

Level 1 Class 1



History of TimeKeeping

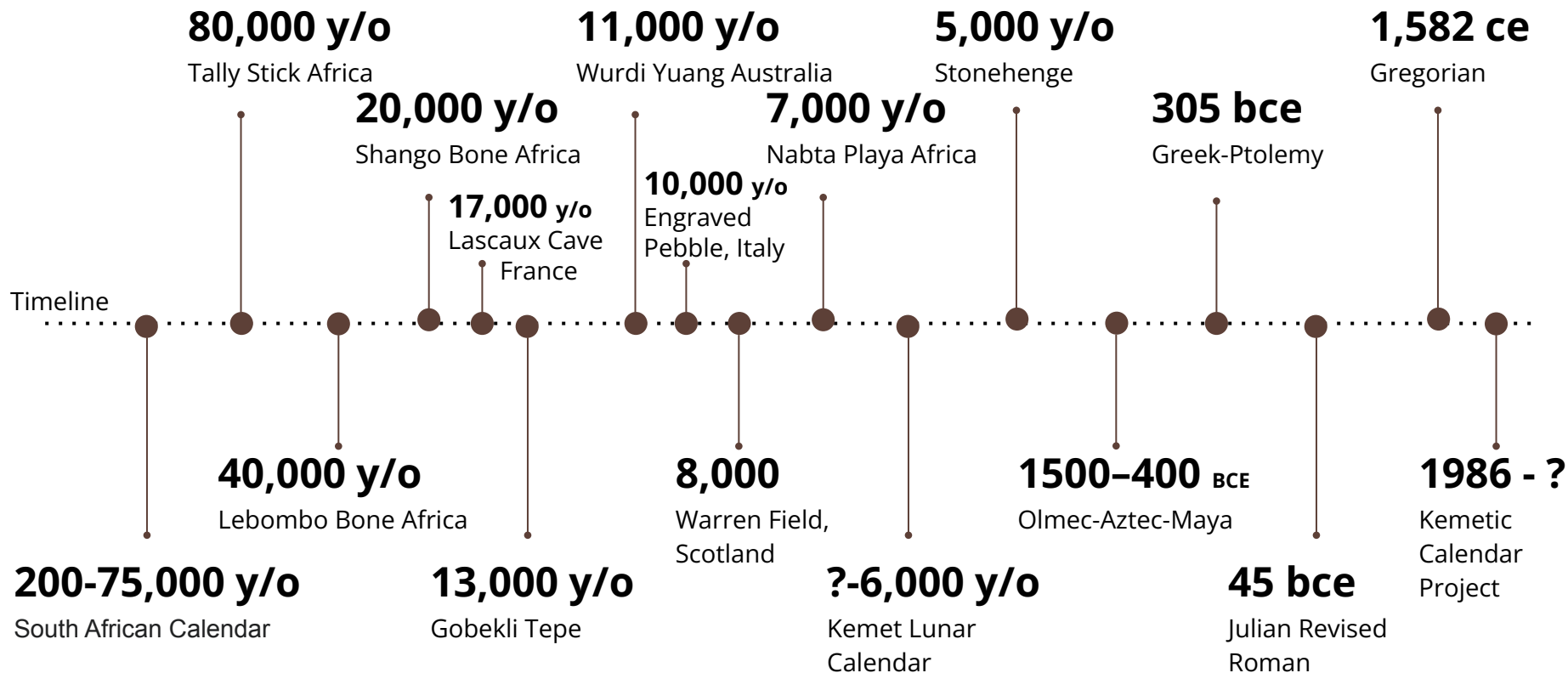
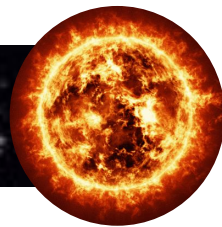
The background of the image is a deep space scene. On the left, a large, bright, fiery sun or star is partially visible, showing intense orange and yellow flames. In the upper center, a full moon is shown with its characteristic craters and greyish surface. On the right, a portion of the Earth is visible, showing blue oceans, white clouds, and a sliver of brown landmass. The entire scene is set against a dark blue/black background filled with numerous small, bright stars of varying colors (white, blue, yellow).

Kemetic Astrology Masterclass

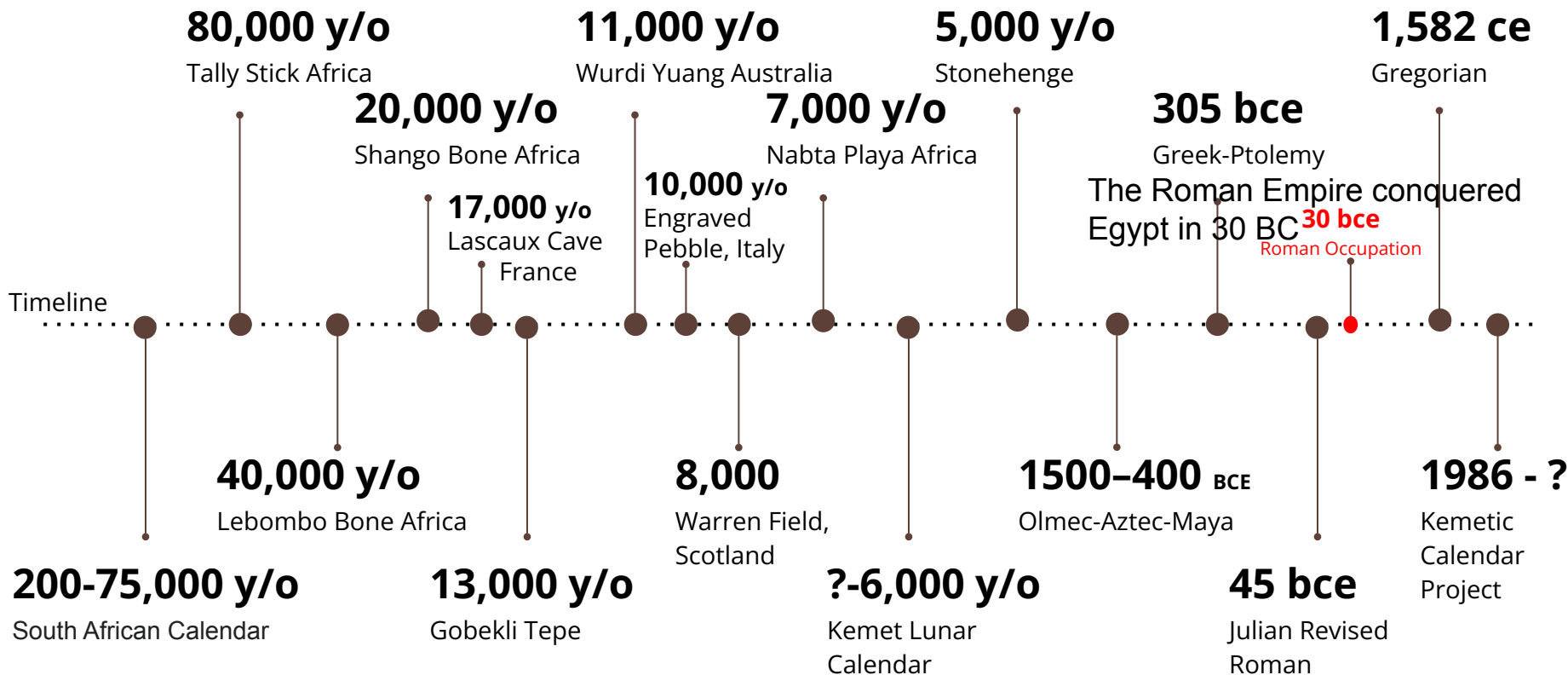
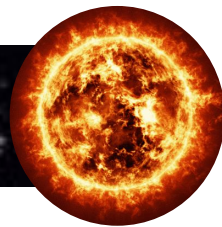
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Timeline

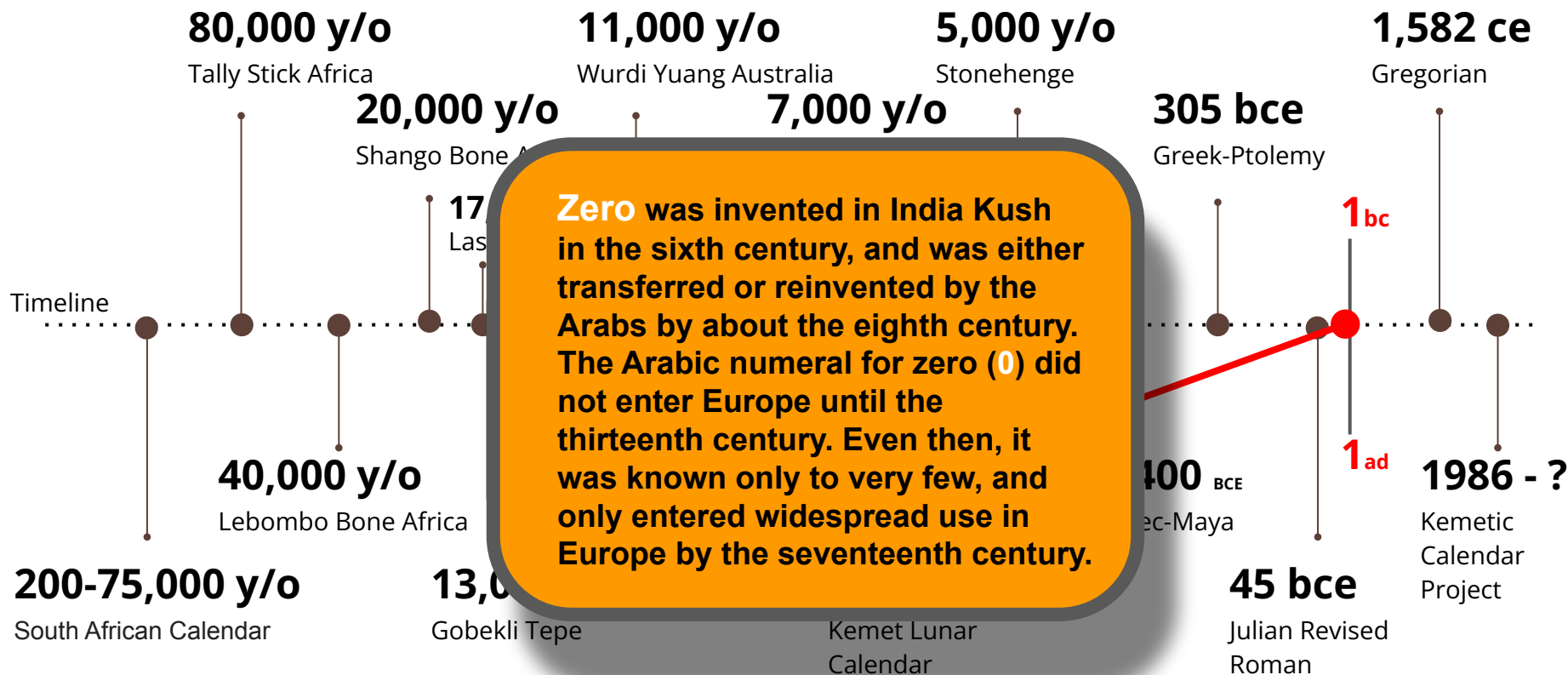
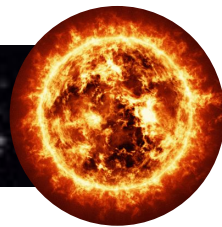
This is Our Story not His-Story



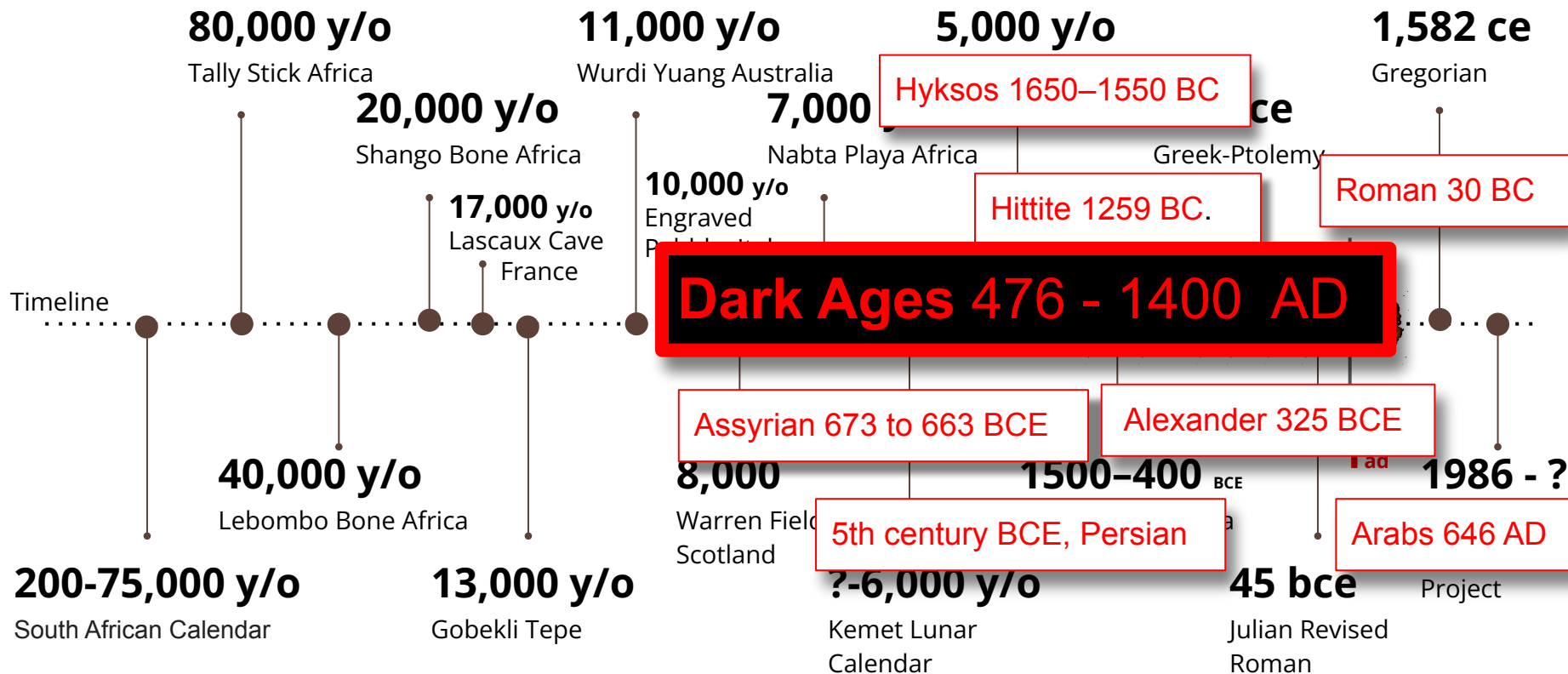
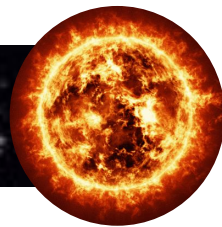
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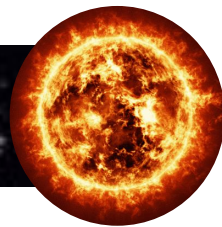
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This is Our Story not His-Story



This is Our Story not His-Story



80,000 y/o

Tally Stick Africa

11,000 y/o

Wurdi Yuang Aus

Claudius Ptolemy 108ad Almagest
astronomical book, it canonized a
geocentric model of the Universe
that
1,20

1,582 ce

Gregorian

750 and 1250 AD. Moorish Scholars in the Islamic world translated a vast amount of Greek philosophical, scientific, and medical texts into Arabic.

This translation movement played a crucial role in preserving and transmitting knowledge. It also led to significant advancements in Moorish Islamic mathematics, astronomy and physics which later influenced Western Europe during the Renaissance.

Dark Ages 476 - 1400 AD

In Western astronomy, most of the accepted **star names are Arabic**, a few are Greek and some are of unknown origin.

Arabs 646 AD

200-75,000 y/o

South African Calendar

13,000 y/o

Gobekli Tepe

?-6,000 y/o

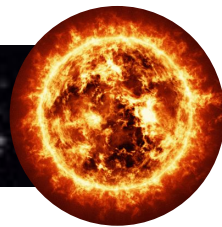
Kemet Lunar Calendar

45 bce

Julian Revised Roman

Kemetic Calendar Project

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In 1922, when the International Astronomical Union (IAU) officially defined 88 constellations, it drew the bulk of them from Ptolemy's book *The Almagest*, which was written around 150A.D. and described the traditions widespread among the Greeks.

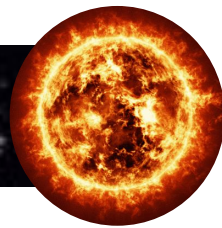
The Greek astronomer Hipparchus sole surviving book, *The Commentary* (147 B.C.), tells us that Aratus's poem on astronomy is for the most part a copy of a work with the same name by Eudoxus (366 B.C.), which no longer survives.

These books held the earliest descriptions of the Greek skies, and in them the constellations are already fully formed.

But where did the Greek constellations come from?



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The Greek constellations have their origins in ancient Babylonian and Kemetic astronomy.

The Greeks inherited and adapted much of their astronomical knowledge from earlier civilizations, particularly the Babylonians and Kemites, they added their own mythological stories and interpretations to the celestial patterns.

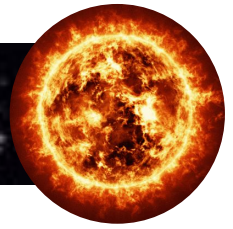
Key Influences and Origins:

Babylonian Astronomy:

The Babylonians systematically map the stars and constellations around 1000 BCE. They created a catalog of constellations, many of which were later adopted by the Greeks.



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The Greeks learned about Babylonian astronomy through contact with the Near East, especially during the Hellenistic period after the conquests of Persia by Alexander the Greek



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Kemetic Astronomy

Kemet also had their own system of constellations, which influenced greatly Greek astronomy.

For example, the Kemetic constellations (36 star groups used for timekeeping) inspired much of the Greek star lore.



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Greek Mythology:

The Greeks wove their mythology into the stars, creating stories to explain the constellations. For example:

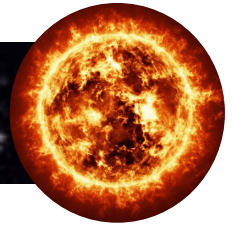
Orion: A great hunter in Greek mythology, placed in the stars by Zeus.

Ursa Major and Ursa Minor: Associated with the myth of Callisto and her son Arcas, who were transformed into bears and placed in the sky.

Hercules: Represented as a hero performing his legendary labors.



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Ptolemy's Almagest:

The Greek astronomer Claudius Ptolemy (2nd century CE) compiled a comprehensive list of 48 constellations in his work Almagest. This became the foundation for Western astronomy and included constellations like Andromeda, Pegasus, and Perseus.

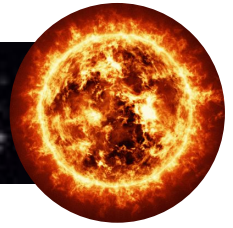
Ptolemy's work preserved Greek astronomical knowledge and influenced later Islamic (Moorish) and European astronomers.

Cultural Synthesis:

The Greeks synthesized Babylonian, Kemetic, and their own traditions, creating a unique system of constellations that reflected their worldview. They often "Hellenized" foreign constellations by giving them Greek names and stories.



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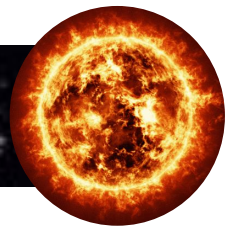
The original name of the Greeks was Hellenes. The Romans called them Graeci, which is the origin of the word "Greek" in most languages.

The Greeks called themselves Hellenes and their land was Hellas not Greece.

The Hellenes



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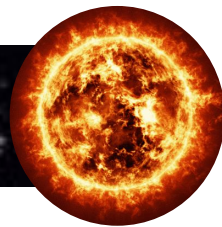


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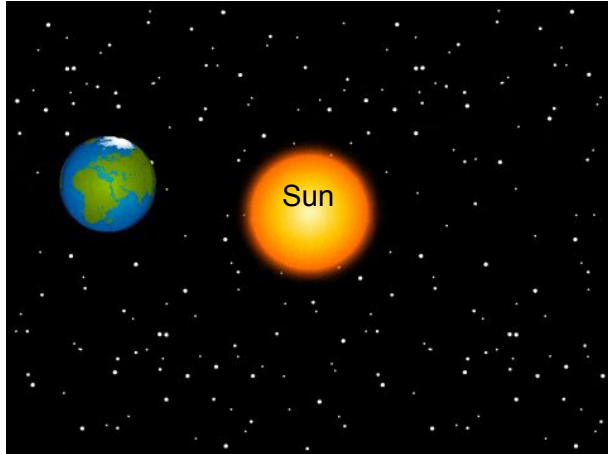
Calendars Used Around the World

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.

Calendars Used Around the World

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Lunar calendars are based 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.

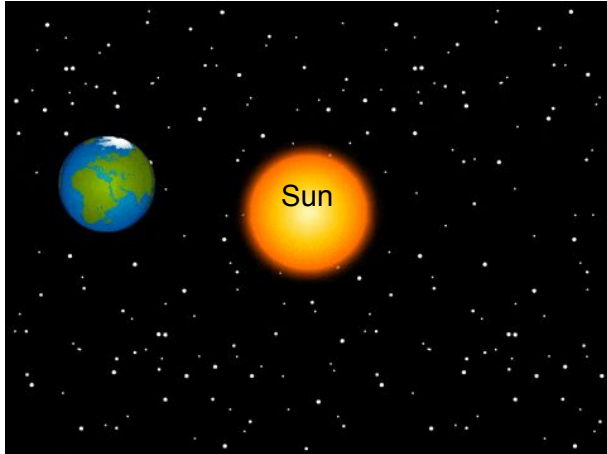


Lunar calendars have been around for a very, very long time, even predating solar calendars. They were used to track time, plan agricultural activities based on moon cycles, and determine sacred days.

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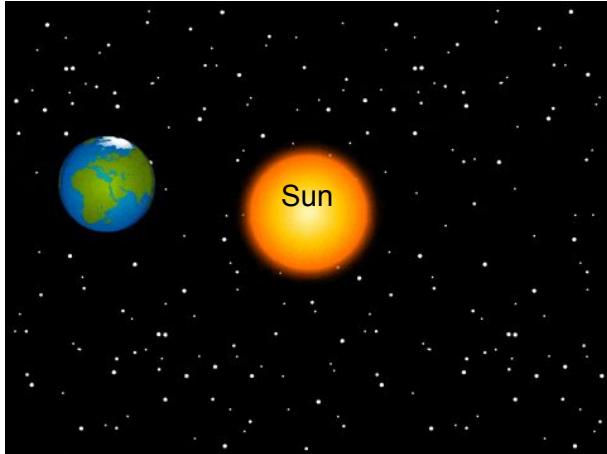
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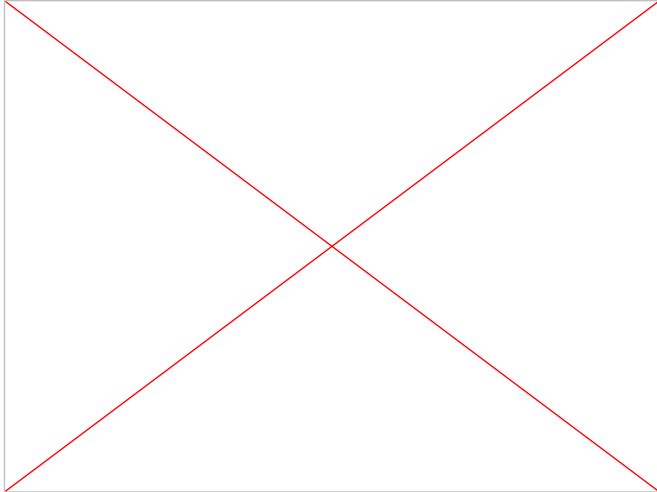
Lunisolar calendars combine these two methods by following both the solar year and the moon's phases.



Calendars Used Around the World

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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.

For example in Kemet

They had an agricultural cycle divided into 3 parts, which they called:

Akhet - Harvest

Shemu - Nile Rising

Pert - Planting

Calendars Used Around the World

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



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.

Star Calendar

For example if you look north at the North Star

The word Polaris comes from the Latin phrase *stella polaris*, which means "polar star".

The term was coined during the Renaissance when the star became close to the celestial pole.

The earliest known use of the word Polaris was in 1675 in a translation by Edward Sherburne.

Polaris is the name of the brightest star in the constellation Ursa Minor, also known as the North Star.

It's a guiding star for astronomers and navigators to determine true north.



Polaris

Polaris has also been used as a navigational aid in many cultures throughout history, including ancient Kemet, Greece and China.

Star Calendar

The name "Big Dipper" comes from the star pattern's resemblance to a long-handled spoon or ladle, which is often used for dipping water.

The term has been used in many cultures, including:

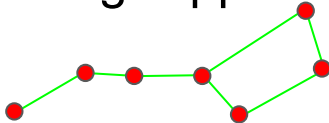
Western: The name comes from the star pattern's resemblance to a kitchen ladle.

Filipino: The Big Dipper and the Little Dipper are associated with the tabo, a one-handed water pot.



Polaris

Big Dipper

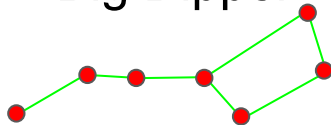


Star Calendar



Polaris

Big Dipper



Indian: In the Rigveda, the Big Dipper was called "the Bear" (Ṛkṣa), but was later more commonly known by the name of Saptarishi, "Seven Sages".

Ancient China: The nobility called the seven stars "The Northern Dipper" and considered it to contain the asterism of the Judges.

