

THE CRADLE OF GEOMETRY

THE ATEN, & ITS RAYS ***A THEORY OF SHAPE***

A FURTHER TREATISE ON A THEORY OF SHAPE

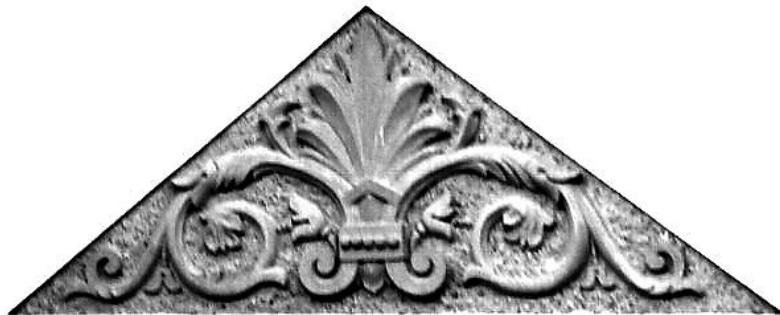
WHO KNEW WHAT & WHEN?
HOW DID THEY KNOW?

A CONTRIBUTION TOWARDS THE THEORY OF EVERYTHING

PART OF AN INTRO TO SUPERSYMMETRY?

By

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AKHENATEN, NEFERTITI, TUTANKAMUN, ARKHETATEN,
THEBES, ARMANA, LUXOR & KARNAK.

A TRUER HISTORY

Many, many volumes and stories have been constructed around the religion and beliefs of Akhenaten and his “*One God*” policy. We are constantly harangued, sermonised, and lectured about his evil actions in replacing the multi-deity systems in place in Thebes with his one true god. He was labelled a heretic. His structures were destroyed. Attempts were made to remove from history all traces of his Talatat walls and their contents. Fortunately, these endeavours were not totally successful

All of the previous Gods had names and attributes and were able to provide benefits in exchange for gifts. Even Akhenaten’s God had a name and, as in all pecuniary relationships, his God is deemed to have provided benefits in exchange for gifts.

All of the Gods, including Akhenaten’s, could have their lineage traced back to immortals such as Anu, Shabash, Inanna. His beliefs and religion are often referred to as “***The Aten Cult***”.

But, as Mark Anthony said at Julius Caesar’s memorial:

“The evil that men do lives after them; the good is oft interred with their bones.”

Should I go on and continue to make the quote applicable . . . “*So let it be with Akhenaten*”?

He is probably the most misinterpreted and misconstrued leader in history. Professor Julius Sumner Miller would rightly have asked at this point “*Why is it so?*”

Akhenaten’s achievements were really quite impressive:

- He built eight Temples.
- He introduced the lighter Talatat blocks making construction work easier and quicker.
- He built a new city for his people.
- He worshipped his Aten. I have said “his” because it seems that history has so far been unable to indicate or publish the true benefits being granted by this “*deity*” to the population at large. It seems that The Aten only spoke to Akhenaten and Nefertiti and possibly to Tiah and to their ancestors.
- He, himself, has been quoted as saying:

*“For this king there was only one god and only one person who now knew the god:
Akhenaten himself.”*

We should once again ask at this point “*Why is it so?*”

What differences existed between his *Aten* and the prior *Ra* and *Amun* who were also sungods? One major difference was that *The Aten* has Rays and it is what these rays are capable of that has grasped my attention. They may be classified as hiding their intent in plain sight but surely, given the number of academics who have studied him and given also the number of their illustrious institutions, the purpose should have been interpreted before now. Akhenaten ruled in 1536bc. That is now over 3380 years ago. Apart from being a ‘*heretic*’ king he was, it seems, an extensive but hitherto unknown, unrecognised and unreported ***geometrician***.

