zero invented, and by whom?
- 7.** What is the significance of the lack of a year zero in the Gregorian and Julian calendars?
- 8.** What is the "Dark Ages" period, and how did Arab scholars contribute to knowledge during that time?

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Here are 8 Answers From what you learned so far.

1a. According to the Greco-Roman historian Diodorus Siculus, as relayed in the class, the Chaldeans were a colony of Kemetian priests descended from those who Belus transported to the Euphrates River region.

They were considered a caste of astronomer-priests and were believed to be of African origin. The Chaldeans continued to cultivate the knowledge of the stars, which they brought from their homeland.

2a. The erection of the Step Pyramid of Djoser, sometime around 2500 BC, marked the beginning of over 800 years of construction and alteration in ancient Kemet.

3a. The timeline includes these additional African artifacts:

* Tally Stick: Estimated to be 80,000 years old, representing an early form of numerical recording.

* Shango Bone: Dated 20,000 years old, potentially used for mathematical calculations and possibly timekeeping.

* Nabta Playa: A site in southern Kemet dating back 7,000 years, with evidence of astronomical alignments and a calendar circle.

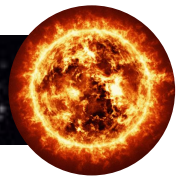
* South African Calendar: Believed to be between 75,000 and 200,000 years old, this site features potentially deliberately positioned stone formations.

4a. The estimated age of the ancient Kemetian calendar is around 5,000 years old.

They initially used a lunar calendar exclusively before adopting a solar calendar.

This transition reflects the evolving understanding of celestial cycles and their relationship to timekeeping.

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Here are 8 Answers From what you learned so far.

5a. This class mentions several events that illustrate the cultural exchange and conflicts between ancient Kemet and other civilizations:

- * The Assyrian conquest of Kemet (673-663 BCE): A relatively short but impactful period of Assyrian dominance over Kemet.
- * The Kushite rule in Kemet (25th Dynasty): During this period, the Kushite ruler Taharqa led the resistance against the Assyrian invaders.
- * The peace treaty between Ramesses II and the Hittite king Hattuşili III (c. 1259 BC): A significant diplomatic agreement that marked a period of peace between the two empires.
- * Persian expansion into Kemet (5th century BCE): Persian rulers, notably Cyrus the Great, sought to expand their empire, leading to their control of Kemet.
- * Alexander the Great's conquest of Kemet (323 BC): After Alexander's death, his kingdom was divided amongst his generals, with Kemet falling under Ptolemaic rule.

6a. Zero was invented in India (specifically the Kush region) in the sixth century.

It was later adopted or independently reinvented by the Arabs around the eighth century.

This invention played a crucial role in the development of mathematics and, by extension, impacted how we measure and understand time.

7a. The absence of a year zero in these calendars highlights a historical quirk in how time was conceptualized.

The transition from 1 BC to 1 AD occurs without an intervening year zero, meaning there's no designated starting point for the Common Era.

This can create confusion when calculating time spans across BC and AD dates

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Here are 8 Answers From what you learned so far.

Here are 8 Answers From what you learned so far.

8a. The "Dark Ages" refers to a period in European history, roughly from 476 to 1400 AD, characterized by a decline in intellectual and cultural activity.

During this time, Arabic scholars in the Islamic world played a crucial role in preserving and translating Greek philosophical, scientific, and medical texts, which later influenced the European Renaissance.

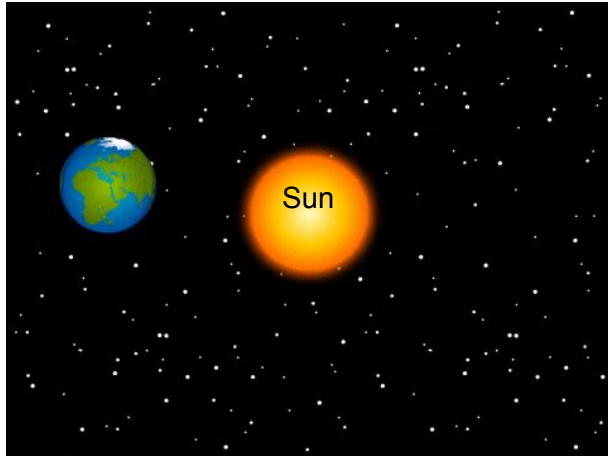
Their contributions were vital in transmitting knowledge across time and cultures.

Calendars Used Around the World

Calendars Used Around the World

For over **70,000 years**, human beings have devised an enormous variety of methods for Timekeeping. The First people known to do this was the African Family.

There are **5 main types of calendars**: solar, lunar, lunisolar, seasonal calendars and Star Calendar.



A **solar calendar** is a calendar based on the Earth's journey around the sun, also known as its revolution. This trip takes about 365 and $\frac{1}{4}$ days, which is why most solar calendars have roughly 365 days in a year..

The **Kemetians** are believed to have created the first solar calendar in [His-Story](#), though the calendar we use today, the Gregorian calendar, wasn't developed until the 1500's ce.



Lunar calendars are base on the moon's phases, specifically the time it takes for the moon to go through all its phases and return to its starting point.

Lunar calendars have been around for a very, very long time, even predating solar calendars. They were used to track time, plan agricultural activities based on moon cycles, and determine sacred days.

Calendars Used Around the World

For over **70,000 years**, human beings have devised an enormous variety of methods for Timekeeping. The First people known to do this was the African Family.

There are **5 main types of calendars**: solar, lunar, lunisolar, seasonal calendars and Star Calendar.

Solar-Lunar



A lunisolar calendar is a calendar in many cultures, incorporating lunar calendars and solar calendars. The date of lunisolar calendars therefore indicates both the Moon phase and the time of the solar year, that is the position of the Sun in the Earth's sky.



Seasonal



A **seasonal calendar** is a visual tool used to track and understand how various factors change throughout the year. It's not a traditional calendar with specific dates, but rather a way to represent cyclical patterns, especially useful to farmers. We all have to eat.

Stars



A **Star calendar** is a calendar system that tracks time based on the positions of specific stars or constellations. This might involve marking the passage of months or seasons based on what position the stars are in..

Reference to astronomical cycles: A "star calendar" is used to describe a calendar that uses astronomical phenomena for reference.

Calendars Used Around the World

Here are 2 Questions From what you learned so far.

1. What are the five main types of calendars used around the world, and what are their defining characteristics?

2. According to what was said in class, which civilization is credited with creating the first solar calendar?

Calendars Used Around the World

Here are 2 Answers From what you learned so far.

1a. In this class we identify five main types of calendars:

* **Solar Calendars:** These calendars are based on the Earth's revolution around the Sun, with a year typically consisting of approximately 365 days. Months in solar calendars help track the progression through the seasons.

* **Lunar Calendars:** Lunar calendars focus on the Moon's phases, specifically the time it takes for the Moon to complete a full cycle. These calendars usually have 354-355 days and do not align directly with the solar year, causing months to shift gradually through different seasons.

* **Lunisolar Calendars:** These calendars attempt to reconcile both solar and lunar cycles, often by adding extra months or days to keep the two aligned.

* **Seasonal Calendars:** Seasonal calendars focus on the cyclical changes in nature throughout the year, such as weather patterns, plant growth, and animal behavior.

They are visual tools that help people understand and adapt to these natural rhythms.

* **Star Calendars:** These calendars track time based on the positions of specific stars or constellations.

They might mark the passage of months or seasons by observing the changing positions of stars in the night sky.

2a. In this class we learned that the Kemetians (ancient Egyptians) are believed to have created the first solar calendar.

However, the Gregorian calendar, the solar calendar widely used today, was not developed until the 16th century.

Genome Project

Genome Project

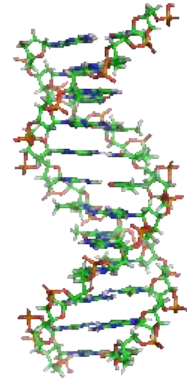




Genome Project

A genome is the complete set of **DNA** in an organism. It contains all the information needed for an organism to develop and function.

DNA stands for **D**eoxyribo**N**ucleic **A**cid. It's a molecule that contains genetic information that's unique to each person. **DNA** is the hereditary material in humans and most other organisms.



The **H**uman **G**enome **P**roject

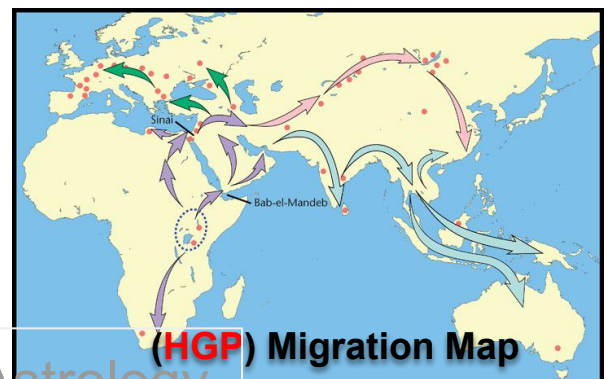
(HGP) was a **13-year international research project** that ran from 1990 to 2003. The project's goal was to identify, map, and sequence all of the genes in the human genome. The project also aimed to determine the base pairs that make up human DNA

(HGP) led to the development of a haplotype map, also known as "HapMap". HapMap is a tool that helps researchers identify genes and genetic variations that affect health and disease.

What is a Haplotype

A **haplotype** is a group of alleles (variations of a **gene**) in an organism that are inherited together from a single parent, and a haplogroup (**haploid** from the Greek: ἀπλοῦς, haploûs, "**onefold, simple**" and English: group) is a group of similar haplotypes **that share a common ancestor** with a single-nucleotide polymorphism mutation.

Nucleotide Polymorphisms, are the most common type of genetic variation among people



HaploGroups

What are haplogroups?

Haplogroups are genetic classifications or **ancestral groupings within a population**, typically defined by **shared, inherited genetic markers** or mutations. These markers are passed down from a common ancestor. They can be traced through the analysis of mitochondrial DNA (**mtDNA**) for maternal haplogroups and the Y chromosome for paternal haplogroups. **Haplogroups provide insights into human populations'** historical migrations and evolutionary history, helping researchers and genealogists understand the genetic relationships and ancestral origins of individuals and groups.

Every modern ancestor's origins can be **traced back to Africa**, with Homo sapiens (Humans) found in Africa's Great Rift Valley about **200,000 years ago**. All humans share a common direct maternal ancestor known as Mitochondrial Eve.

What is a Mitochondria?

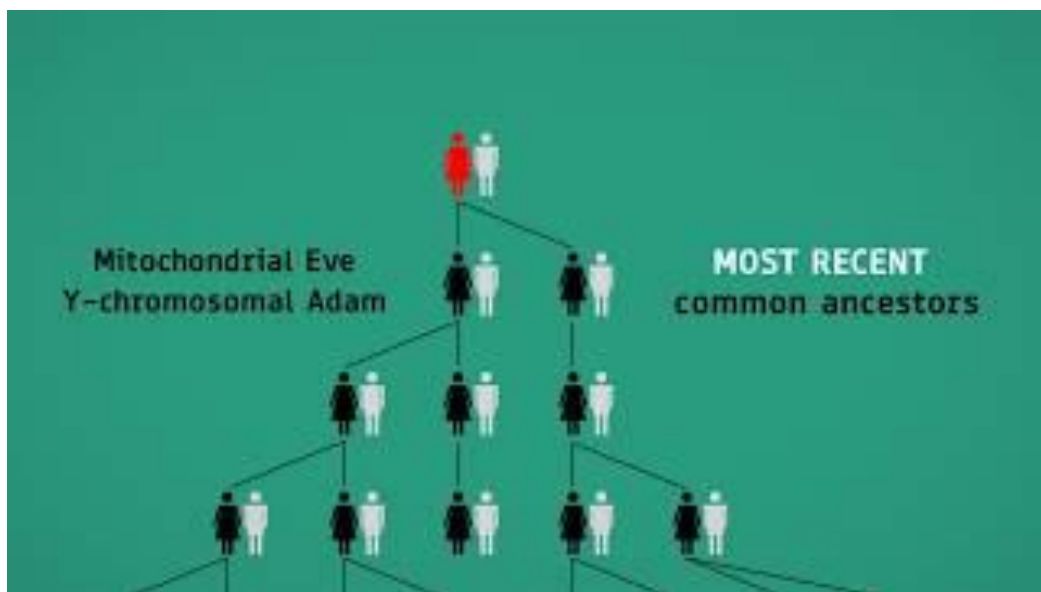


Mitochondrial Eve

Mitochondrial Eve is believed to be a part of a small group of humans who lived in Africa around the time of Idaltu (eDUL-too)skull, 160,000 y/o. The word Idaltu means “First Born”..

Mitochondrial DNA found in our cells is the genetic signature that has been passed from mother to child. Mitochondrial Eve was a woman who lived **200,000 years ago** who had enough daughters in a continuous chain that her Mitochondrial DNA survived.

Homo sapiens eventually migrate across the African continent around 120,000 years ago. It is only between 80,000 and **50,000 years ago** that some common **ancestors began to leave the continent** and spread our kind across the rest of the world.



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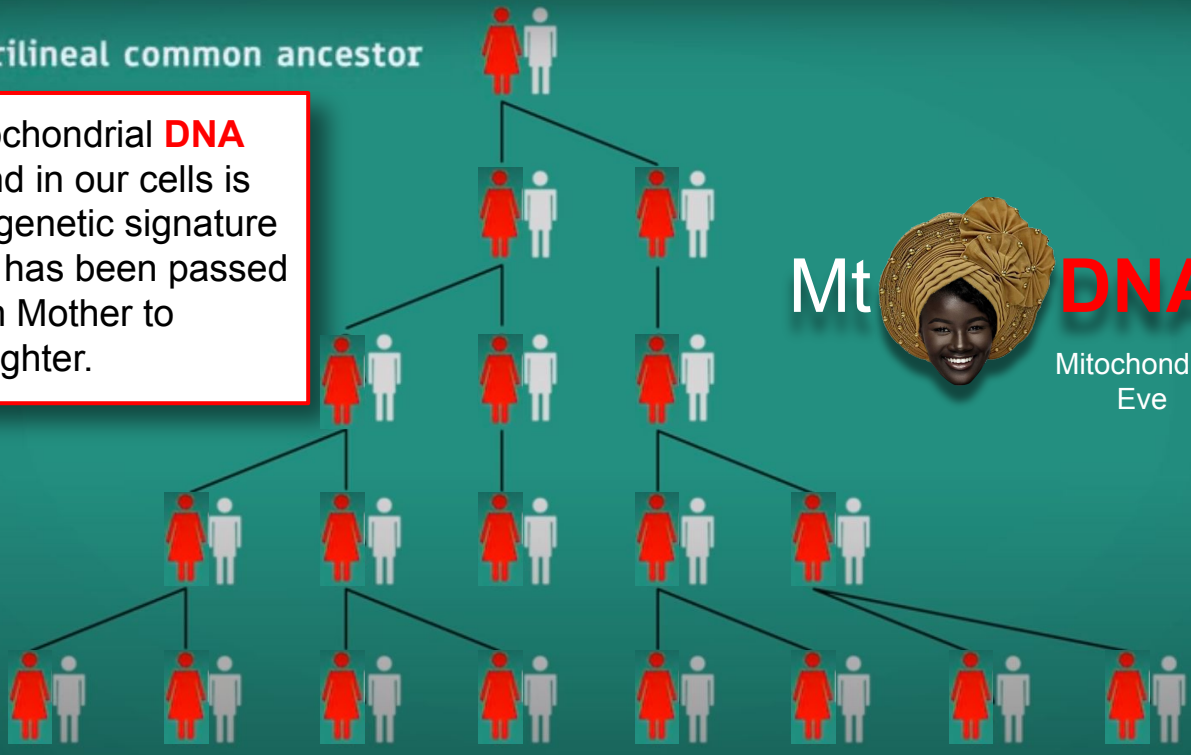


DNA

Mitochondrial Eve

Matrilineal common ancestor

Mitochondrial DNA found in our cells is the genetic signature that has been passed from Mother to Daughter.

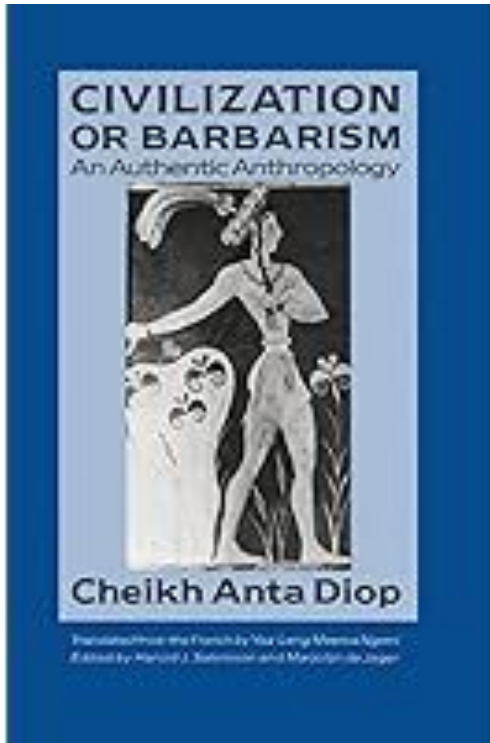


Your Blood line of Ancestors

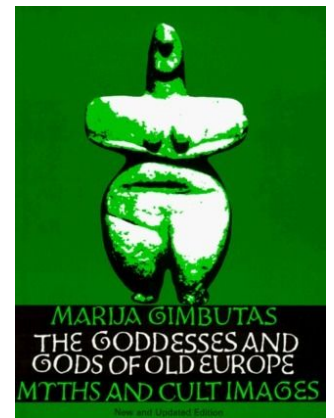
Generational Years	Generations	Ancestors	
	1	2	
20	2	4	
40	3	8	
60	4	16	
80	5	32	
100	6	64	
120	7	128	
140	8	256	
160	9	512	
180	10	1,024	thousand
200	11	2,048	
220	12	4,096	
240	13	8,192	
260	14	16,384	
280	15	32,768	
300	16	65,536	
320	17	131,072	
340	18	262,144	
360	19	524,288	
380	20	1,048,576	Million
400	21	2,097,152	
420	22	4,194,304	
440	23	8,388,608	
460	24	16,777,216	
480	25	33,554,432	
500	26	67,108,864	
520	27	134,217,728	
540	28	268,435,456	
560	29	536,870,912	
580	30	1,073,741,824	Billion
600	31	2,147,483,648	

Civilization or Barbarism by Dr Cheikh Anta Diop

On Page 19 Dr Cheikh Anta Diop says:



It is interesting to note that according to Marija Gimbutas (1) there existed an ancient civilization referred to as “of ancient Europe,” which came directly from the Upper **Paleolithic** and the **Mesolithic** periods, and which was characterized by a sedentary life, agriculture, a cult of the mother goddess, the fecundator of life, and other feminine divinities— a matriarchal, egalitarian, urbane, and peaceful society. It is said to have lasted for three millenia, from 6500 to 3500 B.C., and it never knew war: therefore a society which, in every aspect, brings to mind the sedentary, agrarian, and matrilineal African societies.



The Goddess and gods of Old Europe



(1) Marija Gimbutas (1921-1994) was a Lithuanian-American archeologist and archaeomythologist, and Professor Emeritus of European Archaeology and Indo-European

Paleolithic Age

The **Paleolithic Age**, meaning Old Stone Age, is the period of prehistory from approximately 3.3 million years ago to around 12,000 years ago, during which hominins (early humans) developed the use of basic stone tools and artifacts (man-made objects).

Mesolithic Age

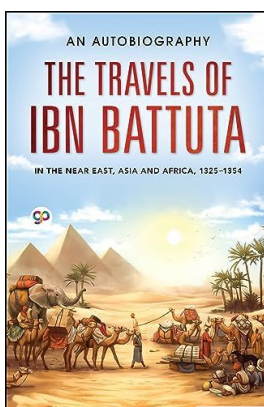
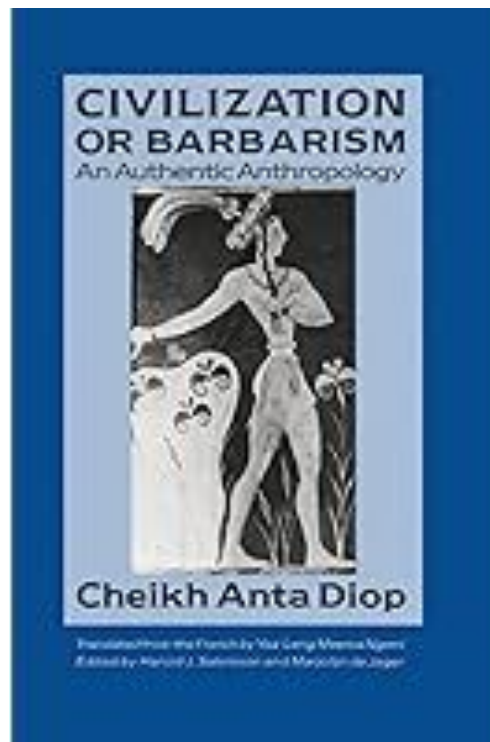
The **Mesolithic**, or Middle Stone Age, was a prehistoric period that lasted from 10,000–5,000 BC. It is an archaeological term used to describe cultures that fall between the Paleolithic and the Neolithic Periods.

Civilization or Barbarism by Dr Cheikh Anta Diop

On Page 107 Dr Cheikh Anta Diop says:



More precisely, in ancient Egyptian, sent = sister; in Wolof, sant = the proper name of a clan, which perpetuates the family line and is that of the mother, in other words, the sister of the uncle in a matrilineal system: it is through the sister that rights are transmitted and the “race” is perpetuated. According to Ibn Battuta, in the fourteenth century in Mali, men were not named after their fathers: “None of them [the men] is named after his father, but each traces his genealogy through that of his maternal uncle. Inheritance is collected by the sons of the sister of the deceased, to the exclusion of his own children.”



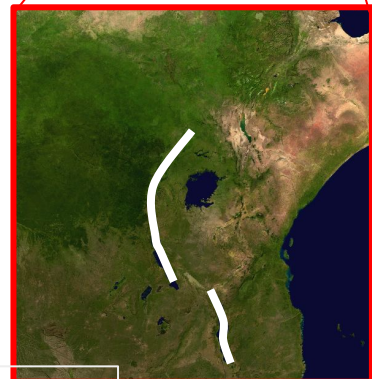
Abu Abdullah Muhammad ibn Battuta (24 February 1304 – 1368/1369), commonly known as Ibn Battuta, was a Maghrebi traveller, explorer and scholar. Over a period of thirty years from 1325 to 1354, Ibn Battuta visited most of North Africa. Near the end of his life, he dictated an account of his journeys, titled A Gift to Those Who Contemplate the Wonders of Cities and the Marvels of Travelling.



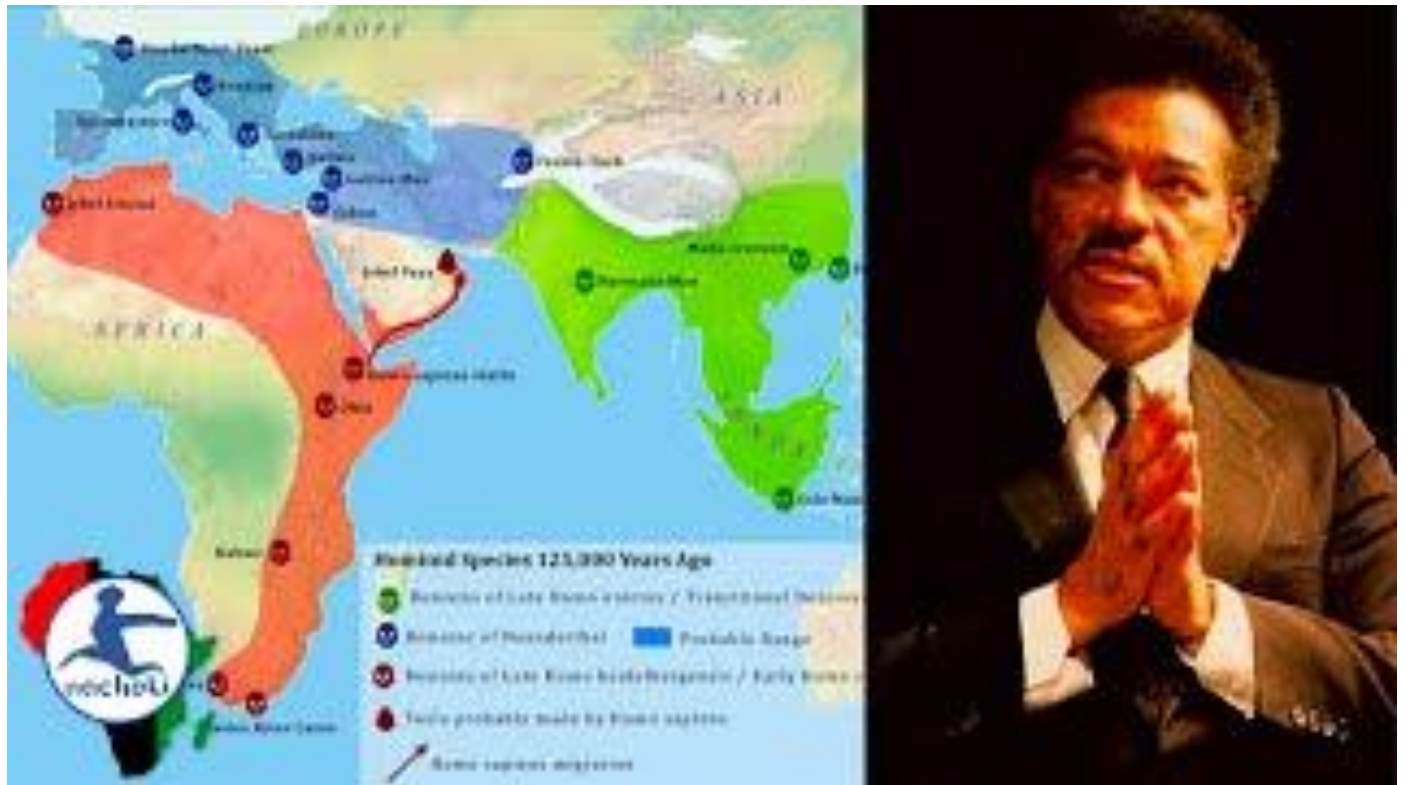
Mitochondrial Eve



The fossil skulls of Homo sapiens **Idaltu** were discovered in 1997 near Herto, **Ethiopia**. The skulls are about 160,000 years old and are considered to be the direct ancestors of modern humans



Mitochondrial Eve



Genome Project

Here are 4 questions based on the Genome Project

- 1.** How does the Human Genome Project (HGP) connect to the study of ancient calendars and timekeeping?
- 2.** What is mitochondrial DNA (mtDNA), and how is it used to trace human ancestry?
- 3.** What is the significance of "Mitochondrial Eve" in understanding human origins and the concept of a common ancestor?
- 4.** If you count back 10 generations how many ancestors is that?