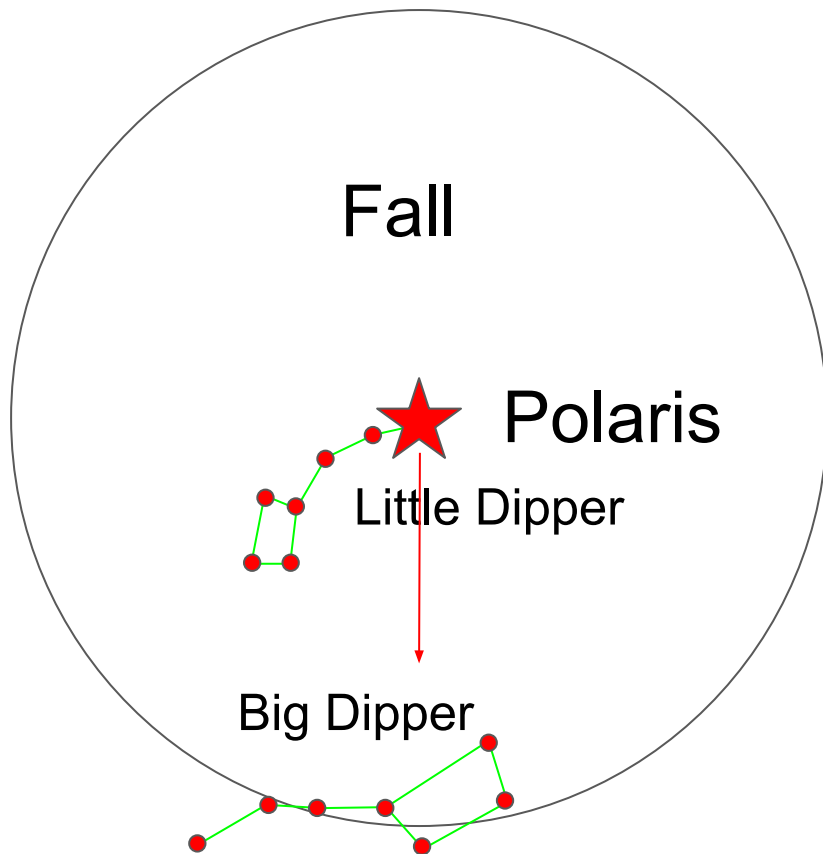
French and Dutch: It is called a Saucepan.

German: It is called a Chariot.

British English: It is called a Plough.

And some of our ancestors in America: called it "The Drinking Gourd"

Star Calendar

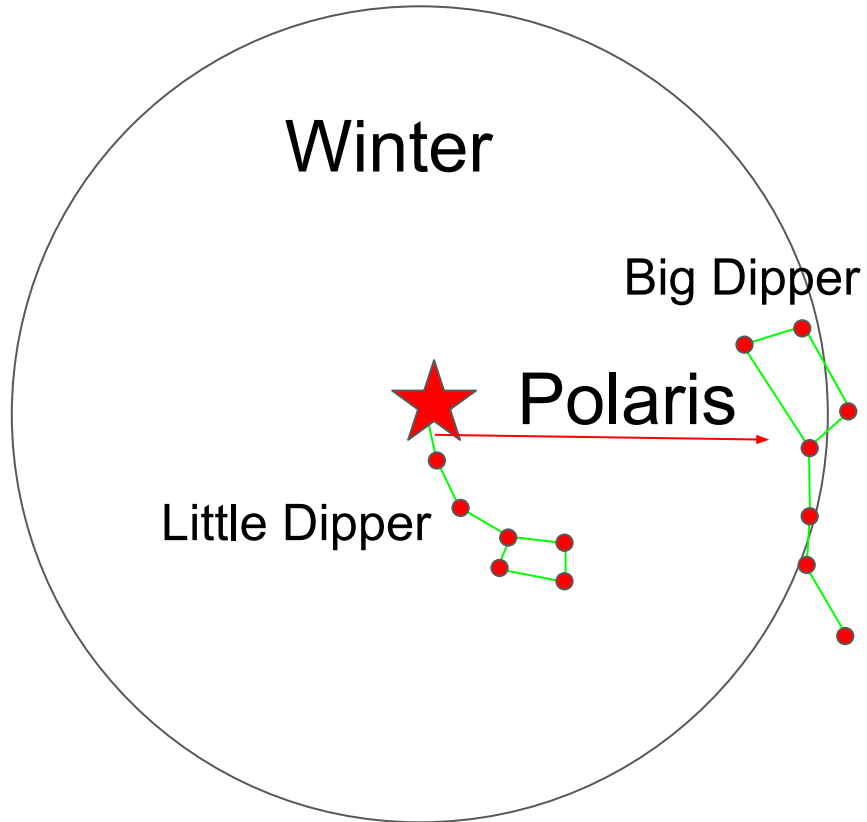


The term "Little Dipper" originated in North America and refers to the seven stars in the constellation Ursa Minor that form the shape of a dipper:

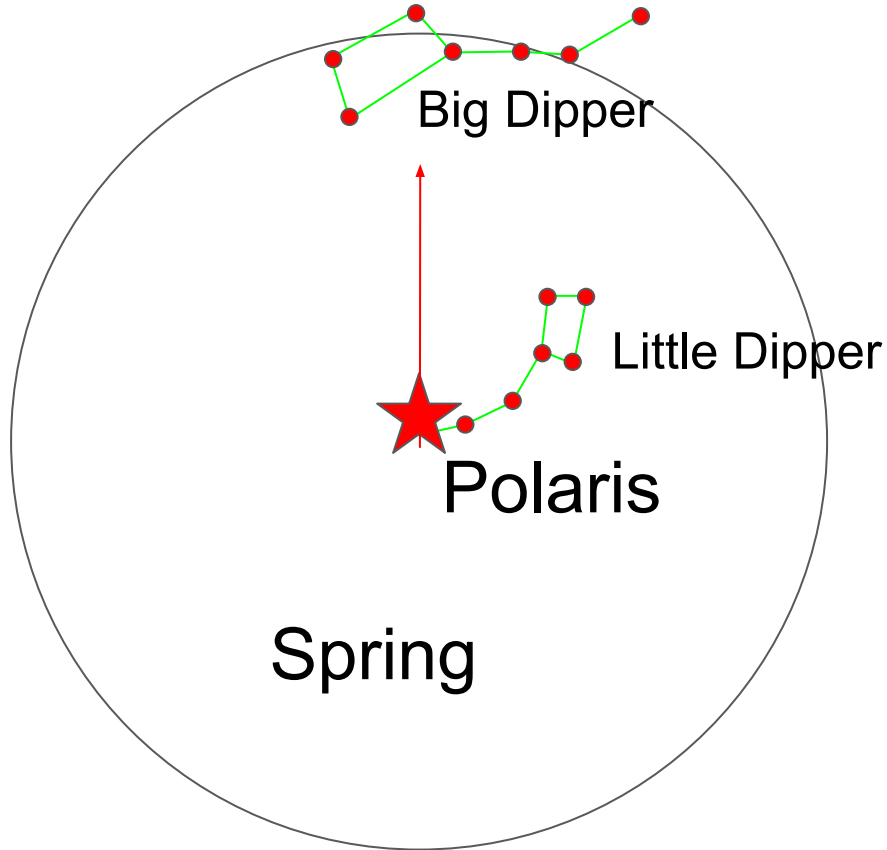
First known use

The term "Little Dipper" was first used in 1842.

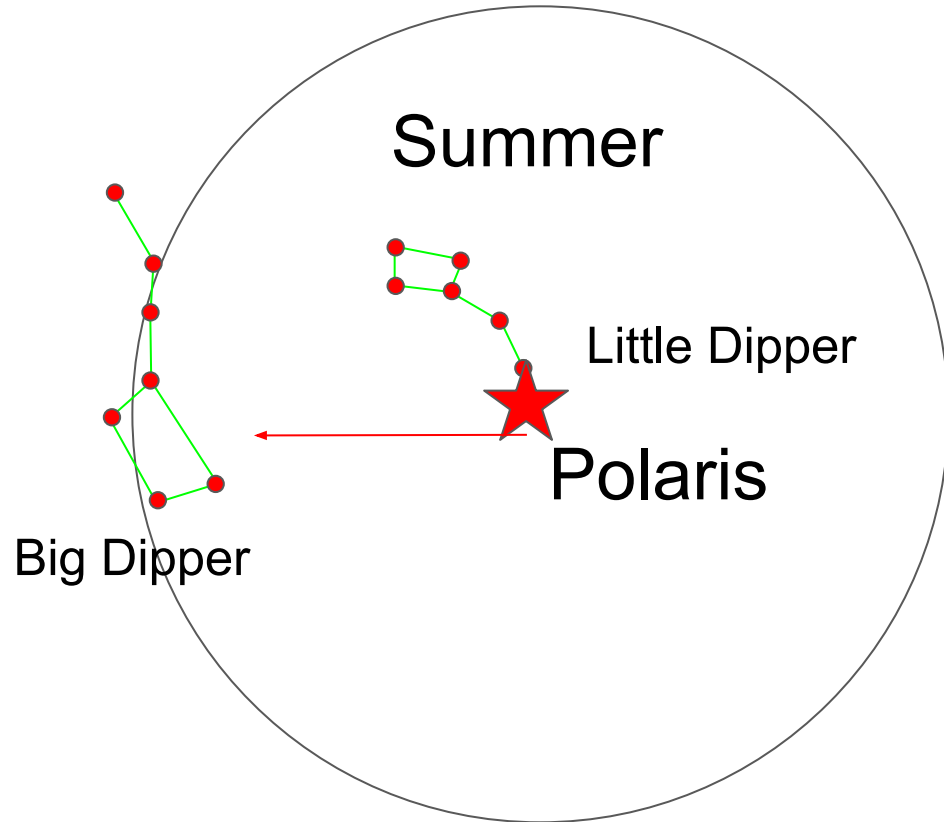
Star Calendar



Star Calendar



Star Calendar



Genome Project

Genome Project

Genome Project

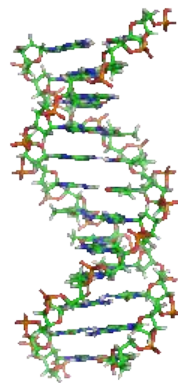




Genome Project

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

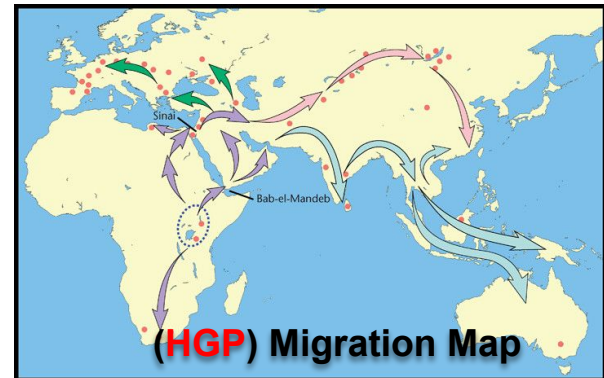
The Human Genome Project

(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



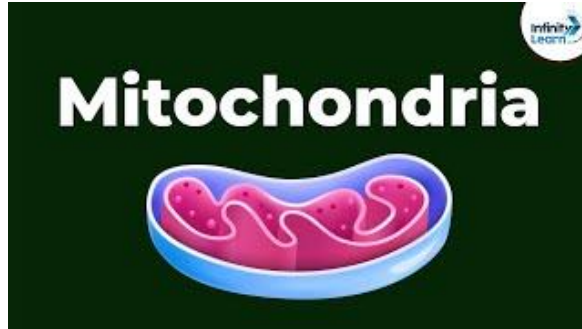
HaploGroups

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?

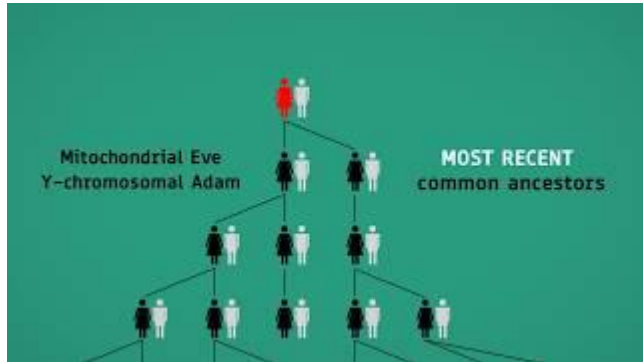


Mitochondrial Eve

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.



Mt



DNA

Mitochondrial Eve

Matrilineal

Mitochondrial DNA in cells is the genetic material that has been passed down from Mother to Daughter.

	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	

Mt



DNA

Mitochondrial Eve



Civilization or barbarism by Dr Cheikh Anta Diop

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).

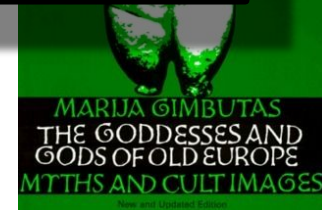
Page 19 Dr Cheikh Anta Diop says:

It is interesting to note that according to Marija Gimbutas (1) there existed an early civilization referred to as “of ancient Europe,” which came directly from the Paleolithic and the Mesolithic periods, and which was characterized by a sedentary life, agriculture, a cult of the mother goddess, the fecundator of the human race, and other features of a civilized, urban, and peaceful society. It never became a sedentary civilization.

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.



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

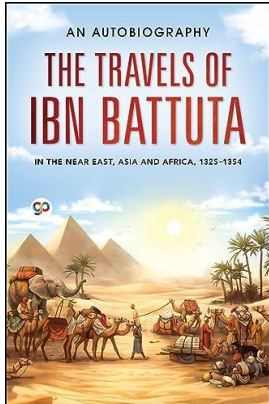


Civilization or barbarism by Dr Cheikh Anta Diop

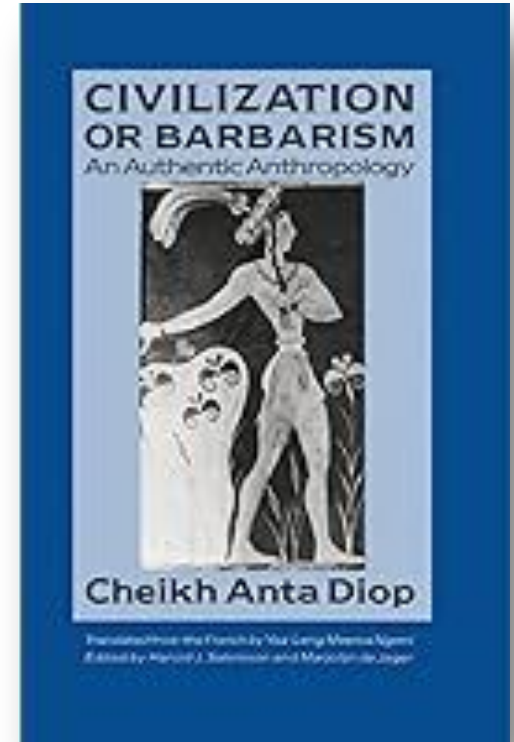
On Page 107 Dr Cheikh Anta Diop says:



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.”

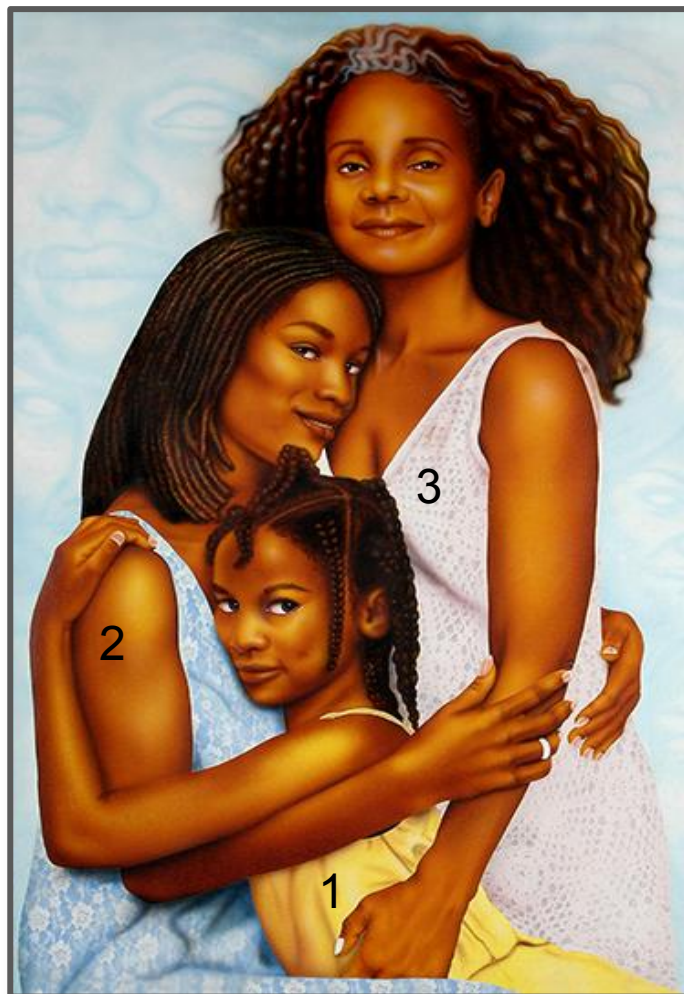


Abu Abdullah Muhammad ibn Battuta (24 February 1304 – 1368/1369), commonly known as Ibn Battuta, was a Maghrebi traveller, explorer and scholar. Over a period of thirty years from 1325 to 1354, Ibn Battuta visited most of North Africa. Near the end of his life, he dictated an account of his journeys,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



4

5



6

MtDNA

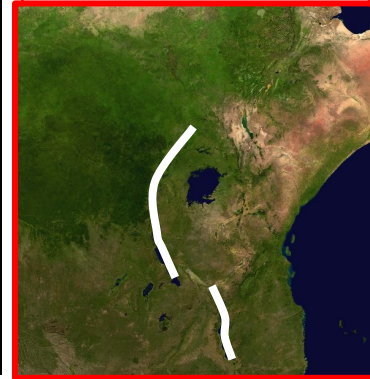
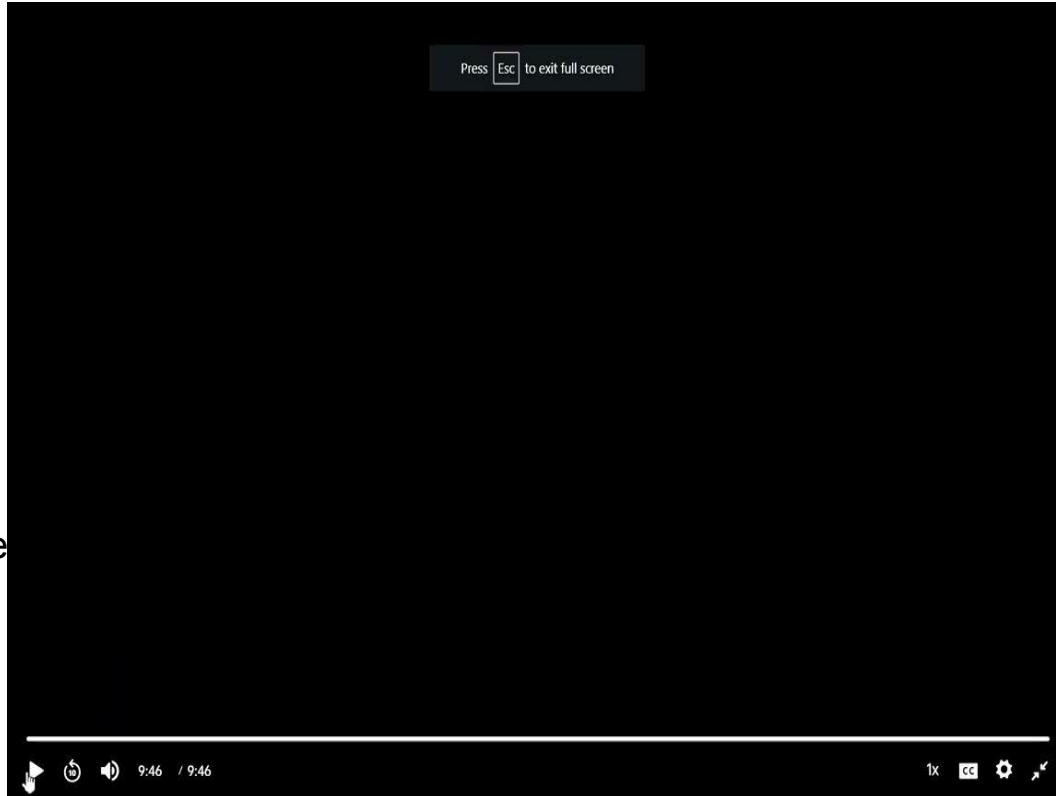
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Mothers Divine Natural
Attributes

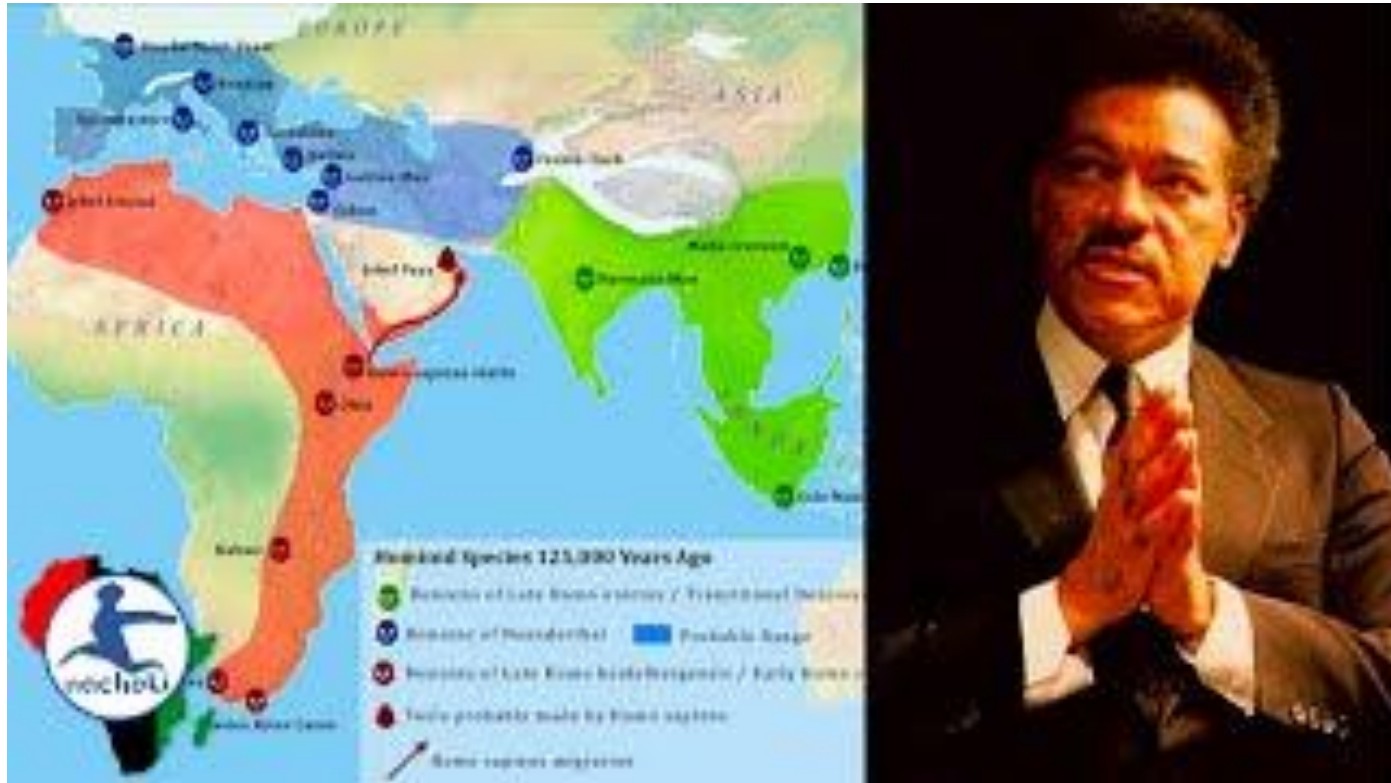
Mitochondrial Eve



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



Up Next

Genetic Mutations

World Migration

South African Calendar

Lebombo Bone

Ishango Bone

Wurdi Youang, Calendar

Western Sahara

Warren Field

The Dolmen of Guadalperal

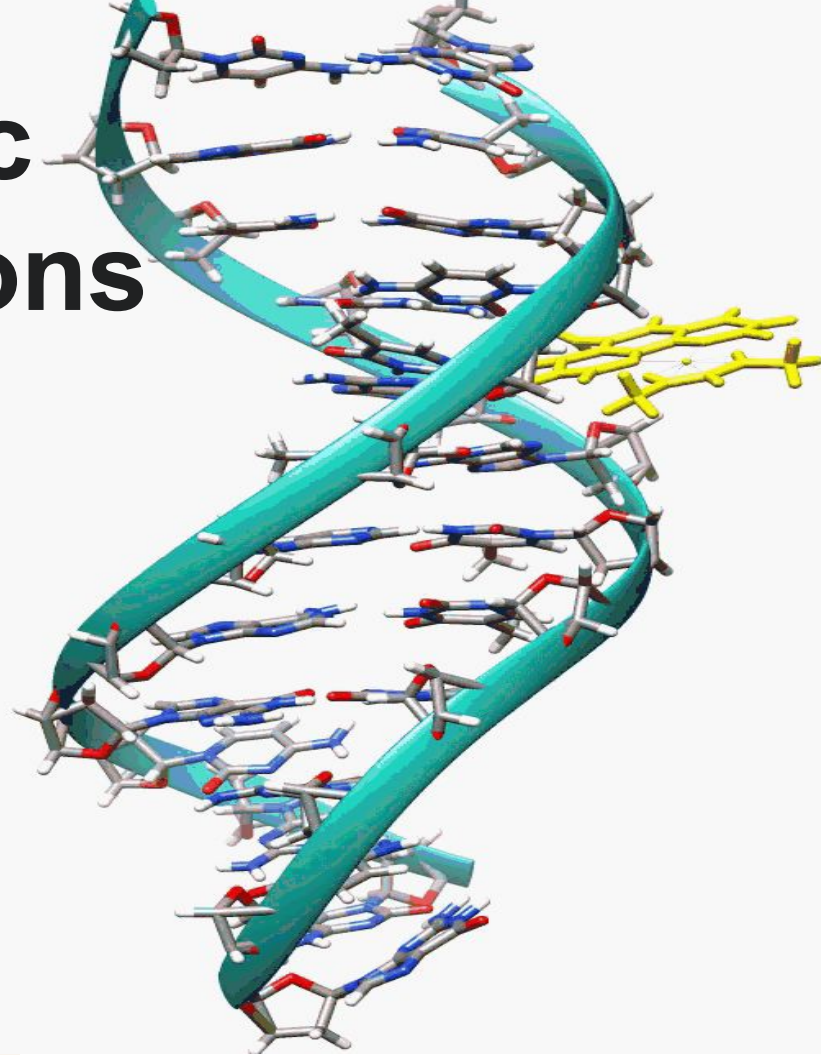
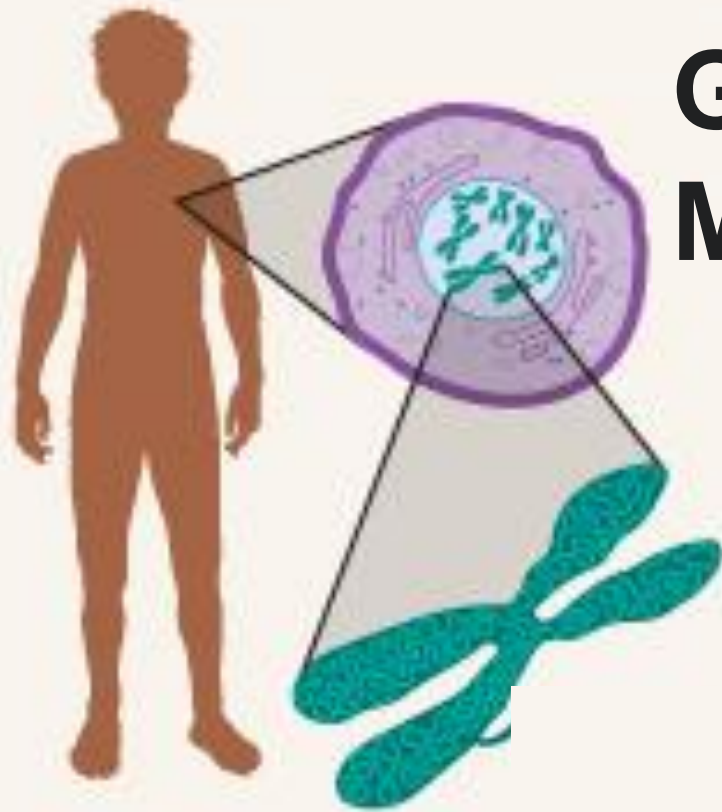
Nabta Playa