How can we know Akhenaten and his intentions today looking back upon his reign? All his writings have been analysed to the fullest. His hymns and steles have been interpreted *ad infinitum*. What was the result of these 'interpretations'? It would seem from the research to date that the best that could be said of him is '*He is a monotheist and a heretic Pharaoh.*'

After the deaths of Akhenaten Nefertiti and Tutankhamun, his lighter Talatat blocks were treated with contempt but, fortunately, have not been totally eradicated. Did they wish to eradicate the blocks or the messages they contained? I personally have found that the parts of the Wall that have been restored have provided me with a greater view of the extent of the extant knowledge than I could have ever imagined or ever derived from other sources. Interpretation of Steles contain mostly words of self egrandisement but these Talatat Blocks contain concepts that indicate the foundation of Geometry. Plato would have granted him entrance to his Academy.

It was fortunate that in 1996 I purchased a Canon Scanner and Printer. Along with this purchase I received a CD containing *Ulead iPhoto Express*, an image editing program. All images in my books have been produced or edited with this program. All my research work into Plane Regular Shape was illustrated with this program. Lines could be drawn, extended, and rotated using an underline key in its text editor. All polygrams and polygons could be drawn with this text editor. There was only one drawback – rotation of the line could only be done in whole degrees. A CAD program it wasn't. But, nature is kind and a great many shapes can be drawn with whole degrees.

My surprise came when I attempted to interpret the Rays of the Atens:

- It was as though Akhenaten had used *Ulead iPhoto Express* himself as his Rays were spaced by whole degrees. Test this yourself.