Genome Project

Here are 4 answers based on the Genome Project

1a. In this class we establish a connection between the HGP and the study of ancient calendars by tracing human migration patterns and cultural development through genetic analysis.

By understanding the origins and movements of early humans, researchers can gain insights into the spread of knowledge and practices, including timekeeping methods, across different regions and cultures.

2a. Mitochondrial DNA is genetic material found in the mitochondria, which are the energy-producing organelles within cells.

Unlike nuclear DNA, which is inherited from both parents, mtDNA is passed down exclusively from the mother to her offspring.

This maternal inheritance pattern makes mtDNA a valuable tool for tracing maternal lineages and understanding human migration patterns over long periods.

By analyzing variations in mtDNA sequences among different populations, researchers can reconstruct ancestral relationships and track the movement of human groups across continents.

The relatively slow mutation rate of mtDNA allows scientists to estimate the timeframes of these migrations, providing insights into the peopling of the world.

3a. "Mitochondrial Eve" is a term used to refer to the most recent common female ancestor of all humans alive today, based on the analysis of mtDNA.

She is estimated to have lived in Africa around 200,000 years ago. It's crucial to understand that "Mitochondrial Eve" was not the only woman alive during her time but represents a lineage that survived and passed down its mtDNA to all modern humans.

The concept of "Mitochondrial Eve" emphasizes the shared ancestry of all humanity, highlighting that despite our diversity, we all trace our maternal lineage back to a single woman who lived in Africa.

Genome Project

* If you count back 10 generations, you would have 1024 ancestors.

This is because the number of ancestors doubles with each generation:

Your Blood line of Ancestors

	Generational Years	Generations	Ancestors	
Year 2025		1	2	
	20	2	4	
	40	3	8	
	60	4	16	
	80	5	32	
	100	6	64	
	120	7	128	
	140	8	256	
	160	9	512	
	180	* 10	1,024	thousand
	200	11	2,048	
	220	12	4,096	
	240	13	8,192	
	260	14	16,384	
	280	15	32,768	
	300	16	65,536	
	320	17	131,072	
	340	18	262,144	
	360	19	524,288	
	380	20	1,048,576	Million
Year 1619	→ 400	21	2,097,152	
	420	22	4,194,304	
	440	23	8,388,608	
	460	24	16,777,216	
	480	25	33,554,432	
	500	26	67,108,864	
	520	27	134,217,728	
	540	28	268,435,456	
	560	29	536,870,912	
	580	30	1,073,741,824	Billion
	600	31	2,147,483,648	

Africa Population 1.373 billion (Jul 1, 2021)

Genetic Mutation

A Genetic Mutation



Proposed Genetic Classification for the Skin Types: Helmy's Skin Types Classification



[Yaaser Helmy Ali](#), MB BCh, MSc, MD¹

"Proposed Genetic Classification for the Skin Types: Helmy's Skin Types Classification" is a paper published by Yaaser Helmy Ali on April 1, 2019.

The paper is based on recent genome studies and proposes a new classification for skin types.

The author proposes a new classification for skin types, opposite to Fitzpatrick's.^{[1](#)}

This classification is based on the recent genome studies,^{[2](#)} which are proving that dark skin is the default human color.

A Genetic Mutation



Proposed Genetic Classification for the Skin Types: Helmy's Skin Types Classification [Yaaser Helmy Ali](#), MB BCh, MSc, MD¹

Human origins, according to anthropology researches,^{[3](#)} were found in the sunny south of the globe, followed by migration toward the less sunny north.^{[3](#)}

Then genetic mutations ^{[2](#)} have happened in the human genome of the north habitant, **>6,000** years ago, to accommodate with the cloudy climate.

This accommodation was described as genetic selection,^{[4](#)} when 3 genes were mutated for white skin and 1 gene has mutated for blue eyes.^{[5](#)}

Two genes are *SLC24A5* and *SLC45A2* that lead to skin depigmentation and, therefore, Europeans' pale skin today.

A Genetic Mutation



Proposed Genetic Classification for the Skin Types: Helmy's Skin Types Classification [Yaaser Helmy Ali](#), MB BCh, MSc, MD¹

The third gene, *HERC2/OCA2*, causes blue eyes, and it contributes to light skin color and the blonde hair.²

These mutations provided white populations the ability to synthesis vitamin D from little exposure to sun in cloudy climate and gave them the ability for milk digestion.

In contrast to dark skin populations, who are living in very sunny latitude and hot weather, they are in need for large amount of melanin to protect their skin from ultraviolet damage.

As dark skin types are the earliest found on the Earth, it makes sense to have genetic classification for the skin types.

A Genetic Mutation



Proposed Genetic Classification for the Skin Types: Helmy's Skin Types Classification [Yaaser Helmy Ali](#), MB BCh, MSc, MD¹

Although Fitzpatrick's classification was described a long time ago and has clinical applications and therapy impact, this proposed classification is of genetic research importance.

This proposed classification may make sense for genetic researches and prospective achievements during the management of genetic disorders in skin cancer and many others disorders of the skin.

The proposed Helmy's classification for genetic skin types is described in Table 1

A Genetic Mutation



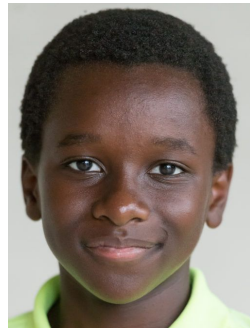
Proposed Genetic Classification for the Skin Types: Helmy's Skin Types Classification [Yaaser Helmy Ali](#), MB BCh, MSc, MD¹

Genetic Skin Types	Description
Types I	Deep brown to black skin: never burns
Types II	Deep brown skin: rarely burns, tans easily
Types III	Moderate brown skin: burns minimally, tans easily
Types IV	Light brown skin: burns moderately, tans uniformly
Types V	White skin: almost burn, rarely tans
Types VI	Very white skin: always burns, never tans

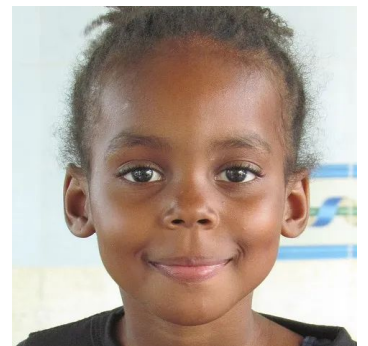
Type I



Type II



Type III



Type IV



Type V



Type VI



A Genetic Mutation

Here are 7 Questions based on the Genetic Mutation

- 1.** What specific genetic mutations are associated with lighter skin pigmentation in European populations?
- 2.** Why did we include information about the proposed Helmsley skin type classification system?
- 3.** What is the significance of genetic mutations in the human genome for understanding the development of different skin types?
- 4.** How do genetic mutations relate to the concept of genetic selection in the context of human adaptation to different environments?
- 5.** According to the sources, what is the estimated timeframe for the occurrence of genetic mutations associated with white skin and blue eyes in human populations?
- 6.** What is the relationship between genetic mutations and the ability of white populations to digest milk?
- 7.** How do genetic mutations contribute to the understanding of human migration patterns and the origins of different populations?

A Genetic Mutation

Here are 7 Answers based on the Genetic Mutation

1a. In this section we mention three genes that underwent mutations, leading to lighter skin pigmentation in European populations.

These mutations occurred around 6,000 years ago, a relatively recent event in human evolutionary history.

SLC24A5 and SLC45A2: These two genes play a role in melanin production.

Mutations in these genes resulted in reduced melanin, leading to depigmentation and the pale skin commonly seen in European populations.

HERC2/OCA2: This gene is associated with blue eye color and also contributes to lighter skin and hair color.

These mutations are theorized to have been favored by natural selection in regions with less sunlight, as they allowed individuals to synthesize vitamin D more efficiently despite limited sun exposure.

2a. We included this to discuss the Helmsley skin type classification system to challenge the traditional Fitzpatrick system, which was developed before a deeper understanding of human genetics and migration patterns.

The Helmsley system is based on recent genomic studies that provide evidence for:

Dark skin being the default human color: This challenges the assumption that lighter skin is the norm, highlighting the adaptation of lighter skin to specific environmental conditions.

Human origins in the sunny south of the globe: This reinforces the understanding that early humans evolved in Africa, where dark skin pigmentation provided protection from intense UV radiation.

Genetic mutations in northern inhabitants accommodating to cloudy climates: These mutations led to lighter skin pigmentation, facilitating vitamin D synthesis in environments with less sunlight.

By presenting the Helmsley system, the sources aim to provide a more accurate and nuanced understanding of human skin color variation and its connection to our evolutionary history and global migration patterns.

A Genetic Mutation

Here are 7 Answers based on the Genetic Mutation

3a. In this class we explain that genetic mutations, such as those in genes SLC24A5, SLC45A2, and HERC2/OCA2, played a role in the development of lighter skin pigmentation in populations that migrated to northern latitudes with less sunlight.

4a. In this class we discuss how genetic mutations, such as those leading to lighter skin, can be described as genetic selection, where certain traits become more common in a population because they provide an advantage in a specific environment, like the ability to synthesize vitamin D from limited sun exposure.

5a. In this class we indicate that these genetic mutations occurred in the human genome of northern inhabitants approximately 6,000 years ago.

6a. In this class we mention that genetic mutations provided white populations with the ability to digest milk, which is an adaptation related to dietary practices in certain regions.

7a. In this class we explain how analyzing genetic markers and mutations, particularly through haplotypes and haplogroups, can help trace ancestral origins and migrations of human populations, supporting the idea of a common ancestor in Africa.

World Migration

World Migration



Arabia



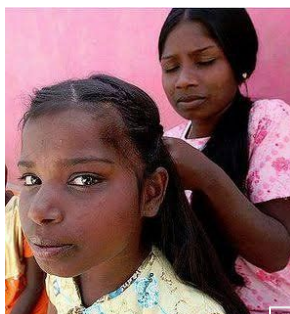
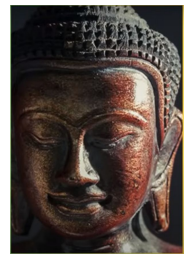
Arabian People today



Indus Kush



Hindu (Indus Kush) People today



Cambodians & Australians



Cambodians and Australians - People today

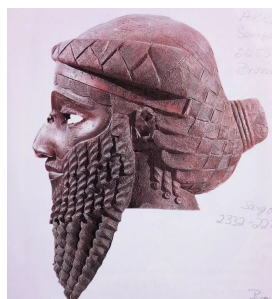
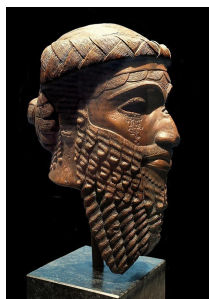


Sumer

Mesopotamia



Sumer-Mesopotamia-Babylon



China



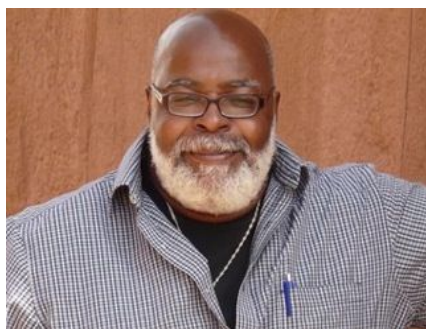
Original Chinese People



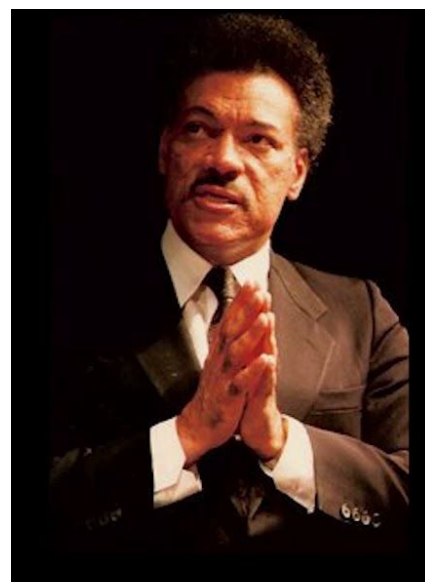
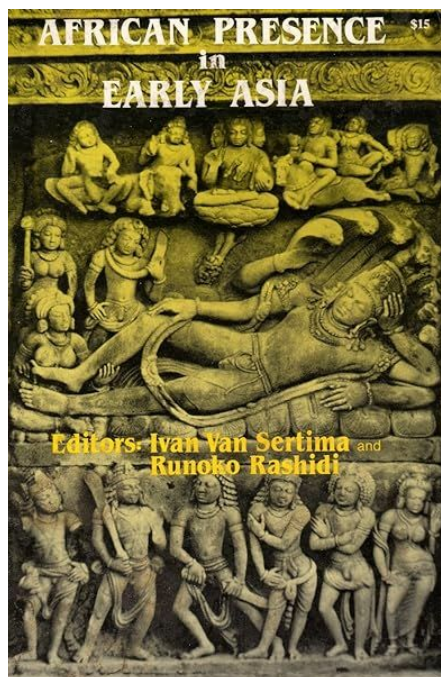
Suggested Reading

African Presence in Early Asia

Runoko Rashidi, Ivan Van Sertima



Runoko Rashidi,



Di, Ivan Van Sertima

Contributors to this volume argue that blacks were a formative civilizing influence on Asian societies.

Presenting their case with persuasive eloquence and research, the authors examine cultural forms, art motifs, weapons, scripts, and skeletal evidence to link Asian civilizations to Africa's Nile Valley. Articles detail both the physical and cultural presence of Africans in Asia.

Topics covered include the black presence and heavy intermittent influence in Sumer, Elam, and Arabia; contributions of Dravidians and Ethiopian blacks to the Indus Valley civilizations; the history of the first Chinese emperor, Fu-Hsi; the origin of martial arts; parallels between Krishna, Gautama Buddha, and Jesus; and the nature of slavery in Arabia and Asia. Five major chapters have been added to this new edition, adding substantially to the range and depth of the original volume.

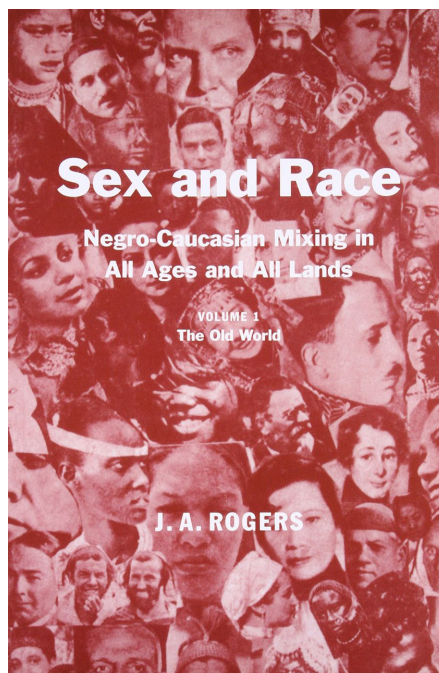
Suggested Reading

Sex and Race Vol 1

J. A. Rogers



J.A. Rogers



In the **Sex and Race** series, first published in the 1940s, historian Joel Augustus Rogers questioned the concept of race, the origins of racial differentiation, and the root of the "color problem.

" Rogers surmised that a large percentage of ethnic differences are the result of sociological factors and in these volumes he gathered what he called "the bran of history"—the uncollected, unexamined history of black people—in the hope that these neglected parts of history would become part of the mainstream body of Western history.

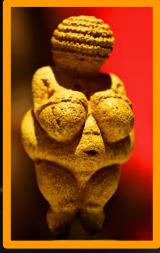
Drawing on a vast amount of research, Rogers was attempting to point out the absurdity of racial divisions. Indeed his belief in one race—humanity—precluded the idea of several different ethnic races.

The series marshals the data he had collected as evidence to prove his underlying humanistic thesis: that people were one large family without racial boundaries.

Chinese DNA



Northern Europe



Northern
Europe

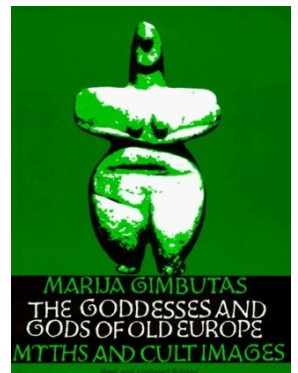
Russia



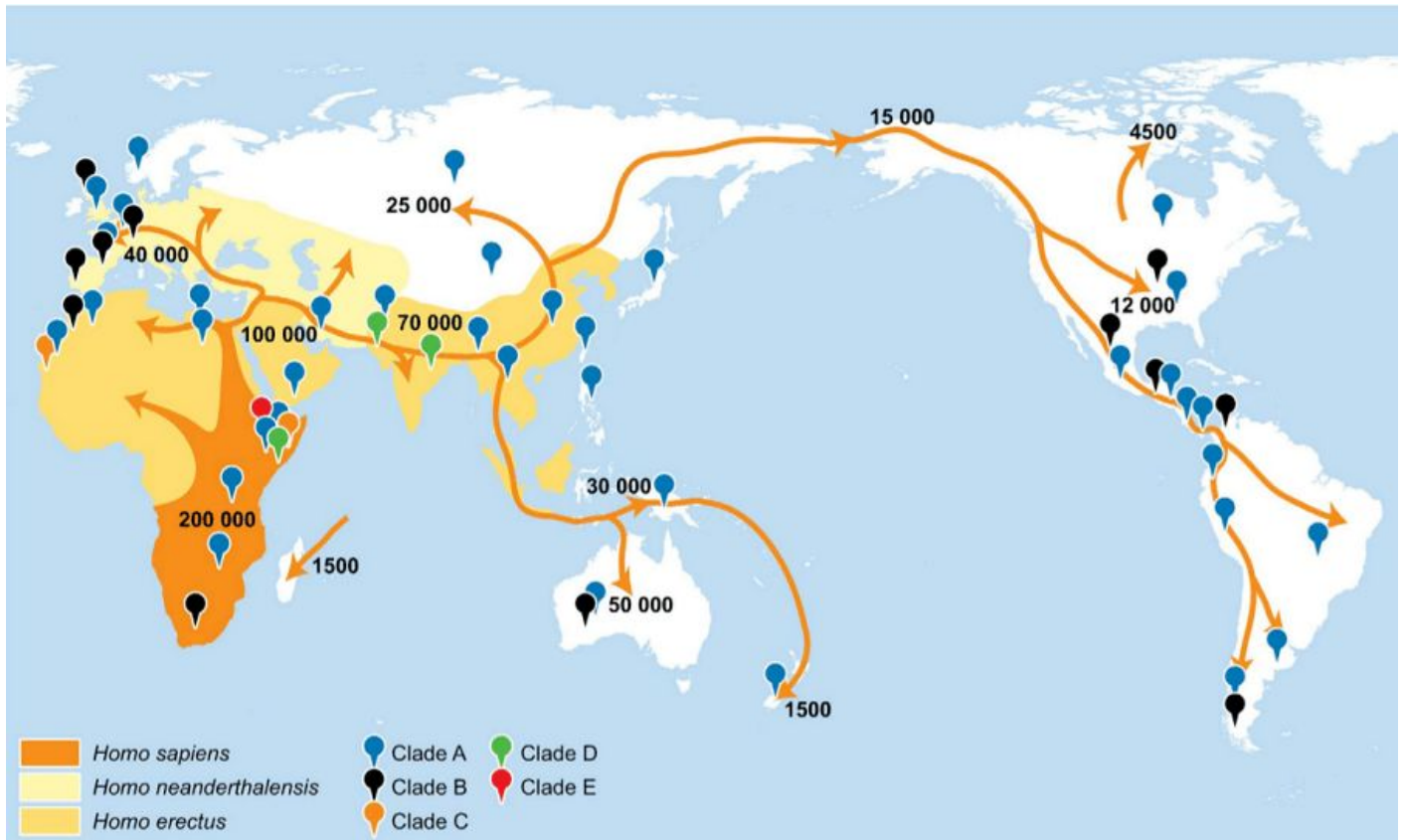
there existed an ancient civilization referred to as “of **ancient Europe,**” which came directly from the Upper Paleolithic and the Mesolithic periods, and which was characterized by a sedentary life, agriculture, a cult of the mother goddess, the fecundator of life, and other feminine divinities— a matriarchal, egalitarian, urbane, and peaceful society. It is said to have lasted for three millenia, from 6500 to 3500 B.C., and it never knew war: therefore a society which, in every aspect, brings to mind the sedentary, agrarian, and matrilineal African societies.

Marija Gimbutas from her book Goddess and Gods of Old Europe

The Venus of Willendorf is just the most famous of a type of sculpture that is among the very earliest substantial artistic creations. One strong possibility is that she is a fertility goddess. The ancient sculptors stressed reproductive and maternal aspects of these powerful little figures. Perhaps the artists themselves were women, creating totems of a matriarchal religion



Path of Humans out of Africa



Today's scientists believe that from their beginnings in Africa, the modern humans went first to Asia between 80,000 and 60,000 years ago. By 45,000 years ago, or possibly earlier, they had settled Indonesia, Papua New Guinea and Australia.

The moderns entered Europe around 40,000 years ago, probably via two routes: from Turkey along the Danube corridor into eastern Europe, and along the Mediterranean coast. By 35,000 years ago, they were firmly established in most of the Old World.

The Neanderthals, forced into mountain strongholds in Croatia, the Iberian Peninsula, the Crimea and elsewhere, would become extinct 25,000 years ago. Finally, around 15,000 years ago, humans crossed from Asia to North America and from there to South America.

World Migration

Here are 10 questions, about world migrations

1. What evidence is there that the earliest humans were likely people of color?
2. What is the significance of understanding ancient migration patterns through the lens of genetic mutations, such as variations in skin color and lactose tolerance?
3. How have traditional narratives surrounding ancient civilizations often overlooked or minimized the contributions of people of color?
4. How might the concept of "Mitochondrial Eve" challenge traditional narratives about racial superiority?
5. What role did the Islamic world play in the preservation and transmission of knowledge during the European Dark Ages?
6. What insights do ancient calendar systems, such as those found in Kemet, Scotland, and Australia, provide about the astronomical knowledge and cultural practices of ancient peoples?
7. How did the forced migration of convicts from Britain and Ireland to Australia shape the country's demographics and cultural identity?
8. What evidence suggests that ancient civilizations in different parts of the world might have interacted or exchanged knowledge, even across vast distances?
9. How did the adoption of the Gregorian calendar reflect broader patterns of European cultural influence and globalization?
10. What are some challenges and opportunities associated with researching ancient migration patterns and cultural exchanges, particularly those involving non-European societies?

World Migration

Here are 10 answers, about world migrations

1a. In this section we learned that "dark skin is the default human color," and that "human origins, according to anthropology researches, were found in the sunny south of the globe."

As humans migrated north to areas with less sun, they experienced genetic mutations that resulted in lighter skin pigmentation around 6,000 years ago.

This supports the theory that the first humans, who originated in Africa, had darker skin.

2a. Examining genetic mutations can help us track the movement and adaptation of human populations throughout history.

For example, the development of lighter skin in northern latitudes was likely a response to lower levels of sunlight, allowing for better absorption of vitamin D.

Similarly, lactose tolerance, more prevalent in certain populations, may reflect a history of pastoralism and milk consumption.

These genetic adaptations offer clues about the environments and lifestyles of our ancestors as they migrated and settled in different parts of the world.

3a. In this section we provide several examples of how historical narratives have centered European perspectives, often neglecting the contributions of other cultures.

For instance, the emphasis on ancient Greece as the birthplace of Western philosophy, while overlooking potential influences from ancient Kemet, as argued in "Stolen Legacy," is one such example.

Similarly, the focus on European discoveries and inventions often obscures the significant advancements made by other cultures, such as the development of sophisticated calendar systems in Africa and Australia thousands of years before European contact.

World Migration

Here are 10 answers, about world migrations

4a. The concept of "Mitochondrial Eve," a woman who lived in Africa approximately 200,000 years ago and is considered the common maternal ancestor of all humans, powerfully undermines claims of racial superiority.

The fact that all humans can trace their ancestry back to a single African woman underscores the interconnectedness of humanity and challenges the notion that any race is inherently superior or inferior to another.

5a. In this section we point to the Islamic world's significant contributions to the preservation and advancement of knowledge during the European Dark Ages.

Between 750 and 1250 AD, Moorish scholars translated numerous Greek philosophical, scientific, and medical texts into Arabic, safeguarding this knowledge during a period of intellectual decline in Europe.

These translations were later reintroduced to Europe during the Renaissance, playing a crucial role in the revival of European scholarship.

6a. Ancient calendar systems, often based on careful observation of the sun, moon, and stars, offer a glimpse into the sophisticated understanding of astronomy possessed by ancient cultures around the world.

In this section we describe several examples, including:

* Kemet: The ancient Kemetians developed a 365-day solar calendar, dividing the year into 12 months of 30 days, with an additional 5 days.

They also utilized a lunar calendar and a system of three 10-day "weeks" based on the rising of certain stars.

* Scotland (Warren Field): A Mesolithic monument dating back to 8,000 BCE appears to be a lunisolar calendar, with 12 pits thought to correlate with the phases of the moon.

The site also includes alignments with the winter solstice sunrise, demonstrating a sophisticated understanding of celestial cycles.

* Australia (Wurdi Youang): This Aboriginal stone arrangement, estimated to be at least 11,000 years old, is aligned with the solstices and equinoxes, suggesting a deep understanding of astronomy and its connection to seasonal cycles.

World Migration

Here are 10 answers, about world migrations

7a. Between 1788 and 1868, over 162,000 convicts were transported to Australia as punishment for crimes.

Many remained in Australia after serving their sentences, contributing to the development of the colony and leaving a lasting impact on Australian society.

Today, it is estimated that 20% of Australians are descended from these convicts.

The legacy of convict transportation is a complex and controversial aspect of Australian history, shaping the country's demographics, social structures, and cultural identity.

8a. The sources offer intriguing hints of possible connections between ancient civilizations, suggesting that knowledge and cultural practices might have traveled further than traditionally believed. For example:

* **Pyramids:** The presence of pyramids in both Kemet and China raises questions about potential cultural exchanges or shared architectural knowledge.

* **Astronomical Knowledge:** The similarities in astronomical practices and calendar systems across continents, such as the tracking of solstices and equinoxes, hint at potential connections between ancient cultures.

* **Martial Arts:** The sources mention that the skills underlying Shaolin Kung Fu may have originated from both Indian and African sources.

This suggests a potential exchange of martial arts knowledge between Asia and Africa in the past.

9a. The Gregorian calendar, developed in 1582 as a reform of the Julian calendar, gradually spread throughout the world, becoming the standard calendar used in many countries.

While the Gregorian calendar offers greater accuracy in aligning the calendar year with the solar year, its adoption also reflects the expanding influence of European culture and the process of globalization.

The spread of the Gregorian calendar, often accompanying colonization and trade, represents a shift toward a more standardized system of timekeeping, often at the expense of traditional calendar systems used in different cultures.