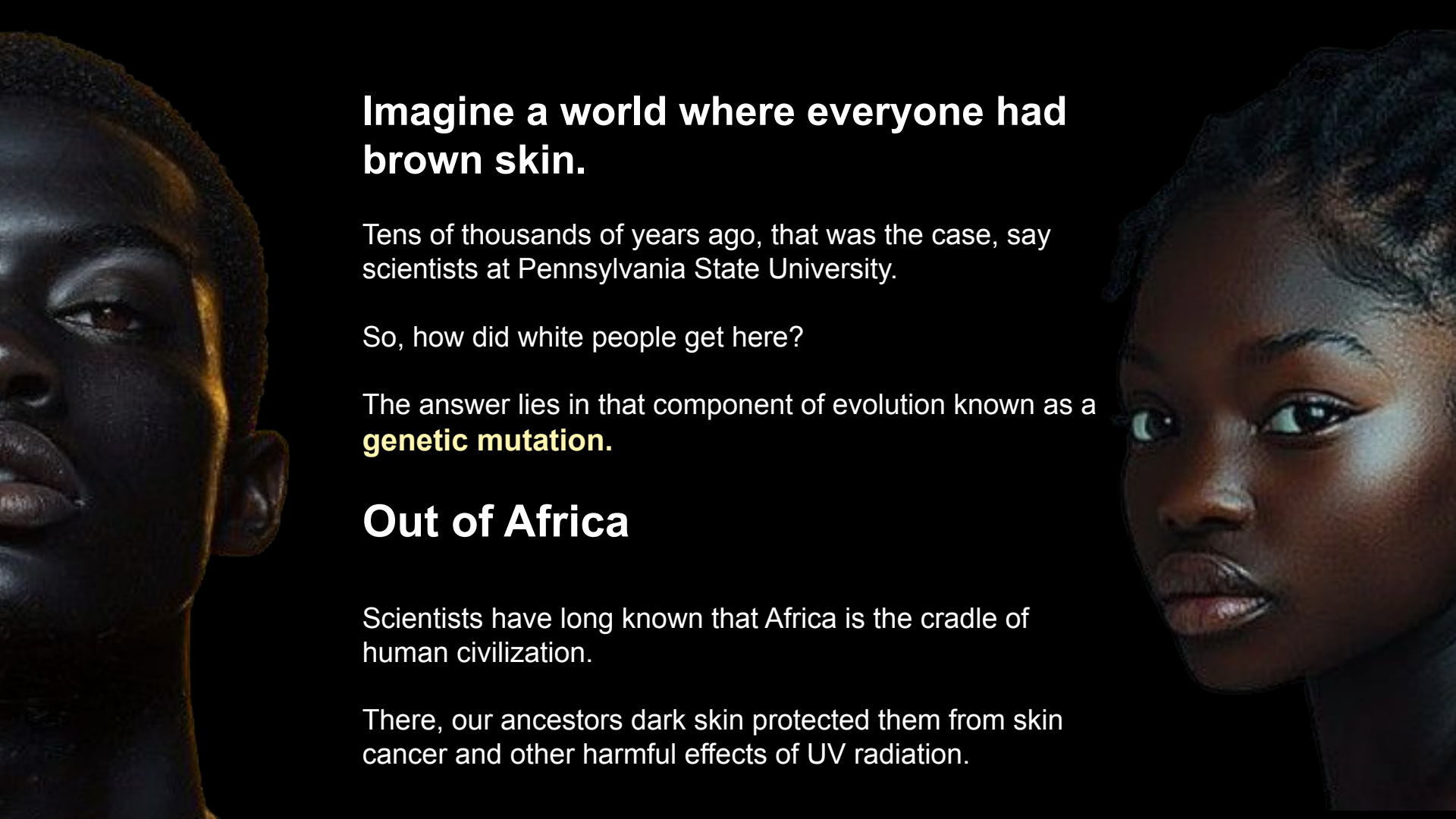
Stonehenge

Next Class

Genetic Mutations

Genetic Mutations





Imagine a world where everyone had brown skin.

Tens of thousands of years ago, that was the case, say scientists at Pennsylvania State University.

So, how did white people get here?

The answer lies in that component of evolution known as a **genetic mutation**.

Out of Africa

Scientists have long known that Africa is the cradle of human civilization.

There, our ancestors dark skin protected them from skin cancer and other harmful effects of UV radiation.



When humans began leaving Africa 20,000 to 50,000 years ago, a skin-whitening mutation appeared randomly in a sole individual, according to a 2005 Penn State study.

That mutation proved advantageous as humans moved into Europe.

Why? Because it allowed the migrants increased access to vitamin D, which is crucial to absorbing calcium and keeping bones strong.

"Sun intensity is great enough in equatorial regions that the vitamin can still be made in dark-skinned people despite the ultraviolet shielding effects of melanin," explains Rick Weiss of The Washington Post, which reported on the findings.

But in the north, where sunlight is less intense and more clothing must be worn to combat the cold, melanin's ultraviolet shielding could have been a liability.



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.

Yaaser Helmy Ali, MB BCh, MSc, MD1



Proposed Genetic Classification for the Skin Types:

This classification is based on the recent genome studies, which are proving that dark skin is the default human color.

Yaaser Helmy Ali, MB BCh, MSc, MD1



Genetic Mutation



National Library of Medicine
National Center for Biotechnology Information

Proposed Genetic Classification for the Skin Types:

Helmy's Skin Types Classification

Yaaser Helmy Ali, MB BCh, MSc, MD1

Type 1

Type 2

Type 3

Type 4

Type 5

Type 6



This classification is based on the recent genome studies, which are proving that dark skin is the default human color.



The Two genes that
lead to skin
depigmentation
are **SLC24A5** and
SLC45A2

The third gene,
HERC2/OCA2, causes
blue eyes, and the
blonde hair

Genetic mutations started to stabilize in the human genome of the north habitant, > 6,000 years ago

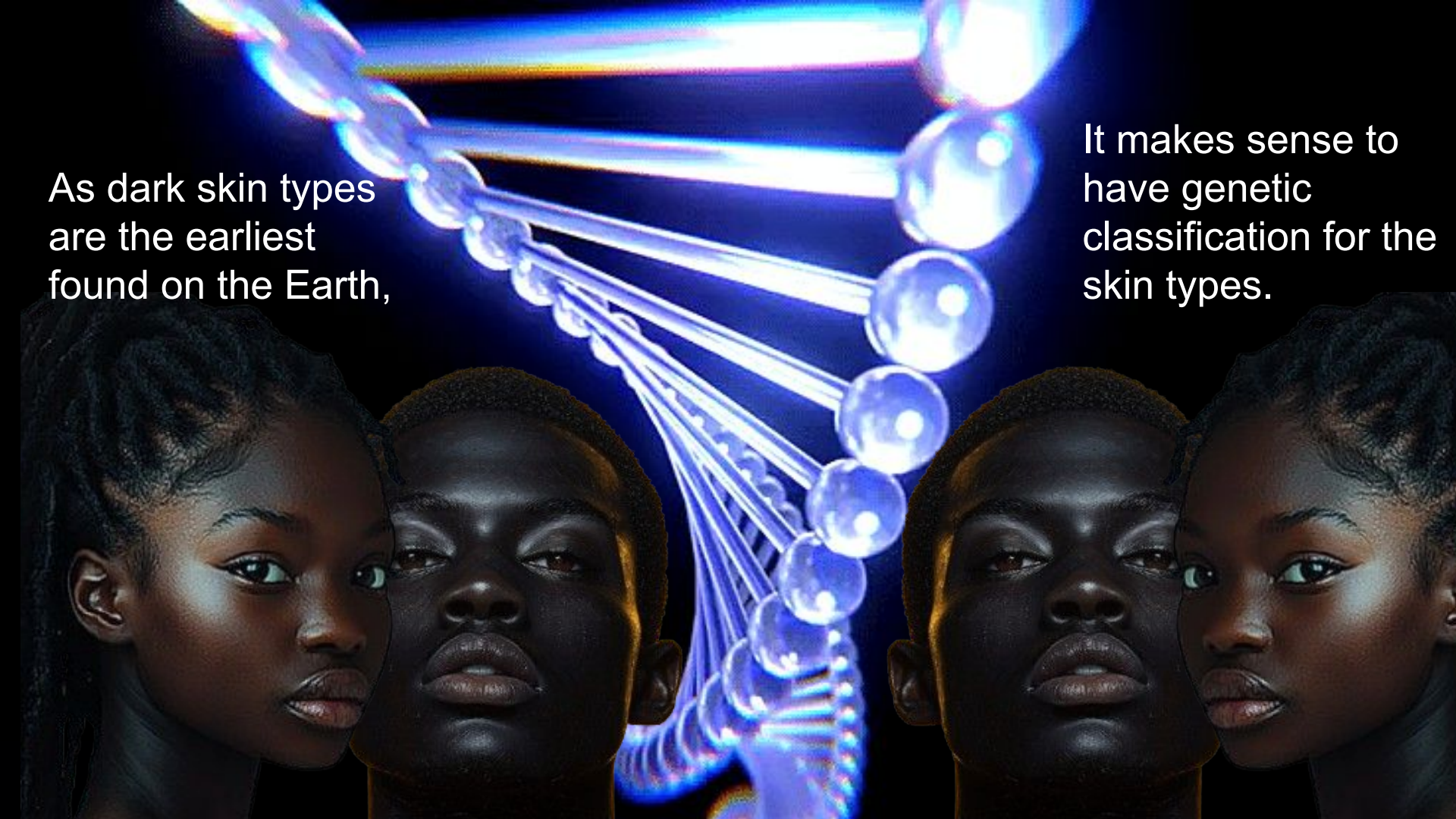


These mutations provided white populations the ability to synthesis vitamin D from little exposure to sun in cloudy climate and gave them the ability for milk digestion.





In contrast to dark skin populations, who are living in very sunny latitude and hot weather, they have 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.

Genetic Mutation



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Proposed Genetic Classification for the Skin Types:

Helmy's Skin Types Classification

Yaaser Helmy Ali, MB BCh, MSc, MD1

Type 1

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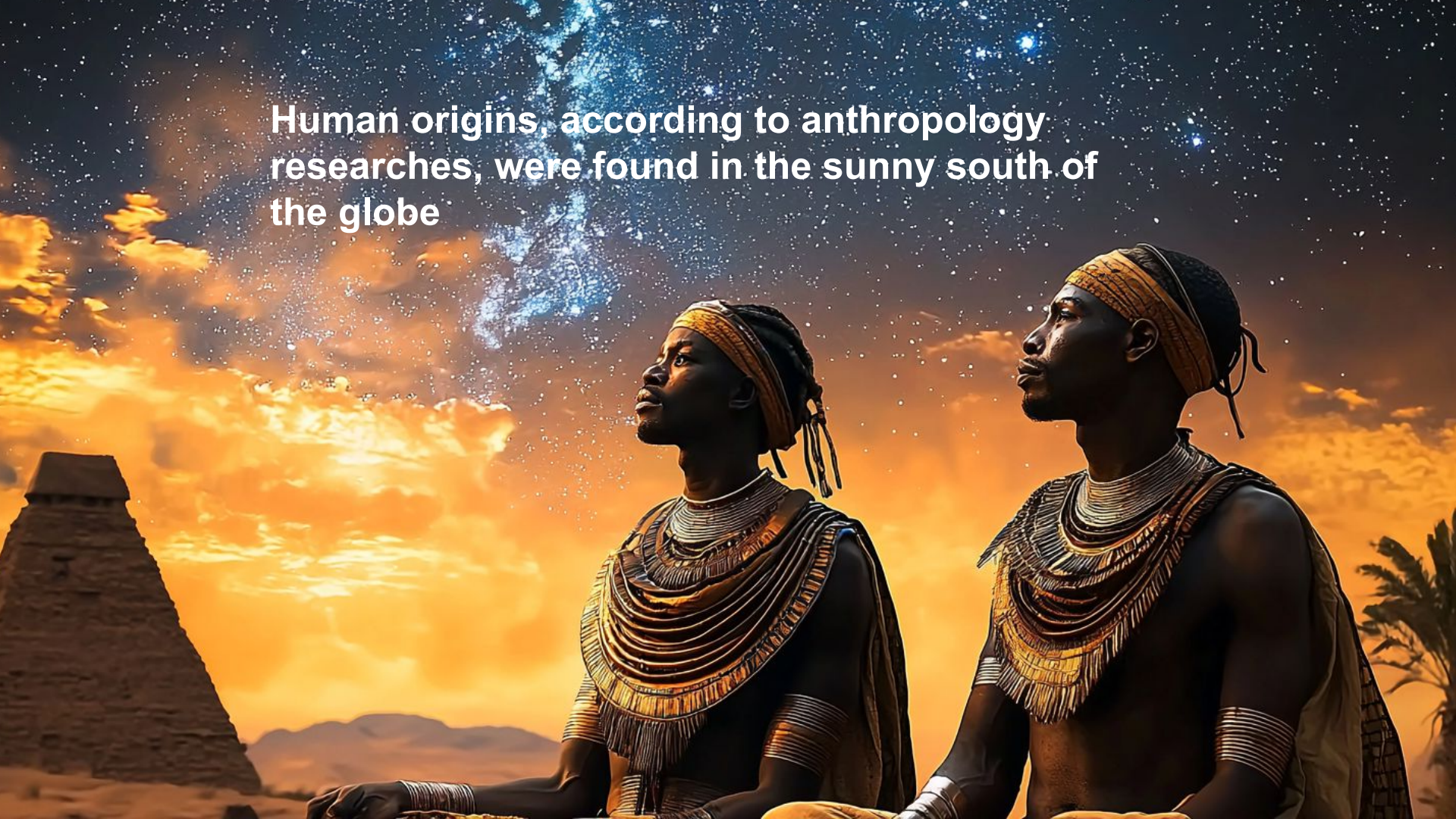
Type 6

2.4 myo

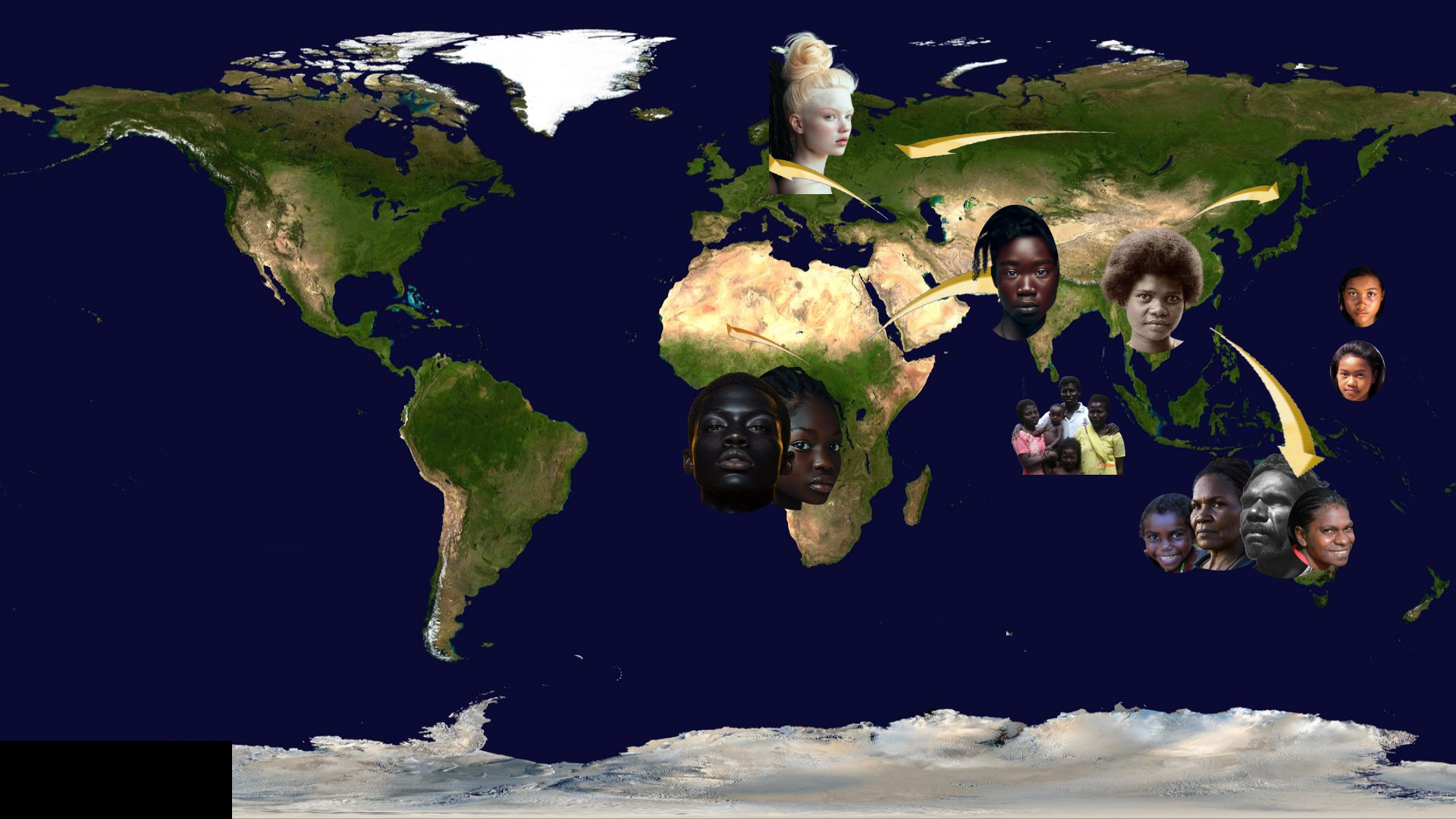


This classification is based on the recent genome studies, which are proving that dark skin is the default human color.

Human origins, according to anthropology researches, were found in the sunny south of the globe



World Migration



Human Migration Route



75,000 y/o South African Calendar

**70,000 YEARS AGO
EARTH ENTERS THE
COLDEST, DRIEST PERIOD
OF THE ICE AGE**

Africa

Arabia

India

This Ice Age had very little effect on the African Continent

BUSINESS
INSIDER

Arabia



Africa



60,000 YEARS AGO
THE FIRST HUMANS
LEAVE AFRICA

Arabian People today



India



Hindu (Indus Kush) People today

Cambodia



Cambodians and Australians - People today

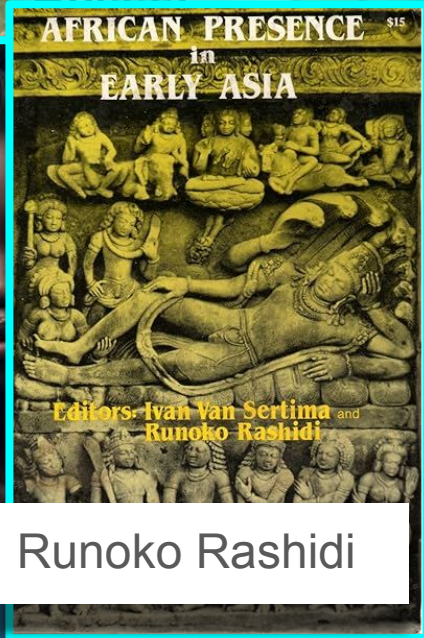
Sumer



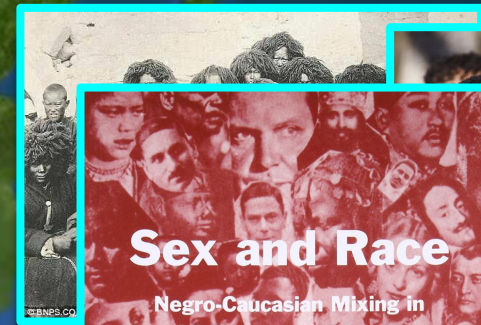
Sumer-Mesopotamia-Babylon



India



Runoko Rashidi



J.A. Rogers



Cambodia

Australia

Original Chinese People



Original Chinese People



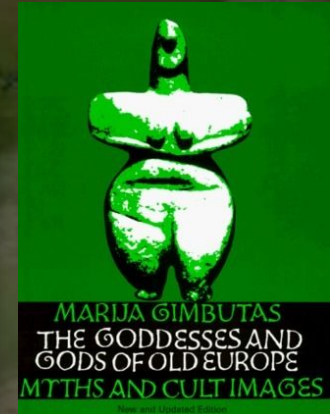
The Venus of Willendorf is just the most famous of a type of sculpture that is among the very earliest substantial artistic creations. One strong possibility is that she is a fertility goddess. The ancient sculptors stressed reproductive and maternal aspects of these powerful little figures. Perhaps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

Northern Europe

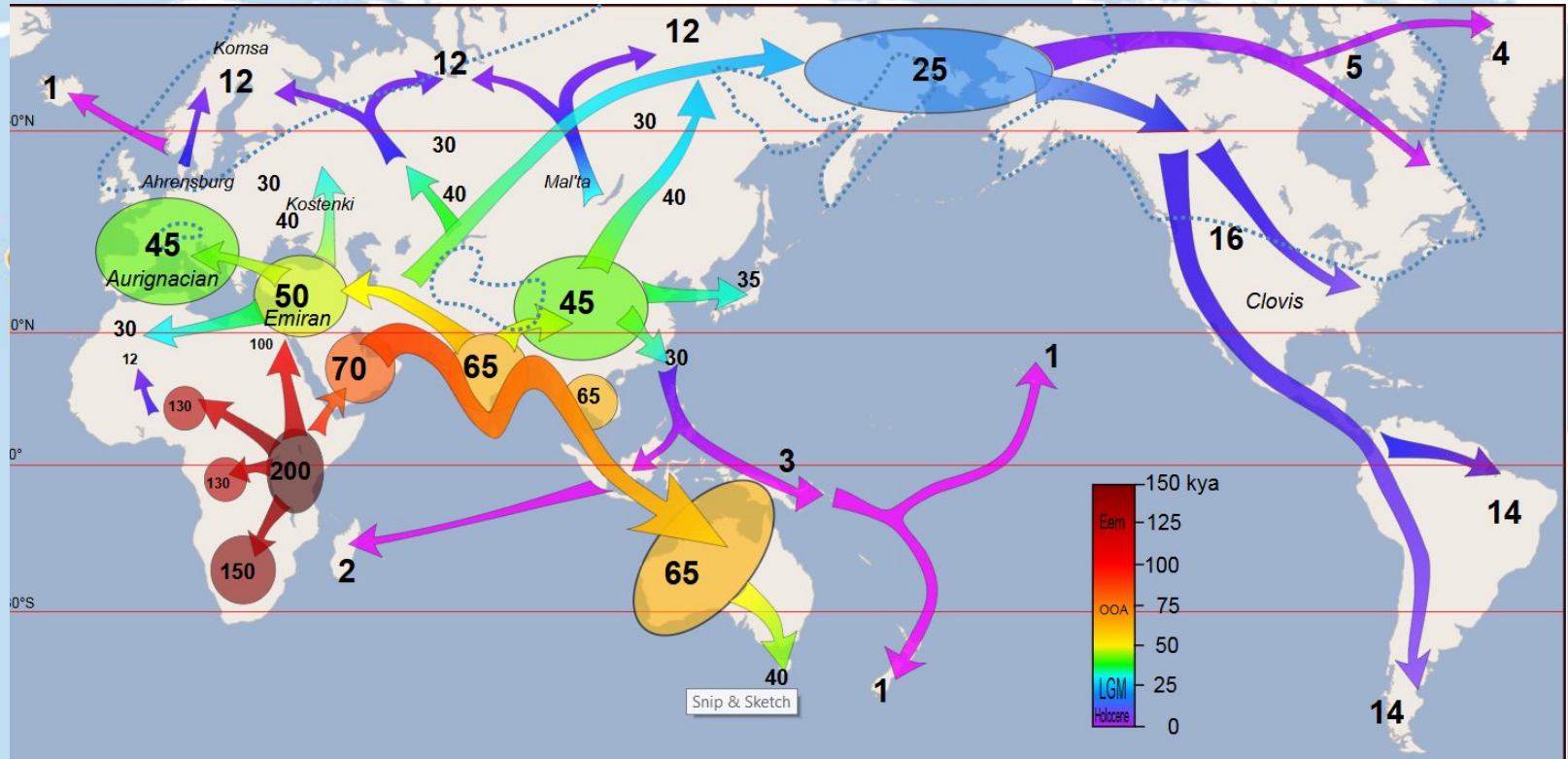
there existed an ancient civilization referred to as “of **ancient Europe**,” which came directly from the Upper Paleolithic and the Mesolithic periods, and which was characterized by a sedentary life, agriculture, a cult of the mother goddess, the fecundator of life, and other feminine divinities— a 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

Russia



BUSINESS
INSIDER



Path of humans out of Africa

South African Calendar

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

ANCIENT ASTRONOMY AT SOUTH AFRICA'S STONEHENGE



Mpumalanga,

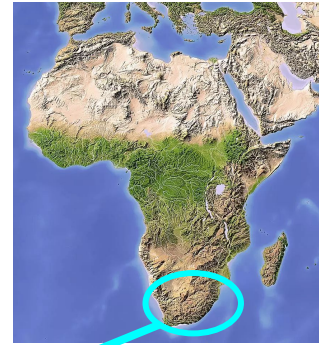


In an area of South Africa called Mpumalanga (Em-Pu-May-Langa)

Researchers have located over 20,000 Megalithic structures.
The name Mpumalanga means "The Place Where the Sun Rises"

Time Keeping time line

200,000- 75,000 year old South African Calendar



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 year old South African Calendar

Researchers and authors, Johan Heine and Michael Tellinger, 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.