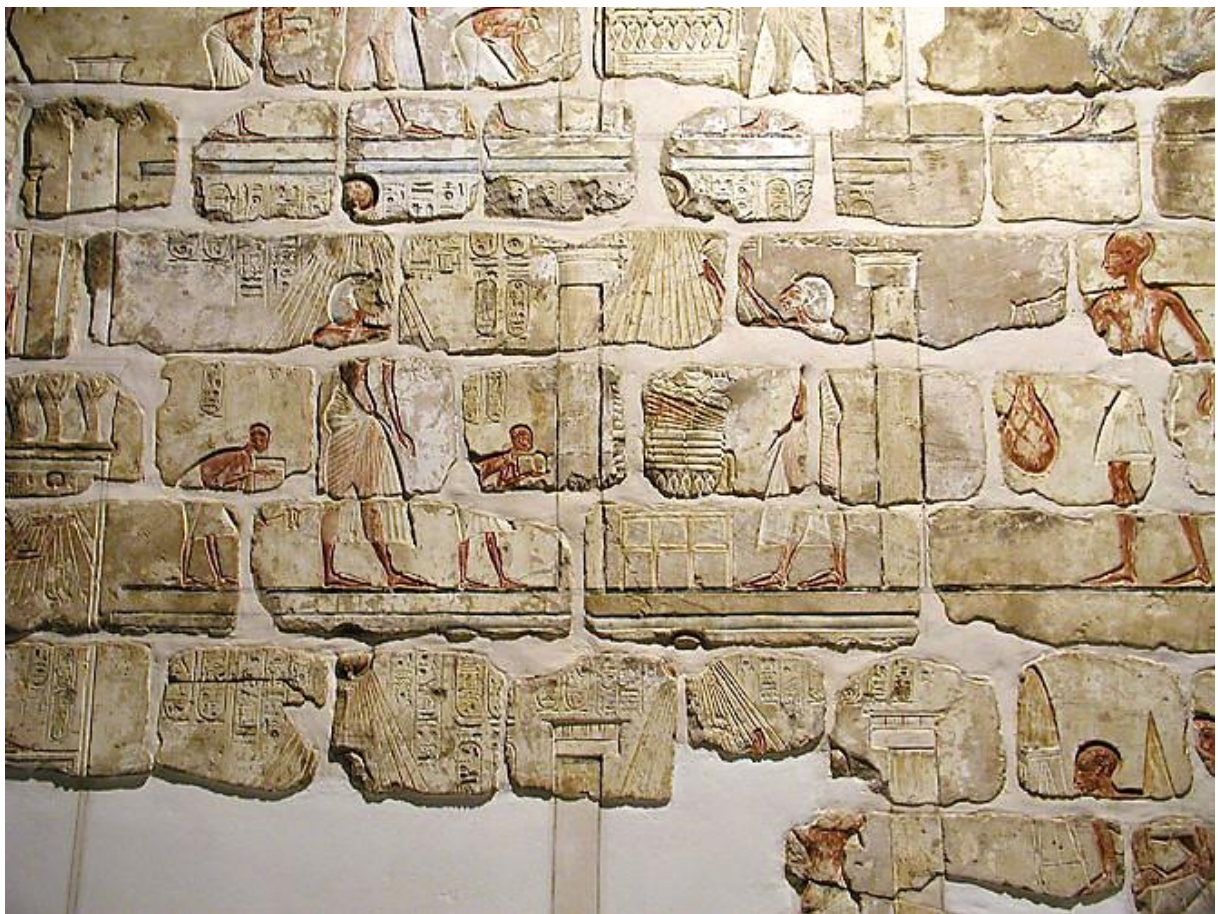
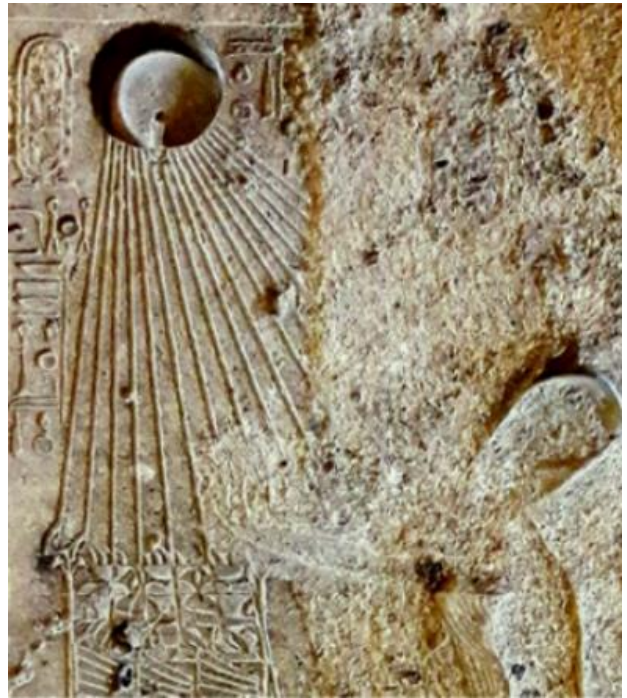
The more I think about this fact it seems to me that it was logical to space the Rays by whole degrees for this would more easily facilitate the 'downloading' of degrees from an Aten onto papyrus or clay tablets and combine them with other 'downloads'.

When attempting to gauge the angles displayed in his Aten Rays using *Ulead iPhoto Express* I allowed my 'underline' lines to extend upwards and downwards over the whole Aten above and below the circular Ra portion, and this action of mine revealed to me the secret geometry contained within his 'system' of Atens. Any one who attempts to reveal to us the origins of the knowledge of Angles should start with Akhenaten and go backwards through his ancestors. My extended lines revealed much about the true nature of the Atens. They were much more than Kindergarten drawings of the Sun and its Rays. And this was **1350bc**. But that is only the starting point if you are working backwards from Akhenaten.

SOME EXAMPLES OF "THE ATEN"



ATENS HERE! ATENS THERE! ATENS, ATENS EVERYWHERE!



WEBSITES – GOOGLE SEARCH FOR “THE ATEN”.

I have included here the details for some websites. I have stressed some words from these sites which may be applied to my theory, even though my theory was never addressed by those sites.

Aten

Wikipedia

<https://en.wikipedia.org/wiki/Aten>

The Aten was the disc of the sun and **originally an aspect of Ra, the sun god in traditional ancient Egyptian religion**. Akhenaten, however, made it the sole...