World Migration

Here are 10 answers, about world migrations

10a. Researching ancient migrations and cultural exchanges presents numerous challenges, including:

- * **Eurocentric Bias:** Historical narratives have often prioritized European perspectives, leading to gaps in knowledge and understanding of non-European cultures.
- * **Limited Archaeological Evidence:** Physical evidence of ancient migrations and interactions can be scarce or difficult to interpret, requiring careful analysis and often leaving room for multiple interpretations.
- * **Language Barriers and Cultural Differences:** Understanding ancient texts and cultural practices requires expertise in multiple languages and a sensitivity to cultural nuances, which can be a barrier to research.

Despite these challenges, there are also exciting opportunities to expand our understanding of human history through:

- * **Interdisciplinary Research:** Combining insights from archaeology, genetics, linguistics, and other fields can provide a more holistic understanding of ancient migrations and cultural exchanges.
- * **Decolonizing History:** Critically examining Eurocentric biases and seeking out alternative perspectives can lead to a more inclusive and accurate understanding of the past.
- * **New Technologies:** Advancements in scientific dating methods, DNA analysis, and digital mapping can reveal new insights into ancient migration patterns and cultural connections.

By embracing these opportunities and addressing the inherent challenges, researchers can shed new light on the interconnectedness of human history and challenge traditional narratives that have often marginalized the contributions of non-European cultures.

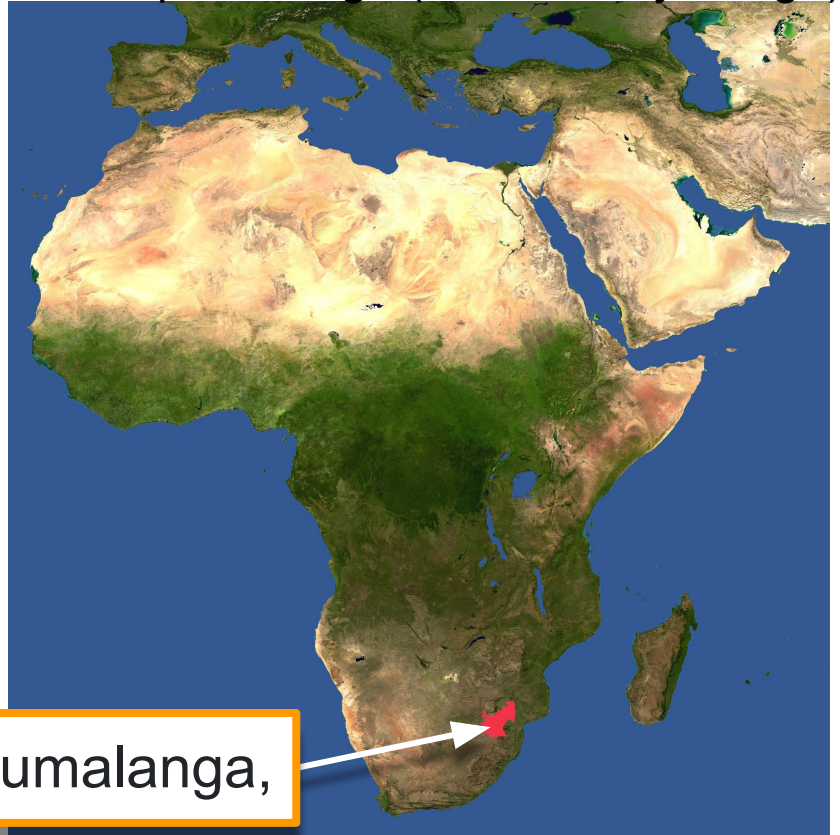
Ancient Calendars

South African Calendar

200,000- 75,000 y/o African Calendar

In an area of South Africa called Mpumalanga (Em-Pu-May-Langa)

The name Mpumalanga means "The Place Where the Sun Rises"



Mpumalanga,

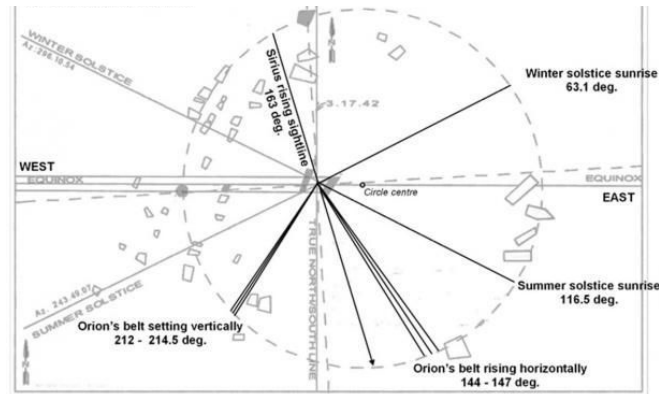
Researchers have located over 20,000 Megalithic structures.

One such discovery is a collection of ancient ruins in the Mpumalanga Province of South Africa that were originally believed to have been the remains of kraals left by African tribes as they moved south in about the thirteenth century.

However, research and discoveries over the past twenty years or so have revealed that these ancient stone structures are most likely more than **75,000** years old, with some researchers suggesting they could be as old as **200,000 years**.

Moreover, researchers have concluded that the ruins are not merely those of village-like settlements, but are the remains of astronomical observatories and ancient religious temples.

200,000- 75,000 y/o South African Calendar



Researchers and authors, Johan Heine and Michael Tellingner, believe that two rocks found within the ruins in Mpumalanga work as a calendar, with the taller rock casting its shadow on the nearby flat rock.

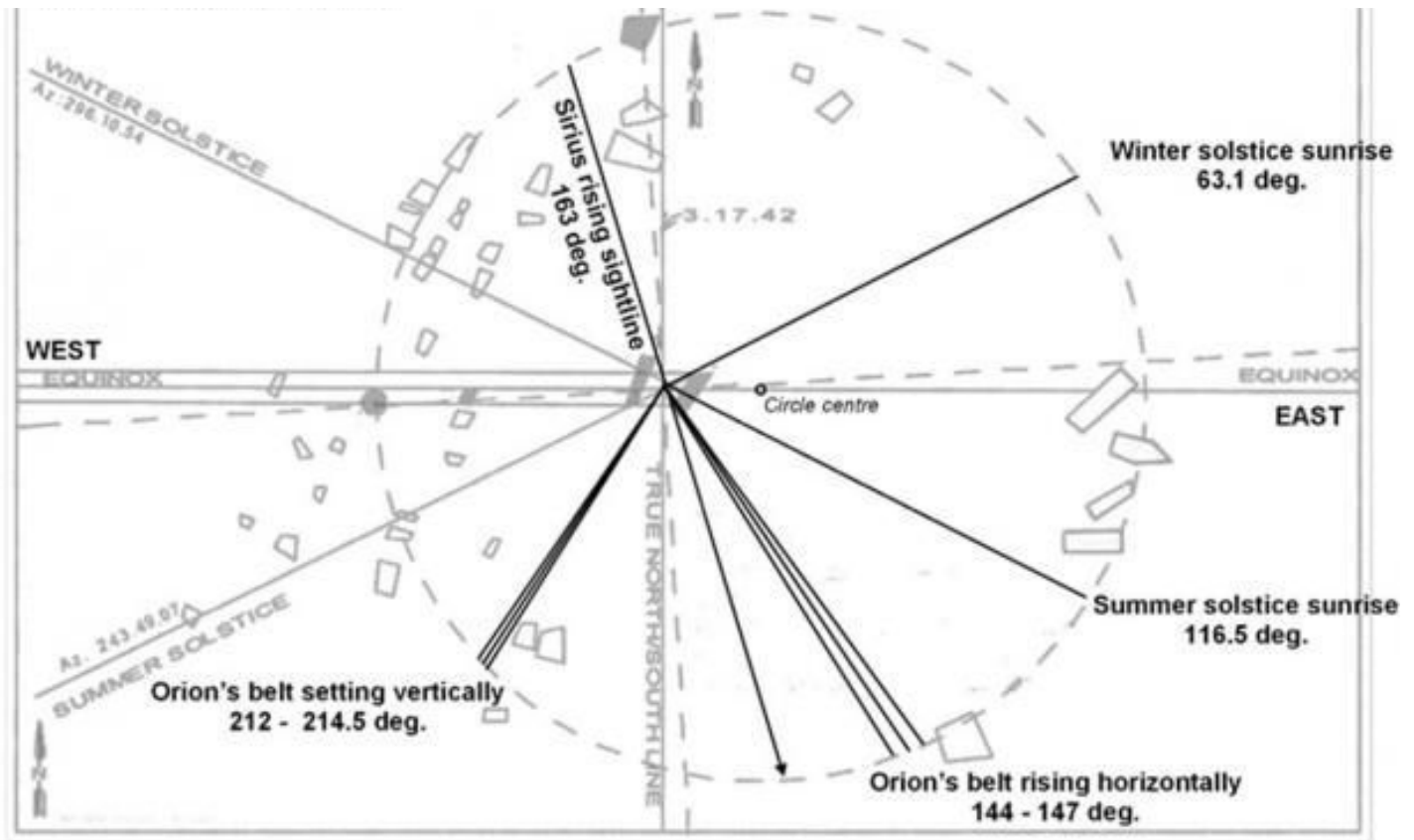
Arrogantly naming the structure Adam's Calendar, they noted that the months are measured by the changing shadow which moves across the complete surface of the rock in a twelve month period.

Refuting claims that the rocks at the site are of no particular significance, the two researchers noted that the bedrock in the area consist of black reef cordite, while the monoliths are dolomite, suggesting they were brought in from elsewhere.

They also point out that the monoliths stand in exact positions geometrically and line up precisely with north, south, east and west.

In addition to the Calendar rocks, there are reportedly up to 20,000 similar structures found throughout southern and eastern Africa that can be observed from the air. Some have been eroded, or partially covered by sand and vegetation, but are nevertheless seen as having been built by man.

200,000- 75,000 y/o South African Calendar



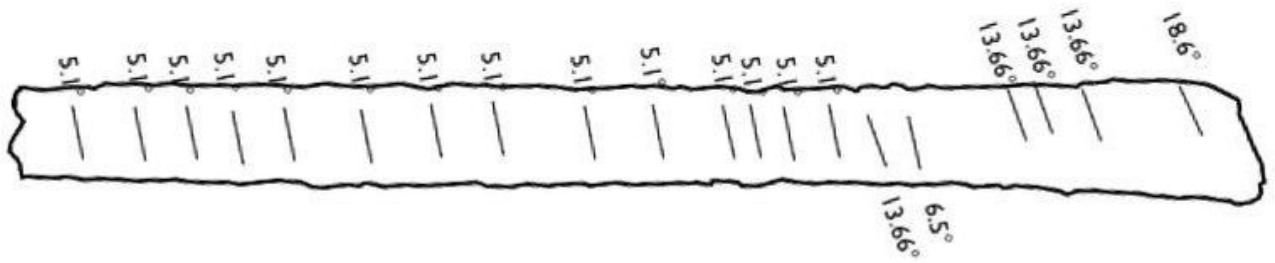
There appears to be some alignment of the stones with the position of the sun in relation to seasonal changes.

200,000- 75,000 y/o
South African Calendar

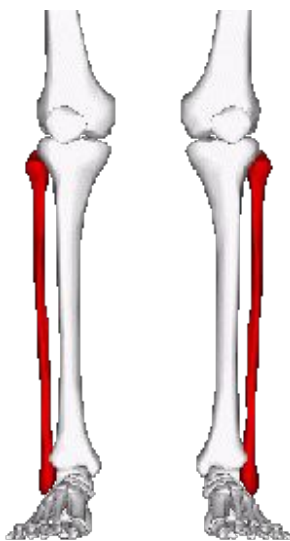


Lebombo Bone

43,000 y/o



The Lebombo bone is a bone tool made of a baboon fibula with incised markings discovered in Border Cave in the Lebombo Mountains located between South Africa and Eswatini.



Fibula Bones



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Changes in the section of the notches indicate the use of different cutting edges, which the bone's discoverer, Peter Beaumont, views as evidence for their having been made, like other markings found all over the world, during participation in rituals.

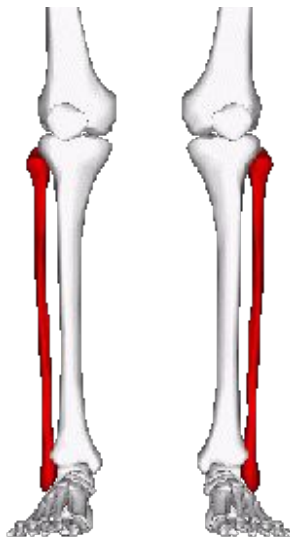
Lebombo Bone

43,000 y/o



LEBOMBO BONE

ISHANGO BONE



Fibula Bones



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Ishango Bone

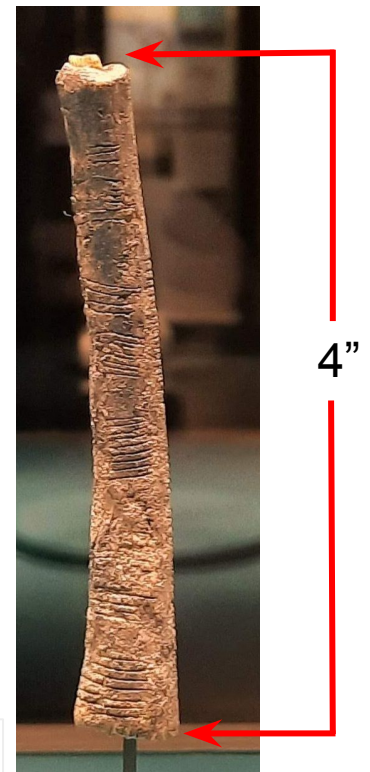
20,000 y/o

The Ishango bone, discovered at the "Fisherman Settlement" of Ishango in the Democratic Republic of the Congo, is a bone tool and possible mathematical device that dates to the Upper Paleolithic era.



The curved bone is dark brown in color, about 4 inches in length, and features a sharp piece of **quartz** affixed to one end, perhaps for engraving.

Because the bone has been narrowed, scraped, polished, and engraved to a certain extent, it is no longer possible to determine what animal the bone belonged to, although it is assumed to have been a mammal.



Ishango Bone

20,000 y/o

The ordered engravings have led many to speculate the meaning behind these marks, including interpretations like **mathematical significance or astrological relevance**.

It is thought by some to be a tally stick, as it features a series of what has been interpreted as tally marks carved in three columns running the length of the tool,

Others argue that the marks on the object are non-random and that it was likely a kind of counting tool and used to perform simple mathematical procedures. Other speculations include the **engravings on the bone serving as a lunar calendar**.

Dating to 20,000 years before present, it is regarded as the oldest mathematical tool to humankind, with the possible exception of the approximately 40,000-year-old Lebombo bone from southern Africa.

It was discovered in the area of Ishango near the Semliki River. Lake Edward empties into the Semliki which forms part of the headwaters of the Nile River

Dating

The artifact was first estimated to have originated between 9,000 BCE and 6,500 BCE, with numerous other analyses debating the bone to be as old as 44,000 years. However, the dating of the site where it was discovered was re-evaluated, and it is now believed to be about 20,000 years old (dating from between 18,000BCE and 20,000BCE).

Ishango Bone

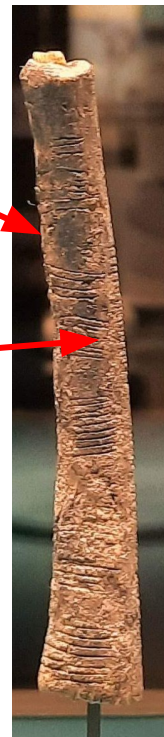
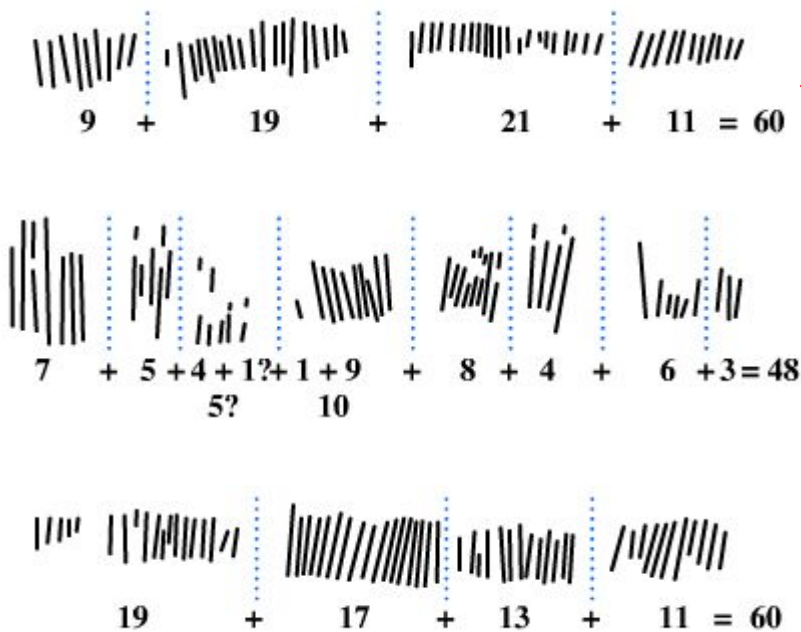
20,000 y/o

Mathematical

The 168 etchings on the bone are ordered in three parallel columns along the length of the bone, each marking with a varying orientation and length.

The parallel markings indicates an understanding of decimals or prime numbers.

This led to the suggestion of a link between arithmetic processes conducted at Ishango with the commencement of mathematics in ancient Kemet.



Ishango Bone

20,000 y/o

Astronomical

Alexander Marshack, an archaeologist from Harvard University, speculated that the Ishango bone represents numeric notation of a lunar calendar after conducting a "detailed microscopic examination" of the bone.

Marshack generated a diagram comparing the different sizes and phases of the moon with the notches of the Ishango bone.

This has also led to a suggest that the creator of the tool may have been a woman, tracking the lunar phase in relation to the menstrual cycle.



Ishango Bone

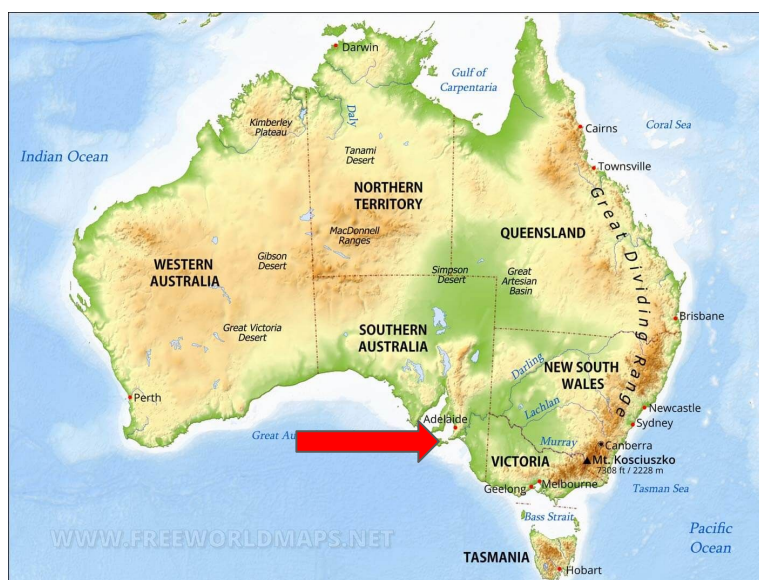
20,000 y/o



Wurdi Youang, Australia

11,000y/o

Wurdi Youang is the name attributed to an Aboriginal stone arrangement located off the Little River – Ripley Road at Mount Rothwell, near Little River, Victoria in Australia



Wurdi Youang, Australia

11,000y/o

The stone arrangement takes the form of an irregular egg-shape or ovoid **about 164 ft in diameter** with its major axis aligning east-west.

It is composed of about **100 basalt stones**, ranging from small rocks about 8" in diameter to standing stones about 3 ft high with an estimated total mass of about 23 tons.

There are three prominent waist-high stones, at its western end, which is the highest point of the ring. The purpose of the site may be ceremonial in nature as with many other stone arrangements in southeastern Australia



The stone arrangement takes the form of an irregular egg-shape

The name Wurdi Youang is a Wada-wurrung name meaning "big hill", which is the original name of what is now called Station peak or Flinders Peak

Wurdi Youang, Australia

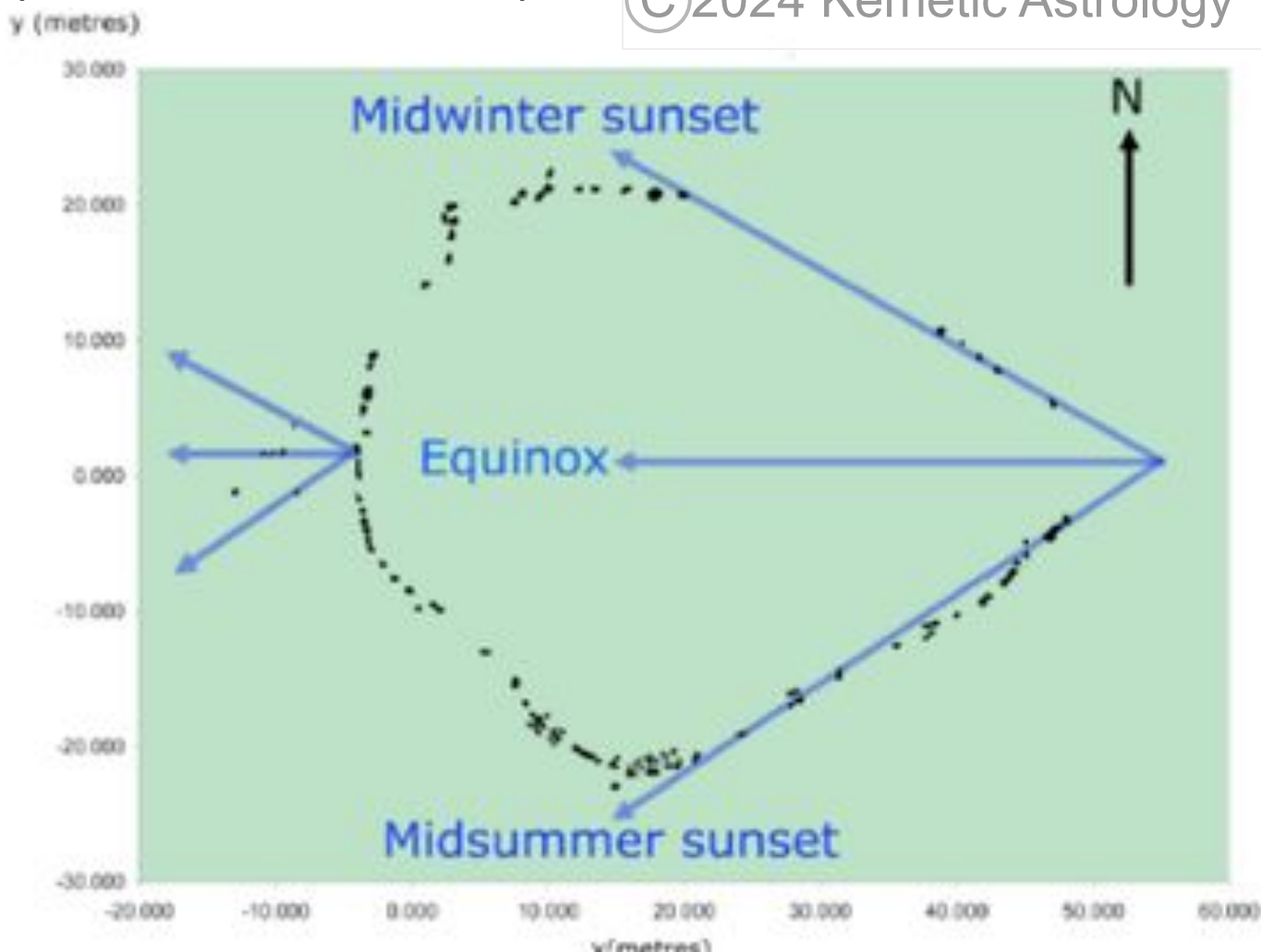
11,000y/o

Astronomical

A series of stones, located to the west of the arrangement's western apex, mark the positions of the setting **sun at the equinoxes and solstices**.

A survey study shows that these alignments are accurate to within a few degrees. Additionally, the straight sides of the arrangement, which diverge from its eastern apex, also indicate the setting position of the sun at the solstices to within a few degrees and at the equinoxes the sun sets over the three prominent stones at the apex

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Wurdi Youang, Australia

11,000y/o



Western Sahara

9,000y/o



Western Sahara has one of the last remaining unexplored prehistories on the planet.

The new research reported here reveals a sequence of Holocene occupation beginning in a humid period around 9000 bp, superseded around 5000 bp by an arid phase in which the land was mainly given over to pastoralism and monumental burial.

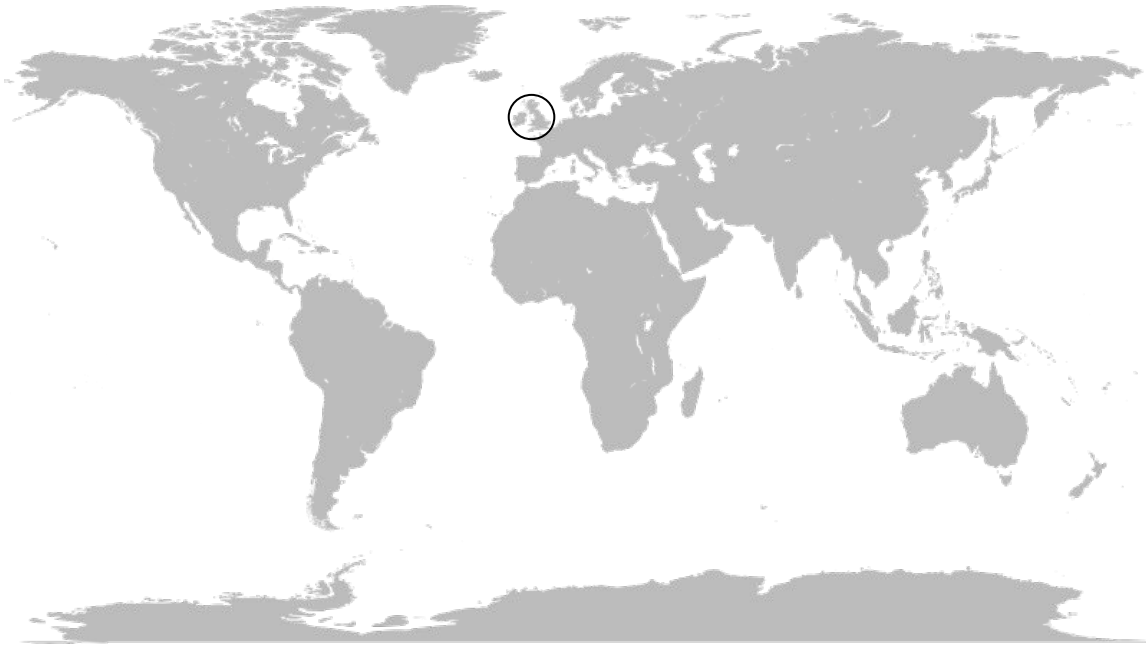
8,000 y/o Warren Field

Aberdeenshire region of Scotland,

Warren Field is the location of a mesolithic calendar monument built about 8,000 BCE.