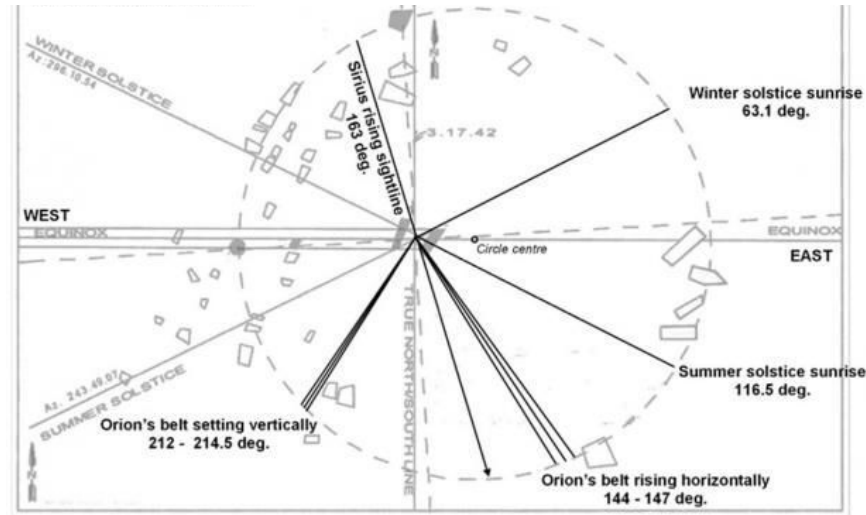
Arrogantly naming the structure Adam's Calendar, they noted that the months are measured by the changing shadow which moves across the complete surface of the rock in a twelve month period.

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.

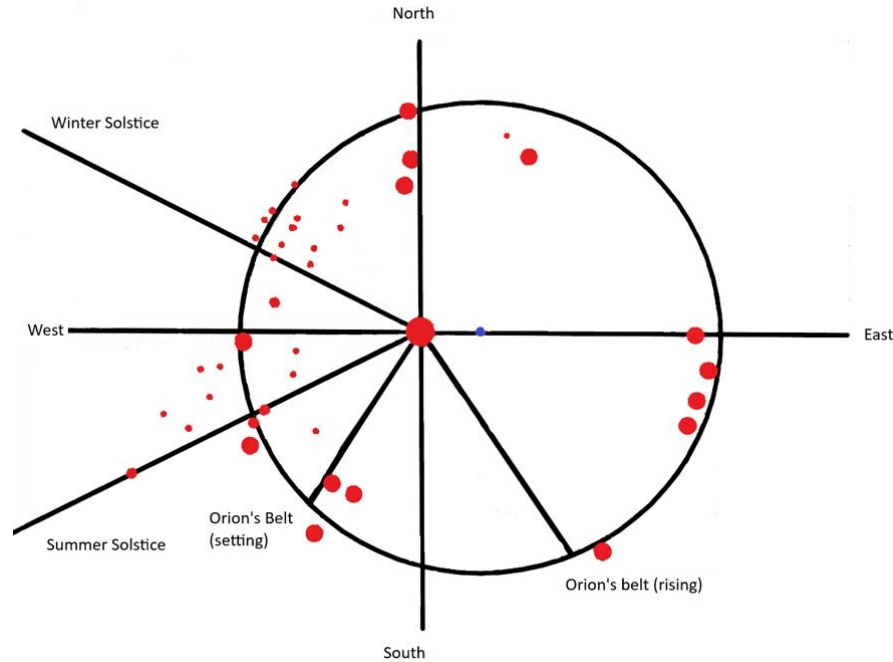
They also point out that the monoliths stand in exact positions geometrically and line up precisely with north, south, east and west.

200,000- 75,000 year old South African Calendar

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 year old South African Calendar



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

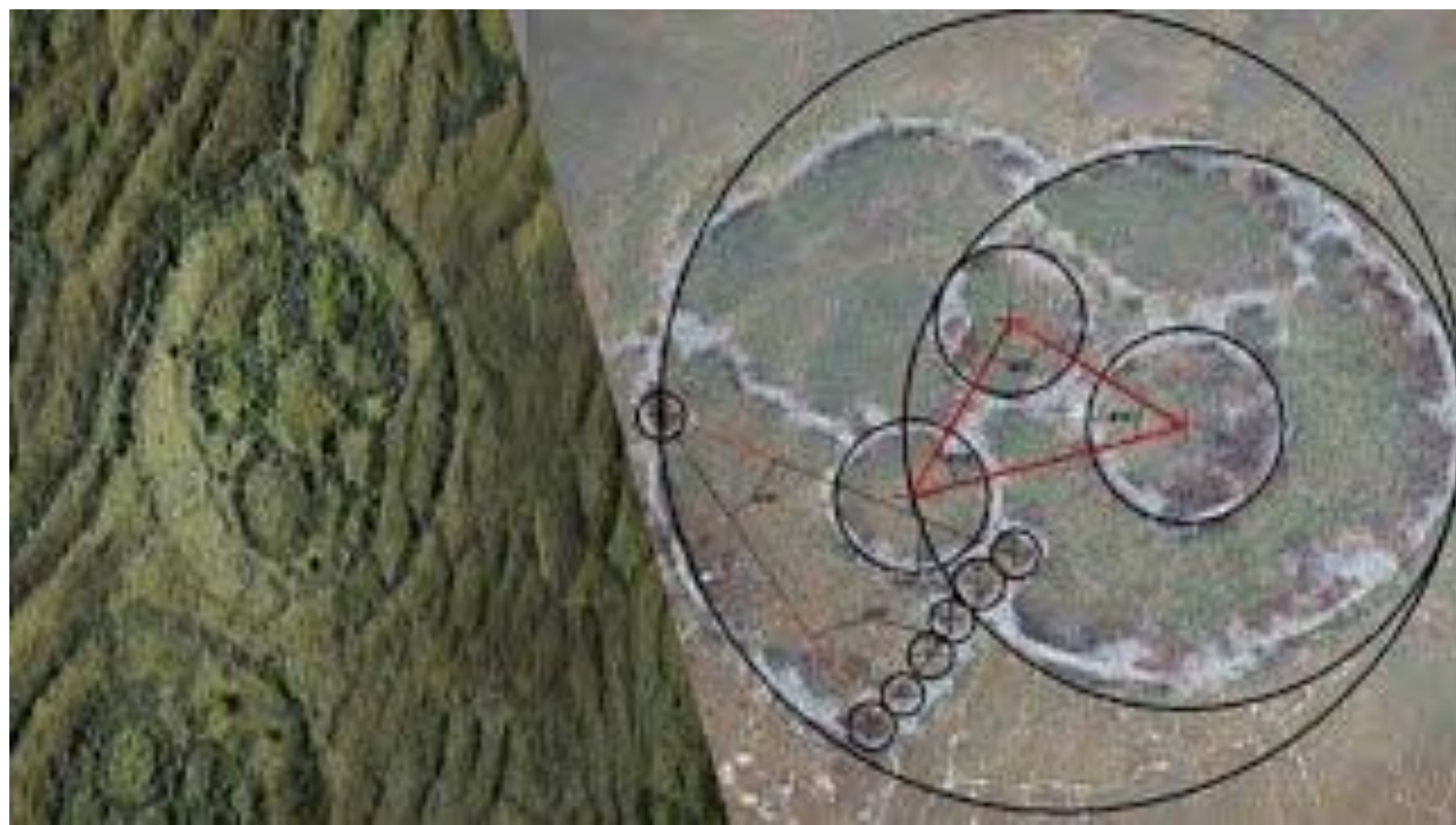
200,000- 75,000 year old South African Calendar



200,000- 75,000 year old South African Calendar



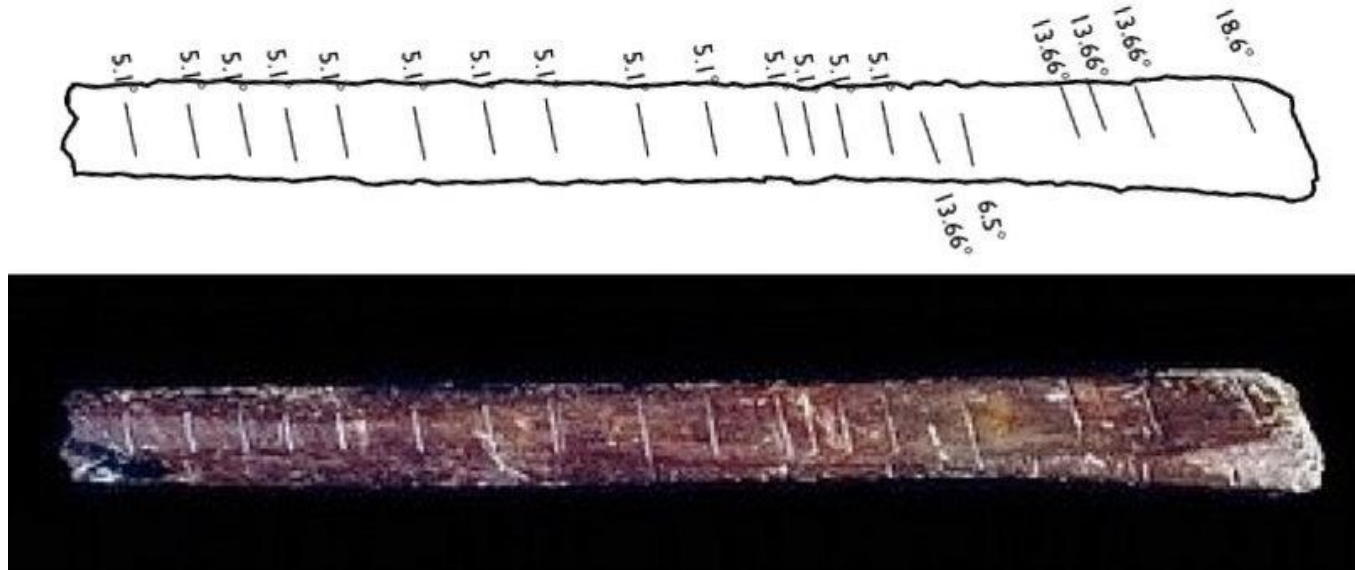




Lebombo Bone

43,000 y/o

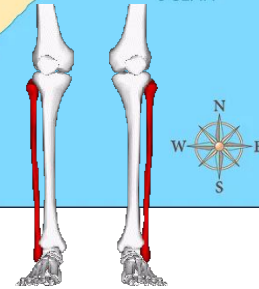
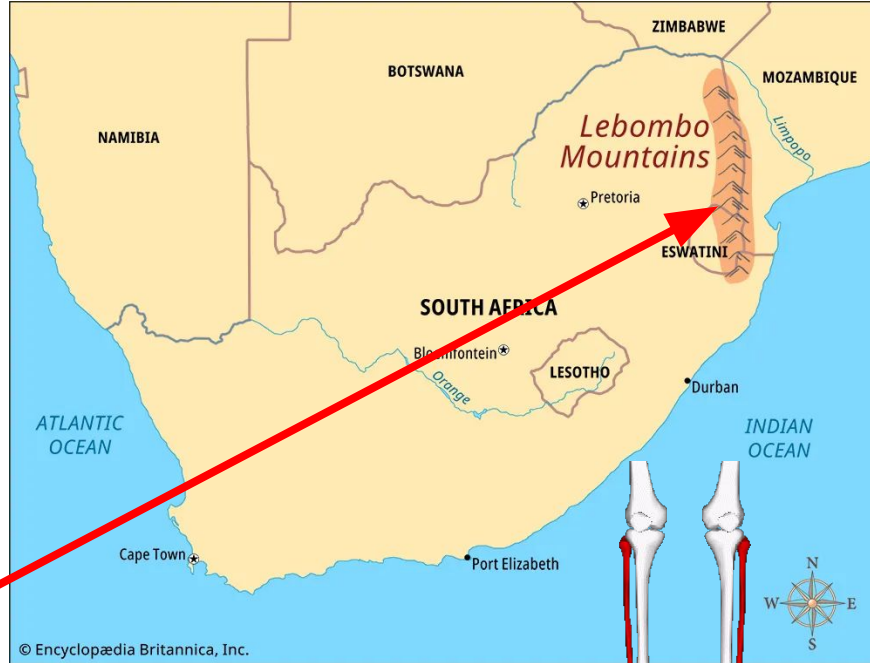
43,000 years old Lebombo Bone



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.

43,000 years old Lebombo Bone

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Fibula Bones



43,000 years old Lebombo Bone



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.

The bone is between **43,000 and 42,000 years old, according to 24 radiocarbon datings**. This is far older than the Ishango bone with which it is sometimes confused. **Other notched bones are 80,000 years old** but it is unclear if the notches are merely decorative or if they bear a functional meaning.

43,000 years old Lebombo Bone



The bone has been conjectured to be a tally stick. According to The Universal Book of Mathematics the Lebombo bone's 29 notches suggest "it may have been used as a lunar phase counter, in which case African women may have been the first mathematicians, because keeping track of menstrual cycles requires a lunar calendar". However, the bone is broken at one end, so the 29 notches may or may not be the total number. In the cases of other notched bones since found globally, there has been no consistent notch tally, many being in the 1–10 range

43,000 years old Lebombo Bone



LEBOMBO BONE

ISHANGO BONE



Next Class

Ancient Time Keepers



Ishango Bone

20,000 y/o

20,000 years old Ishango Bone

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



The curved bone is about 4 inches in length, and features a series of notches or grooves affixed to one end, perhaps for engraving or as a musical instrument.

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.



20,000 years old Ishango Bone

"Fisherman Settlement" of Ishango in the Democratic Republic of the Congo



Found Near the Semliki River which forms part of the headwaters of the Nile River



20,000 years old Ishango Bone

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.



20,000 years old Ishango Bone

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 BC and 6,500 BC, 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 18,000BC and 20,000BC).



20,000 years old Ishango Bone

Mathematical

Brahmagupta, an Indian mathematician and astronomer who lived in the 7th century, is known as the father of arithmetic.

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.

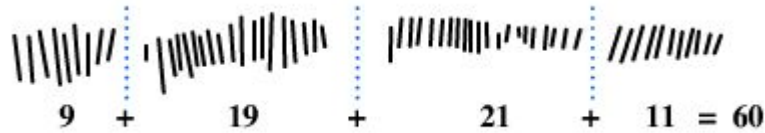
The parallel markings indicates an understanding of decimals or prime numbers.

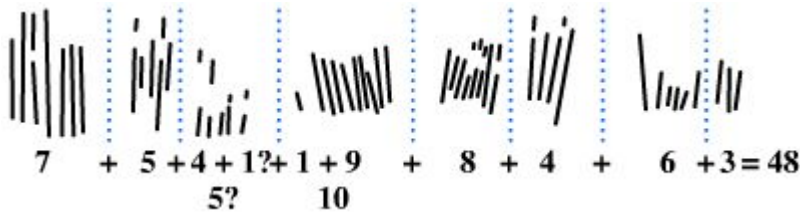
This led to the suggestion of a link between arithmetic processes conducted at Ishango with the commencement of mathematics in ancient Kemet.



20,000 years old Ishango Bone

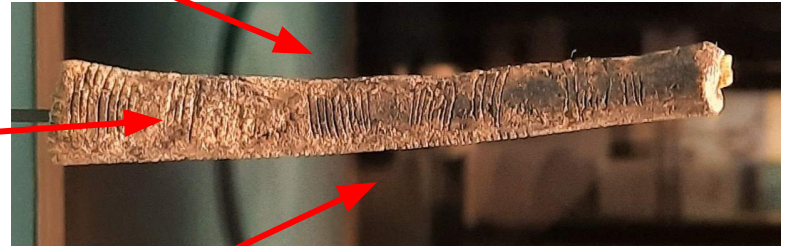
Mathematical


$$9 + 19 + 21 + 11 = 60$$


$$7 + 5 + 4 + 1 + 1 + 9 + 8 + 4 + 6 + 3 = 48$$

5? 10


$$19 + 17 + 13 + 11 = 60$$



20,000 years old Ishango Bone

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.



20,000 years old Ishango Bone



Wurdi Youang, Australia

11,000y/o

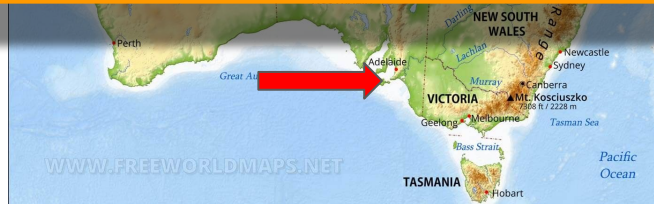
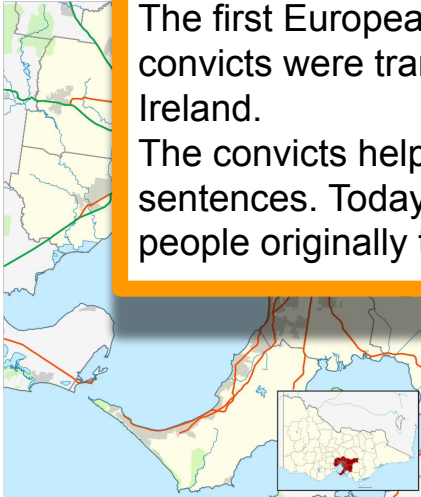
11,000 years old Wurdi Youang

Wurdi Youang is the name attributed to an Aboriginal stone arrangement located off the Little River – Ripley Road at

The British colony of New South Wales was established in 1788 as a penal colony.

The first European colony in Australia. Between 1788 and 1868, more than 162,000 convicts were transported to Australia as punishment for crimes committed in Britain and Ireland.

The convicts helped build the young colony, and most stayed on after serving their sentences. Today, it's estimated that 20% of the Australian population are descended from people originally transported as convicts.



Australia

11,000 years old Wurdi Youang

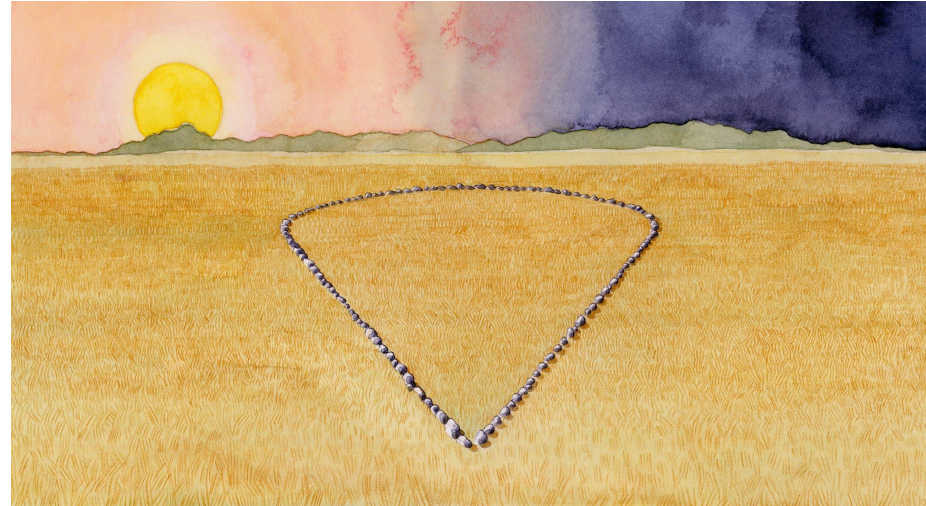
The stone arrangement takes the form of an irregular egg-shape or ovoid about 164 ft in diameter with its major axis aligning east-west.

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

11,000 years old Wurdi Youang

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



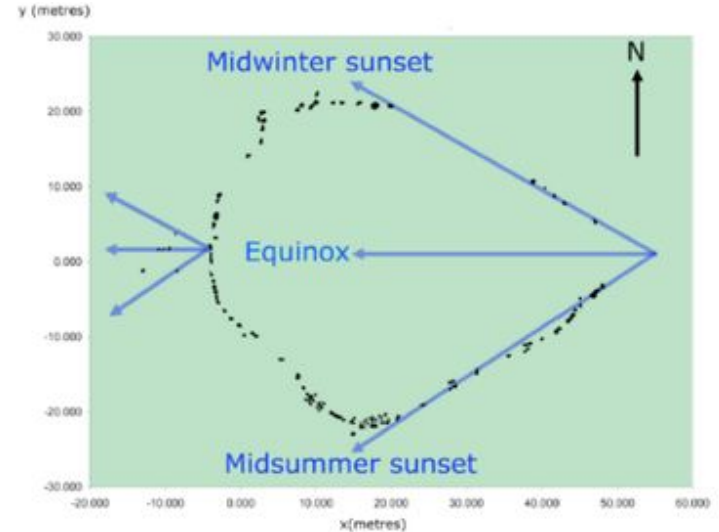
The stone arrangement takes the form of an irregular egg-shape

11,000 years old Wurdi Youang

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



11,000 years old Wurdi Youang

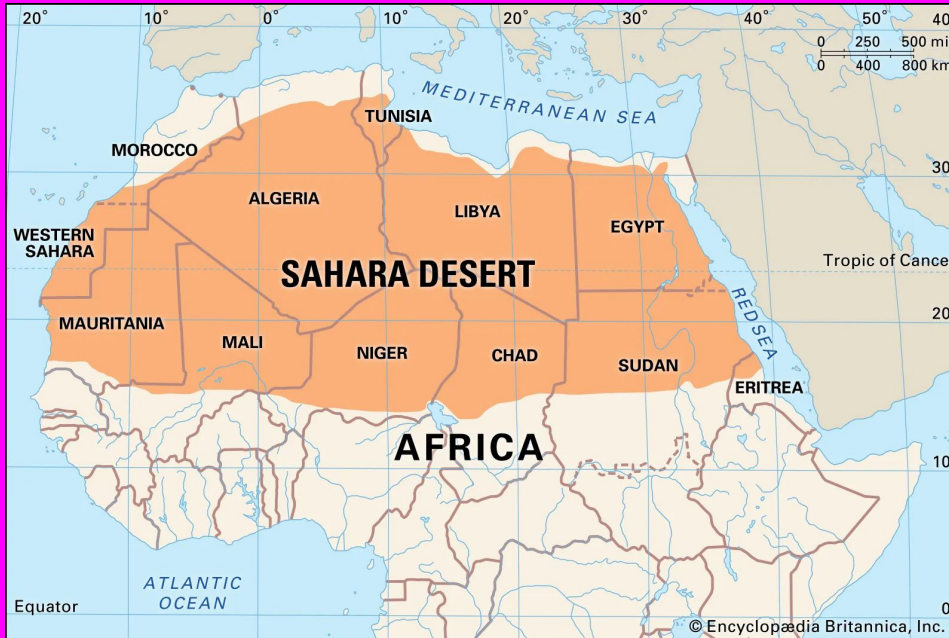


11,000 years old Wurdi Youang



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.