[Great Hymn to the Aten](#) · [Akhenaten](#) · [Great Temple of the Aten](#)

Atenism

<https://en.wikipedia.org/wiki/Atenism>

Atenism, also known as **the Aten religion**, the Amarna religion, and the Amarna heresy, was a religion in ancient Egypt. It was founded by Akhenaten...

People also ask

Who is the god Aten?

Who created Aten god?

What is Aten famous for?

Was Aten a pharaoh?

Akhenaten, Nefertiti & Aten: From Many Gods to One

American Research Center in Egypt

<https://www.arce.org/resource/akhenaten-nefertiti-...>

The Aten cult afforded a special place to royal women, especially Nefertiti, who was linked with Akhenaten and **the Aten** in **a divine triad**. The three were ...

You visited this page on 20/12/22.

The Aten

Ancient Egypt Online

<https://ancientegyptonline.co.uk/amarnareligion>

During the reign of Akhenaten, **The Aten** was installed as **the principle god of ancient Egypt**, and the worship of many of the traditional gods of ancient...

You visited this page on 26/11/22.

Aten – Ancient Egypt Wiki – Fandom

Fandom

<https://ancientegypt.fandom.com/wiki/Aten>

The Aten also first appears as **an independent deity** during his reign. His successor, **Amenhotep III**, associated himself with **the Aten** as well. During the reign...

Symbol(s): Sun disc

Cult center: Amarna

Period of worship: 18th Dynasty

Appearance: Sun disc, sun rays

Akhenaten and the rays of the sun god Aten

University College London

<https://www.ucl.ac.uk> › culture › petrie-museum › akh...

The Aten, or sun disc, was **worshipped as the main deity**. This is why he is sometimes referred to as the 'heretic pharaoh' and sometimes characterised as the ' ...

The Egyptian God Aten Before and After Akhenaten

Tour Egypt

<http://www.touregypt.net> › featurestories › aten

The word Aten was written using the hieroglyphic sign for "god" because **the Egyptians tended to personify** certain expressions. Eventually, **the Aten** was ...

Why did an ancient Egyptian king erase all gods but Aten?

Aeon.co

<https://aeon.co> › essays › why-did-an-ancient-egyptian...

12 Feb 2019 — It means **He who is beneficial to the Aten**. The blocks from early in the project that had 'Amenhotep' written on them were erased and replaced...

Notes on the Aten and His Names

JSTOR

<https://www.jstor.org> › stable

By B Gunn-1923·Cited by 41 — **THE ATEN AS THE OVER-KING**. It would appear that **not enough stress has been generally laid hitherto upon the theo- cratic nature of Atenism**, which...

Aten – Ancient Egypt Wiki – Fandom

Fandom

<https://ancientegypt.fandom.com> › wiki › Aten

Aten is the creator of the universe in ancient Egyptian Mythology, usually regarded as a sun god represented by the sun's disk. His worship (Atenism) was...

Aten, Egyptian God: Mythology & Religion | Who was Aten?

Study.com

<https://study.com> › ... › General History

8 days ago — In ancient Egyptian mythology, **Aten and Ra are two separate deities who are both associated with the sun**. Ra is one of the most important..

Is Aten the same as Ra?

In ancient Egyptian mythology, Aten and Ra are **two separate deities** who are both associated with the sun.

- **Ra** is one of the most important deities in the Egyptian pantheon and is often depicted as a solar deity with the head of a falcon and the body of a human,
- **Aten** is a sun deity who is often depicted as a sun disk with long, curved rays emanating from it.

How did Egyptians worship Aten?

Aten was worshipped through the offering of sacrifices, such as animals and plants, and the performance of religious rituals, such as hymns and prayers. In addition to traditional forms of worship, **Aten was also worshipped through the creation and veneration of images and symbols**. Statues and reliefs depicting Aten as the sun were commonly found in temples and other sacred spaces, and these were believed to be powerful symbols of the deity's presence.