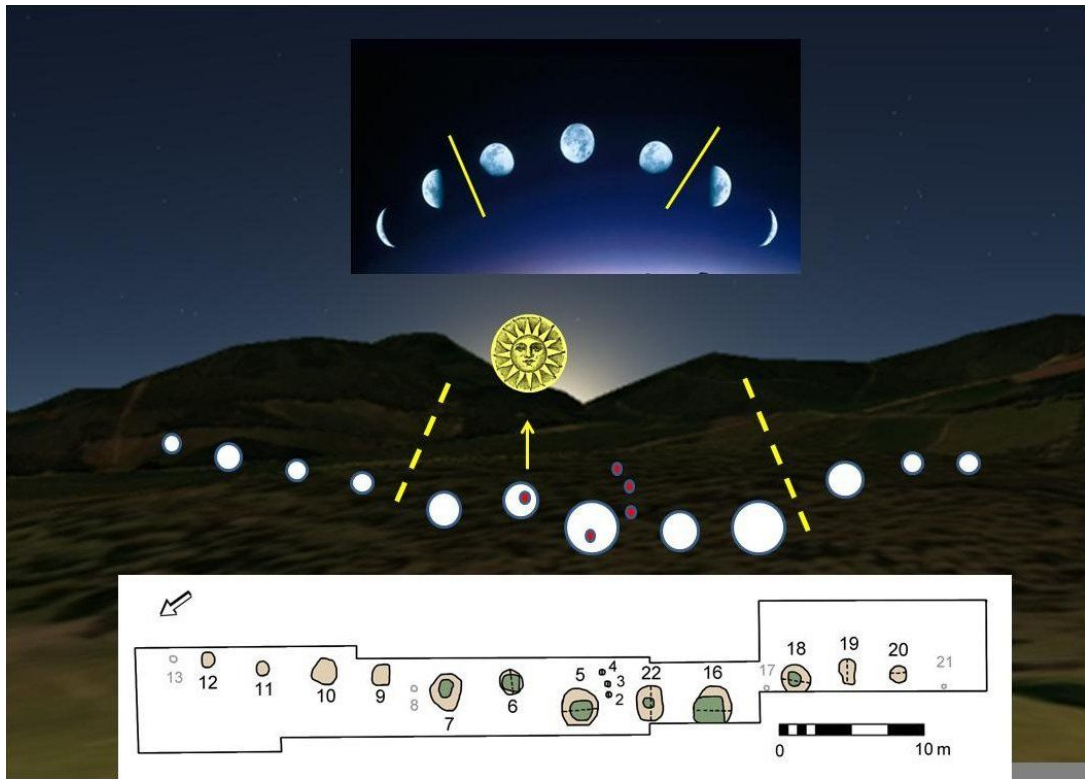
It includes 12 pits believed to correlate with phases of the Moon and used as a lunisolar calendar.

It is near Crathes Castle, in the Aberdeenshire region of Scotland, in the United Kingdom.



8,000 y/o Warren Field

Aberdeenshire region of Scotland,

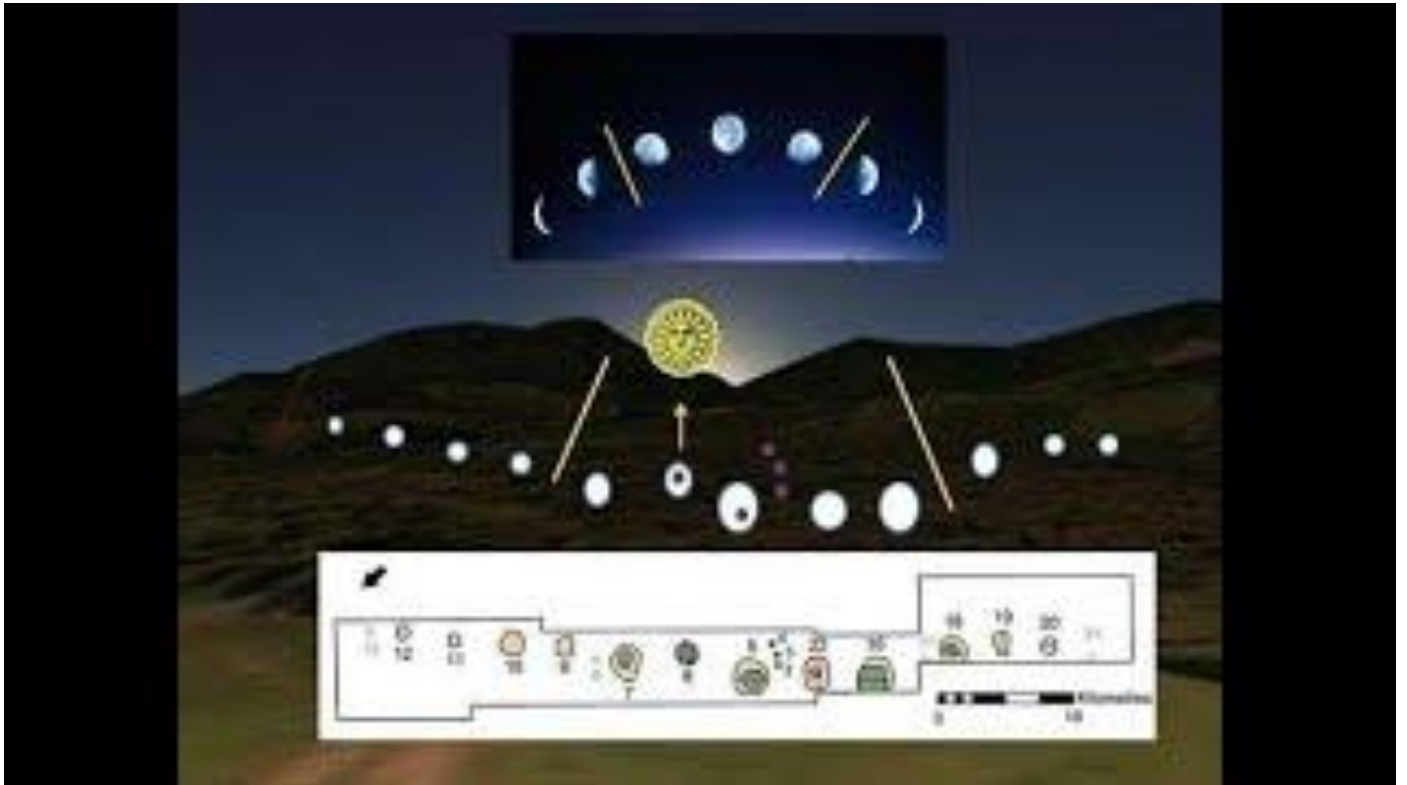


The pits align on the southeast horizon and a prominent topographic point associated with sunrise on the midwinter solstice (thus providing an annual astronomical correction concerning the passage of time as indicated by the Moon, the asynchronous solar year, and the associated seasons).

The Aberdeenshire time reckoner predates the Mesopotamian calendars by nearly 5,000 years.

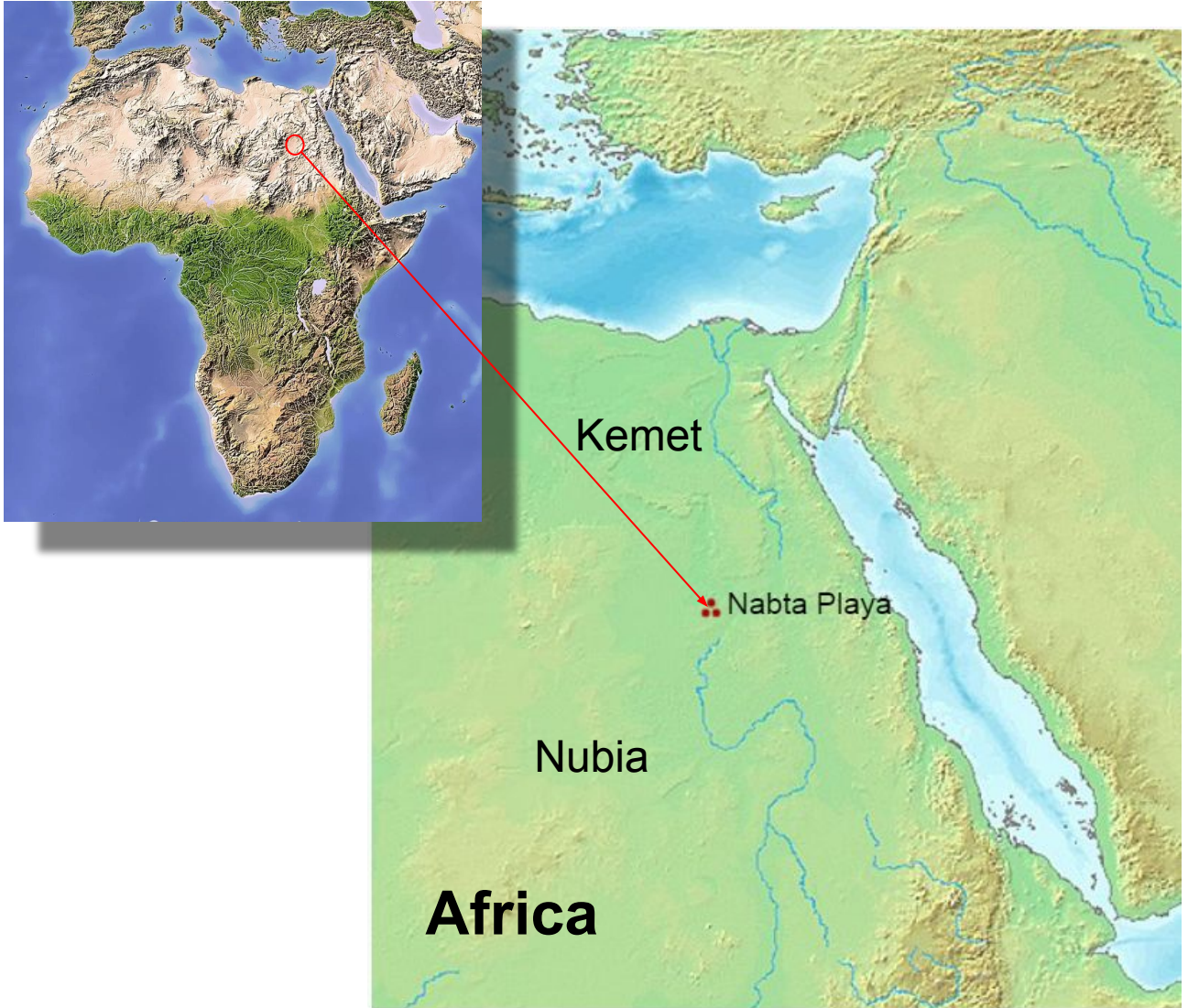
8,000 y/o Warren Field

Aberdeenshire region of Scotland,



Nabta Playa

7,500 y/o



Nabta Playa was once a large endorheic basin in the Nubian Desert, located approximately 497 Miles south of modern-day Cairo or about 62 miles west of Abu Simbel in southern Kemet,

Endorheic lakes (terminal lakes) are bodies of water that do not flow into an ocean or a sea

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Today the region is characterized by numerous archaeological sites. The Nabta Playa archaeological site, one of the earliest of the Kemetic Neolithic Period, is dated to circa 7500 BC

Nabta Playa

7,500 y/o



During this time, the area was a savanna (Grassland) and supported numerous animals such as extinct buffalo and large giraffes, varieties of antelope and gazelle.

Although today the western Kemetic desert is totally dry, this was not always the case.

There is good evidence that there were several humid periods in the past (when up to 1.5' of rain would fall per year), the most recent one during the last interglacial and early last glaciation periods (in Europe not Africa) which stretched between 130,000 and 70,000 years ago.

Nabta Playa

7,500 y/o



The Cave of Swimmers is a cave with ancient rock art in the mountainous Gilf Kebir plateau of the Libyan Desert section of the Sahara. It is located in the New Valley Governorate of southwest Egypt, near the border with Libya.

They are estimated to have been created as early as 10,000 years ago with the beginning of the African Humid Period, when the Sahara was significantly greener and wetter than it is today.

Nabta Playa

7,500 y/o

Beginning around the 10th millennium BC, this region of the Nubian Desert began to receive more rainfall, filling a lake.

Early people may have been attracted to the region due to the source of water.

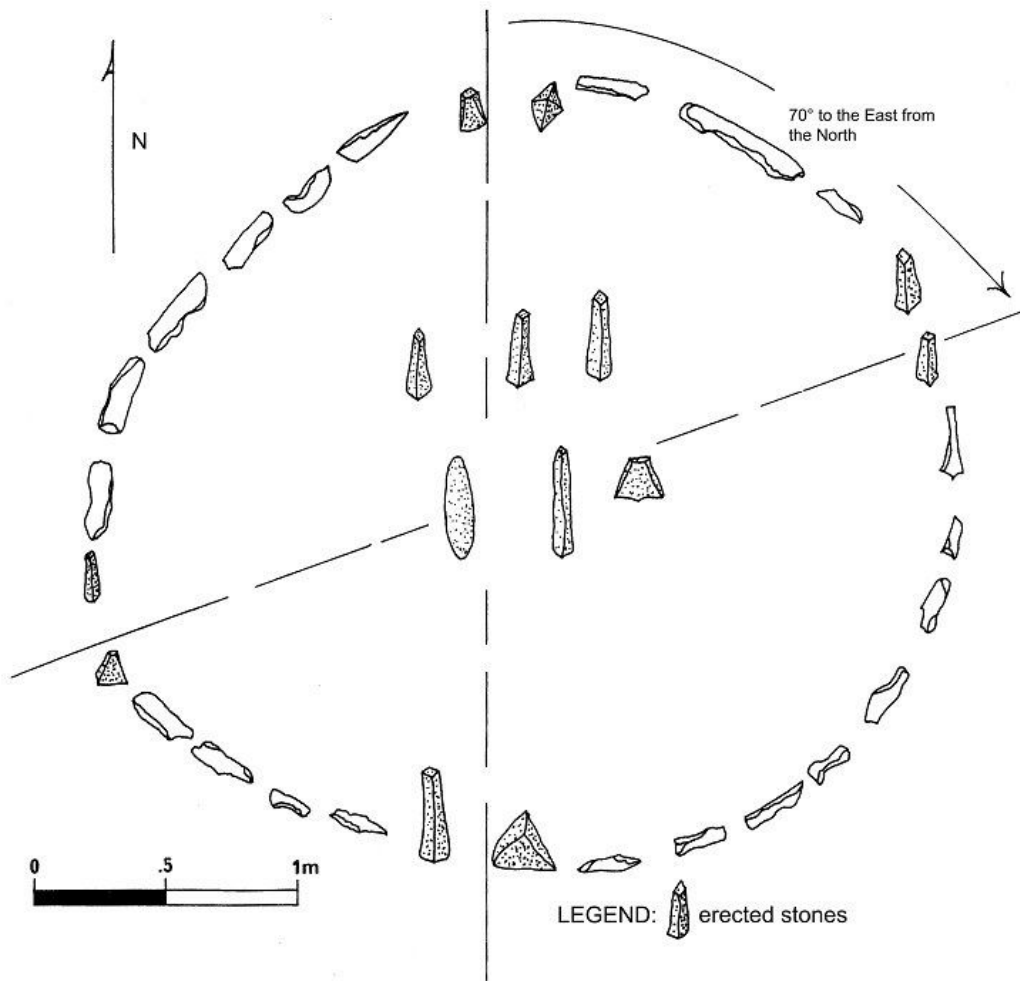


Nabta Playa

7,500 y/o

Astronomical

These include alignments of stones that may have indicated the rising of certain stars and a "calendar circle" that indicates the approximate direction of summer solstice sunrise.



Nabta Playa

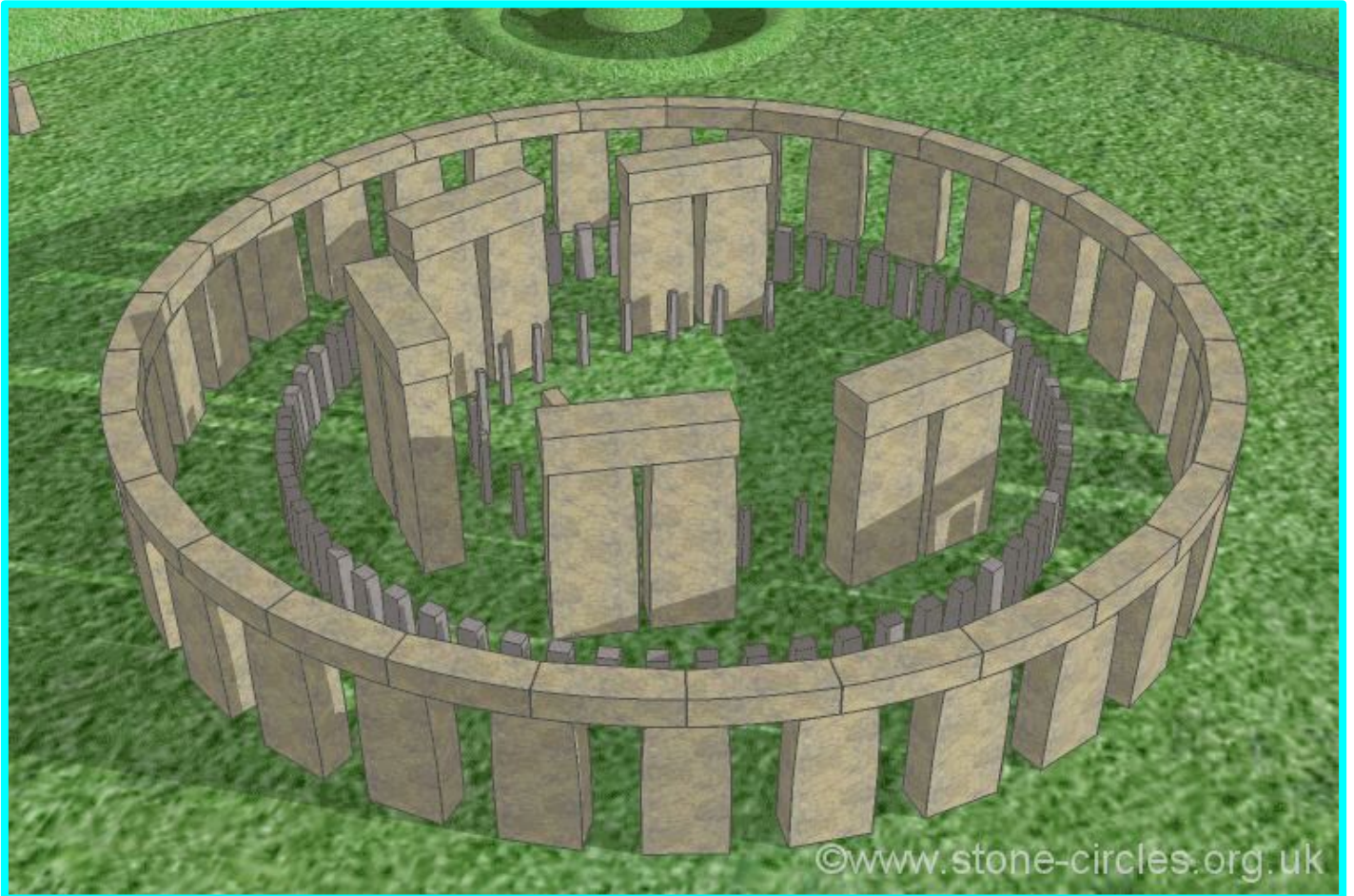
7,500 y/o



Stonehenge

6,200 years old

Wiltshire, England, United Kingdom



©www.stone-circles.org.uk

Stonehenge

6,200 years old

Wiltshire, England, United Kingdom



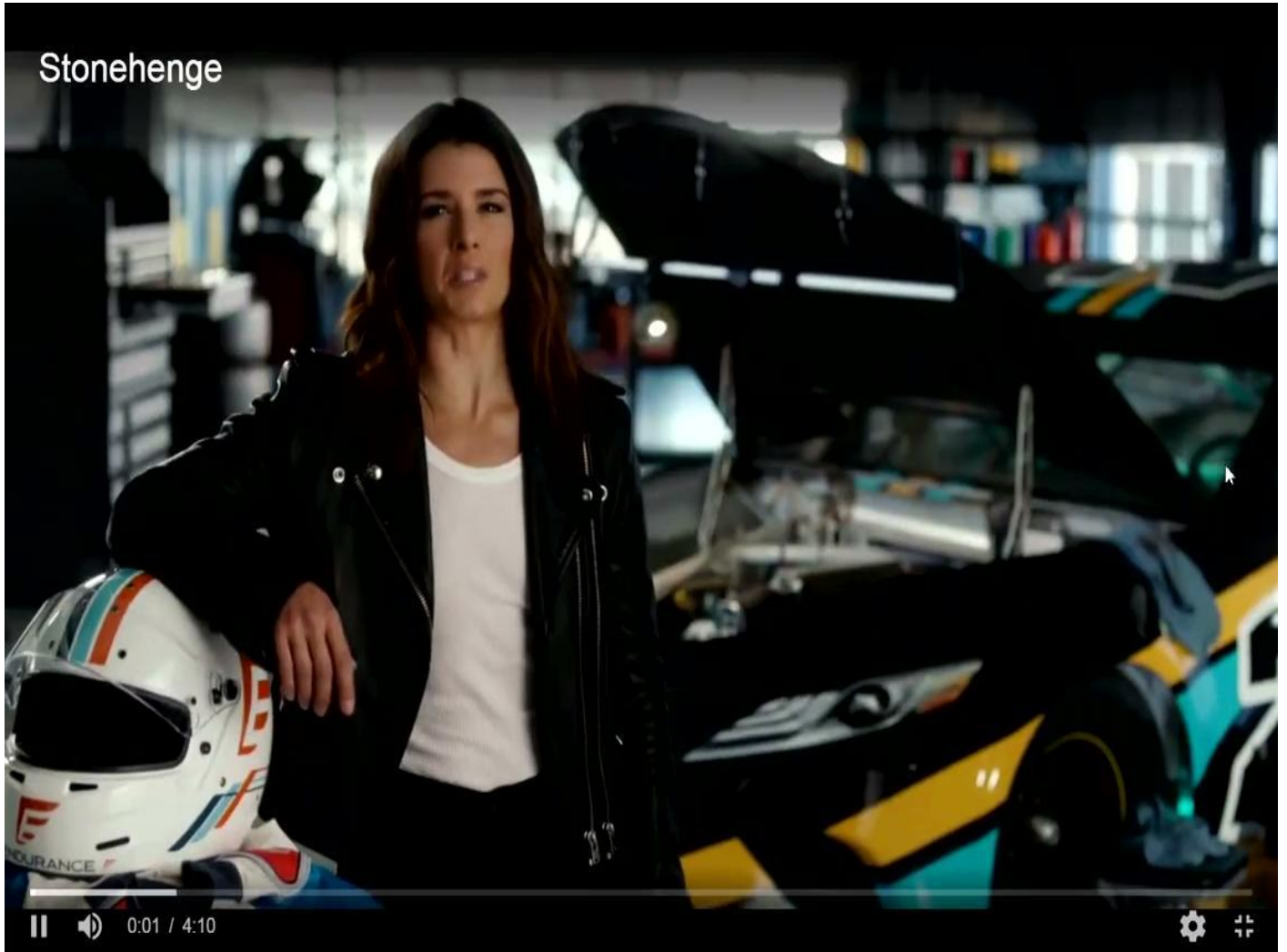
Stonehenge is a prehistoric monument on Salisbury Plain in Wiltshire, England, two miles (3 km) west of Amesbury. It consists of an outer ring of vertical sarsen standing stones, each around 13 feet high, seven feet wide, and weighing around 25 tons, topped by connecting horizontal lintel stones.

Inside is a ring of smaller bluestones. Inside these are free-standing trilithons, two bulkier vertical sarsens joined by one lintel. The whole monument, now ruinous, is aligned towards the **sunrise on the summer solstice and sunset on the winter solstice**. The stones are set within earthworks in the middle of the densest complex of Neolithic and Bronze Age monuments in England, including several hundred tumuli (burial mounds).

Stonehenge

6,200 years old

Wiltshire, England, United Kingdom



Stonehenge

6,200 years old

Wiltshire, England, United Kingdom



[Stonehenge](#)

Archaeologists believe England most iconic prehistoric ruin was built in several stages, with the earliest constructed 6,200 or more years ago

Ancient Calendars



Ancient Calendars

Here are 8 questions on Ancient Calendars

- 1.** What evidence suggests that the stone structures in Mpumalanga, South Africa, may represent an ancient astronomical observatory and calendar system?.
- 2.** What insights does the Lebombo Bone offer into the mathematical and potentially ritualistic practices of early humans in Africa?
- 3.** What evidence supports the interpretation of the Ishango Bone as a potential mathematical or astronomical tool?
- 4.** How does the Wurdi Youang stone arrangement in Australia demonstrate the astronomical knowledge of Aboriginal peoples and challenge assumptions about the sophistication of ancient cultures outside of Europe?
- 5.** What challenges and opportunities exist in exploring the relatively unexplored prehistory of Western Sahara, particularly regarding evidence of ancient timekeeping practices?
- 6.** How does the Warren Field calendar in Scotland challenge traditional narratives about the origins of sophisticated timekeeping systems?
- 7.** What insights does Nabta Playa offer into the astronomical knowledge and cultural practices of ancient Nubian civilizations?
- 8.** How did the development of radiocarbon dating techniques reshape our understanding of Stonehenge's origins and purpose?

Ancient Calendars

Here are 8 answers on Ancient Calendars

1a. The sources present compelling evidence that the stone structures in Mpumalanga, South Africa, known as "Adam's Calendar," may be far more ancient than initially believed and served an astronomical purpose.

Researchers Johan Heine and Michael Tellinger argue that these structures, potentially dating back 75,000 years or even 200,000 years, are not simply remnants of settlements but rather indicate a sophisticated understanding of celestial cycles.

Several factors support this theory:

- * **Shadow Casting:** Two prominent rocks within the site appear to function as a calendar, with the taller rock casting a shadow on the nearby flat rock.

The changing position of the shadow throughout the year seemingly marks the passage of twelve months.

- * **Material Composition:** The monoliths are made of dolomite, a material different from the surrounding bedrock, which consists of black reef cordite.

This suggests the stones were intentionally transported from elsewhere.

- * **Geometric Alignment:** The monoliths are positioned with precise geometric alignment, lining up with the cardinal directions (north, south, east, and west).

- * **Aerial Observation:** Researchers have identified up to 20,000 similar structures throughout southern and eastern Africa, observable from the air, suggesting a widespread cultural practice of astronomical observation.

While some researchers dispute the age and significance of these structures, the evidence presented in the sources points toward their potential role as an ancient astronomical observatory and calendar system.

Ancient Calendars

Here are 8 answers on Ancient Calendars

2a. The Lebombo Bone, a baboon fibula discovered in Border Cave in the Lebombo Mountains, provides a fascinating glimpse into the cognitive abilities and potential ritualistic practices of early humans in Africa.

The bone, dating back 43,000 to 42,000 years, features 29 distinct notches. While its exact purpose remains uncertain, several theories have been proposed.