Warren Field

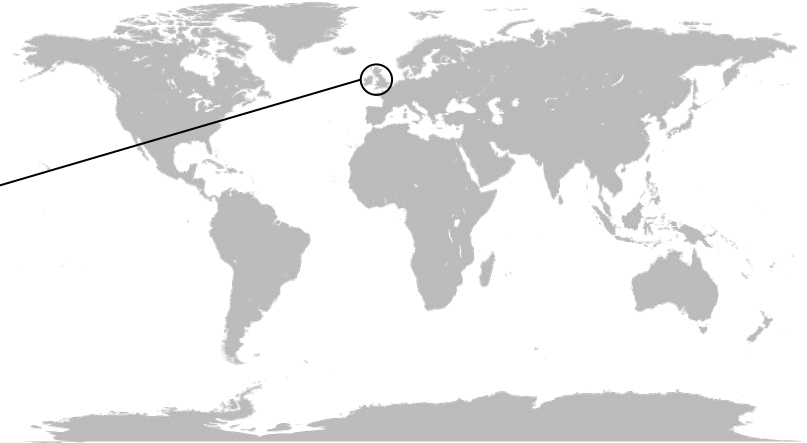
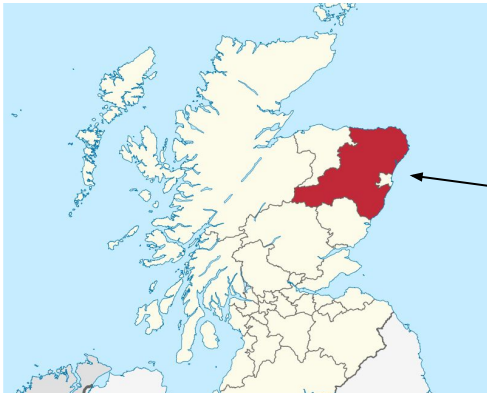
8,000y/o

8,000 years old 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.

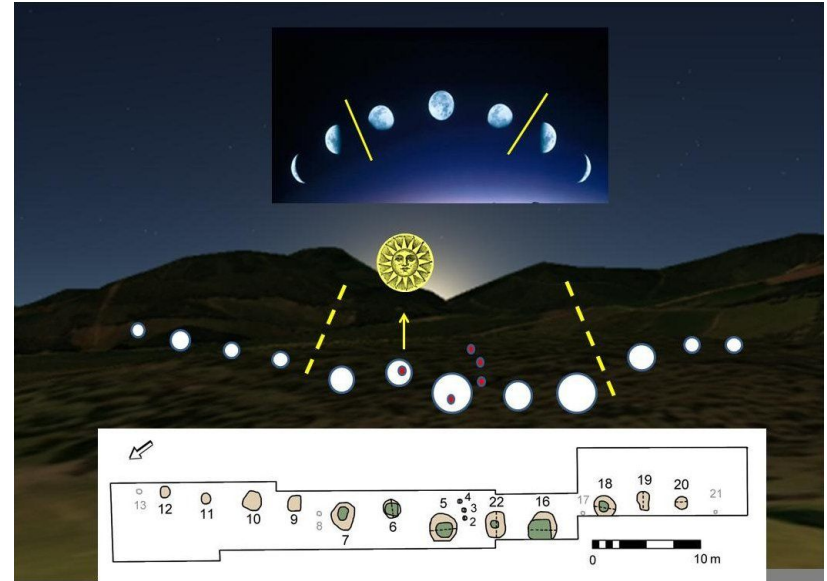


8,000 years old Warren Field

Aberdeenshire region of Scotland,

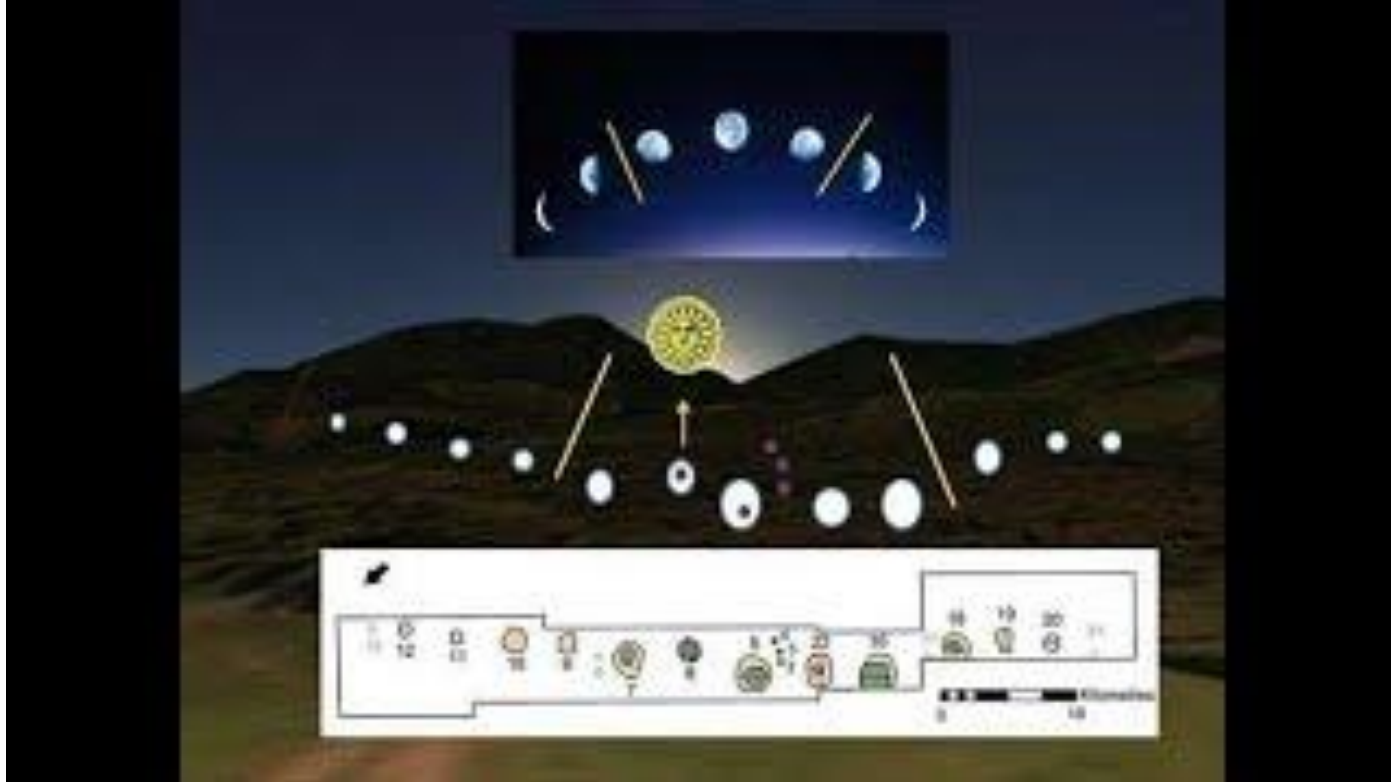
The pits align on the southeast horizon and a prominent topographic point associated with **sunrise on the midwinter solstice** (thus providing an annual astronomical correction concerning the passage of time as indicated by the Moon, the asynchronous solar year, and the associated seasons).

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



8,000 years old Warren Field

Aberdeenshire region of Scotland,



The Dolmen of Guadalperal

Spain 7,000 y/o

Dolmen of Guadalperal, the remains of a 7,000-year old megalithic monument consisting of around 100 standing stones—some up to six feet tall—arranged around an oval open space.

The Dolmen of Guadalperal, also known as the Treasure of Guadalperal and as the Spanish Stonehenge for its resemblance to the English Stonehenge, is a megalithic monument dating from around 5000 BC and are thus 2000 years older than the earliest phases of Stonehenge. in

Peraleda de la Mata,

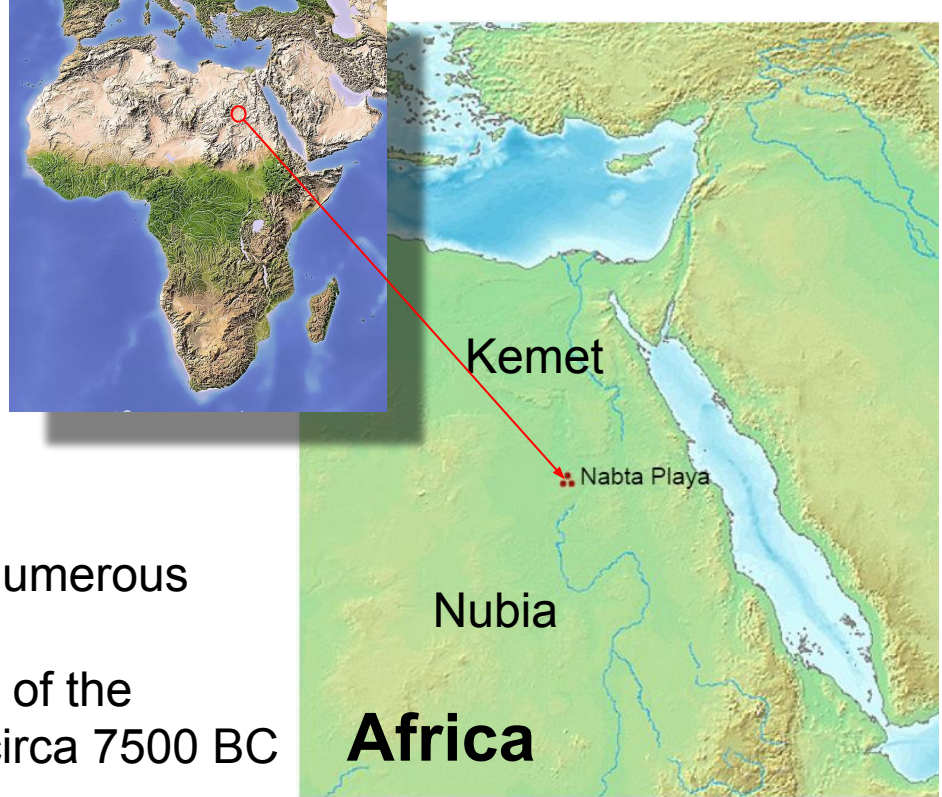


Nabta Playa

7,500 y/o

7,500 years old Nabta Playa

Nabta Playa was once a large water 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,



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

7,500 years old Nabta Playa

Although today
Kemetic deserts
this was not a
case.

There is good
there were some
periods in the
to



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.

as a savanna and
such as extinct
varieties of antelope

7,500 years old Nabta Playa

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

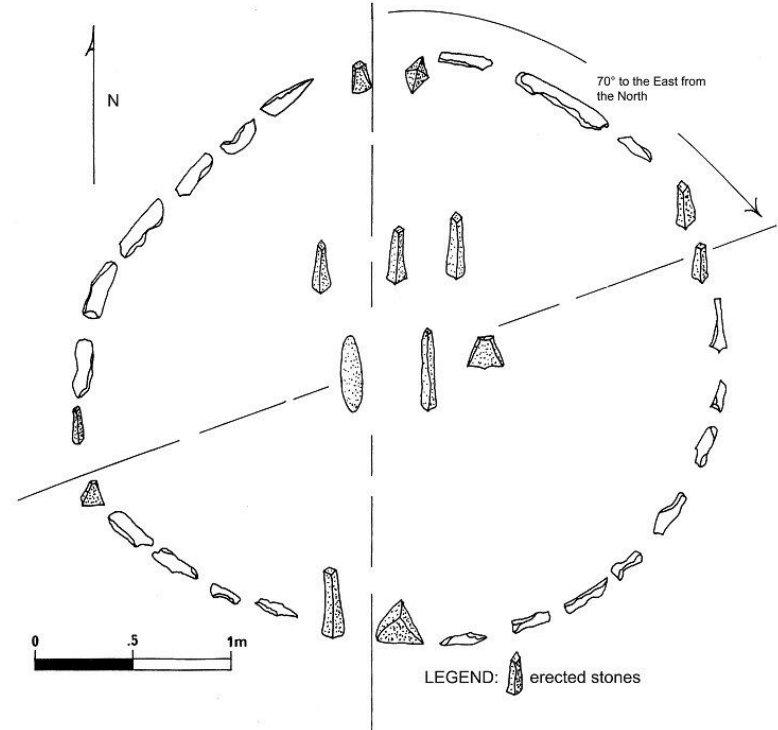
Early people may have been attracted to the region due to the source of water.



7,500 years old Nabta Playa

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.



7,500 years old Nabta Playa



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ALEARNING

Nearby to the stone circle

Stonehenge

6,200 years old



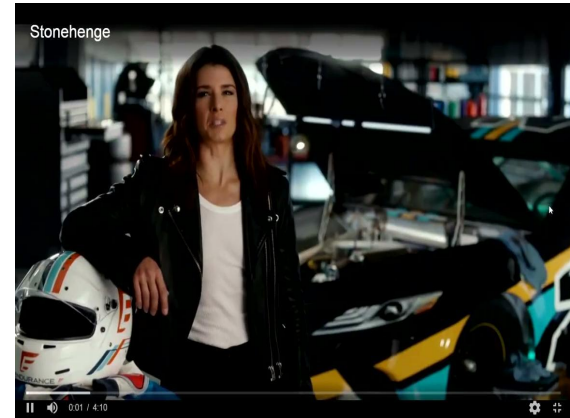
6,200 years old Stonehenge

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).



6,200 years old Stonehenge

Wiltshire, England, United Kingdom

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



[Stonehenge](#)

Next Class

Kemetic Timekeeping
Gregorian Calendar 1582
Calendar Project



The hidden secrets of water

Kemetic Timekeepers



Era

Year

Month

Week

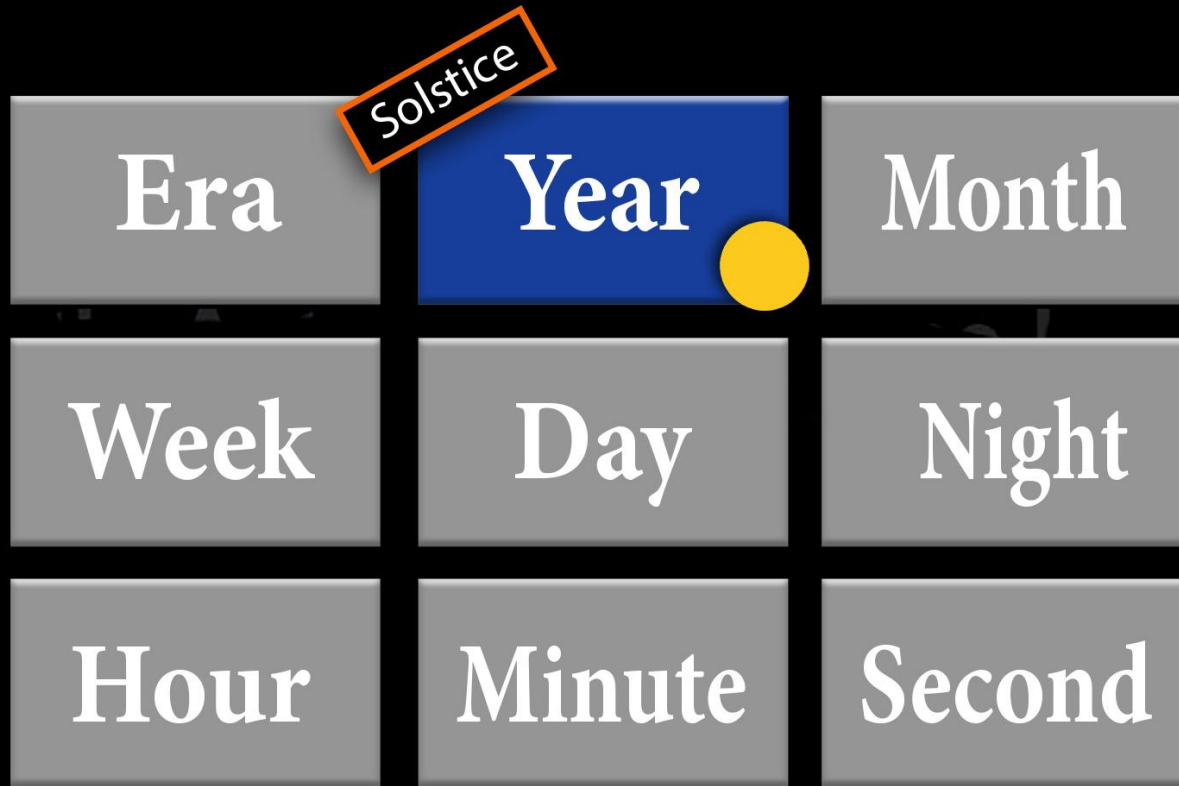
Day

Night

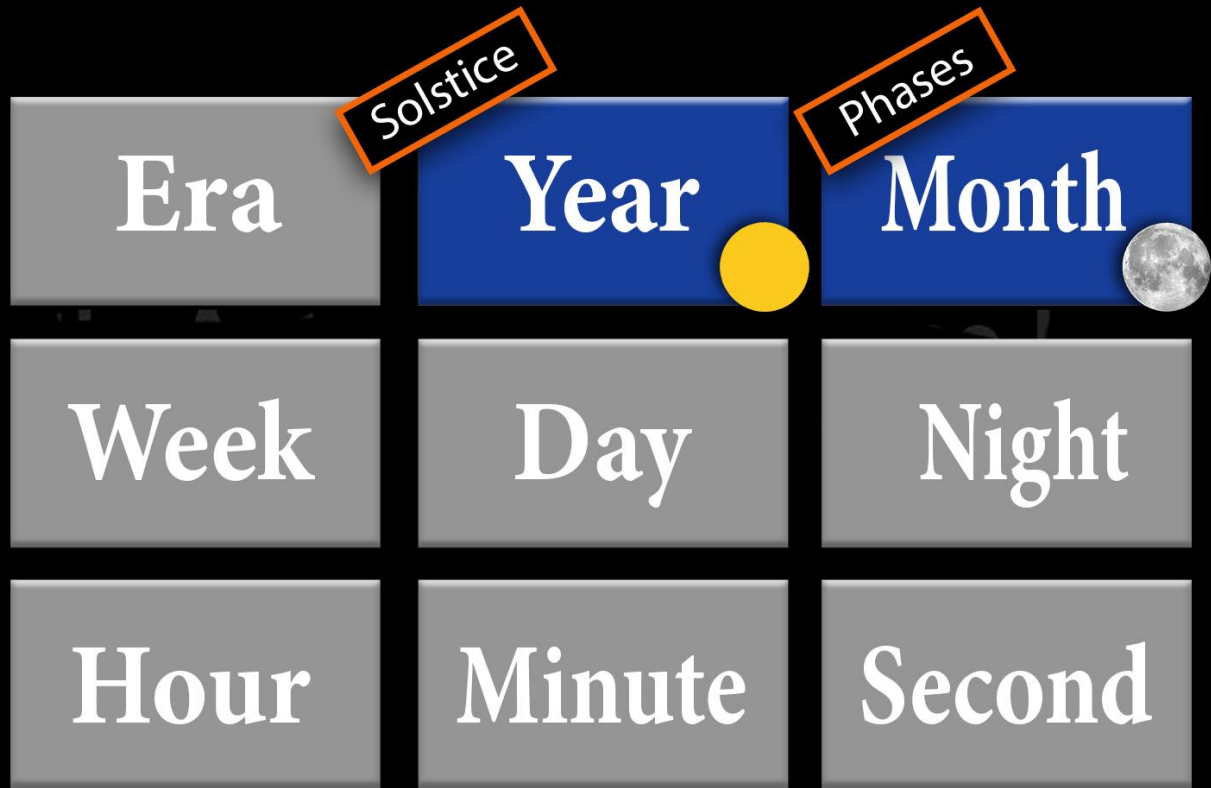
Hour

Minute

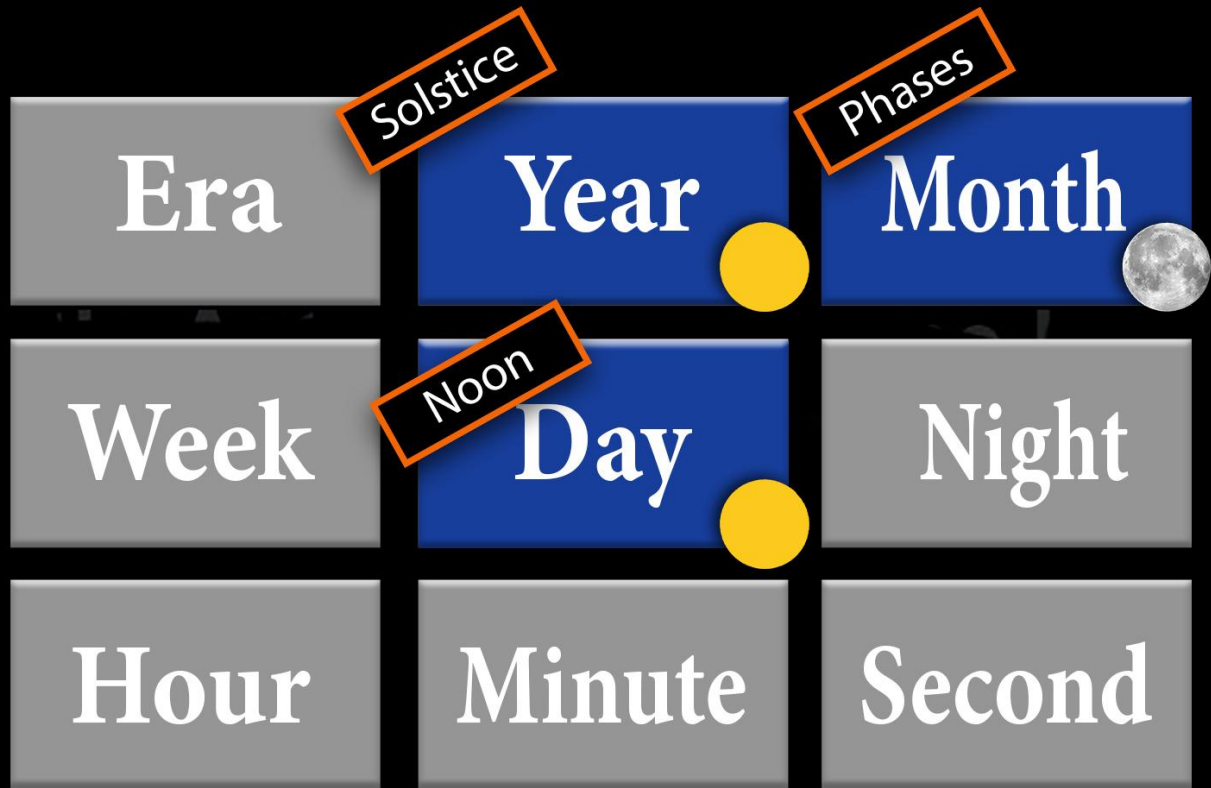
Second



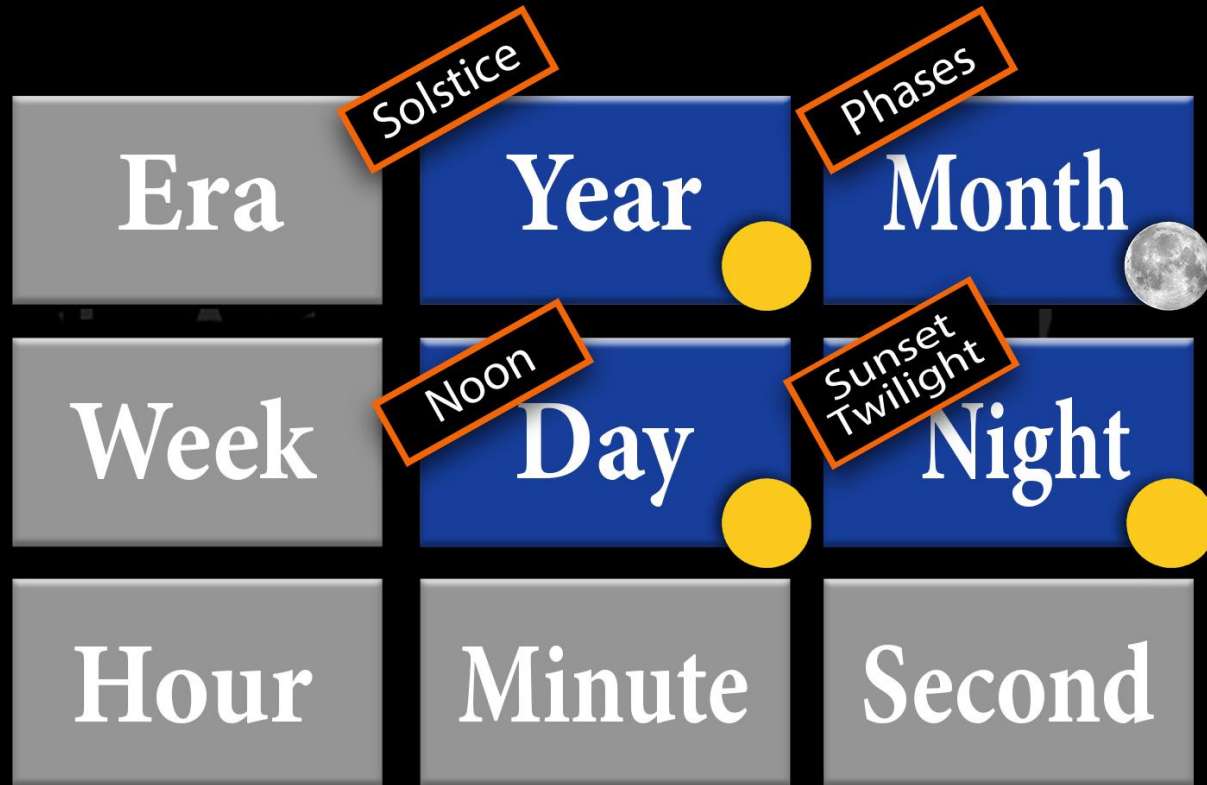
a year can be easily defined if we look at an astronomical body let's take the Sun we can find a Solstice we can measure a year