Aten's ceremonies in Akhetaten involved giving offerings to Aten with a swipe of the royal scepter. Instead of barque-processions, the royal family rode in a chariot on festival days. Elite women were known to worship the Aten **in sun-shade temples in Akhetaten**.

Aten – Wikipedia

Wikipedia

<https://en.wikipedia.org/wiki/Aten>

Search for: How did they worship Aten?

Who did Aten worship?

Above all, though Akhenaten is known for his development of **a kind of early monotheism** that stressed **the uniqueness of the sun god Aten**, and of Akhenaten's own relationship with this god. **For this king, there was only one god and only one person who now knew the god: Akhenaten himself**.

What gender is Aten?

Aten was the sun disk, once an aspect of Ra, a much older Egyptian deity. Aten is described as the giver of all life, and as **both male and female**.

Aten | Encyclopedia.com

encyclopedia.com

<https://www.encyclopedia.com/history/aten>

Search for: What gender is Aten?

What god did Aten replace?

In order to understand how Aten became the unique god of Egypt, one must understand the story of the almost "almighty" god he replaced: **the god Amun**. Amun was initially the god of the creation of life.⁸ Jan 2021

Aten, the Solar Disc god | Egyptian History

egyptian-history.com

<https://egyptian-history.com/egyptian-gods/god-aton>

Search for: What god did Aten replace?

When did Aten become a god?

In the ninth year of his reign (**1344/1342 BC**), Akhenaten declared a more radical version of his new religion, **declaring Aten not merely the supreme god of the Egyptian pantheon but the only God of Egypt, with himself as the sole intermediary between the Aten and the Egyptian people**.

Atenism – Wikipedia

wikipedia.org

<https://en.wikipedia.org/wiki/Atenism>

Search for: When did Aten become a god?

What did Aten look like?

Appearance: a solar disk, sometimes with wings, sometimes with life-giving hands on rays reaching out to worshippers. Description: **Possibly the most controversial god in the history of ancient Egypt, Aten was the “one god” set up by the Pharaoh Akhenaten** (Amenhotep IV).

Aten – The Gods of Ancient Egypt

touregypt.net

<http://www.touregypt.net> › [godsofegypt](#) › [aten](#)

Search for: What did Aten look like?

EXTRACTS FROM THE WEBSITES

THAT REFLECT MY BELIEF IN WHAT THE “ATEN” IS REALLY ABOUT:

‘Only one person who now knew the god’: Akhenaten himself

One must understand the story of the almost “almighty” god he replaced: **the god Amun**. Amun was initially **‘the god of the creation of life’**.

‘He who is beneficial to the Aten.’

‘Aten is the creator of the universe’

Aten was also worshipped through **‘the creation and veneration of images and symbols’**

A kind of early monotheism that stressed **‘the uniqueness of the sun god Aten’**,

For this king, there was only one god and **‘only one person who now knew the god’**: Akhenaten himself

When did Aten become a god?

In the ninth year of his reign (1344/1342 BC), Akhenaten declared a more radical version of his new religion, **declaring Aten not merely the supreme god of the Egyptian pantheon but the only God of Egypt, with himself as the sole intermediary between the Aten and the Egyptian people.**

<https://en.wikipedia.org> › [wiki](#) › [Atenism](#)

In my theory Akhenaten becomes a major Geometrician;

- “With himself as the sole intermediary between the Aten and the Egyptian people”;
- And for whom there was only one god and ‘only one person who now knew the uniqueness of the sun god Aten’, - Akhenaten himself.
- Aten was also worshipped through ‘the creation and veneration of images and symbols’.
- ‘Aten is the creator of the universe’

Plato would have certainly admitted him into his Academy for it should now be evident that he possibly majored in Geometry. Was Geometry his religion?



SOME HISTORIES

Akhenaten & Nefertiti with RA and the ANKH attached to the ends of RA's "Sunrays."