* Lunar Phase Counter: The 29 notches on the bone suggest a possible connection to the lunar cycle, leading some researchers to propose that it may have been used as a lunar phase counter.

This theory aligns with the observation that tracking menstrual cycles, often correlated with lunar phases, may have been an early form of mathematical practice by women.

* Tally Stick: The notches on the bone could represent a simple tally system, used to record quantities or events.

* Ritualistic Significance: Peter Beaumont, the bone's discoverer, suggests that the different cutting edges used to create the notches may indicate a ritualistic purpose, similar to other markings found globally in ancient contexts.

Although the Lebombo Bone's precise function remains open to interpretation, it highlights the mathematical capabilities and potential ritualistic practices of early humans in Africa, pushing back the timeline for such practices significantly.

3a. The Ishango Bone, discovered in the Democratic Republic of the Congo and dating back roughly 20,000 years, presents a captivating puzzle, with its series of seemingly deliberate markings fueling speculation about its purpose.

Researchers have proposed several intriguing interpretations:

* Mathematical Tool: The bone's three columns of markings, featuring varying orientations and lengths, have led some to suggest its use as a counting tool or a device for performing simple mathematical calculations.

Ancient Calendars

Here are 8 answers on Ancient Calendars

The presence of markings that could represent prime numbers or decimals hints at a more sophisticated understanding of mathematical concepts than previously attributed to humans of this period.

* Lunar Calendar: Alexander Marshack, an archaeologist from Harvard University, proposed that the Ishango Bone might represent a lunar calendar, based on his analysis of the markings and their potential correlation with lunar phases.

This interpretation, while contested, raises the possibility that the bone's creator may have been a woman tracking lunar cycles in relation to her menstrual cycle.

While the Ishango Bone's true purpose remains a subject of ongoing debate, its markings clearly demonstrate an intentionality and potential for mathematical or astronomical applications, challenging our understanding of the cognitive abilities of early humans.

4a. The Wurdi Youang stone arrangement, located in Victoria, Australia, provides compelling evidence of the advanced astronomical knowledge possessed by Aboriginal peoples.

Estimated to be at least 11,000 years old, this egg-shaped arrangement of basalt stones exhibits a clear alignment with the solstices and equinoxes.

* Solar Alignments: A series of stones west of the arrangement's western apex mark the setting positions of the sun at the solstices and equinoxes with impressive accuracy.

The arrangement's straight sides, diverging from its eastern apex, also indicate the sun's setting position at the solstices.

* Ceremonial Significance: While its astronomical function is evident, the site likely also held ceremonial importance, as do many other stone arrangements in southeastern Australia.

Wurdi Youang stands as a testament to the astronomical sophistication and cultural practices of Aboriginal Australians, predating Stonehenge by thousands of years and challenging the notion that complex astronomical knowledge was confined to European cultures.

Ancient Calendars

Here are 8 answers on Ancient Calendars

5a. Western Sahara presents a unique challenge and opportunity for archaeologists and researchers seeking to understand human prehistory.

This class we learned that Western Sahara possesses "one of the last remaining unexplored prehistories on the planet."

* Challenges:

- **Limited Research:** The lack of extensive archaeological exploration in the region poses a significant obstacle to understanding its past.
- **Environmental Conditions:** The harsh desert environment may have eroded or concealed potential archaeological sites.
- **Political Instability:** Ongoing political conflicts and territorial disputes can hinder access to research sites and resources.

* Opportunities:

- **Potential for New Discoveries:** The unexplored nature of Western Sahara holds the promise of uncovering previously unknown archaeological sites and artifacts, potentially including evidence of ancient timekeeping practices.
- **Collaboration with Local Communities:** Engaging with local communities and incorporating their knowledge and perspectives can enrich research efforts and foster a more inclusive understanding of the region's history.
- **Technological Advancements:** Utilizing advanced technologies, such as remote sensing and non-invasive archaeological techniques, can facilitate exploration and minimize disturbance to sensitive sites.

Unveiling the prehistory of Western Sahara, including potential evidence of ancient timekeeping practices, will require overcoming these challenges and embracing the opportunities for collaboration, innovation, and a nuanced understanding of the region's complex past.

6a. The Warren Field calendar, discovered in Aberdeenshire, Scotland, challenges traditional assumptions about the development of complex timekeeping systems.

Ancient Calendars

Here are 8 answers on Ancient Calendars

Dating back to approximately 8,000 BCE, this Mesolithic monument predates known Mesopotamian calendars by nearly 5,000 years, suggesting that sophisticated timekeeping practices emerged in Europe far earlier than previously believed.

* **Lunisolar Calendar:** The site features 12 pits that researchers believe correspond to the phases of the moon, indicating a lunisolar calendar system.

* **Astronomical Alignments:** The arrangement of pits appears to be calibrated with the winter solstice sunrise, suggesting a sophisticated understanding of celestial cycles and their relationship to the passage of time.

The Warren Field calendar's early date and complexity challenge the Eurocentric narrative that often places the origins of advanced civilization and knowledge solely within Mesopotamia or other Near Eastern cultures.

7a. Nabta Playa, located in the Nubian Desert of southern Egypt, offers a glimpse into the sophisticated astronomical knowledge and cultural practices of ancient Nubian civilizations.

Dating back approximately 9,500 years, this site features a remarkable collection of astronomically aligned stone structures.

* **Calendar Circle:** Nabta Playa includes a "calendar circle" that indicates the approximate direction of the summer solstice sunrise, demonstrating the Nubians' ability to track and mark significant celestial events.

* **Stellar Alignments:** Other stone alignments at the site appear to correspond with the rising of certain stars, suggesting a deep understanding of the night sky and its patterns.

* **Water Source:** The presence of a water source at Nabta Playa likely attracted early people to the region, leading to the development of a thriving settlement and cultural center.

Nabta Playa's astronomical alignments and its location within the context of a thriving settlement highlight the interconnectedness of astronomical knowledge, environmental resources, and cultural development in ancient Nubia.

Ancient Calendars

Here are 8 answers on Ancient Calendars

8a. The advent of radiocarbon dating in the mid-20th century revolutionized our understanding of Stonehenge, revealing a much earlier construction date than previously assumed and challenging long-held theories about its builders and purpose.

* **Debunking the Druid Theory:** Prior to radiocarbon dating, Stonehenge was widely attributed to the Druids, the priests of pre-Christian Celtic tribes.

However, carbon analysis of remains at the site revealed a construction date of around 4,200 BCE, thousands of years before the emergence of Druidic culture.

* **Neolithic Origins:** Radiocarbon dating firmly placed Stonehenge's construction within the Neolithic period, attributing its creation to Stone Age people.

This discovery forced a reevaluation of the capabilities and sophistication of Neolithic societies.

* **Astronomical Alignments:** While the exact purpose of Stonehenge remains debated, its alignment with the movements of the sun and moon supports the theory that it served an astronomical function, potentially as a prehistoric calculator for predicting eclipses or other celestial events.

The application of radiocarbon dating to Stonehenge exemplifies the transformative power of scientific techniques in revising historical narratives and shedding new light on the capabilities and practices of ancient cultures.

Kemetic Timekeeping

Kemetic Timekeeping

Era

Year

Month

Week

Day

Night

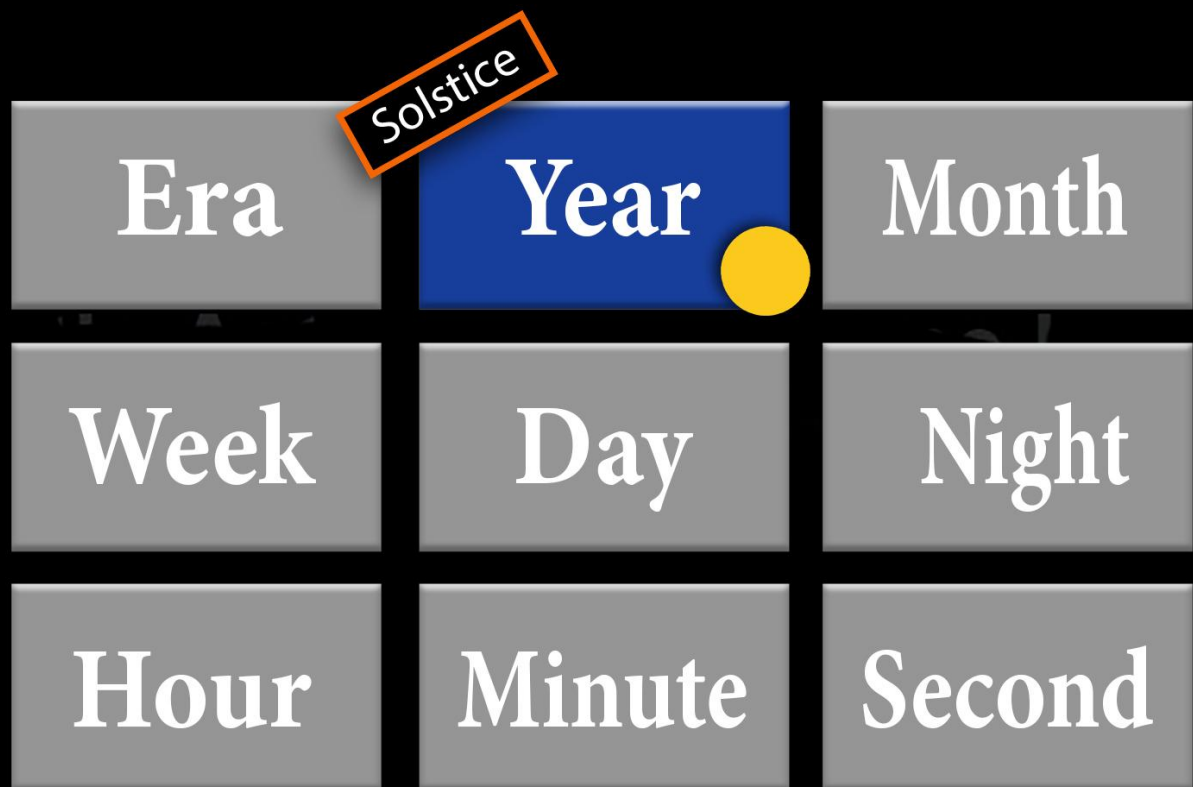
Hour

Minute

Second

Kemetic Timekeeping

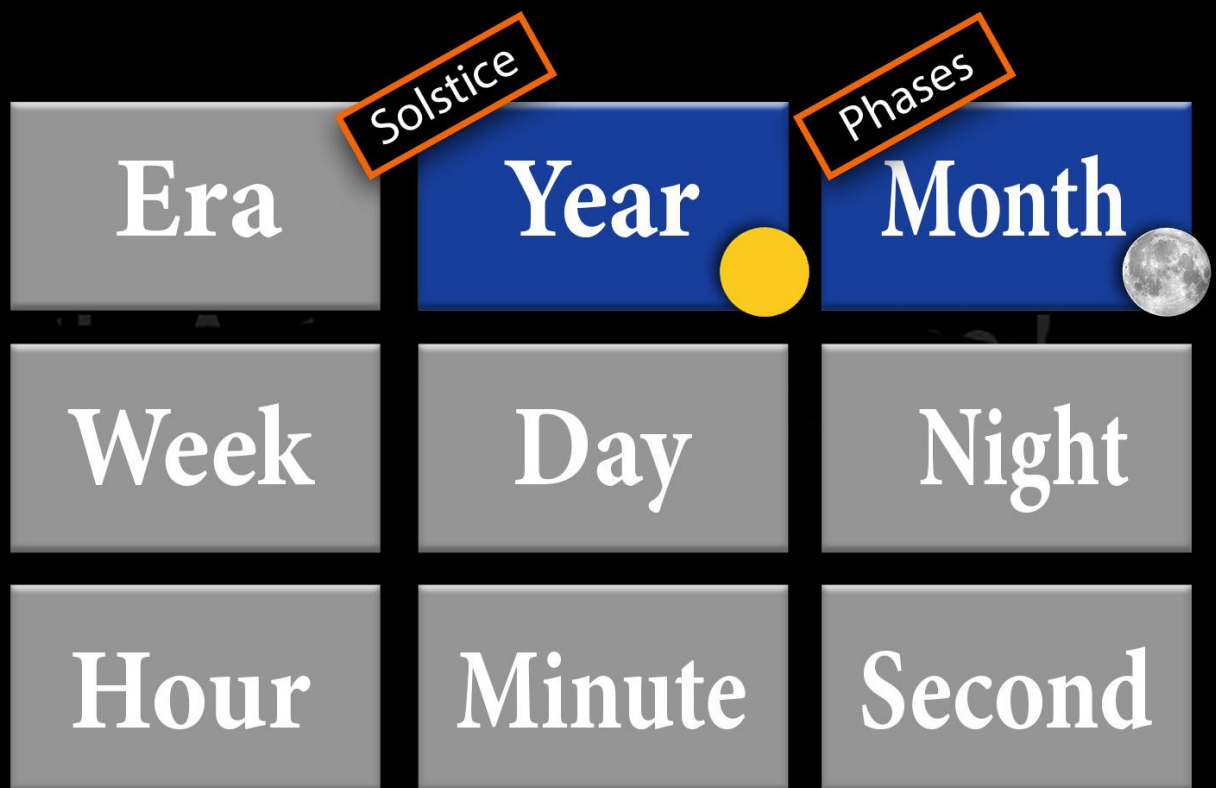
Year



A year can be easily defined if we look at an astronomical body let's take the Sun we can find a Solstice we can measure a year

Kemetic Timekeeping

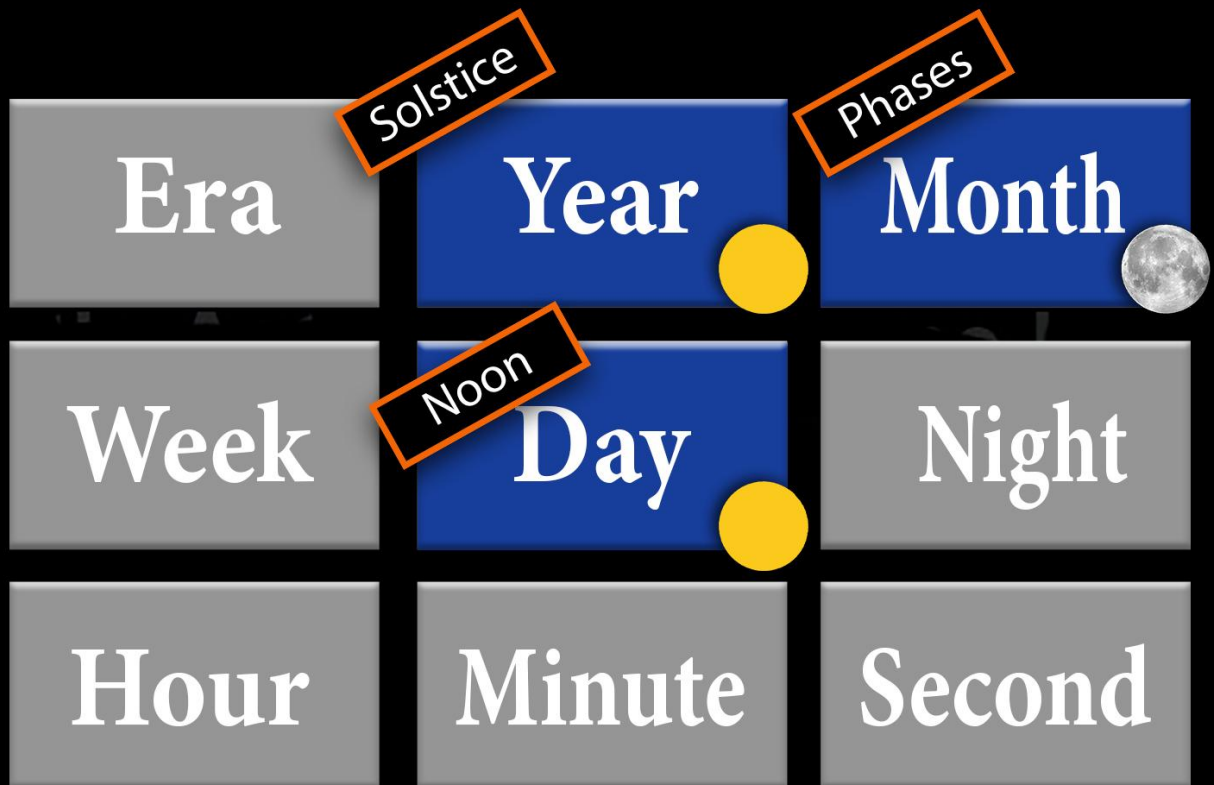
Month



Similarly the idea of a month comes very directly from observing a moon and its phases

Kemetic Timekeeping

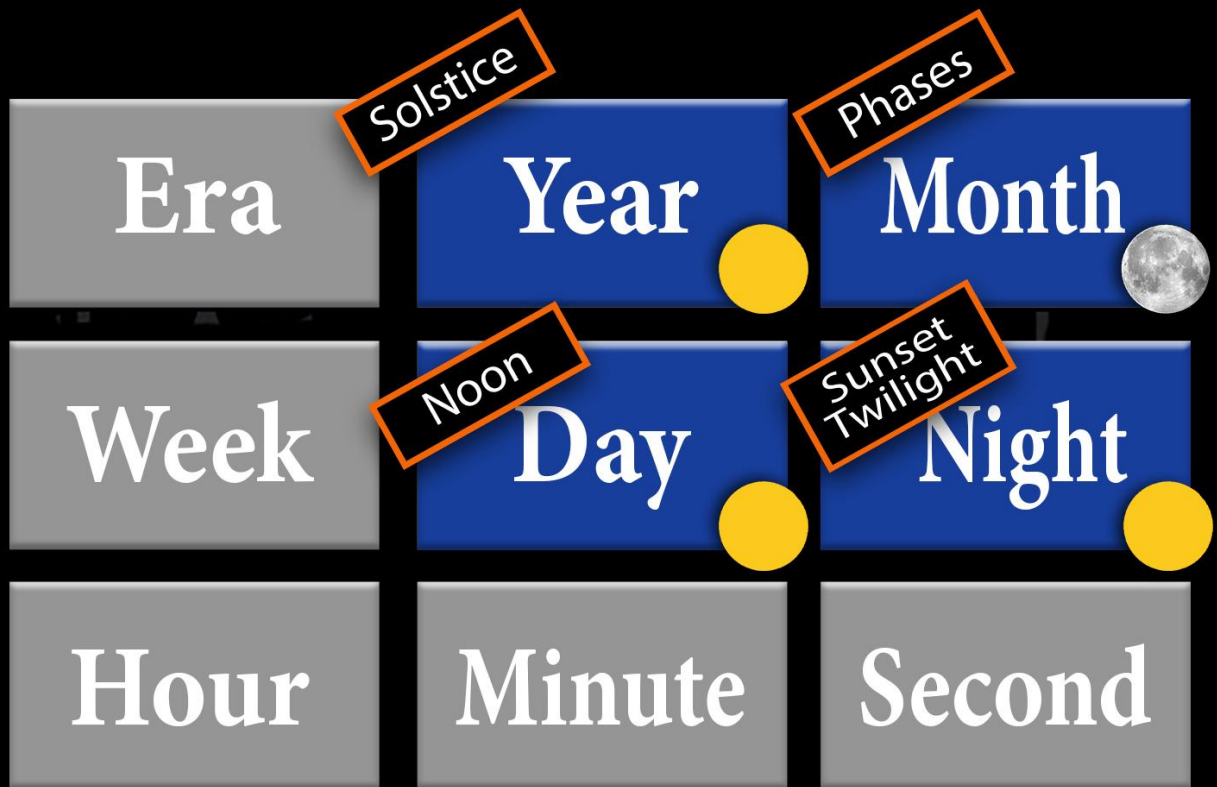
Day



For days we can go back to the Sun
and look at the noon point

Kemetic Timekeeping

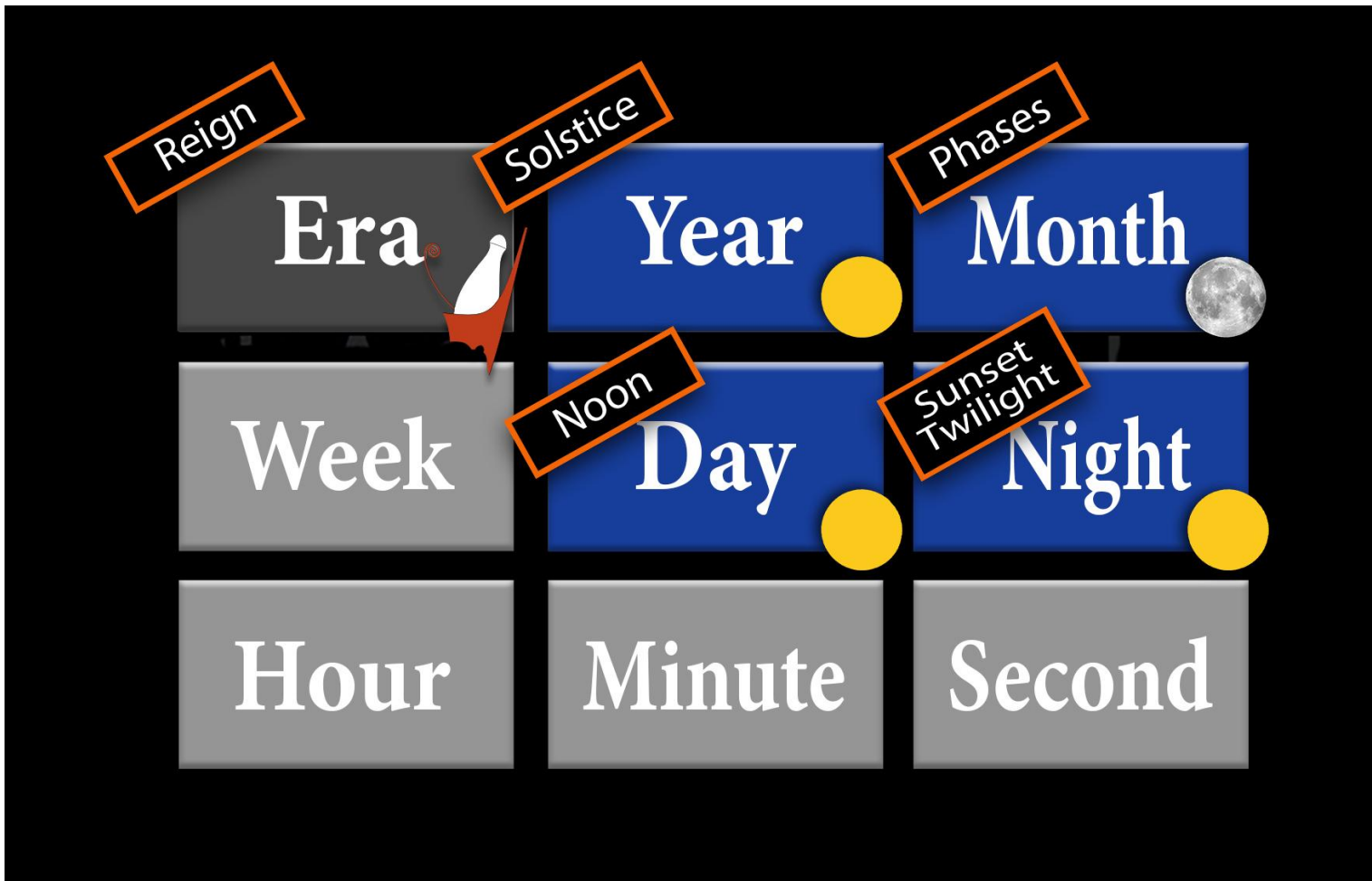
Day/Night



We have a problem with the word day in English it can mean two things it can mean a 24-hour period or it can mean the daylight period so we have to think about how we measure night as well do we measure it from the point of sunset and what exactly does that mean do we measure it from the end of Twilight but these are all astronomically based in longer time periods

Kemetic Timekeeping

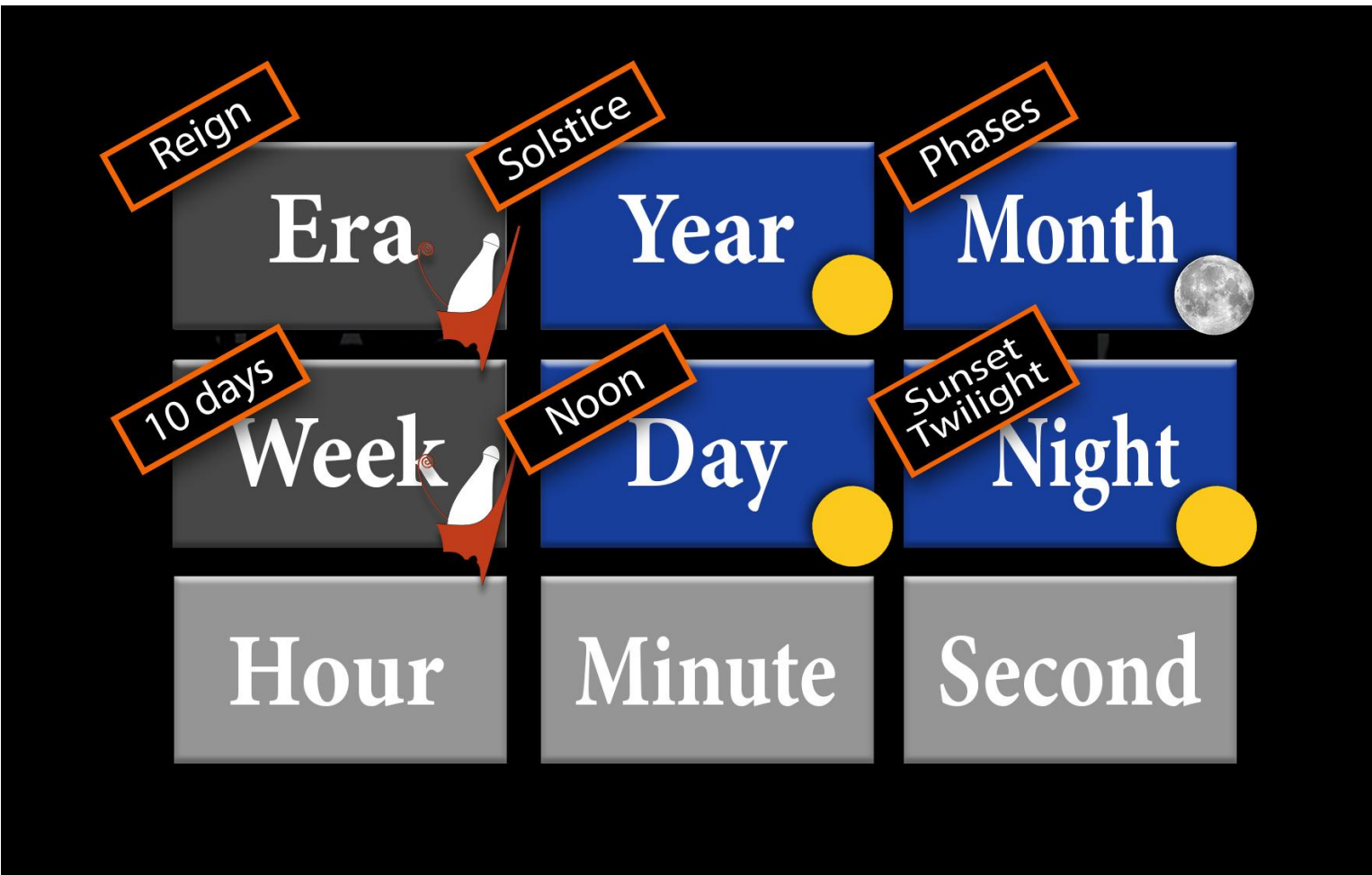
Eras



Longer time periods thinking of things like eras then we tend to base this on more political decisions and this was the same in ancient Kemet when the era would be described by the reign of the Nesut Bity and the year was counted in regnal years of the reign of the Nesut Bity