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



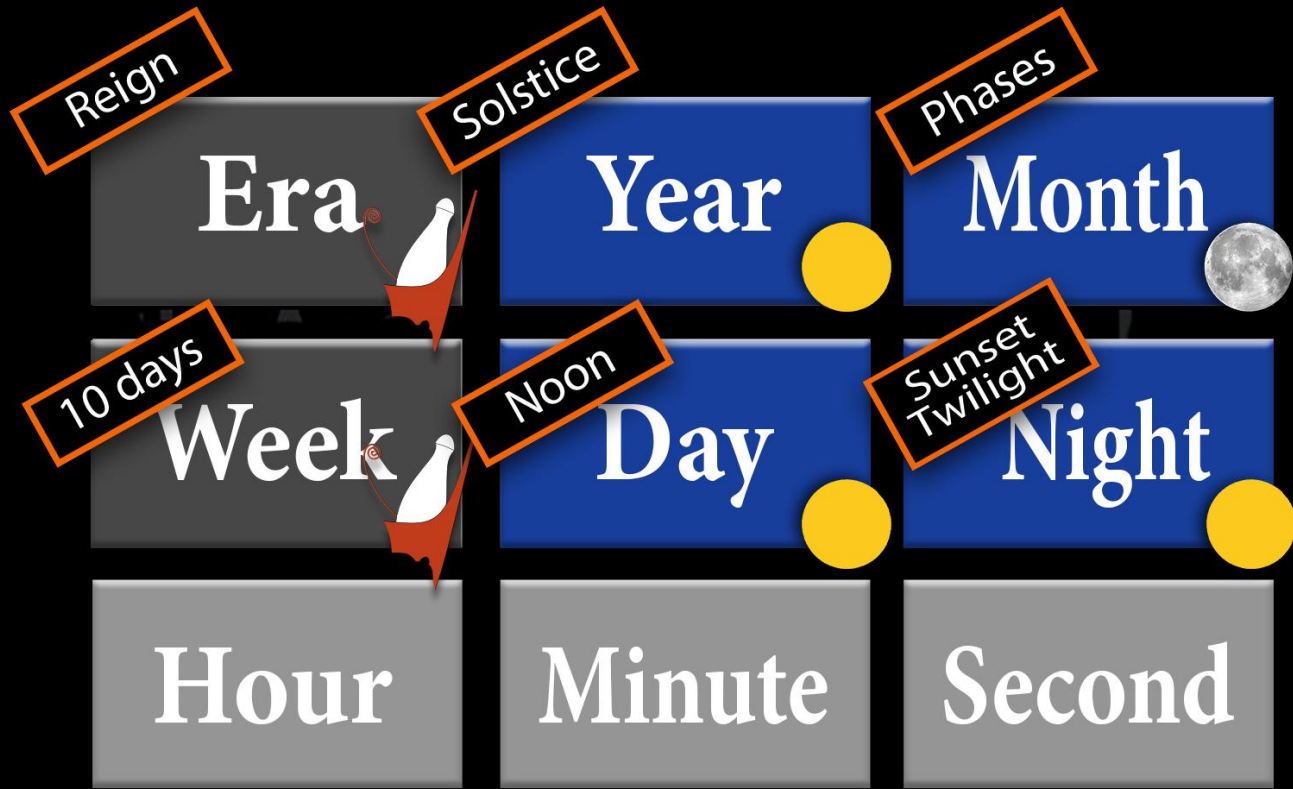
for days we can go back to the Sun and look at Sunrise



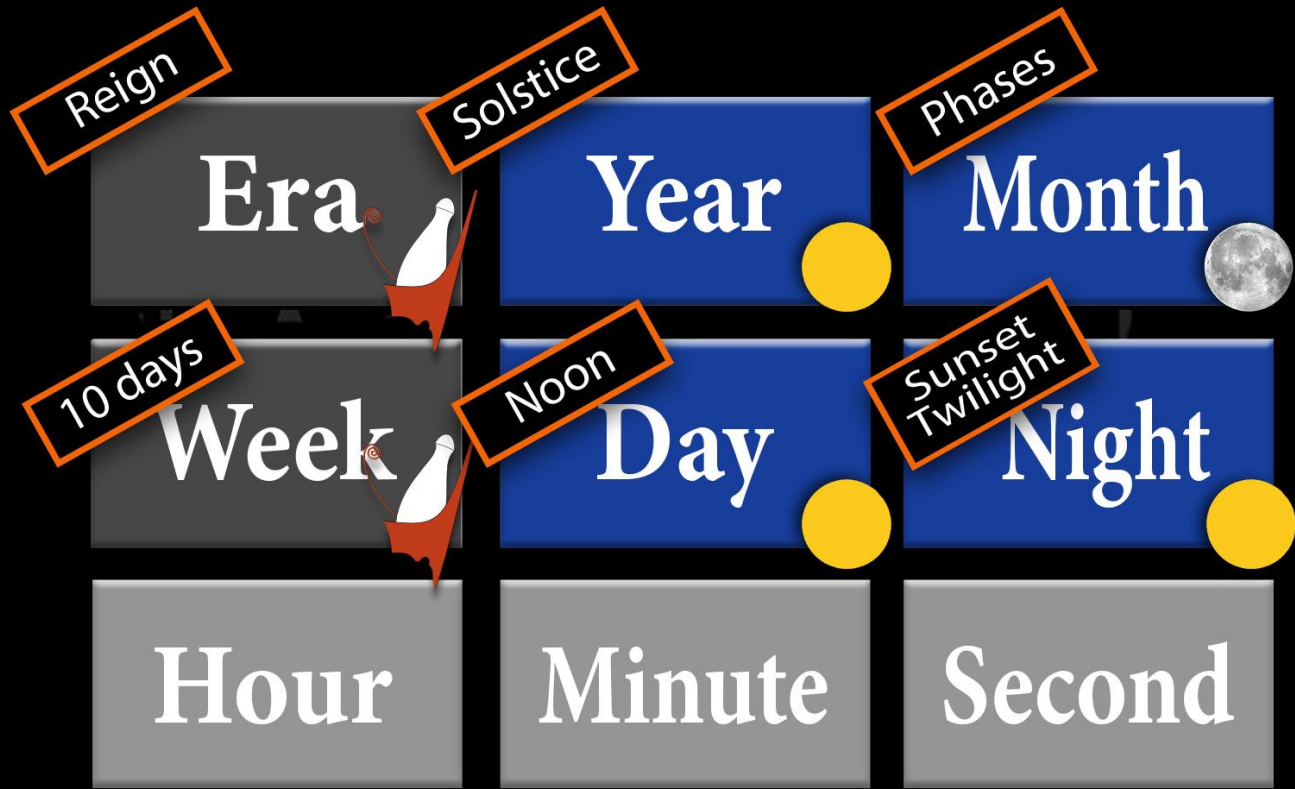
we have a problem with the word day in English it can mean two things it can mean a 24-hour period or it can mean the daylight period so we have to think about how we measure night as well. do we measure it from the point of sunset and what exactly does that mean do we measure it from the end of Twilight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



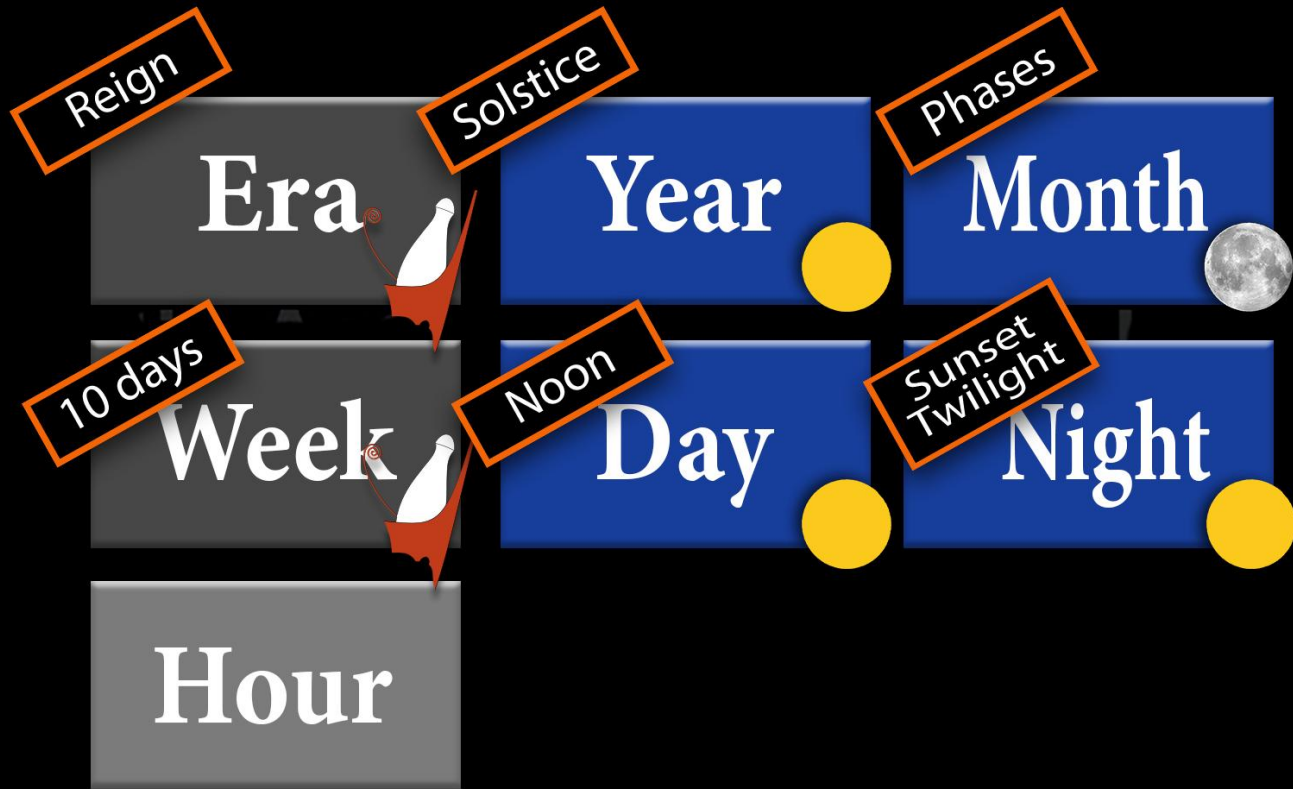
longer time periods thinking of things like eras then we tend to base this on more political decisions and this was the same in ancient Kemet when the era would be described by the reign of the Nasut Bity and the year was counted in regnal years of the reign of the Nasut Bity



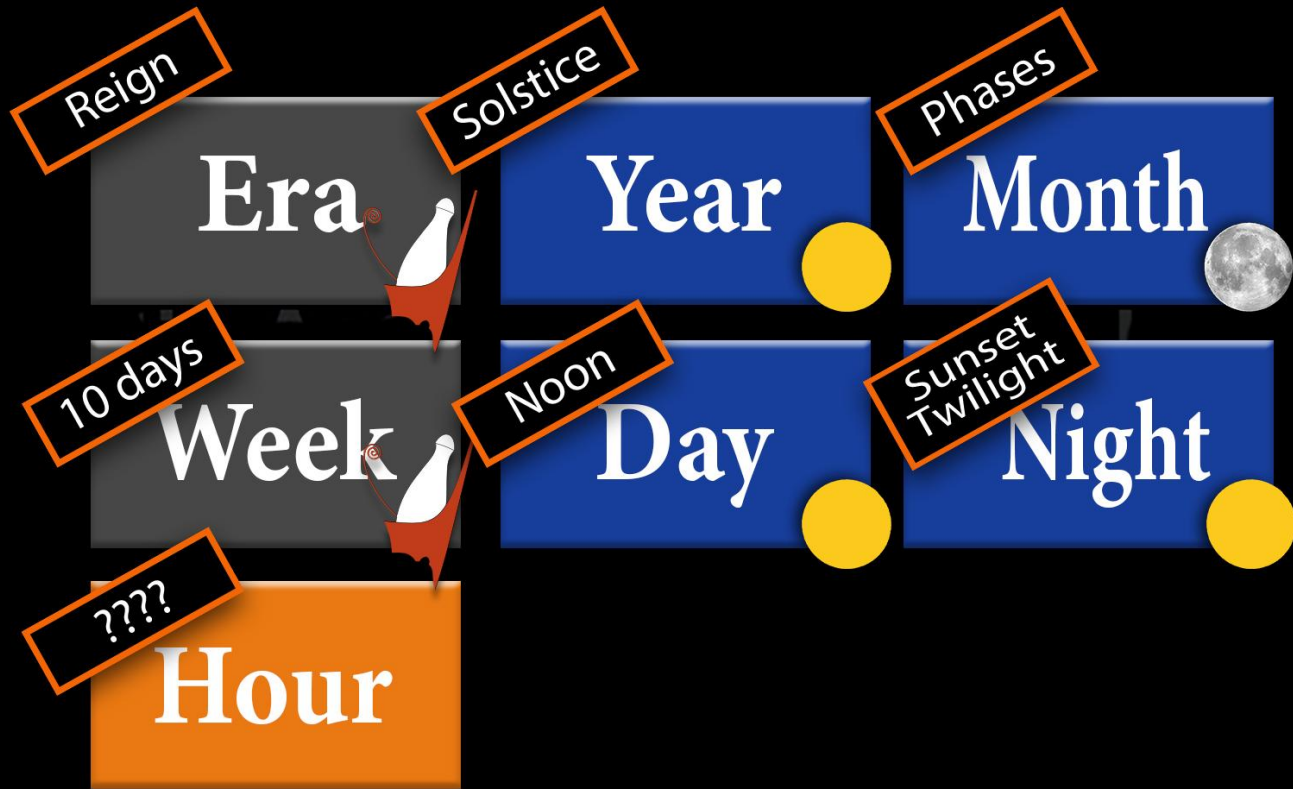
The unit of a week is an unnatural one we make a decision we have seven-day weeks. In ancient Kemet a week was a 7 day Lunar phase and they had a 10-day star period



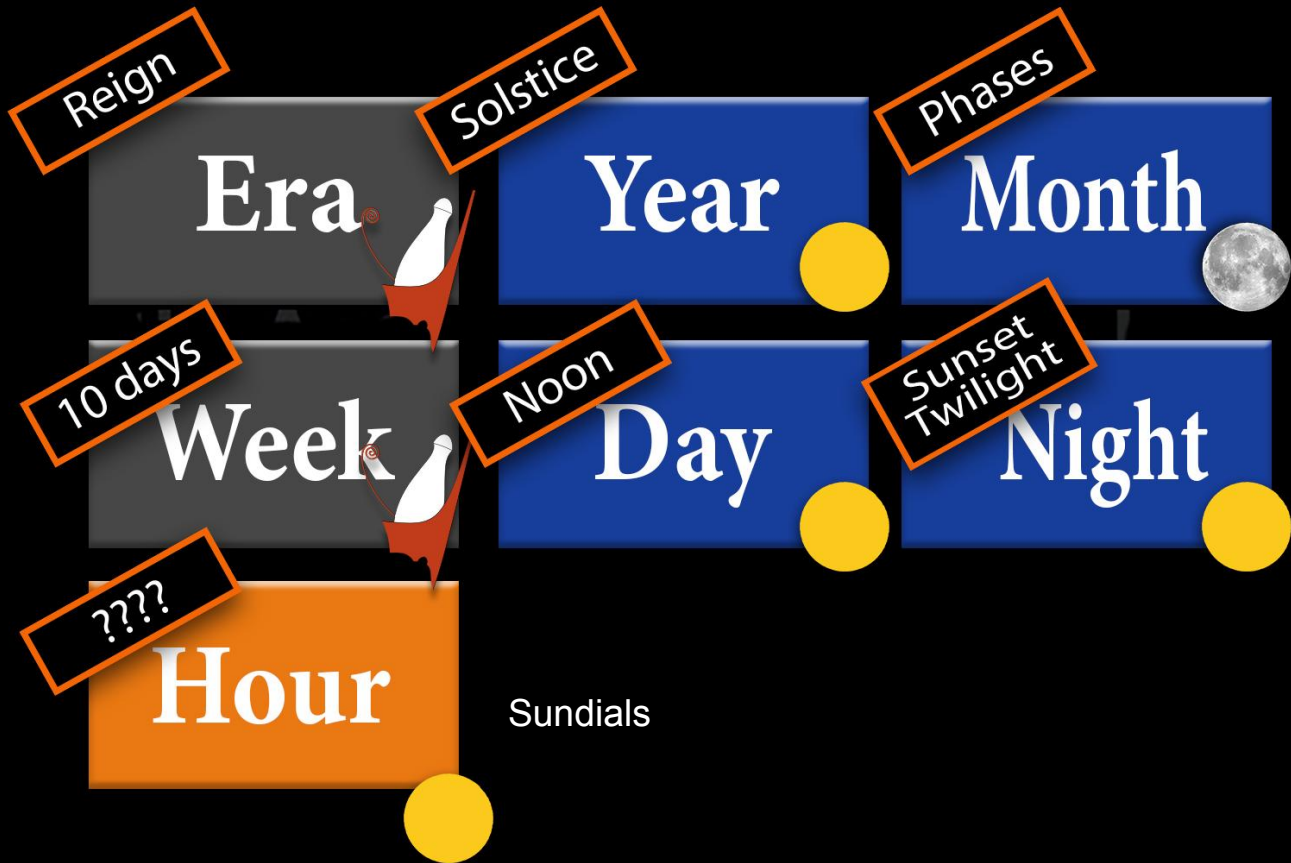
In ancient Kemet and nearby civilizations we find no evidence of a short period of time and indeed we have no subdivisions other than fractions of the hour in ancient Kemetic texts

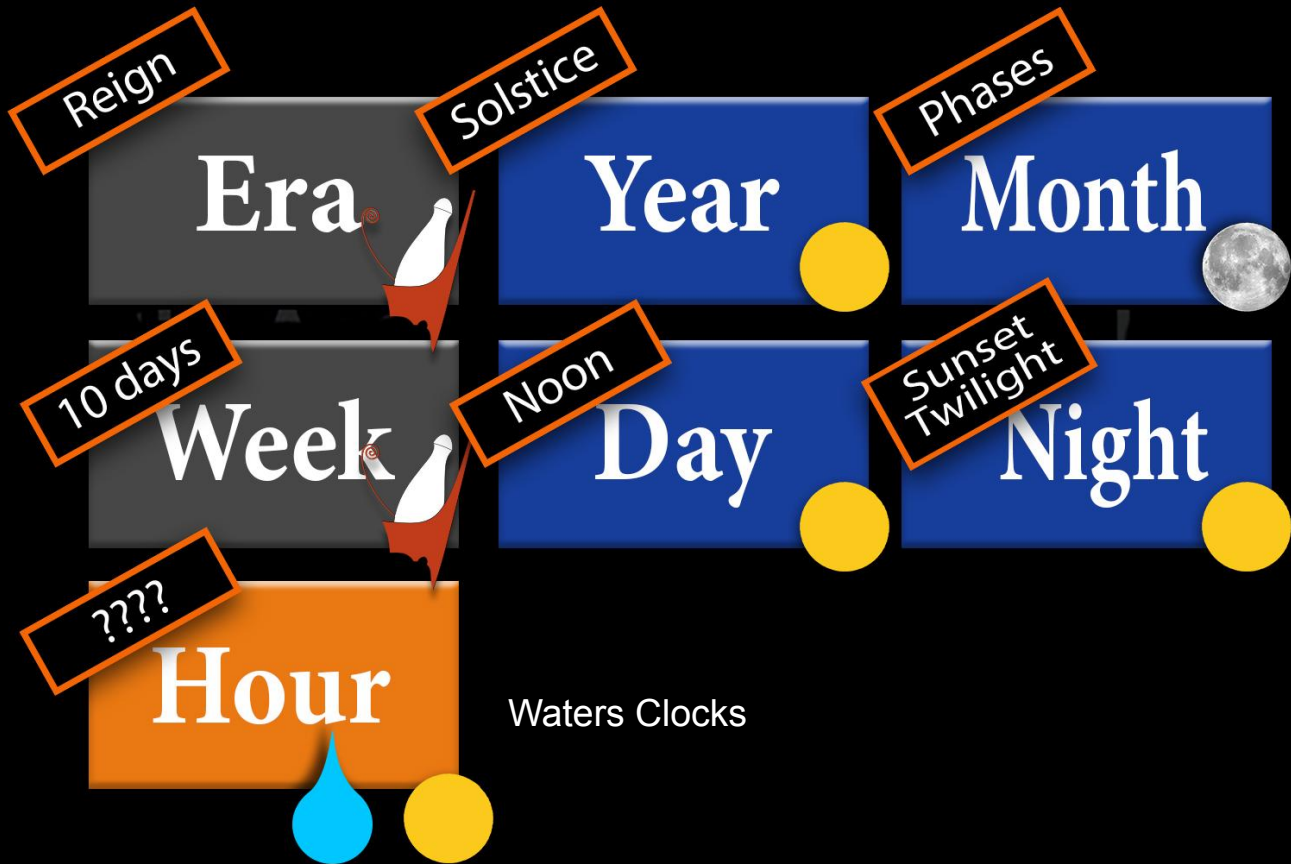


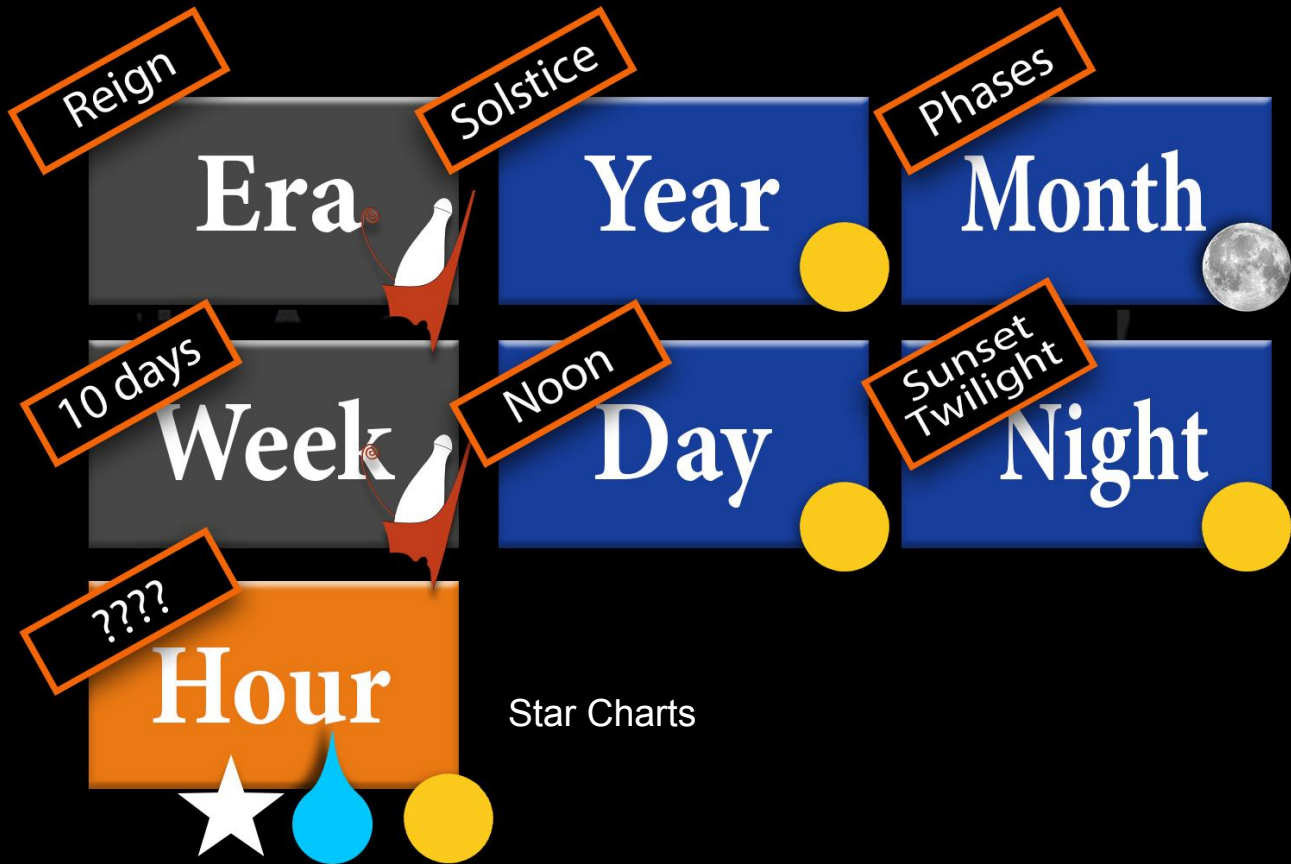
The way that we measure hours and we're going to see that this is again not an obvious natural time unit we have to make a decision about how we're going to divide up the day into some smaller portions in ancient Kemet we find three methods Sun, Water and Stars



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







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

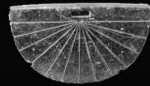
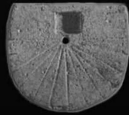
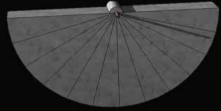


Hour



Kemetic Sundial Clocks

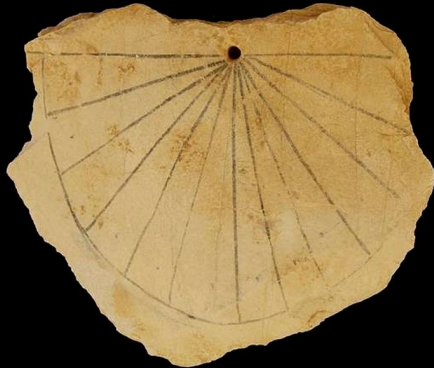
- ★ L-shaped
- ★ sloping
- ★ semicircular



As early as 1200 BCE

Sundials

Hour



From the Ramesside Period of the 13th century BCE. Over 4000 y/o



HOURS MARKED
INSIDE THE JAR?