"The royal couple, **pharaoh Akhenaten** (r. 1353-1336 BCE) and queen **Nefertiti** (c. 1370 - c. 1336 BCE), is seated at a feast, beneath the god Aten and under his rays. They are looking at each other and Nefertiti puts her right hand under Akhenaten's chin. Akhenaten embraces her and put his left hand on her left shoulder. *There are seven "empty" cartouches.* Limestone. From **Amarna, Egypt. New Kingdom, 18th Dynasty, c. 1345 BCE.** The stela is on display at the Neues Museum, Berlin, Germany."

*But should AKHENATEN and NEFERTITI distract us from "THE ATEN"?
Does "THE ATEN" itself have a message for us just as it did for them?*



AKHENATEN, NEFERTITI AND THE ATEN

AKHENATEN AND THE ATEN

What little do we seem to know about Akhenaten and The Aten, his one all powerful God?

- We are mostly told that he displaced all the other deities located at the Temples and elected to become a 'Monotheist'; a follower of one God, *The Aten*; He was often referred to by many as *the heretic pharaoh*.
- We are told that he had his followers sacrifice copious amounts of food to his 'Aten' even to the point of their own starvation.
- We are also told in the *World History Encyclopedia*: '**The City of the God**':

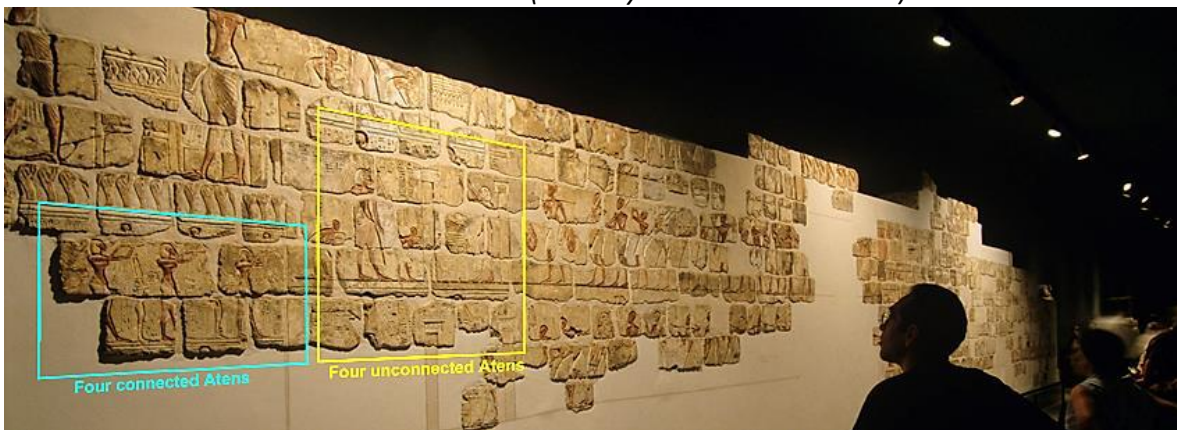
"The god Akhenaten chose to replace all the others **was not his own creation**. Aten was a minor solar deity who personified the light of the sun. Egyptologist David P. Silverman points out how all Akhenaten did was elevate this god to the level of a supreme being and attribute to him the qualities once associated with **Amun** but without any of that god's personal characteristics." Silverman writes:

"Unlike traditional deities, **this god could not be depicted**: the symbol of the sun disc with rays, dominating Amarna art, is nothing more than a large-scale version of the **hieroglyph for 'light'**. (128)".

My Note: - But 'Perhaps it may be something else'.