Kemetic Timekeeping

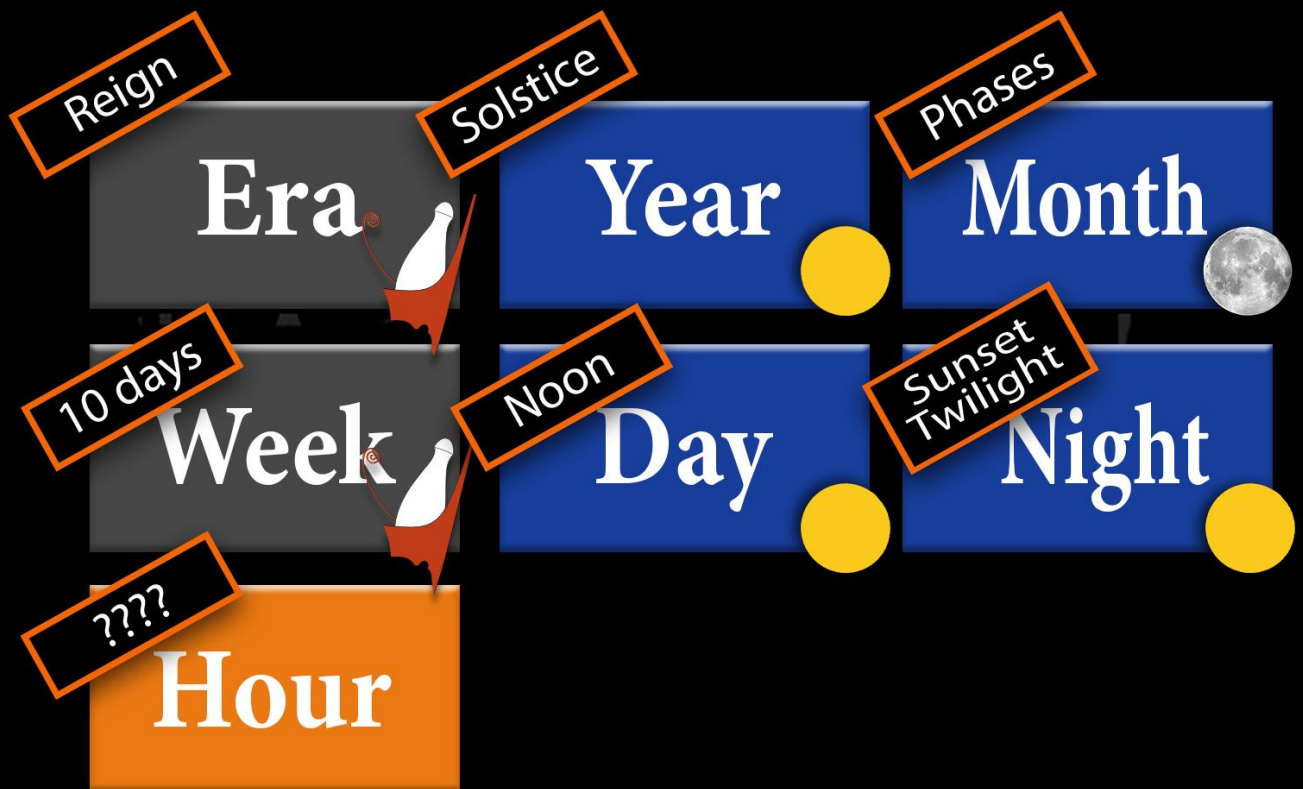
Week



The unit of a week is an unnatural one.. In ancient Kemet a week was actually a 10-day period and rather confusingly Egyptologists have decided to call that a **Decade** so when I say decade I mean a 10-day period not a ten-year period now we're running out of natural phenomena.

Kemetic Timekeeping

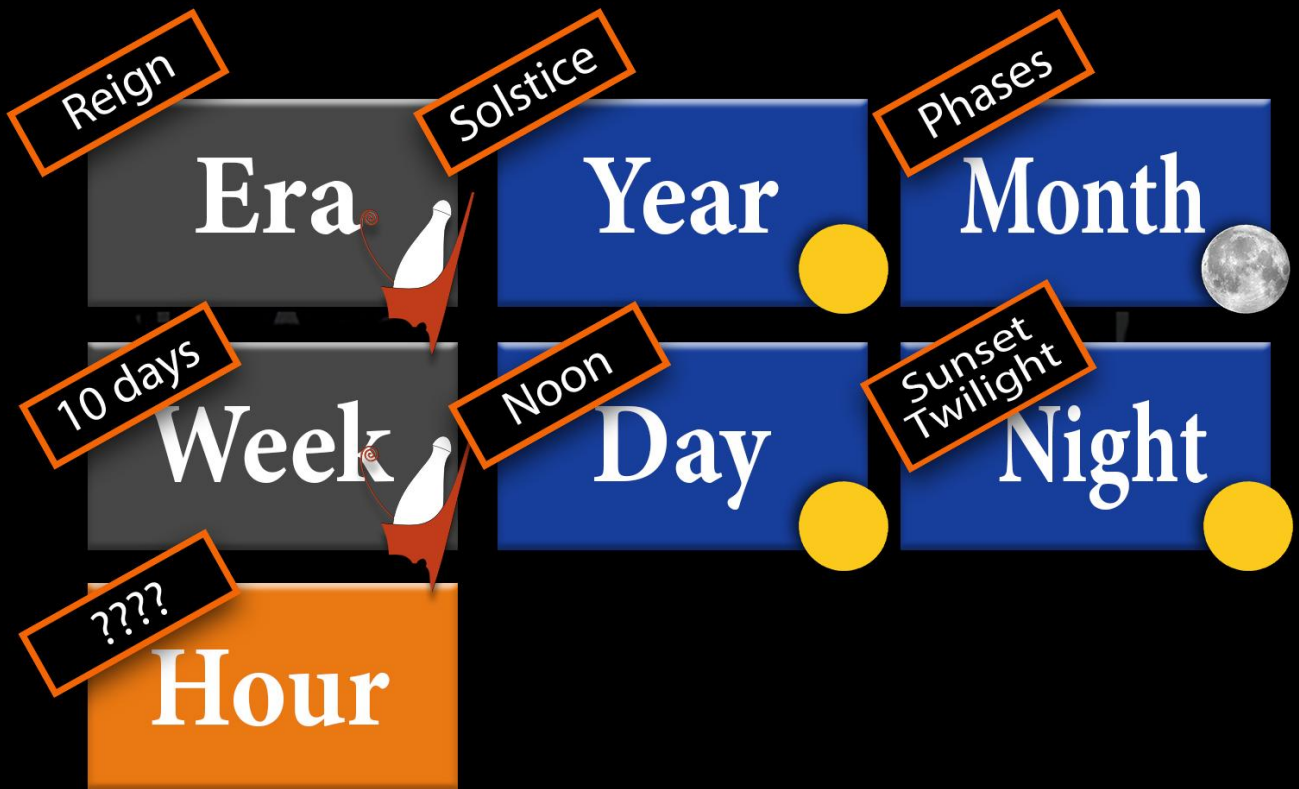
Hours



In ancient Kemet and nearby civilizations we find no evidence of a short period of time and indeed we have no subdivisions other than fractions of the hour in ancient Kemetic texts

Kemetic Timekeeping

Hours



The way that we measure hours and we're going to see that this is again not an obvious natural time unit we have to make a decision about how we're going to divide up the day into some smaller portions in ancient Kemet we find three methods Sun, Water and Stars

Kemetic Timekeeping

How did the Kemetic people measure hours?

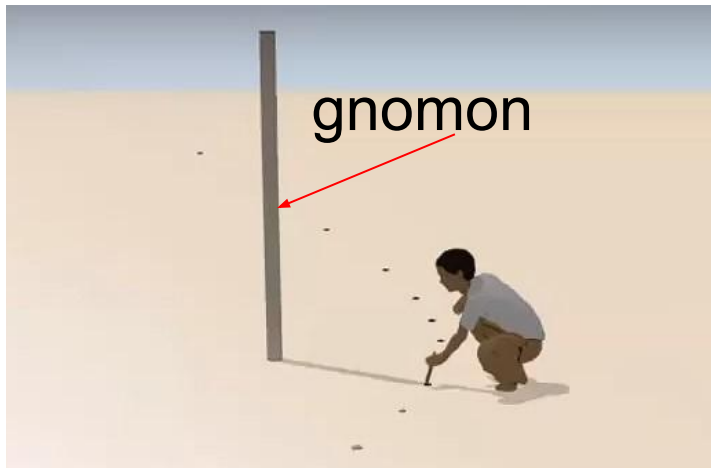


This is not an obvious natural time unit we have to make a decision about how we're going to divide up the day into some smaller portions.

In ancient Kemet we find three methods

Kemetic Timekeeping

Kemetic Sundial Clocks



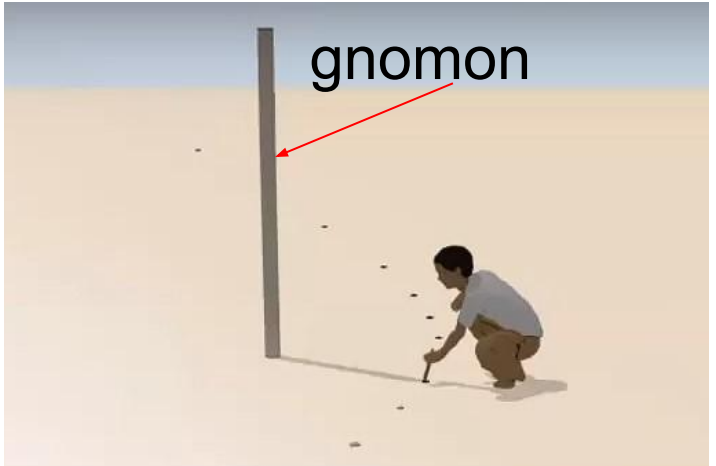
What is a Sundial

A sundial is a device that uses the position of the sun to tell time. It has a rod, called a gnomon, that casts a shadow onto a flat, surface with markings for each hour of daylight. As the sun moves across the sky, the shadow moves and falls on the markings, indicating the time of day.

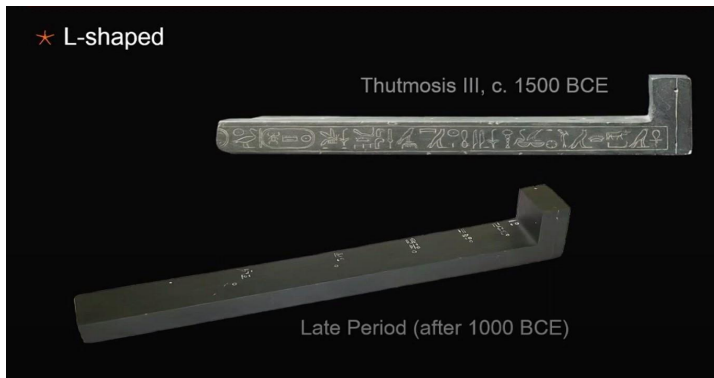
Sundials were the earliest known timekeeping device, dating back to around 3500 BCE. They were the only way to tell time before clocks were invented, and were also important for resetting early clocks when they weren't accurate. Sundials show local solar time,

Kemetic Timekeeping

Kemetic Timekeeping Clocks



The Types of Sundials used

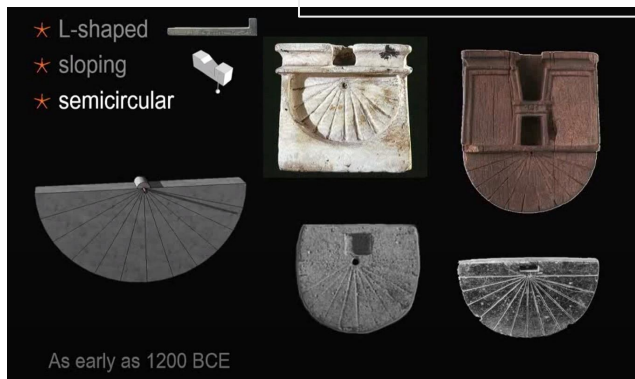


L Shaped



Angled

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Flat



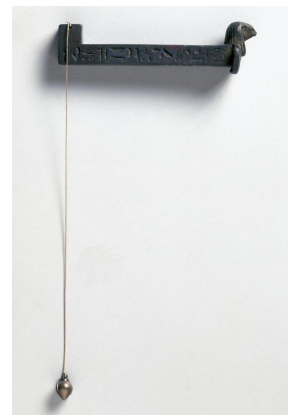
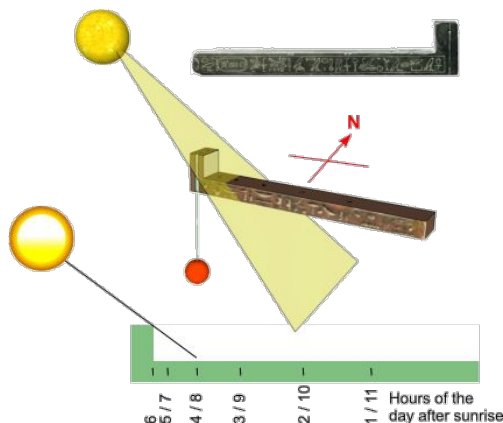
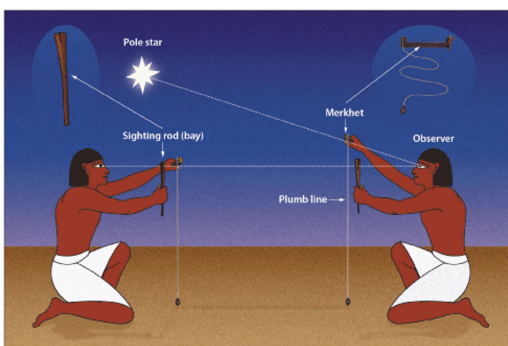
Bowl

Kemetic Timekeeping

Kemetic Merkhhet



The Merkhhet 'instrument of knowing' was an ancient surveying and timekeeping instrument. It involved the use of a bar with a plumb line, attached to a wooden handle. It was used to track the alignment of certain stars in Ancient Kemet. When visible, the stars could be used to measure the time at night. Merkhets were used to replace sundials, which were useless during the dark

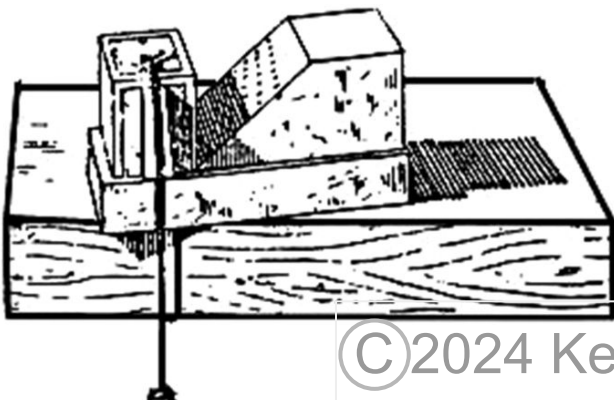
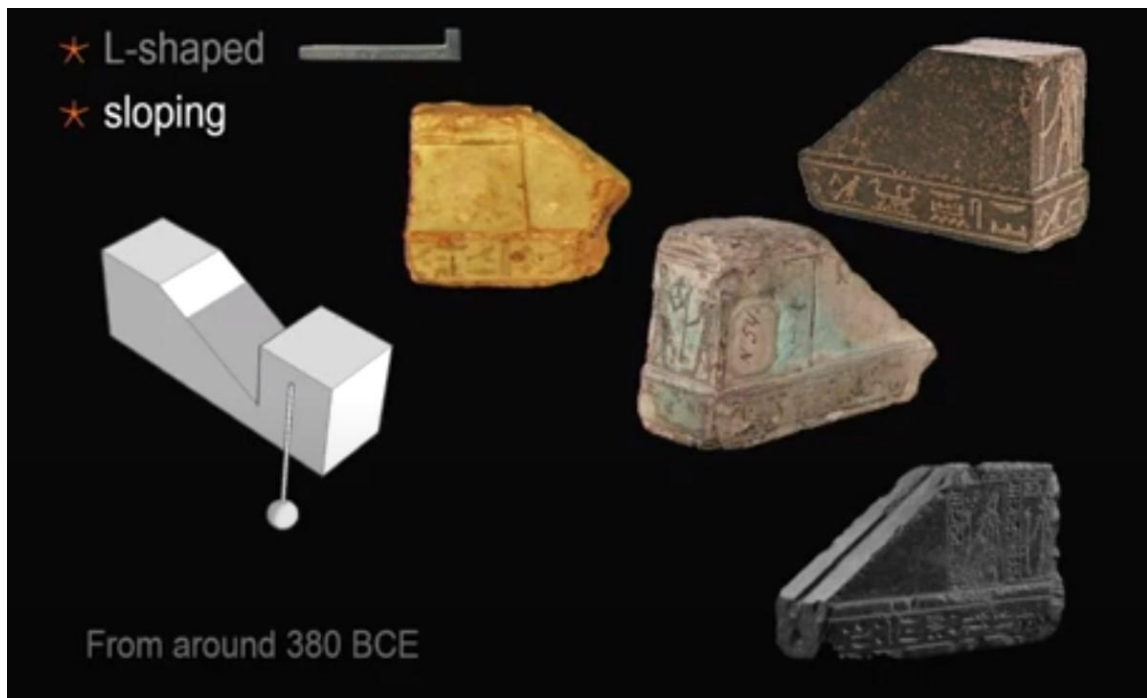


Kemetic Timekeeping

Kemetic Timekeeping Clocks



Angeled Sundials



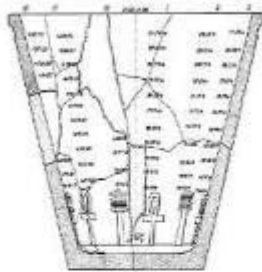
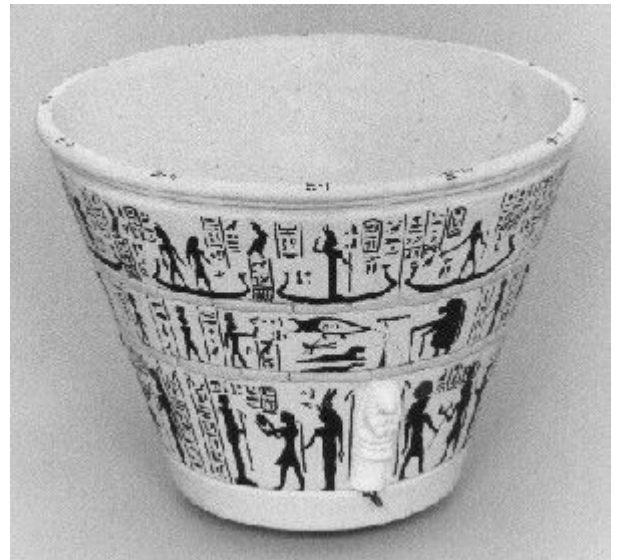
Kemetic Timekeeping

Kemetic Timekeeping Clocks

Water Clocks 1500 bce

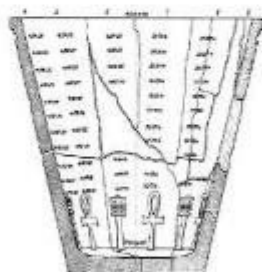
Water clocks were used as timekeeping instruments in ancient Kemet from at least the New Kingdom until the end of pharaonic history.

Most of the surviving full-sized water clocks are made of stone and are inscribed inside and out

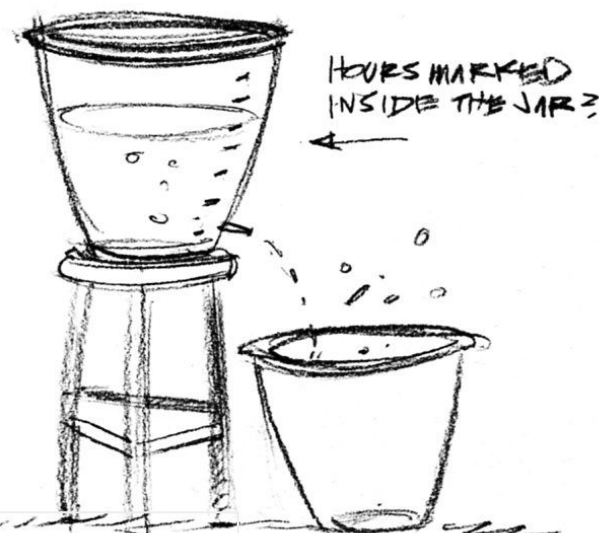


Ankhesen - Khaton
Stone jar of the tomb of Amenhotep III

Die von Nil in den Nildelta (in Kairo) im Jahr 1850 (2) im Jahr 1850 in Kairo



Ankhesen - Khaton
Stone jar of the tomb of Amenhotep III



Kemetic Timekeeping

Kemetic Timekeeping Clocks

Kemetic Astronomical Star Clocks

Diagonal Star Clocks



Ramses Star Clocks



Kemetic Timekeeping

How Kemet viewed Time.

Reading the Hieroglyphs (Medu Neter)



Linear Time (Perpetual)

Cyclical Time

Kemetic Timekeeping

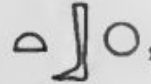
How Kemet viewed Time.

Reading the Hieroglyphs (Medu Neter)

Cycle of Time



Noun

teb , cycle of time

Verb

teben 

to revolve; circuit, cycle,

The first known representation of the **Teben** (Ouroboros) symbol was in Ancient Kemet in the 13th Century BCE around 1324 bce (3,348 years ago from the year 2024), on the shrine of Tut-Ankh-Amen.

Teben was often used in the Kemetic era to represent their views of cycles of nature.

Teben
(Ouroboros)



Ouroboros is a picture of a serpent biting its tail

Kemetic Timekeeping

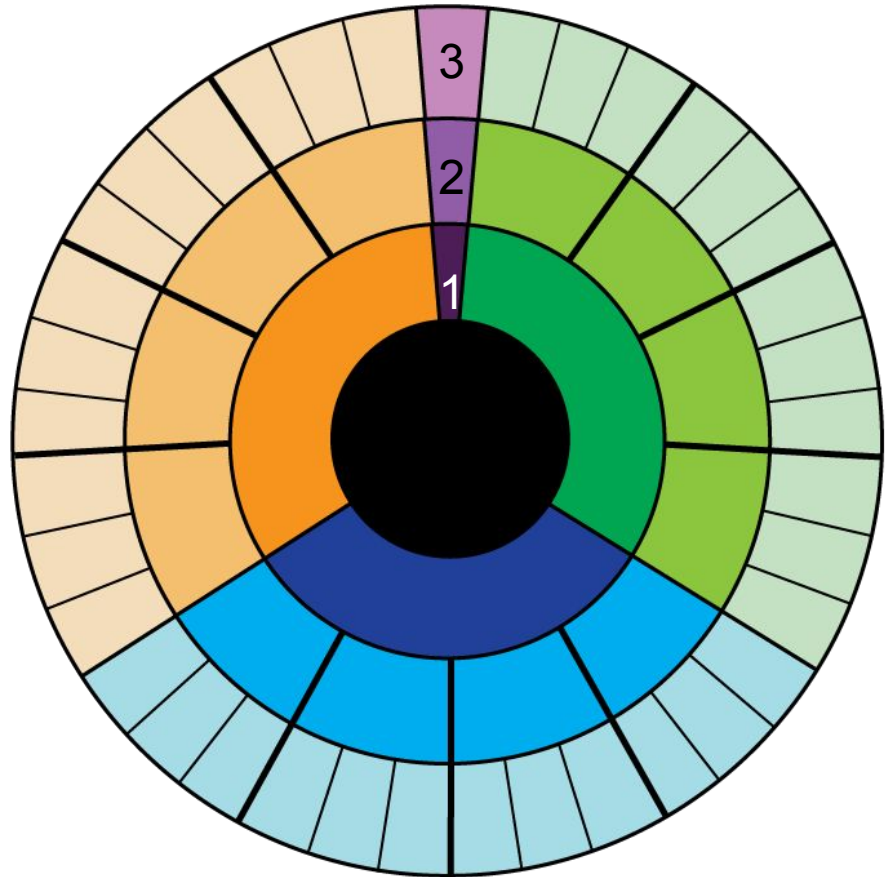
How Kemet viewed Time.

Viewing the Year as a Cycle of Time

1. Cycle of 3 Seasons

2. Cycle of 12 Months

3. Cycle of 36 Weeks



Kemetic Timekeeping

How Kemet viewed Time.

Viewing the Year as a Cycle of Time

Nile-Agricultural Cycle

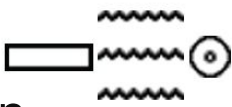
1. A Cycle of 3 Seasons

There were three seasons in ancient Kemet: Akhet, Peret, and Shemu.

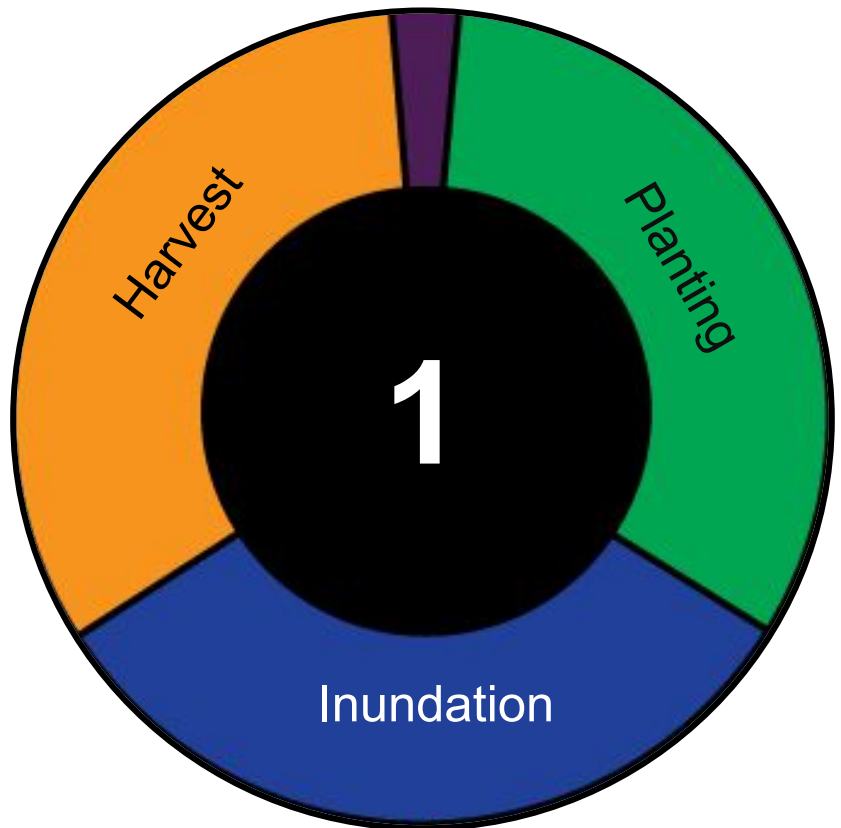
Akhet
Harvest



Shemu
Inundation



Peret
Planting



Kemetic Timekeeping

How Kemet viewed Time.