Water Clocks

Hour



Kemetic Astronomical Star Clocks

Diagonal Star Clocks

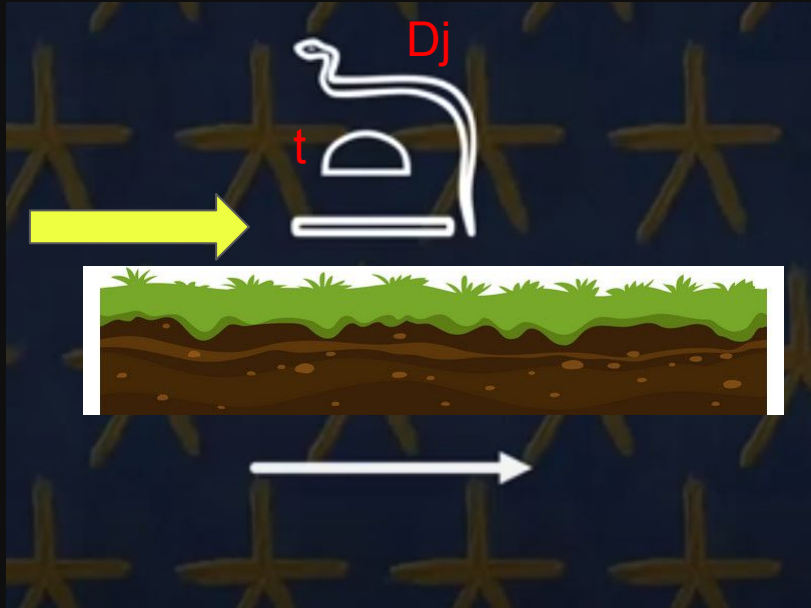


Ramses Star Clocks



How did Kemet view Time

Reading the Hieroglyphs (**Medu Neter**)



Linear Time (Perpetual)



Cyclical Time

Cycle of Time



Noun

teb 𓂏𓂐𓂑, cycle of time

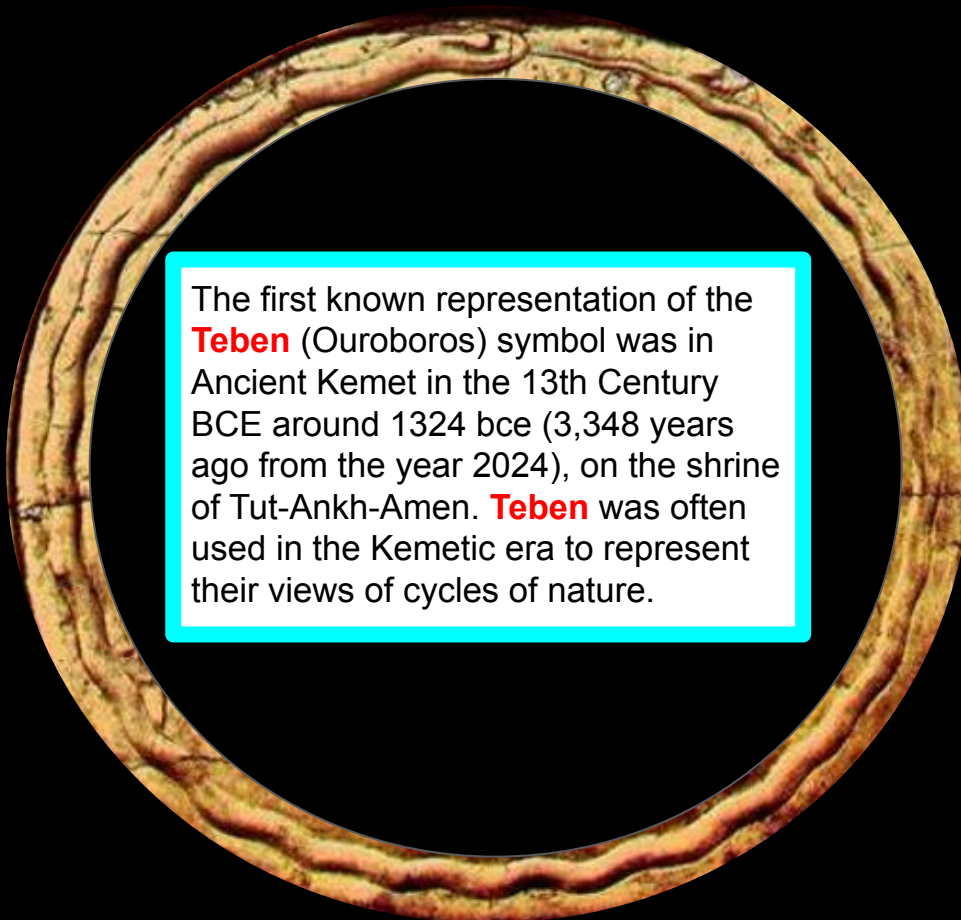
Verb

teben



to revolve, circuit, cycle,

The first known representation of the **Teбен** (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. **Teбен** was often used in the Kemetic era to represent their views of cycles of nature.

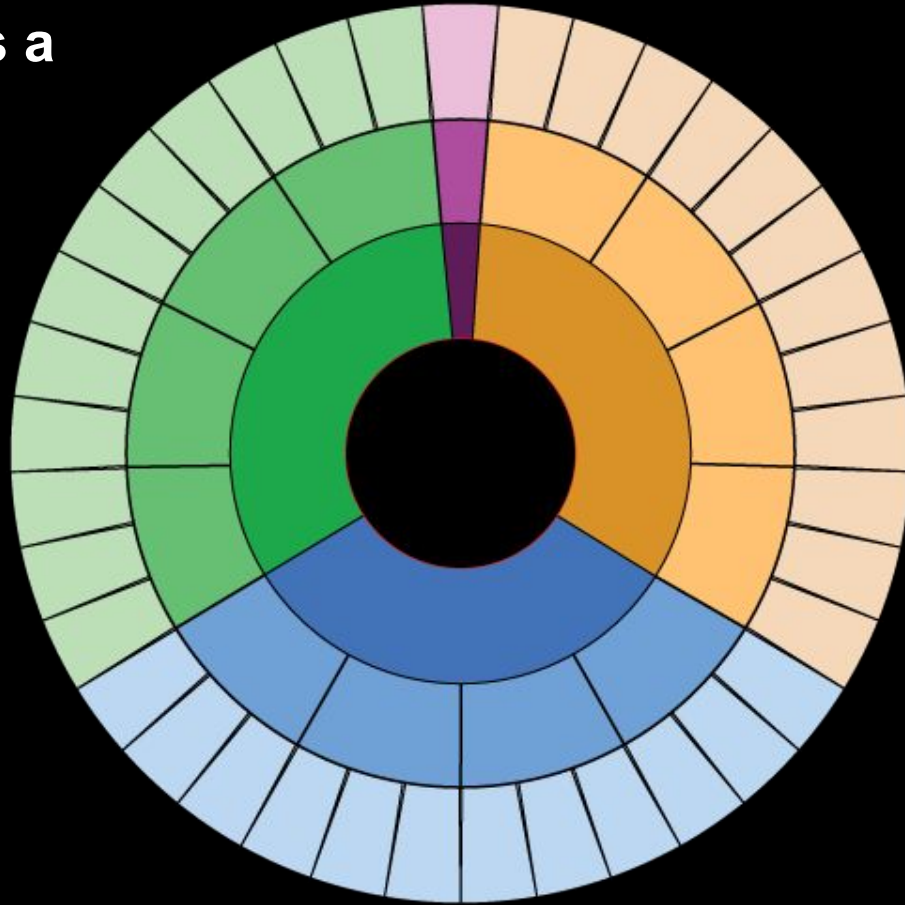


Viewing the Year as a Cycle of Time

Cycle of Seasons

Cycle of Months

Cycle of Weeks



Nile-Agricultural Cycle

Cycle of Seasons

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

Akhet

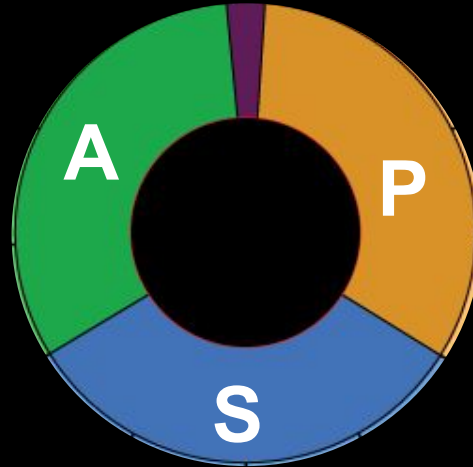
Growing/Harvest

Shemu

Nile Rising

Peret

Cultivating/ Planting



Months = Moon

Each
Luna

The words for the month in a range of different languages carry this relation between the period of the month and the Moon etymologically.

The English month as well as moon, and its cognates in other Indo-European languages (e.g. the Latin *mensis* and Ancient Greek μέν (meis) or μήν (mēn), meaning "to measure" "month")



Week

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

It's widely acknowledged that a very substantial portion of English vocabulary derives from Latin. Estimates often place this around 60%.

This influence occurred through various historical pathways, including the Roman presence in Britain, the influence of the Roman Catholic Church, and the Renaissance.

Latin's impact is particularly evident in:
Legal and political terminology.
Scientific and medical vocabulary.

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.

Estimates suggest that a substantial number of English words have Greek roots. Some sources indicate this number may be around 150,000

Some Greek words have been directly adopted into English

However, a larger portion of Greek influence comes indirectly, as many Greek words were absorbed into Latin and then subsequently into English.

Greek influence is particularly strong in scientific and medical terminology. Many terms used in these fields are derived from Greek.

Philosophy, mathematics, and other academic disciplines also feature numerous words of Greek origin

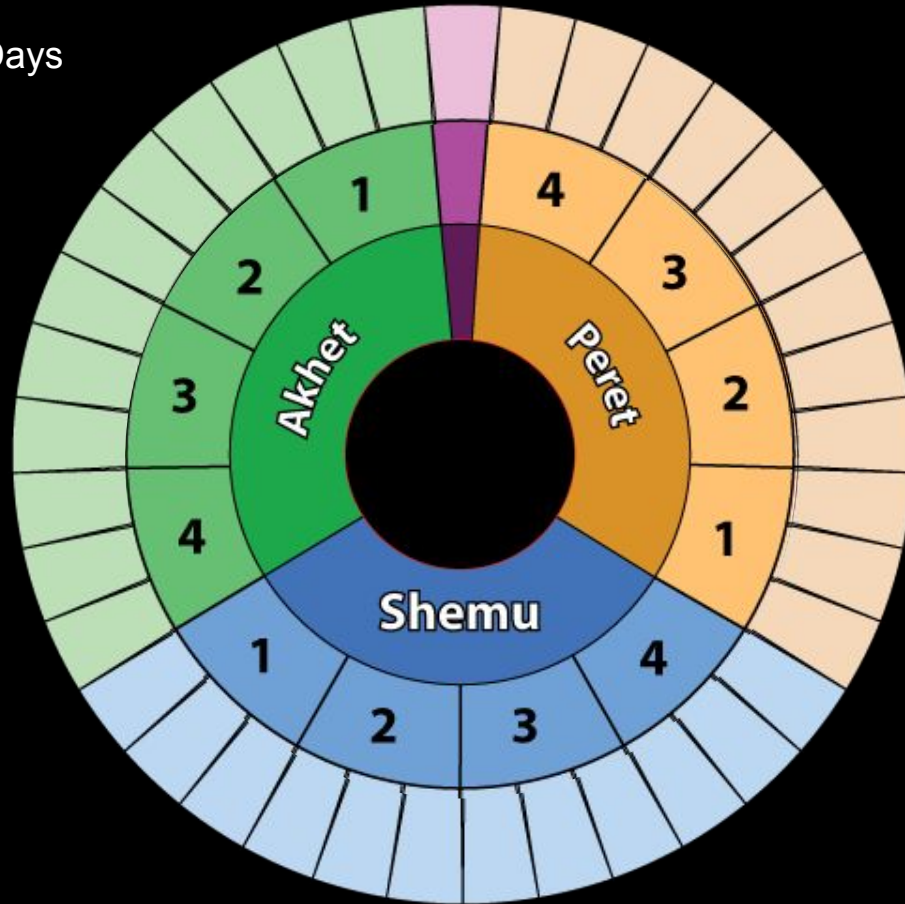
Week   Ten Days

Medju Heru

In ancient Kemet the year
was divided into 12 months

Each month was 30 days
long.

Then the months were
divided into 3 weeks of ten
days



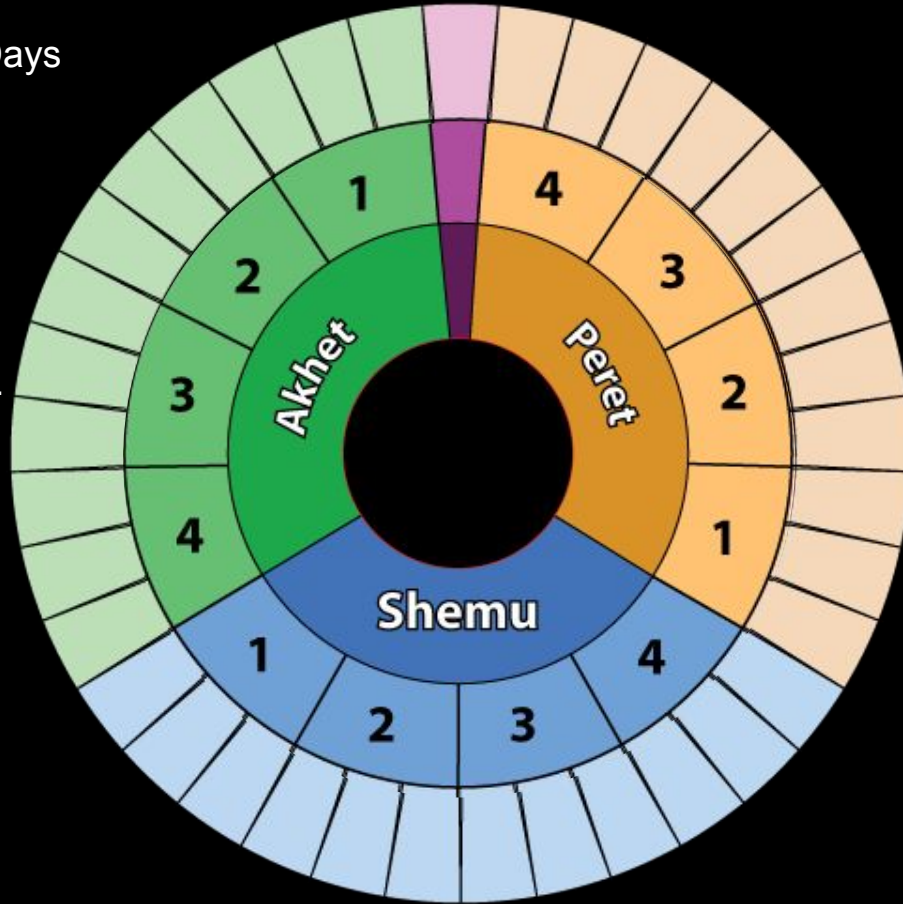
Week  Ten Days

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

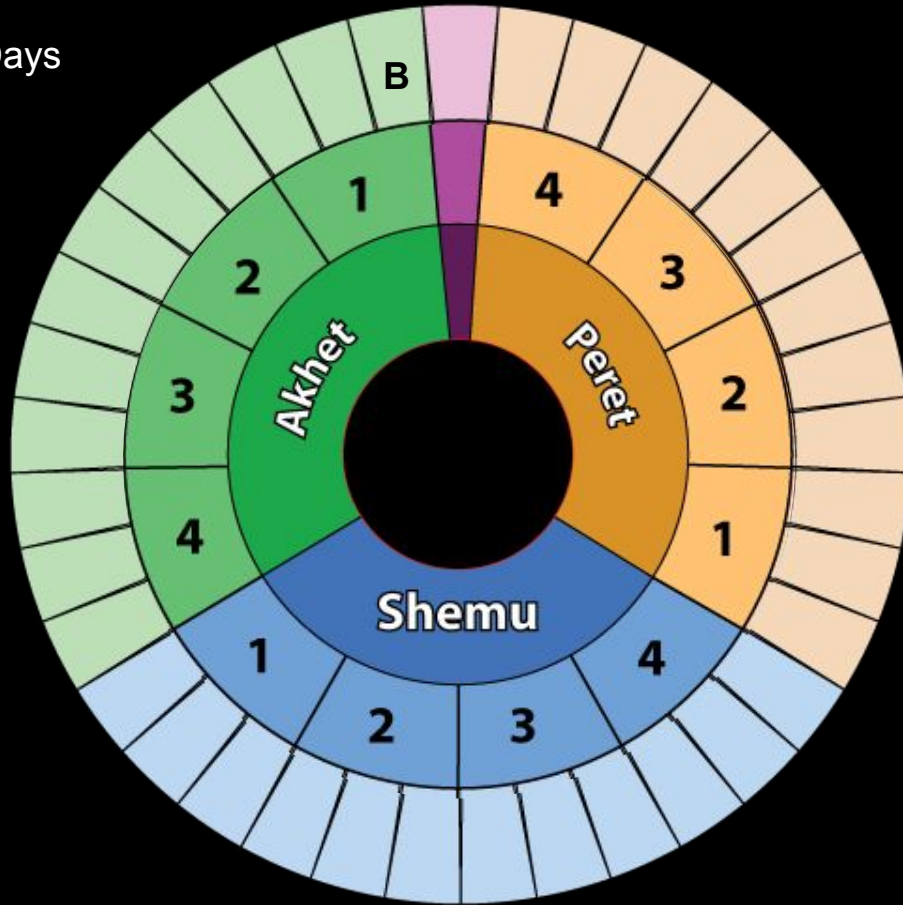
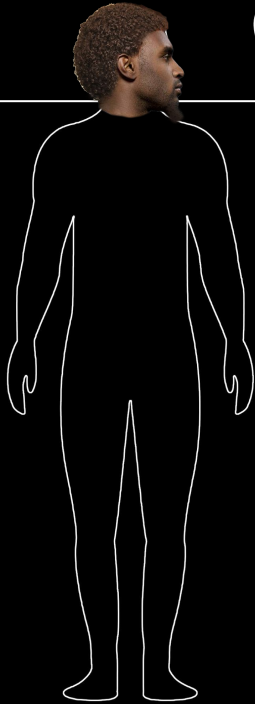


Week   Ten Days

Beginning Medju Heru

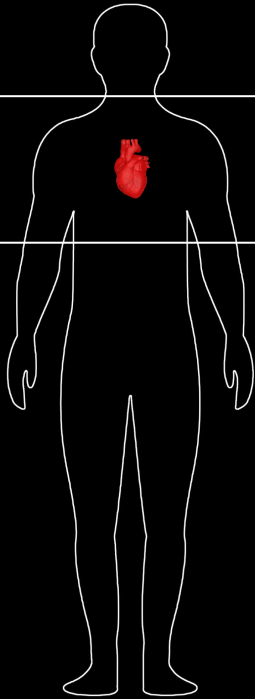


Tepi Medju Heru

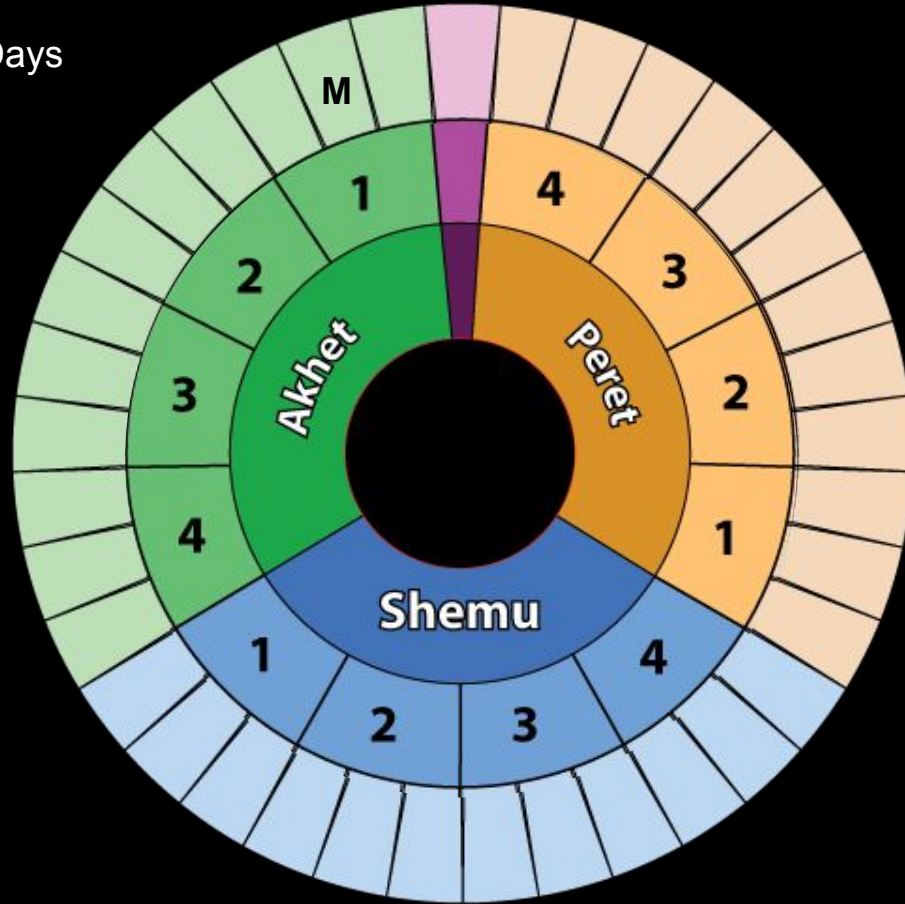


Week   Ten Days

Middle Medju Heru

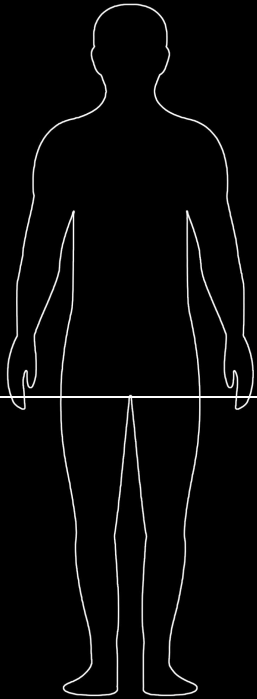


Ab Her Medju Heru

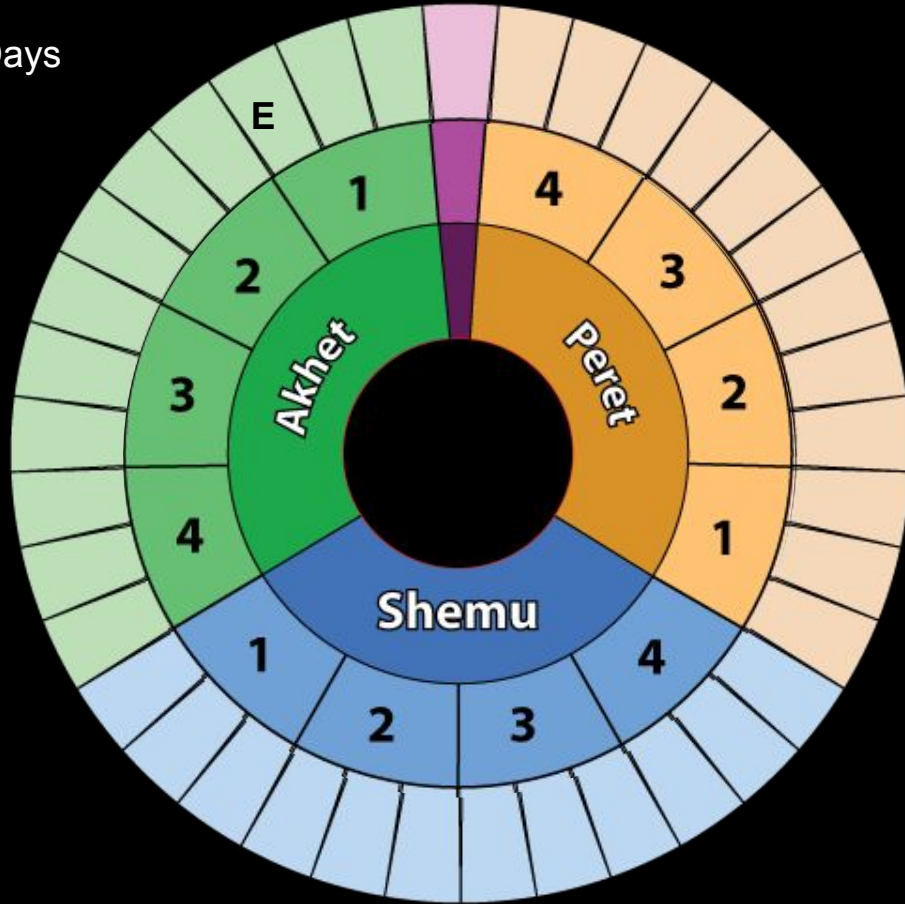


Week   Ten Days

End Medju Heru



Phwyher Medju Heru



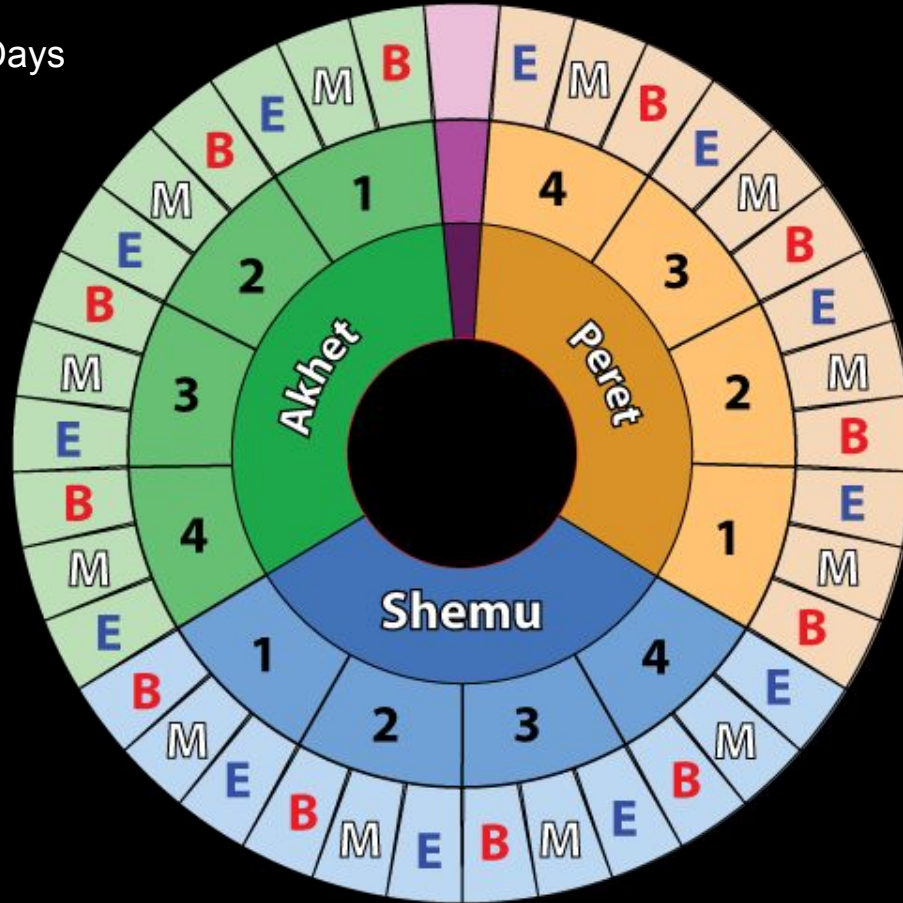
Week  Ten Days

36 Medju Heru

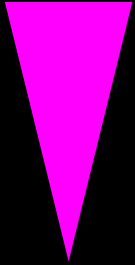
$$36 \times 10 = 360$$

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.