THE PARTLY RECONSTRUCTED TALATAT WALL AT KARNAK:

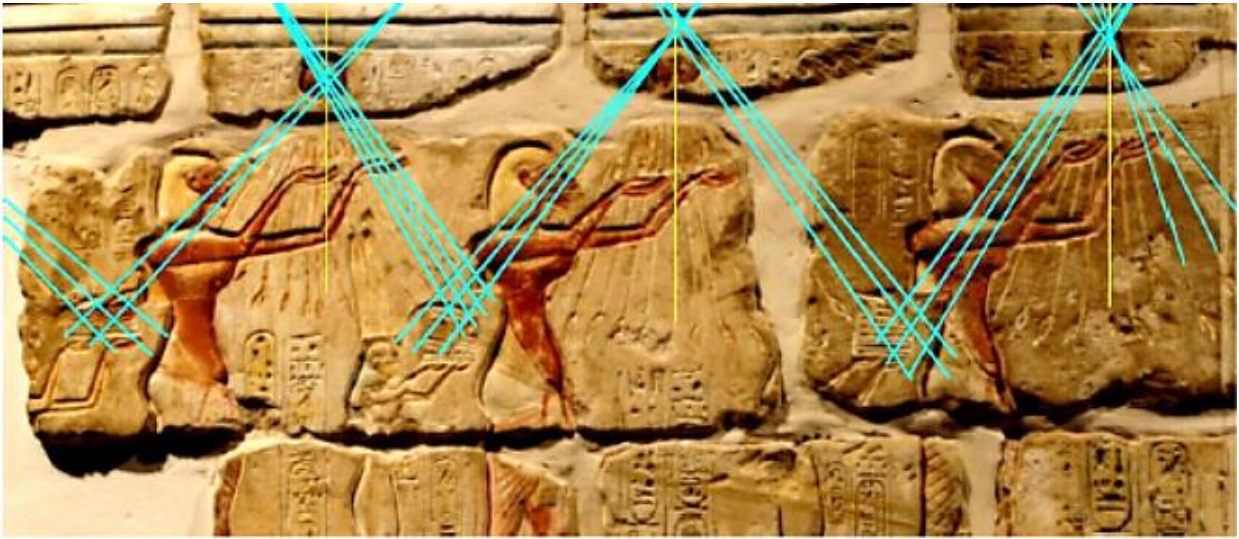
EIGHT ATENS IN CLOSE PROXIMITY . . . (Actually Nine when reviewed)



FOUR CONNECTED ATENS:



THE FOUR CONNECTED ATENS



They bring knowledge from the past and bestow it on those in the future?
(Via the one wearing the SHWTY Crown) - (Perhaps it is Nefertiti or even Tiah).

Or it may be something else.

He / She passes it on via a "set or bundle" of Clay Tablets or Papyrii that seem to reflect it from the right hand side of the Aten (to its left) to the left hand side of the next Aten (to its right), going from left to right.

Or it may be something else.



These four Atens in the reconstructed Talatat Block Wall at Karnak seem to tell a more complete story when the intermediate dignitary wearing the *shwty* crown is brought into the picture
(Is it Nefertiti or Tiah?).

Between each Aten this person seems to be carrying a collection of clay tablets or books which exist in the 'afterglow' of each left hand Aten's right hand rays and are transferred to the 'foreglow' of the next right hand Aten's left hand rays. These books are where each Aten's rays overlap in each adjacent image.

This linkage of these four (or more) books between the Atens & the transference of knowledge seems to associate each of these with the others. (Three books between four Atens.) What knowledge do these books contain? What knowledge do these particular Atens share and impart?

Or it could be something else.

THE FIVE UNCONNECTED ATENS:

(ORIGINALLY REFERRED TO BY ME AS "THE **FOUR** UNCONNECTED ATENS.)