Viewing the Year as a Cycle of Time

Months = Moon

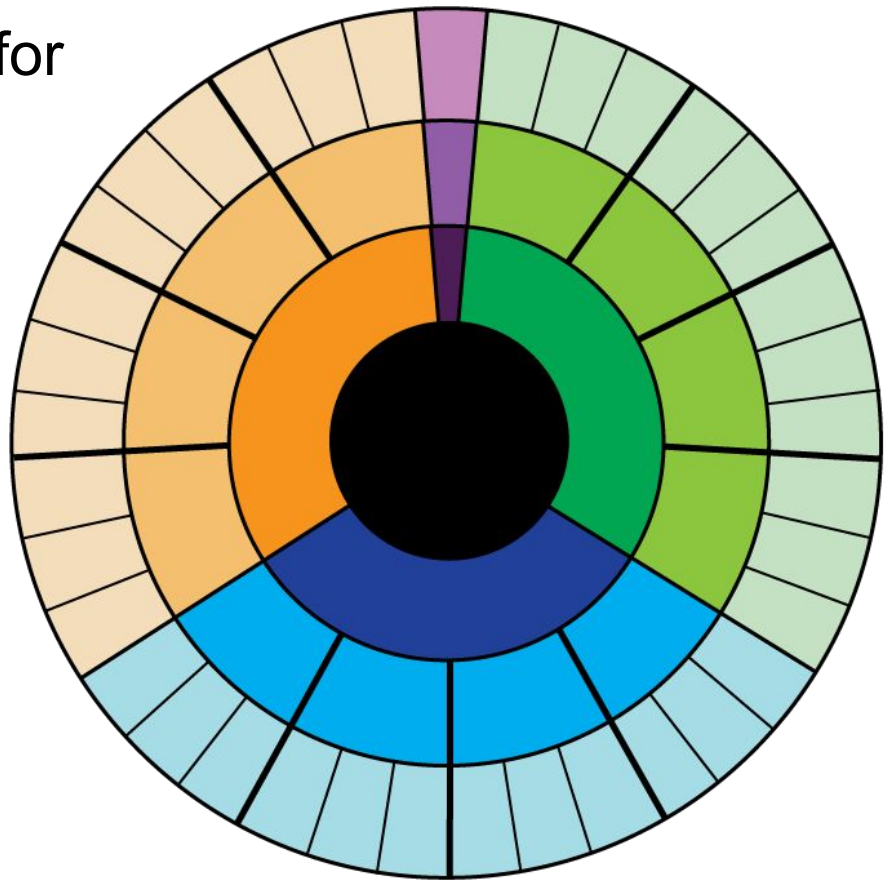
Each of the seasons contained four Lunar cycles

2. A Cycle of 12 Months



The Kemetic word for Moon is Aah (e-ah)

In Yoruba language, Ìyá literally means "mother"



Kemetic Timekeeping

Months = Moon



The word luna is the Roman name of the Moon:

Roman goddess

In Roman mythology, Luna was the goddess of the moon. She was often depicted driving a white chariot drawn by horses or oxen.

The name Luna is derived from the Latin word *lūna*, which means "moon".

The name is also used in other Latin-rooted languages, such as Spanish, Italian, French, Portuguese, and Romanian.



The word mensis comes from the Latin word *mensis*, which means "month".

It was used in Roman law to refer to a specific period of time, and was an important part of the Roman calendar and legal system.

For example, in ancient Rome, each mensis had a different name and was associated with a particular festival or event.

The word mensis is also related to the ancient Greek word *mene*, which means "moon".

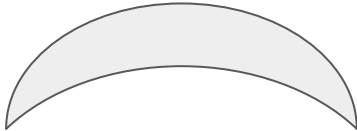
In ancient times, the menstrual cycle was thought to be related to the moon's cycle because both cycles last around 29 days.

The word menses is the plural of mensis, and is used to refer to menstruation, the monthly discharge of blood from the uterus of nonpregnant women.

The earliest known use of the word menses was in 1597, in the writing of herbalist John Gerard.

Kemetic Timekeeping

Months = Moon



Shemu

Peret

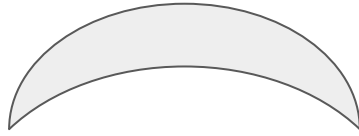
Akhet



Kemetic Timekeeping

Months = Moon

The word "month" comes from the Old English word *monað*, which comes from the Proto-Germanic word *mēnōþs*, which comes from the Proto-Indo-European word *meh₁-*, which means "to measure". This refers to the moon's phases as a measure of time, which is equivalent to moon + -th. A lunar month is the time it takes for the moon to go through all its phases,



The word *luna* is the Roman name of the Moon:

Roman goddess

In Roman mythology, *Luna* was the goddess of the moon. She was often depicted driving a white chariot drawn by horses or oxen.

The name *Luna* is derived from the Latin word *lūna*, which means "moon".

The name is also used in other Latin-rooted languages, such as Spanish, Italian, French, Portuguese, and Romanian.

Shemu

Peret

Akhet



Kemetic Timekeeping

The Week

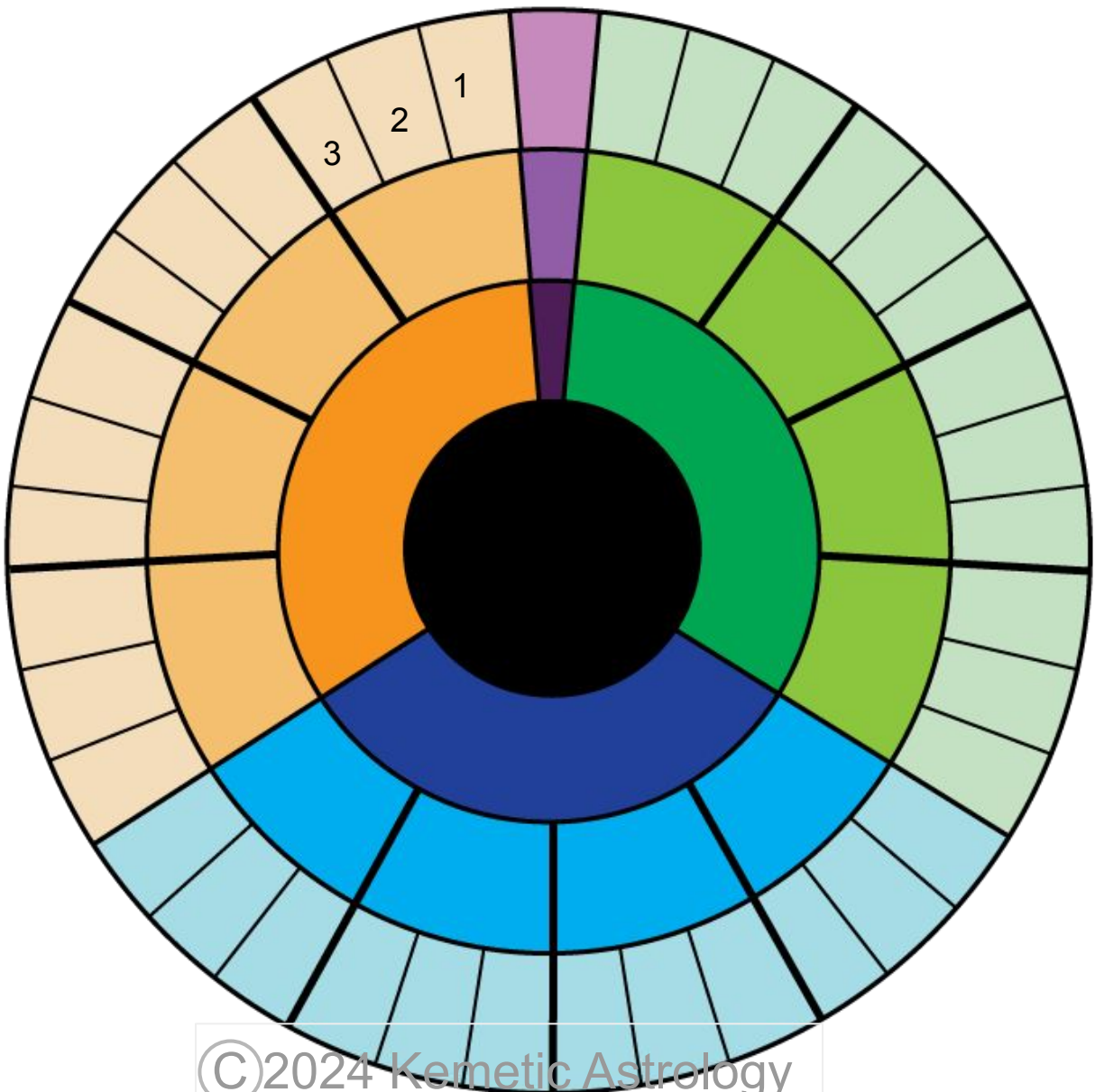
Week   Ten Days

Medju Heru

in ancient Kemet a week was actually the 10-day period and rather confusingly Egyptologists have decided to call that a Decade.

In Kemet we called it Medju Heru, which literally means “Ten Days”

Each of the 3 Medju Heru in a month had a different name.
Name after 3 sections of the body



Kemetic Timekeeping

The Week

Old English **wice**, of Germanic origin; related to Dutch **week** and German Woche, from a base probably meaning 'sequence, series'.

English has about 51,000 words with Latin origins, which is roughly 30% of the English language.

The percentage of words with Latin roots is even higher in science and technology, where many terms are deliberately sourced from Latin.

The English language has more than a million words, with about 170,000 in current use and 47,000 obsolete.

The average American's vocabulary is 29,851 words, which is 17.41% of the total English language words in use.

The average English vocabulary is around 20,000 to 35,000 words.

According to one estimate, more than 150,000 English words are derived from Greek, which is about 30% of the English language.

Most of these words come from ancient Greek, and 5% are directly borrowed from Greek

Kemetic Timekeeping

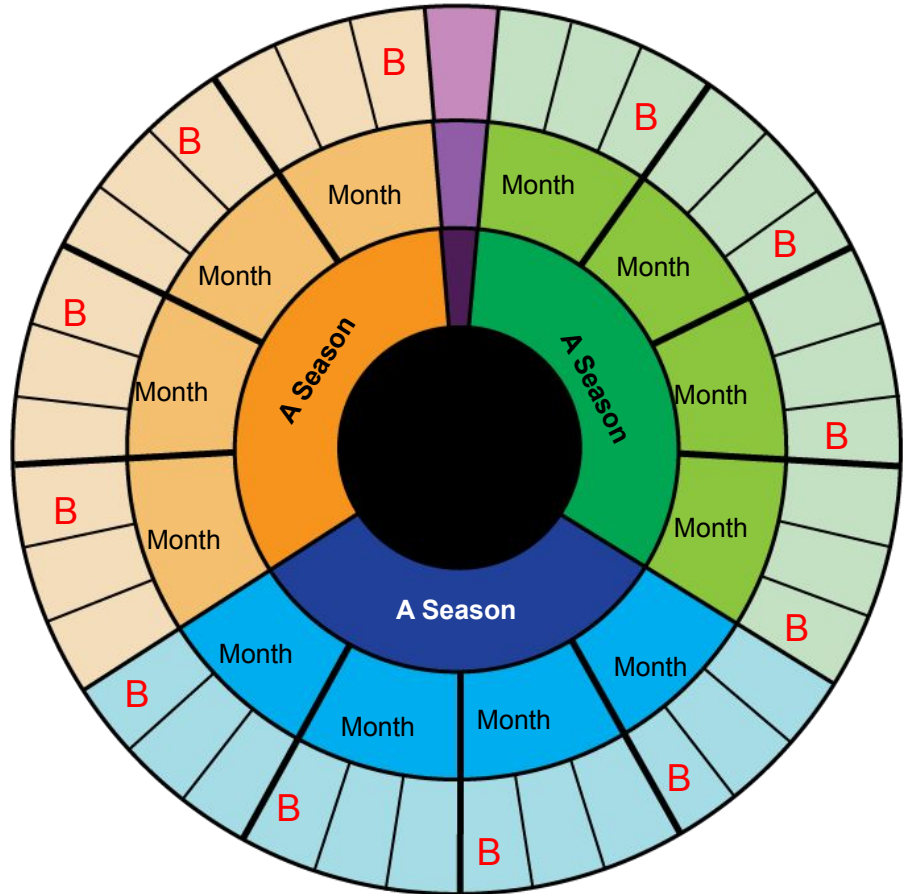
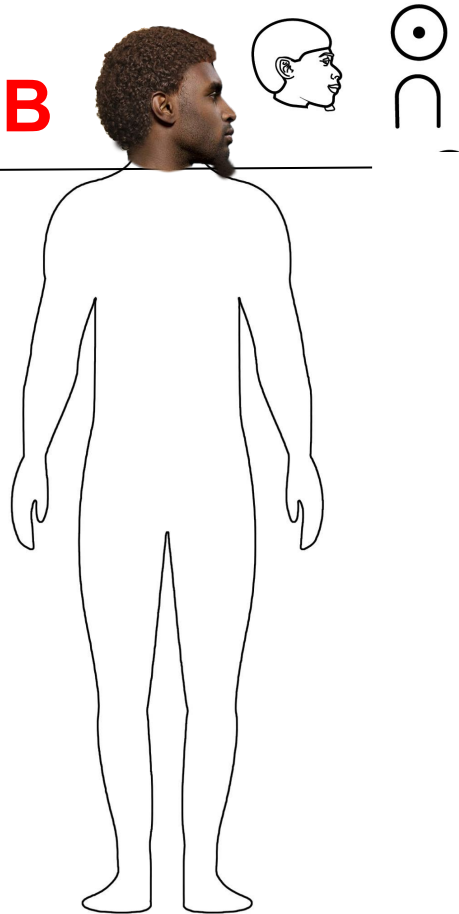
The Week

Week   Ten Days

Medju Heru

The 1st week of the month is called
Tepi Medju Heru

Tepi means **B**eginning / at the head



Kemetic Timekeeping

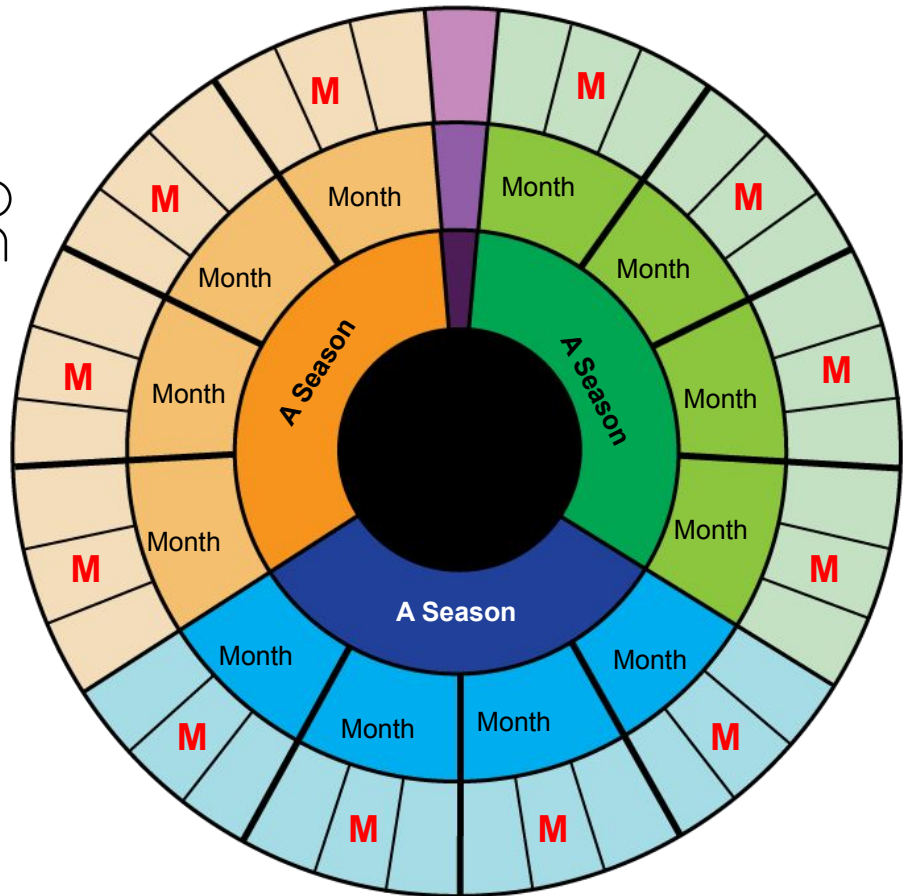
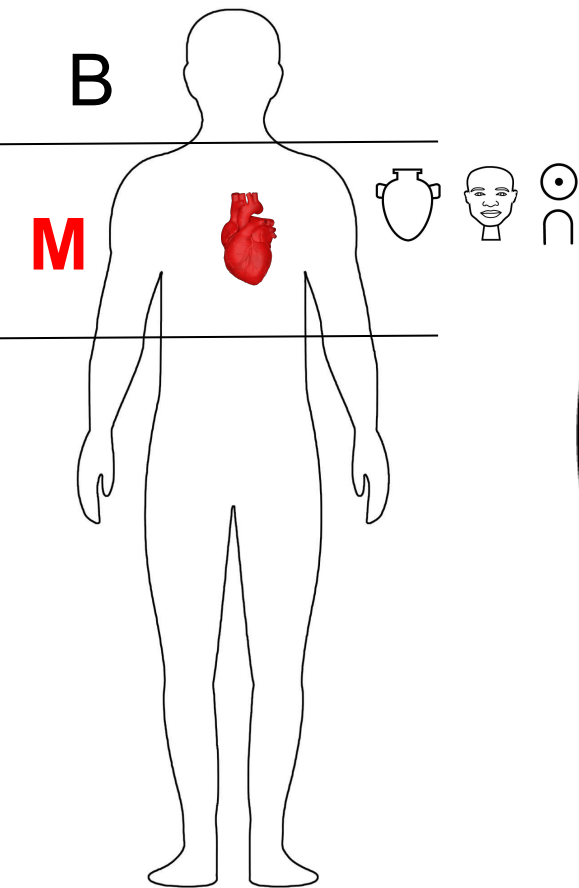
The Week

Week   Ten Days

Medju Heru

The 2nd week of the month is called:
Ab Her Medju Heru

Ab means Heart / in the **M**iddle



Kemetic Timekeeping

The Week

Week   Ten Days

36 Medju Heru

$36 \times 10 \text{ day} = 360 \text{ days}$

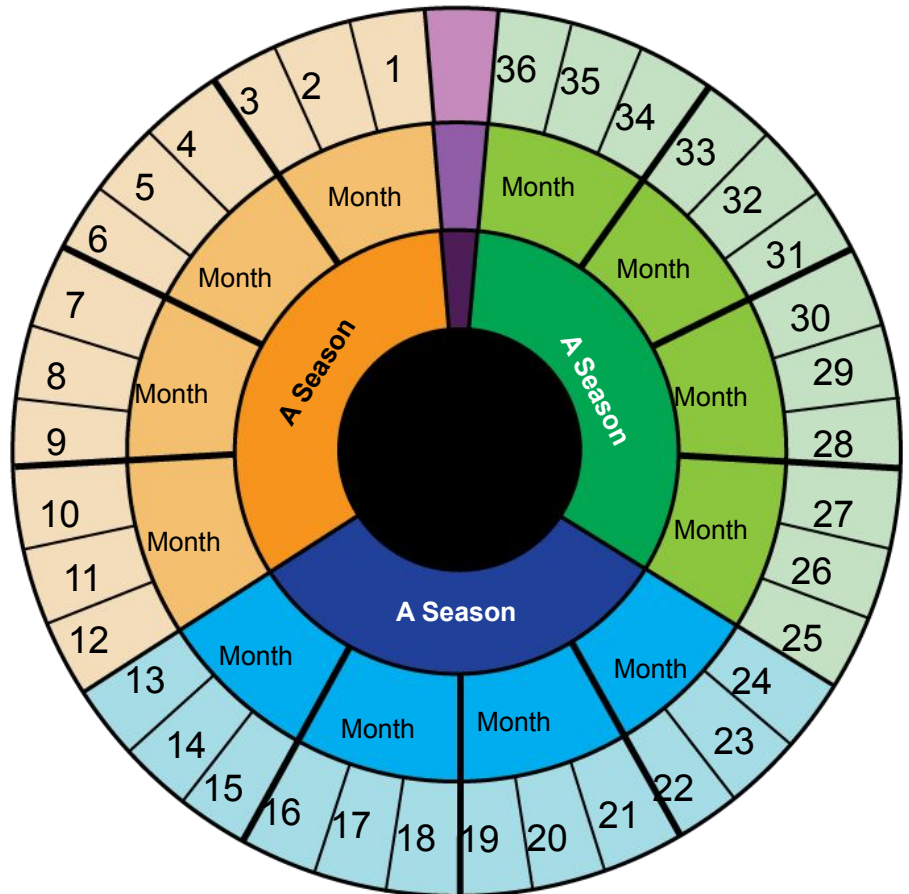
Plus 5 Days left over

Five days, were added at the end of the 360-day year in Kemet.

This 365 day calendar was in effect for more than 3000 years of Kemet until 238 B.C.

In the Decree of Canopus by Ptolemy III, a sixth day was introduced every fourth year.

This is called the Alexandrian calendar. It survives today in the calendars of Coptic and Ethiopian churches.

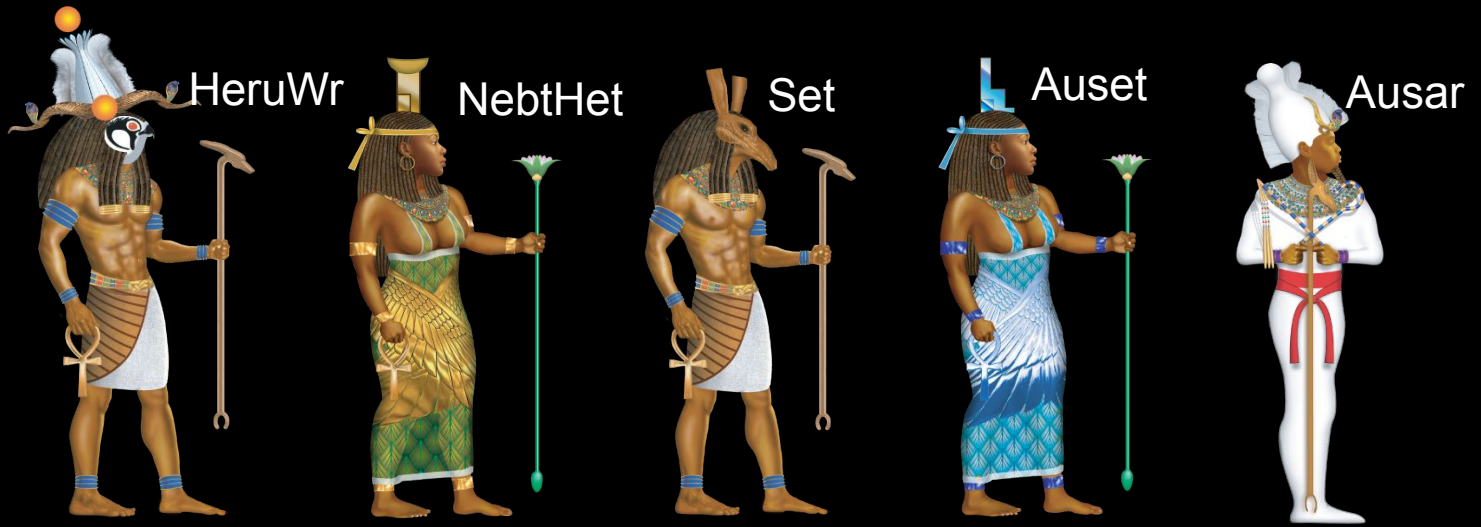


Kemetic Timekeeping

Plus 5 Days left over

Five days, were added at the end of the 360-day year in Kemet

5 days were called Mesu Heru Renpet



Kemetic Timekeeping

Here are 10 questions, from the section on Kemetic Timekeeping:

1. How many days were in the ancient Kemetic calendar year?
2. What were the names of the three seasons in ancient Kemet?
3. What was the Kemetic word for "week," and how many days did it include?
4. How were the three "Medju Heru" within a month named?
5. How did the ancient Kemetic people divide the night for timekeeping purposes?
6. What three methods did the ancient Kemetic people use to measure hours?
7. What is the significance of the symbol of a snake and a loaf of bread in Kemetic hieroglyphs, specifically regarding timekeeping?
8. What does the Kemetic word "Teben" represent and where was the first known representation of this symbol found?

The first known representation was found on the golden shrine of King Tutankhamun, dating back to the 13th century BCE.

9. Besides the 360 days, what was added to the Kemetic calendar, and how was this represented in visual depictions?
10. What did Sister Rkhty Amen, and Metu the Scribe start in 1986, and what four timekeeping elements does it incorporate?

Kemetic Timekeeping

Here are 10 answers, from the section on Kemetic Timekeeping:

1a The ancient Kemetic calendar year was 365 days long.

2a. The three seasons were:

- Akhet (Inundation)
- Peret (Planting)
- Shemu (Harvest)

3a. The Kemetic word for "week" was "Medju Heru," which literally means "Ten Days."

4a. They were named after three sections of the body:

- Tepi Medju Heru (Beginning)
- Ab Her Medju Heru (Middle)
- Phwyher Medju Heru (End)

5a. The ancient Kemetic people divided the night into 12 segments.

The length of each segment would vary throughout the year due to the changing length of the nighttime hours.

Kemetic Timekeeping

Here are 10 answers, from the section on Kemetic Timekeeping:

6a. They used:

- Sundials
- Water Clocks
- Star Charts

7a. The snake sound is "dj" and the loaf of bread is "t."

Together, they form the word "Djet," meaning forever or eternity. This represents linear time.

8a. "Teben" is a verb that means "to revolve, circuit, or cycle," representing cyclical time.

The first known representation was found on the golden shrine of King Tutankhamun, dating back to the 13th century BCE.

9a. Five days were added at the end of the 360-day year.

Visual depictions of the Kemetic calendar often included a purple area to highlight these five extra days.

10a. They started The Calendar Project, with the goal of recreating an ancient Kemetic calendar.