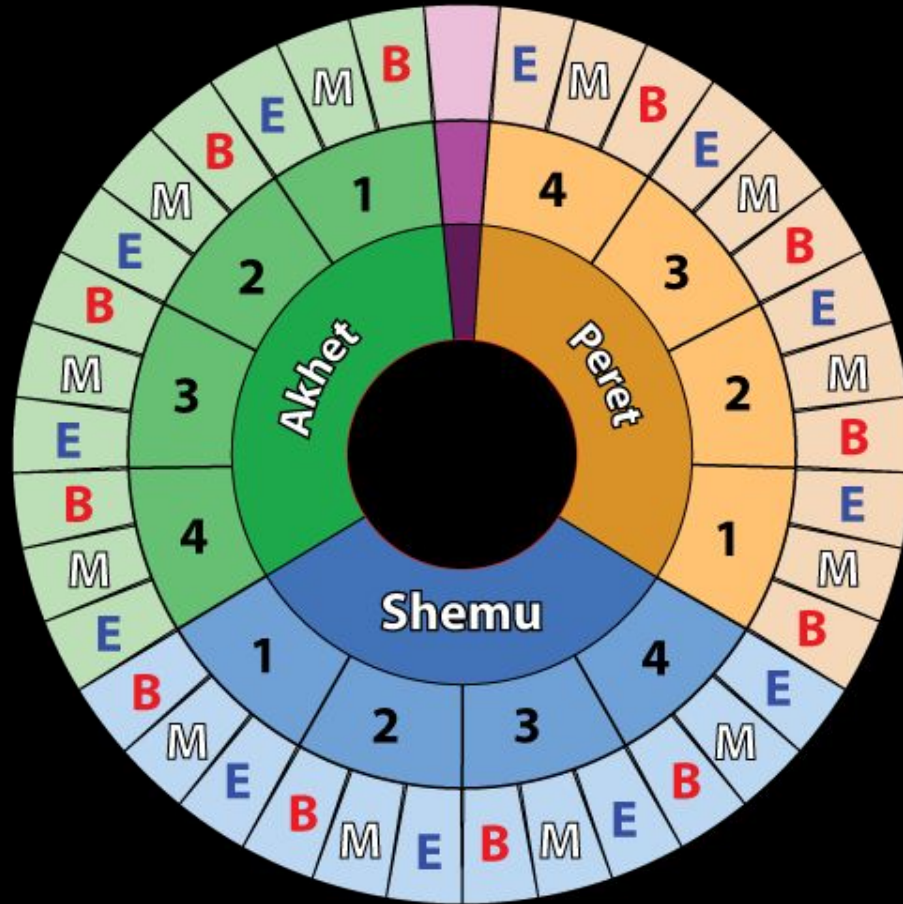
In the Decree of Canopus by Ptolemy III, a sixth day was introduced every fourth year. This is called the Alexandrian calendar. It survives today in the calendars of Coptic and Ethiopian churches.



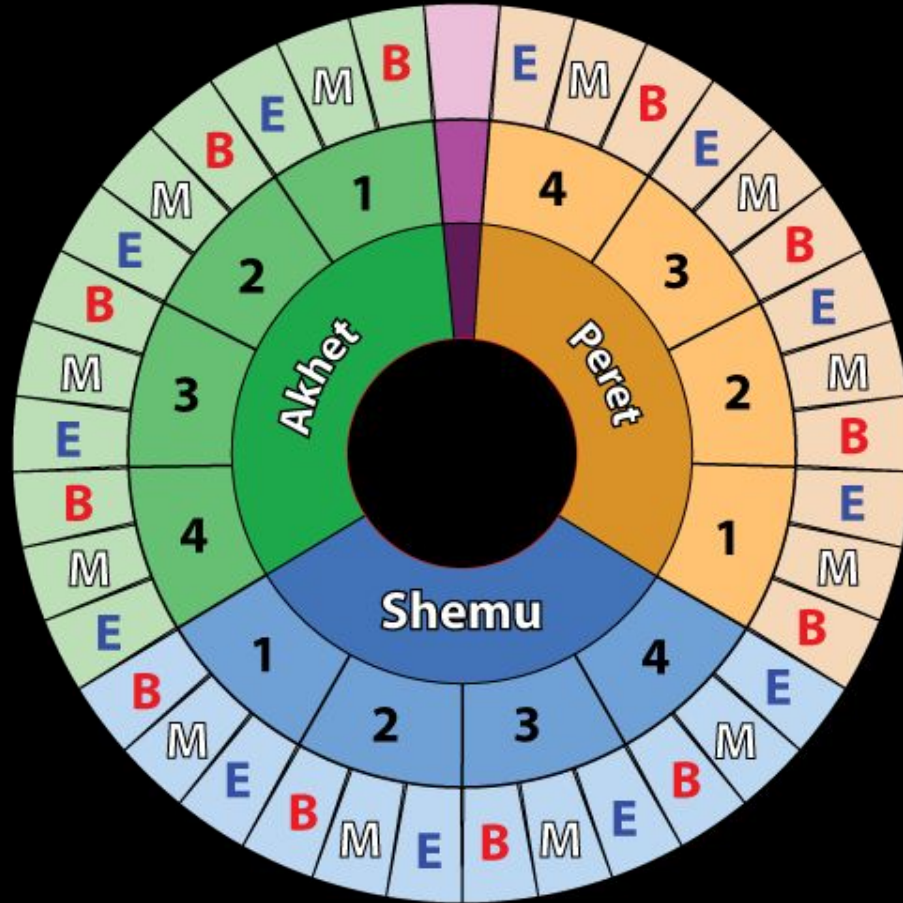
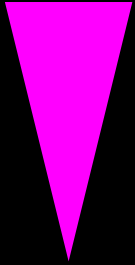
5 days were
added at the
end of the year



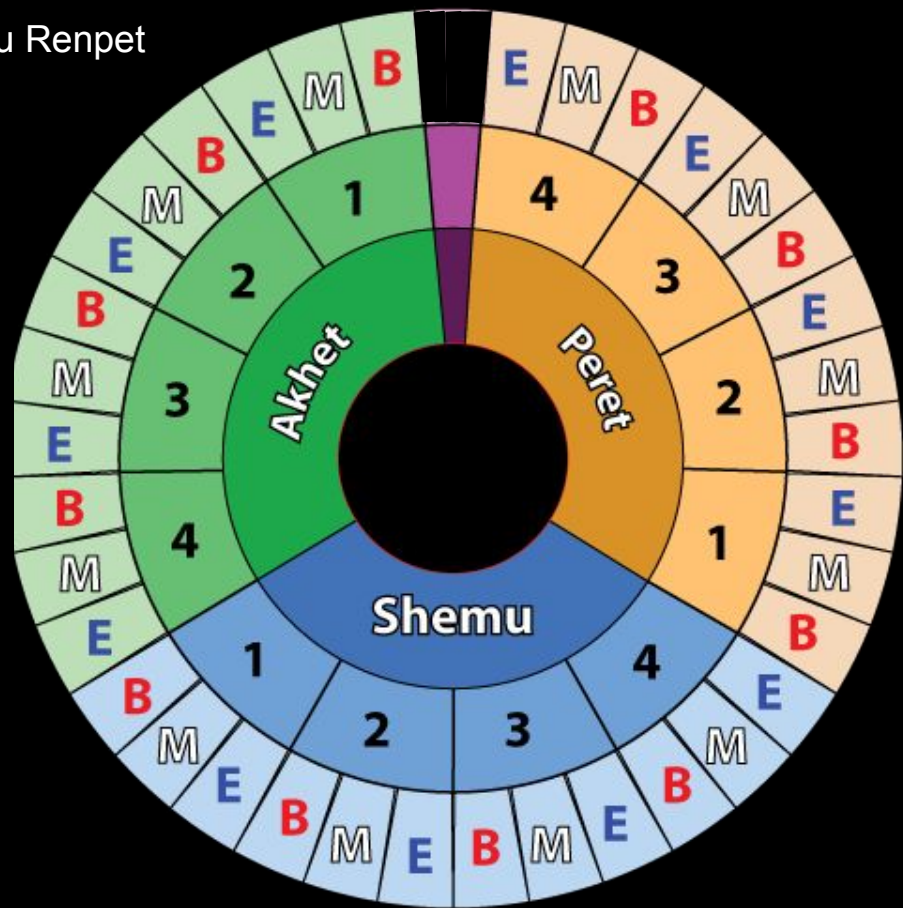
Making the
Year 365 days



5 days were
added at the
end of the year



5 days were called Mesu Heru Renpet



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.

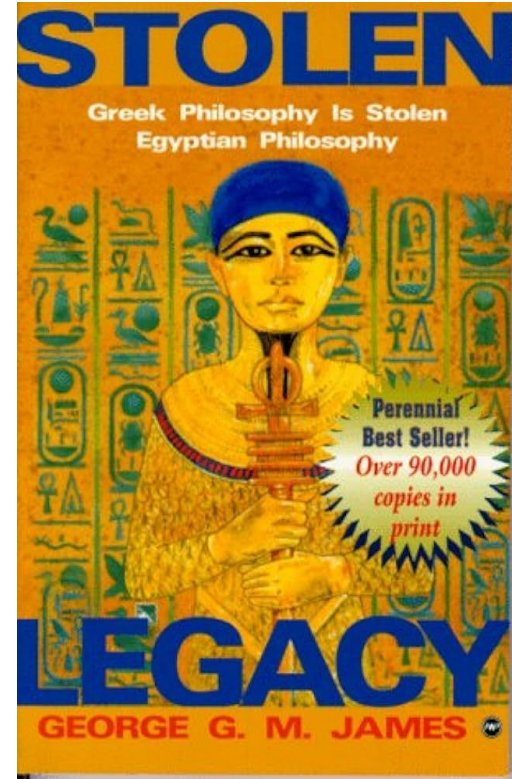
Stolen Legacy 1954



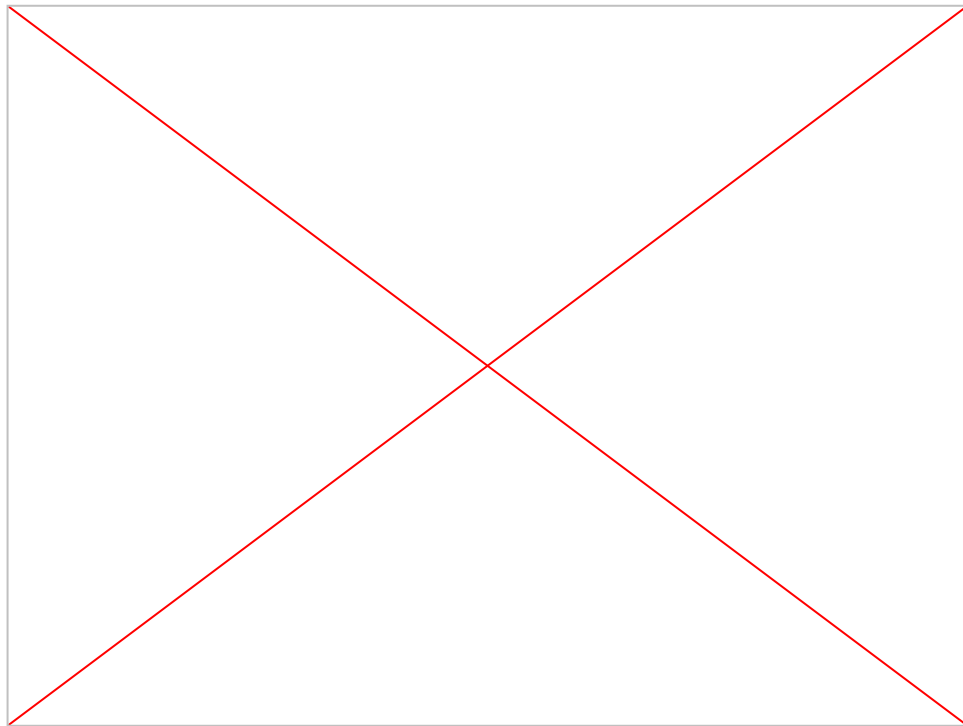
Stolen Legacy, by George G.M. James, argues that the philosophical ideas of ancient Greece were actually derived from ancient Kemet.

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

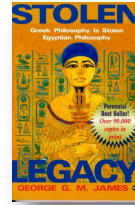
This plagiarism, according to James, has led to a misconception about the origins of Western philosophy, giving credit to the Greeks for ideas that truly belonged to the Kemetians.



The Invention of Credit

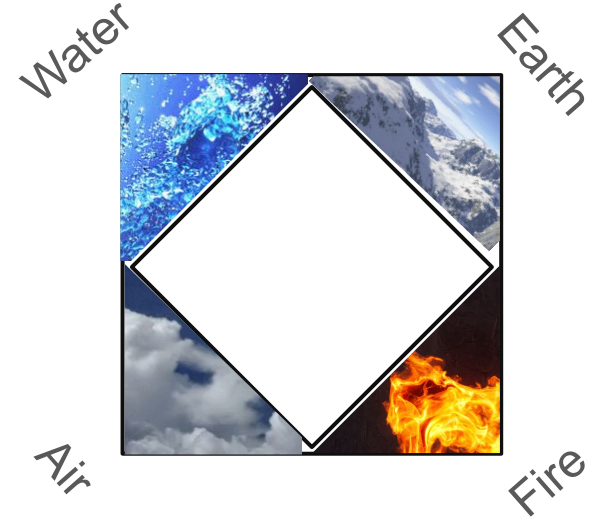


Stolen Legacy p59

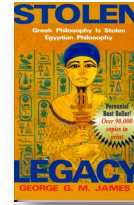


The history of the following ancient theory of "The Four Qualities and Four Elements", provides the world with the evidence of the Kemetic origin of the doctrines of (a) Opposites or Contraries, (b) Change or Transmutation and (c) the life and function of the universe is due to either of four elements: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



Stolen Legacy p59

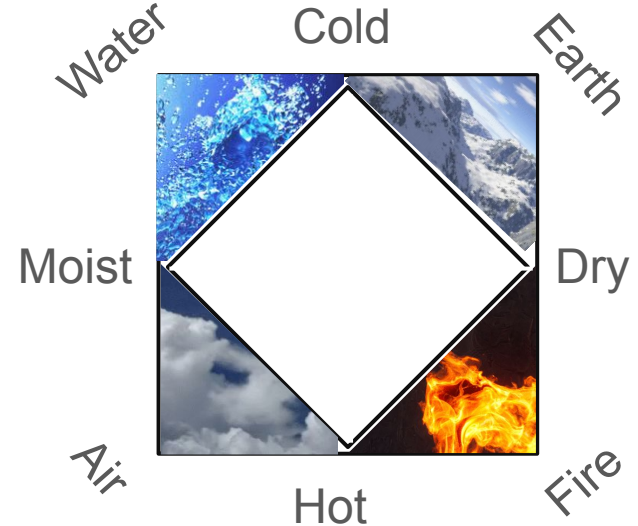


3. The corners of the inner square, being at the mid points of the sides of the outer square, carried the four fundamental qualities, the Cold, the Hot, the Moist and the Dry.

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.

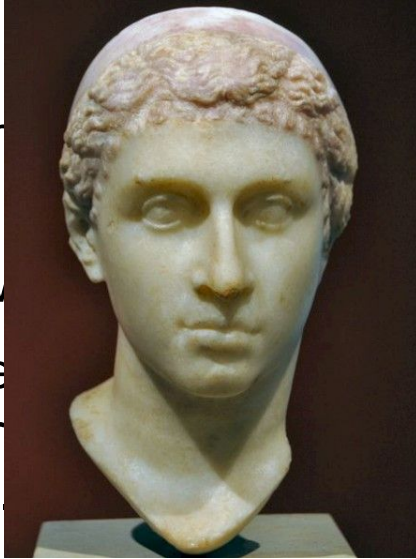


Roman-Julian Calendar 46^{BCE}

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

Also known as the Roman calendar, it is the earliest system from Rome for which there is historical evidence.

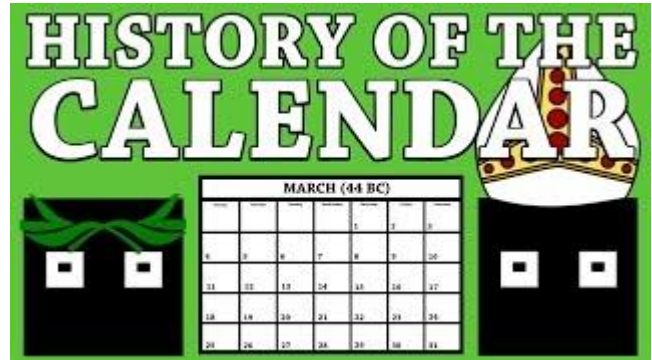
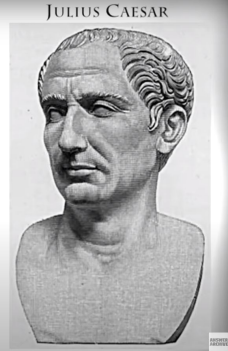
It was used by Cleopatra when it was replaced by the Julian calendar (Inspired by Cleopatra).



Cleopatra

Months (Roman)	Lengths before 46 BC	Lengths as of 46 BC	Months (English)
Ianuarus ⁽¹⁾	29	31	January
Februarius	28 (in common years) 29 (in intercalary years) 23 if intercalars is variable 23/24 if intercalars is fixed	28 (leap years: 25)	February
Mercedonius/Intercalans	0 (leap years: variable (27/28 days) ⁽²⁾ or fixed ⁽³⁾	(abolished)	—
Martius	31	31	March
Aprilis	29	30	April
Maius	31	31	May
Iunius ⁽⁴⁾	29	30	June
Quintilis ⁽⁵⁾ (Julius)	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

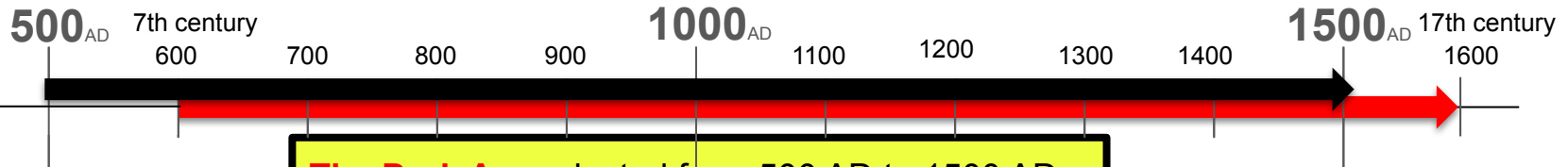


A significant number of stars in the sky, such as Aldebaran, Altair and Deneb, and astronomical terms such as alidade, azimuth, and nadir, are still referred to by their Arabic names. A large corpus of literature from Islamic astronomy remains today, numbering approximately 10,000 manuscripts scattered 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.

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.

Dark Ages

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

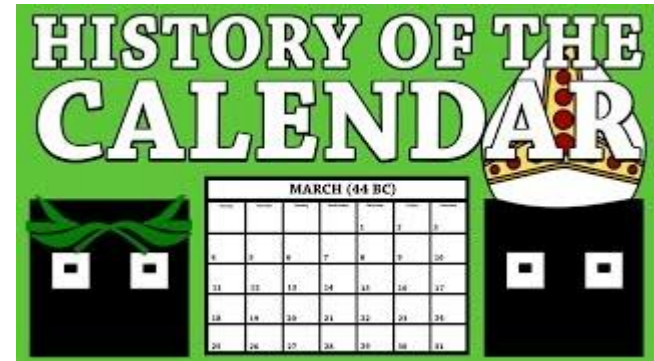


The Dark Ages, lasted from 500 AD to 1500 AD.

Gregorian Calendar 1582

Gregorian Calendar 1582Ac

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



The Calendar Project 1986

Calendar Project

Started in 1986

Is a congregate of...

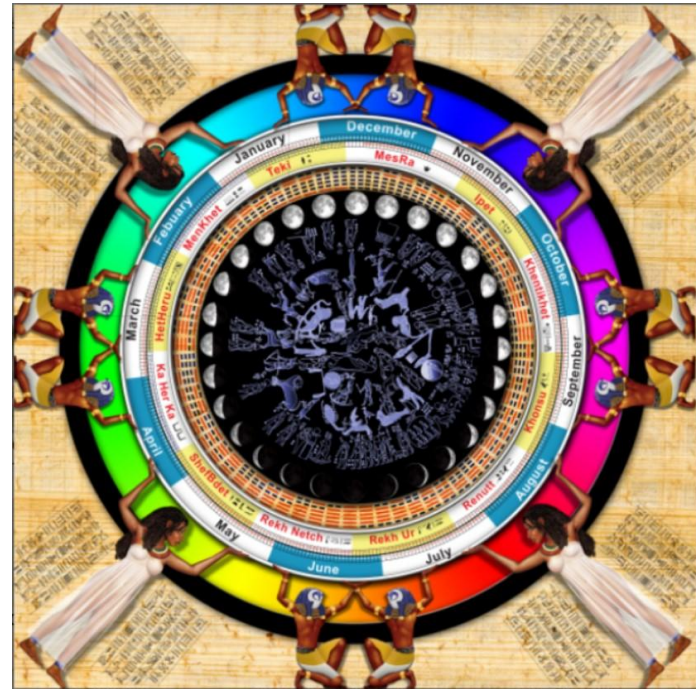
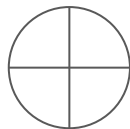
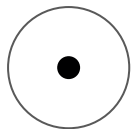


Solar

Lunar

Season

Stars



Ancient Greece:

High Classical period (c. 450–400 BCE)

A Turning Point In European Culture

The Greeks emerged in the course of the 2nd millennium bce through the superimposition of a branch of the Indo-Europeans on the population of the Mediterranean region during the great migrations of nations that started in the region of the lower Danube River.



In Greek mythology Hállēn, whom the Hállēnes, “Greeks” were named after, was the son of Deukaliōn and Púrrha.

Ancient Greece:

A Turning Point In European Culture

High Classical period (c. 450–400 BCE)

Pinnacle of European History Erudition, innovation, sophistication, every word and thousands more are associated with the name Greece.

Steeped in complex lore, mythology, and history, it stands as a turning point in European culture. Its ideas and inventions are responsible for shaping many future events and turning the tide in science, art, and philosophy.

At one time a group of city states, Greece was dominated by two centers a cultural one, Athens, and a military one, Sparta.

Athens is probably best known for its playwrights, its philosophers, and the Acropolis.

Sparta on the other hand is remembered as a military marvel where courage was the highest virtue.