Their calendar design includes the solar cycle, the lunar cycle, the four seasons, and star cycles.

Recap of Greece and Romes

Stolen Legacy

Greece and Rome

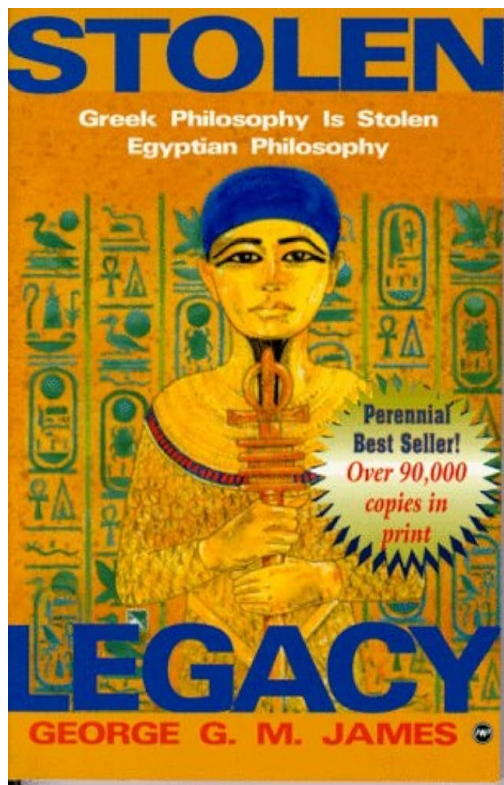
The period known as classical antiquity began with the emergence of the city-states of ancient Greece.

Later, the Roman Empire came to dominate the entire Mediterranean Basin.

Dark Ages of Europe

The Migration Period of the Germanic people began in the late 4th century AD and made gradual incursions into various parts of the Roman Empire.

Stolen Legacy 1954

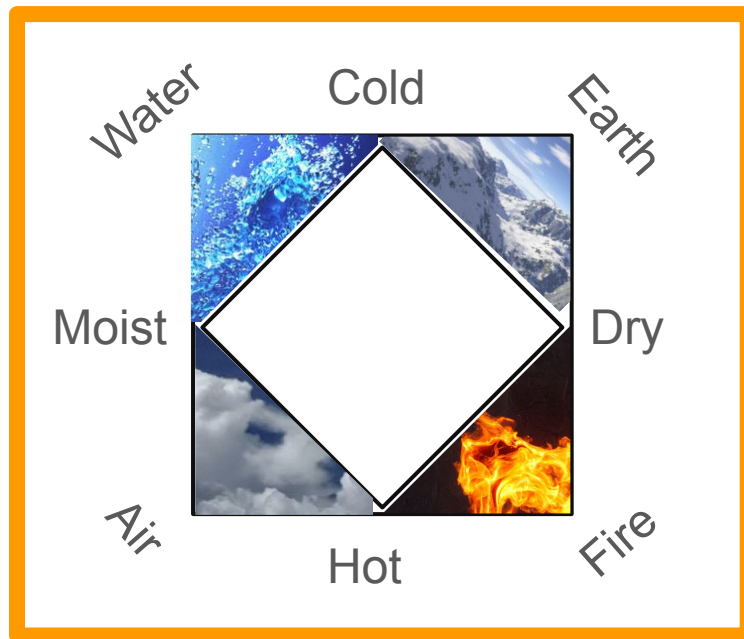


Stolen Legacy, by George G.M. James, argues that the philosophical ideas of ancient Greece were actually derived from ancient Kemet.

James contends that the Greeks traveled to Kemet and borrowed heavily from Kemetic thought, but failed to acknowledge their debt.

This plagiarism, according to James, has led to a misconception about the origins of Western philosophy, giving credit to the Greeks for ideas that truly belonged to the Kemetians.

Stolen Legacy p59



The history of the following ancient theory of "The Four Qualities and Four Elements", provides the world with the evidence of the Kemetic origin of the doctrines of (a) Opposites or Contraries, (b) Change or Transmutation and (c) the life and function of the universe is due to either of four elements: fire, or water, or earth or air.

1. This ancient theory was expressed by a diagram formed by outer and inner squares.
2. The corners of the outer square carried the names of the elements: fire, water, earth and air.
3. The corners of the inner square, being at the mid points of the sides of the outer square, carried the four fundamental qualities, the Hot, the Dry, the Cold and the Moist.
4. The diagram explains that fire is Hot and Dry; earth is Cold and Dry; water is Cold and Moist; and air is Hot and Moist.
5. Accordingly water is an embodiment of cold and moist qualities, and when the cold quality is replaced by the hot quality, the element water is changed into the element air, with the hot and moist qualities.
6. Consequently, transmutation is definitely implied in the teaching of this symbol.
7. It is the oldest teaching of physical science and has been traced to Kemet, as far back as 5000 B.C.

Recap of Julian Calendar

Roman-Julian Calendar 46_{BCE}

Here, we focus mainly on the calendar used in the Roman Republic (509-27 BCE).

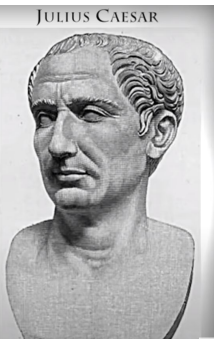
Also known as the Republican calendar,

It is the earliest calendar system from Rome for which we have historical evidence.

It was used until 46 BCE, when it was replaced by the Julian calendar (Inspired by Cleopatra).

Months (Roman)	Lengths before 46 BC	Lengths as of 46 BC	Months (English)
Ianuarius ¹⁰⁰	29	31	January
Februarius	28 (in common years) In intercalary years: 29 if Intercalaris is variable 29/30 if Intercalaris is fixed	28 (leap years: 29)	February
Mercedonius/Intercalaris	0 (leap years: variable (27/28 days) ¹¹ or fixed ¹²)	(abolished)	—
Martius	31	31	March
Aprilis	29	30	April
Maius	31	31	May
Iunius ¹⁰⁰	29	30	June
Quintilis ¹⁰⁰ (Iulius)	31	31	July
Sextilis (Augustus)	29	31	August
September	29	30	September
October	31	31	October
November	29	30	November
December	29	31	December

JULIAN CALENDAR



The second text is Procopius' Persian Wars, which states that the temple of Auset was finally closed in 535-537 CE (pp. 11-14), following Emperor Justinian's order.

The **Temple of Auset** at Philae was the last functioning Kemetic temple, closing between 535 and 537 CE. The temple remained open for 200 years after other Kemetic temples closed to allow people from Nubia to worship there.

The temple was dedicated to Auset, who was revered for bringing her husband Ausar back to life. The temple was converted into a church late in Justinian's reign, and two other Coptic churches were built in the town.

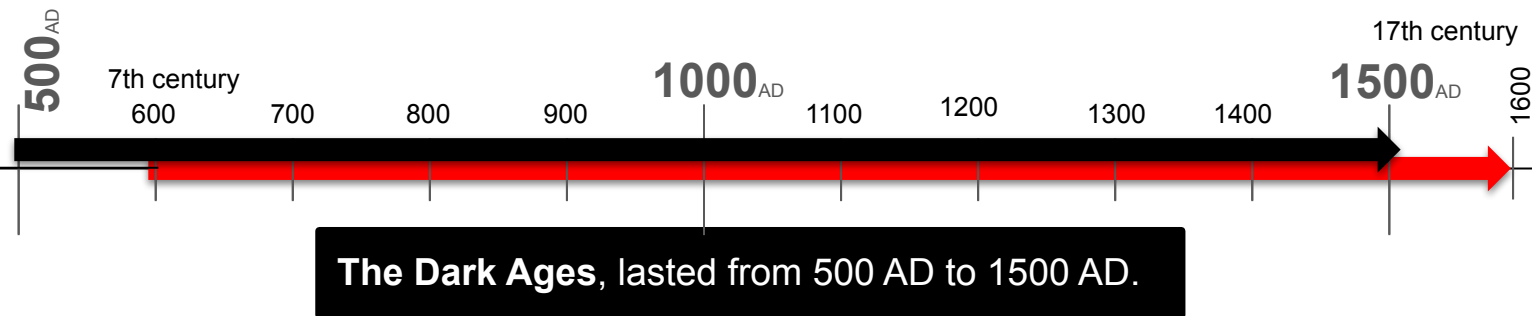
Recap of Arab Astronomy

Arab Star Names

Arab migrations to the region of North west Africa lasted from the 7th to the 17th century. This region is called Maghreb, from the Arabic Language
The Maghreb region includes modern-day Libya, Algeria, Tunisia, Morocco, Western Sahara and Mauritania



The Maghreb (/ˈmɑːɡrəb/; Arabic: المغرب, romanized: al-Maghrib, lit. 'the west')



Islamic Astronomy

Islamic astronomy played a significant role in the revival of ancient astronomy following the **loss of European knowledge** during the **Dark Ages**, notably with the production of Latin translations of Arabic works during the 12th century.

A significant number of stars in the sky, such as Aldebaran, Altair and Deneb, and astronomical terms such as alidade, azimuth, and nadir, **are still referred to by their Arabic names**.

A large corpus of literature from Islamic astronomy remains today, numbering approximately 10,000 manuscripts scattered throughout the world, many of which have not been read or catalogued.

Even so, a reasonably accurate picture of Islamic activity in the field of astronomy can be reconstructed.

Recap of Gregorian Calendar

Gregorian Calendar 1582Ac

Another calendar reform was introduced by Pope Gregory XIII in **1582** as a modified version of the Julian calendar



The Gregorian calendar is a solar calendar used by most of the world today.

It was introduced in 1582 by Pope Gregory XIII as a reform of the Julian calendar, which had been the primary calendar in Europe.

Origin

Pope Gregory XIII issued the papal bull *Inter gravissimas* in 1582 to announce the calendar reforms.

Changes

The Gregorian calendar changed the Julian calendar's leap year system and removed **ten days** from October 1582.

This adjustment made Easter better align with spring.

Adoption

Catholic countries like Spain, Portugal, and Italy quickly adopted the Gregorian calendar, but Protestant countries were more resistant.

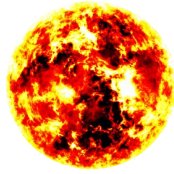
England didn't adopt the Gregorian calendar until 1752.

The Calendar Project

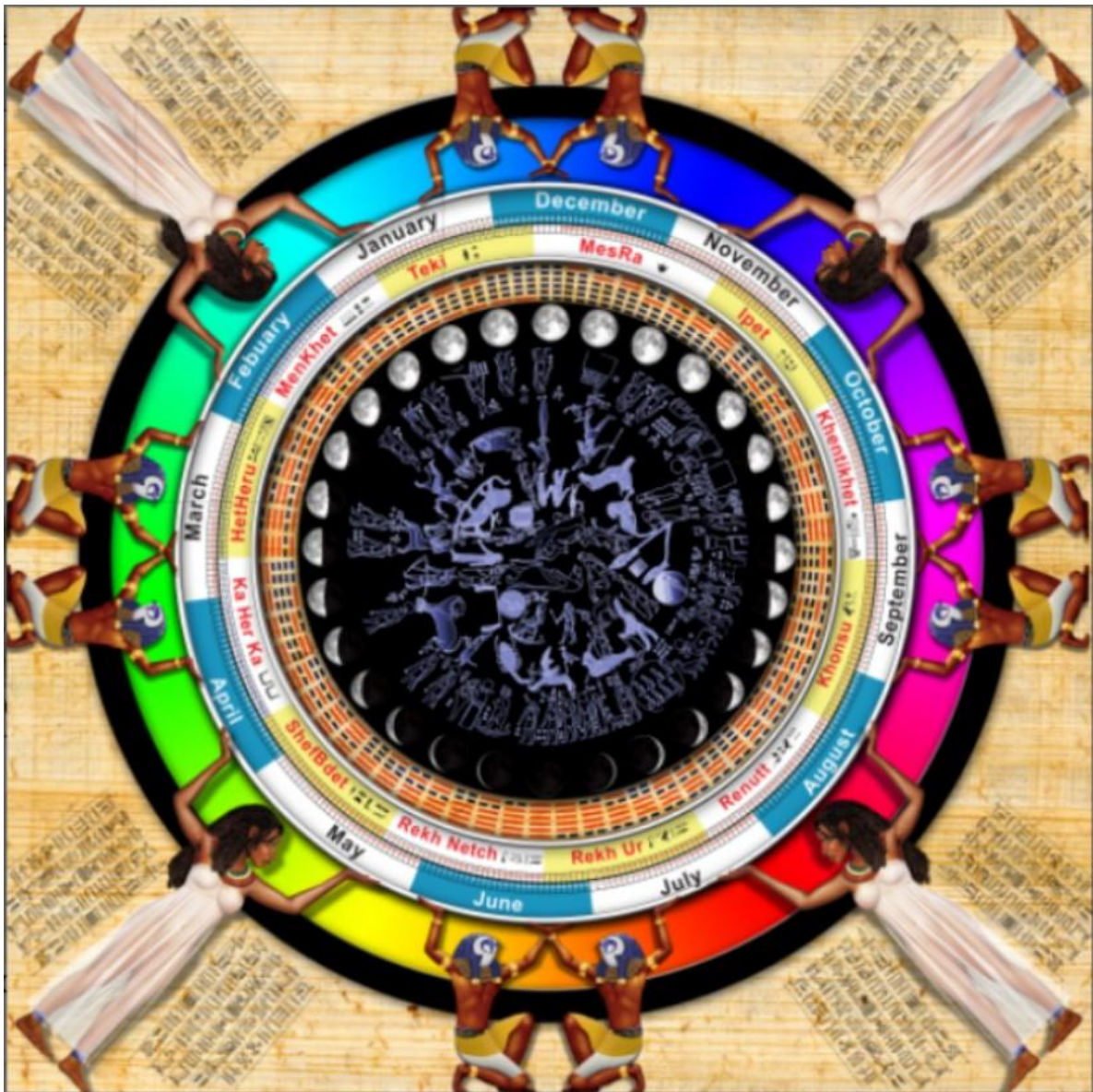
Calendar Project

Started in 1986 Sister Rkhty Amen, Dr. Reese
And Khenti Sesh Metu Deggkhet

Is a congregate of...



Solar Lunar Season Stars
cycles



To get your of this wall Calendar [Click Here](#)

Cast of Characters

This list highlights individuals mentioned in the provided sources who played a role in the development of timekeeping, astronomy, and the understanding of human history.

African Ancestors: The creators and users of early timekeeping devices like Adam's Calendar, the Lebombo Bone, the Ishango Bone, and Nabta Playa, demonstrating an early understanding of astronomy and mathematics.

Aboriginal Australians: The creators of Wurdi Youang, a stone arrangement used for astronomical observation, highlighting their long history of knowledge about the cosmos.

Yaaser Helmy Ali: Author of "Proposed Genetic Classification for the Skin Types: Helmy's Skin Types Classification" (2019), proposing a new classification system based on the understanding that dark skin is the default human color.

Peter Beaumont: Discoverer of the Lebombo bone in 1970.

Ibn Battuta: (1304-1368/69) A Maghrebi traveler, explorer, and scholar who documented his extensive journeys, providing insights into the cultural practices of various societies, including matrilineal systems in Africa.

Cleopatra: (69-30 BC) The last active pharaoh of Ancient Egypt, played a role in introducing the Egyptian solar calendar to Julius Caesar, which influenced the Roman calendar reform.

Dr. Cheikh Anta Diop: (1923-1986) Senegalese historian, anthropologist, physicist, and politician, known for his work on the African origin of civilization, highlighted in his book *Civilization or Barbarism*.

Marija Gimbutas: (1921-1994) A Lithuanian-American archaeologist known for her research on European prehistory and the cultures of "Old Europe".

Pope Gregory XIII: (1502-1585) Head of the Catholic Church who introduced the Gregorian calendar in 1582 to address inaccuracies in the Julian calendar and align Easter with the spring equinox.

Ivan Gladstone Van Sertima (26 January 1935 – 25 May 2009) was a Guyanese-born British associate professor of Africana Studies at Rutgers University in the United States

Cast of Characters

cont.

This list highlights individuals mentioned in the provided sources who played a role in the development of timekeeping, astronomy, and the understanding of human history.

Alexander Marshack:

Archaeologist from Harvard University who proposed the Ishango bone as a representation of a lunar calendar.

Mitochondrial Eve: A hypothetical woman who lived in Africa around 200,000 years ago and is considered the most recent common matrilineal ancestor of all living humans based on mitochondrial DNA analysis.

Dr. Bhani Oval: One of the scientists involved in the discovery of the Homo sapiens idaltu skull in Ethiopia in 1997.

Claudius Ptolemy: (c. 100-c. 170 AD) A Greco-Roman mathematician, astronomer, geographer, and astrologer who wrote Almagest, which promoted the geocentric model of the universe.

Sister Rkhty Amen: Initiator of the Calendar Project in 1986, aiming to create a calendar by and for people of African descent.

Vince Gaffney: Professor who led research on the Warren Field calendar in Scotland.

Michael Tellinger: Researcher and author who, along with John Heine, studied Adam's Calendar in South Africa.

Y-chromosomal Adam: A hypothetical man who lived in Africa and is considered the most recent common patrilineal ancestor of all living humans, based on Y-chromosome DNA analysis.

This detailed timeline and cast of characters aim to provide a clearer understanding of the history of timekeeping, highlighting the significant contributions of African and indigenous cultures to the development of this fundamental aspect of human civilization.

Here are 10 questions based on the timeline information found in the class:

1. What is considered the oldest potential timekeeping tool, and where was it found?
2. What evidence of timekeeping exists in Africa from 40,000-20,000 years ago?
3. What evidence suggests early civilizations tracked lunar phases?
4. What is the significance of Nabta Playa in the context of timekeeping?
5. How did the ancient Kemetians measure time beyond observing celestial bodies?
6. What unique concept of time did ancient Kemetians have?
7. How was the ancient Kemetians year structured?
8. How did the ancient Kemetian week differ from the modern week?
9. How did the ancient Kemetians address the discrepancy between the 360-day calendar year and the solar year?
10. What significant calendar developments occurred in the Common Era (CE)?

Here are 10 answers based on the timeline information found in the class:

1. What is considered the oldest potential timekeeping tool, and where was it found?

1a. The oldest potential timekeeping tool is a collection of ancient ruins in the Mpumalanga province of South Africa.

Researchers suggest these ruins, sometimes referred to as "Adam's Calendar," could be between 75,000 and 200,000 years old.

The site features dolomite monoliths that appear deliberately positioned in alignment with cardinal directions and possibly track the sun's position throughout the year.

2. What evidence of timekeeping exists in Africa from 40,000-20,000 years ago?

2a. Two significant artifacts from this period provide potential evidence of timekeeping in Africa:

2b The Lebombo Bone, dating back 43,000 years, was discovered in the Lebombo Mountains between South Africa and Eswatini (formerly Swaziland).

The bone features 29 notches, suggesting its use as a lunar phase counter, possibly by women tracking menstrual cycles.

Here are 10 answers based on the timeline information found in the class:

2c. The Ishango Bone, discovered in the Democratic Republic of Congo near the headwaters of the Nile River, dates back approximately 20,000 years.

Its three columns of etched markings have been interpreted as tally marks, a counting tool, and potentially a lunar calendar.

3. What evidence suggests early civilizations tracked lunar phases?

3a. Several pieces of evidence point towards lunar phase tracking in early civilizations:

3b. The Lebombo Bone's 29 notches are theorized to represent a lunar month, potentially used for tracking menstrual cycles.

3c. The Ishango Bone has also been interpreted as a potential lunar calendar, based on the patterns of its markings.

3d. Warren Field in Scotland, dating back to 8,000 BCE, features 12 pits thought to correspond to lunar phases and function as a lunisolar calendar.

3d. Several sources mention that ancient cultures observed the moon and its phases, using them as a basis for developing lunar and lunisolar calendars.

Here are 10 answers based on the timeline information found in the class:

4. What is the significance of Nabta Playa in the context of timekeeping?

4a. Nabta Playa, located in the Nubian Desert of southern Kemet, dates back approximately 9,500 years and features alignments of stones possibly indicating the rising of certain stars and a "calendar circle" marking the summer solstice sunrise.

This site, predating Stonehenge by roughly 2,000 years, showcases the astronomical knowledge and timekeeping practices of ancient Nubian civilizations.

5. How did the ancient Kemetians measure time beyond observing celestial bodies?

5a. Ancient Kemetians developed various tools for timekeeping, including:

5b. Sundials: Utilizing the sun's movement to cast shadows, the Egyptians created various sundial designs, including L-shaped, sloping, and semicircular versions.

5c. Water Clocks: These devices measured time by tracking the steady flow of water from one vessel to another, with markings indicating the passage of hours.

The Kemetians even adjusted the markings to account for varying hour lengths throughout the year.

5d. Star Charts: Depictions of constellations and star positions found in tombs and on coffin lids demonstrate the Kemetians' sophisticated understanding of astronomy and their use of stars for timekeeping.

Here are 10 answers based on the timeline information found in the class:

6. What unique concept of time did ancient Kemetians have?

6a. Beyond linear time ("Djet"), ancient Kemetians recognized a concept of cyclical time called "Neheh."

This cyclical view acknowledged the recurring patterns of nature, emphasizing the interconnectedness of time and the cosmos.

The "Teben" (Ouroboros) symbol, first appearing in ancient Egypt around 1324 BCE, exemplifies this cyclical view.

7. How was the ancient Kemetians year structured?

7a. The ancient Kemetian year consisted of:

7b. Three Seasons: "Akhet" (inundation), "Peret" (planting), and "Shemu" (harvest). Each season lasted four months and was tied to the Nile's flooding cycle, highlighting the importance of agriculture in their society.

7c. Twelve Months: Each month contained 30 days, totaling 360 days for the year.

8. How did the ancient Kemetian week differ from the modern week?

8a. Instead of a seven-day week, ancient Kemetians observed a ten-day week called "Medju Heru." Each month had three "Medju Heru," each named after a different part of the body: "Tepi Medju Heru" (beginning, represented by the head), "Ab Her Medju Heru" (middle, represented by the heart), and "Phwyher Medju Heru" (end, represented by the back of a lion).

Here are 10 answers based on the timeline information found in the class:

9. How did the ancient Kemetians address the discrepancy between the 360-day calendar year and the solar year?

9a. Initially, five extra days were added to the end of the 360-day year, making it 365 days long. This system remained in place for over 3,000 years. In 238 BCE, Ptolemy III decreed the addition of a sixth day every four years, creating the Alexandrian calendar, a system still used in Coptic and Ethiopian churches.

10. What significant calendar developments occurred in the Common Era (CE)?

10a. The Julian Calendar: Instituted by Julius Caesar in 46 BCE, this calendar reform was inspired by Cleopatra and the Egyptian solar calendar. It established a 365-day year with a leap day every four years.

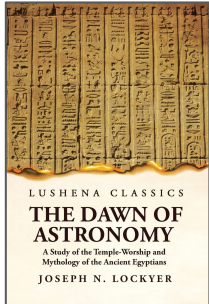
10b. The Gregorian Calendar: Introduced by Pope Gregory XIII in 1582, this modified version of the Julian calendar aimed to align the calendar year more accurately with the solar year and to stabilize the date of Easter. This calendar is currently used in Western culture.

This class emphasize the significant contributions of African civilizations, particularly ancient Kemet, to the development of timekeeping methods and calendars throughout history.

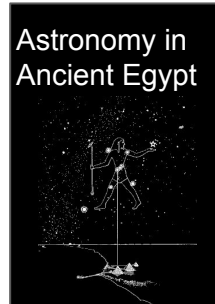
This class encourage a critical perspective on historical narratives that may downplay or misattribute these contributions.

Suggested Reading

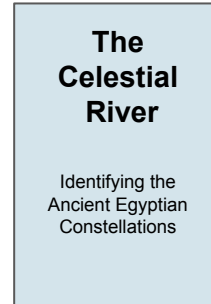
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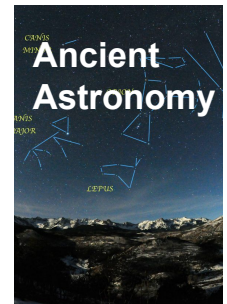
Dawn of Astronomy



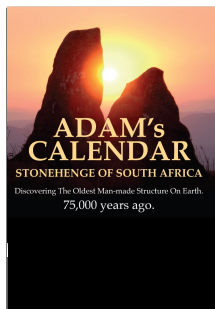
Astronomy in Ancient Egypt



The Celestial River:
Identifying the Ancient Egyptian Constellations



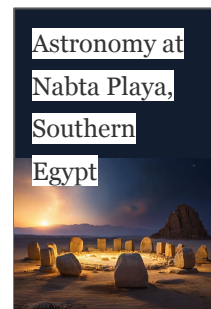
Ancient Astronomy



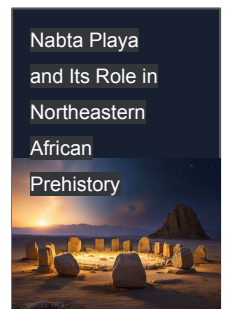
Adams Calendar



Cosmic Reference
In Sub-Saharan
Africa



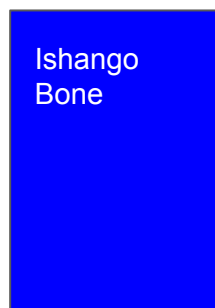
Astronomy at
Nabta Playa



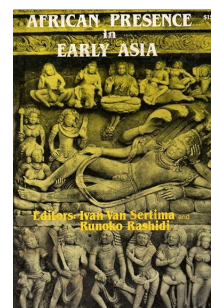
Nabta Playa



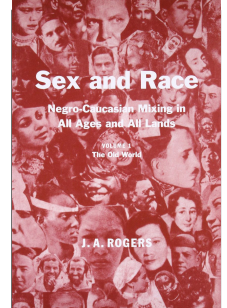
Lebombo Bone



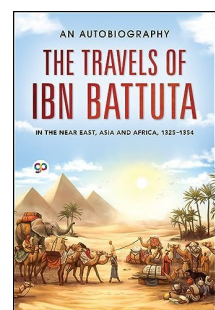
Ishango Bone



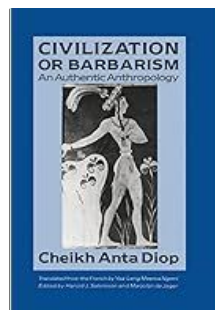
African Presents
in Early Asia



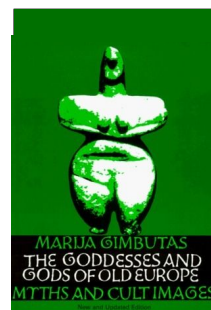
Sex and Race



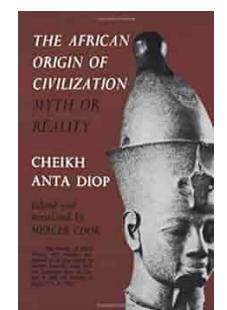
The Travels of
Ibn Battuta



Civilization or
Barbarism



Goddess and
Gods of Old
Europe



African Origin of
Civilization