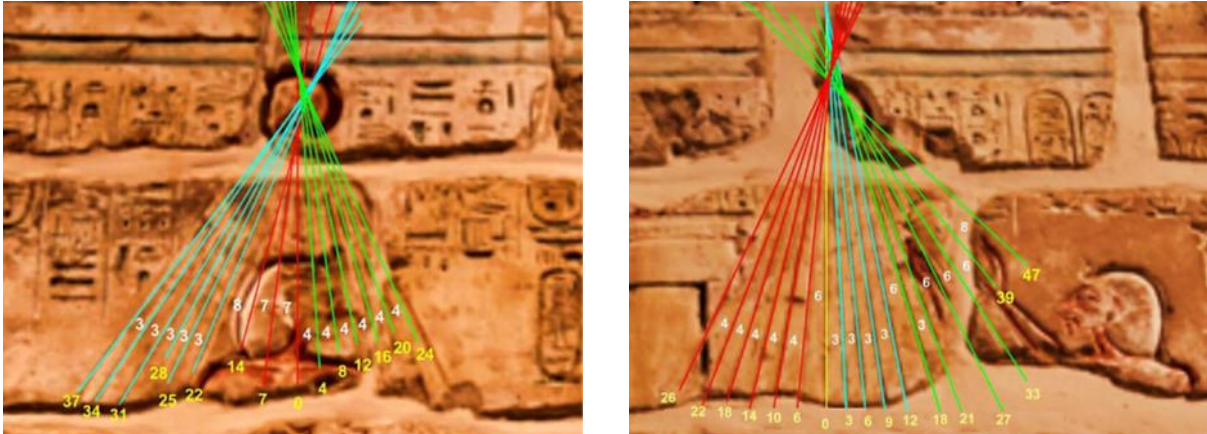


At first I did not notice the fifth Aten in this area of the Talatat Wall. It was almost obliterated by damage done to the Blocks and the Wall. It was the middle one of the bottom three.

This section of the Talatat Wall was almost ignored by me except for the fact that I questioned why, if Akhenaten chose *The Aten* as his one true God, were there so many different renditions of *The Aten* in close proximity on this Talatat Wall and elsewhere? Surely one image of his God would do.

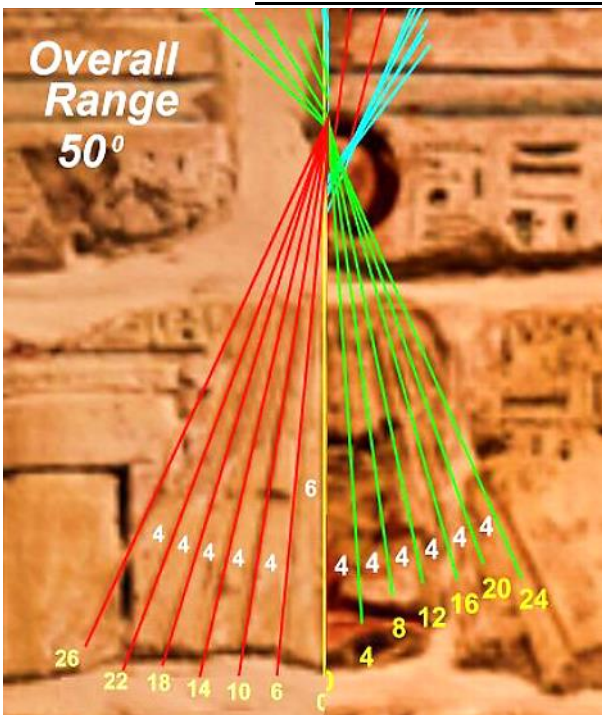
- Was each Aten and its Rays containing and actually giving out a message different to all of the others?
- Was the positioning and orientation of *The Aten* on the Wall relevant to its message?
- Do the Atens communicate with or to each other?
- What do they communicate to Akhenaten as, according to him Aten only speaks and communicates with him alone.

Only one bundle on **Right** of 0° and these are 4°. . . Only one bundle on **Left** of 0° and these are 4°.



- The 4° (green) set on the left hand image seem to share a Focal Point located in the same place on the Aten as the 4° (Red) set on the right hand image. Could this be just a coincidence?
- But, if the right hand half of the left hand image is combined with the left hand half of the right hand image by dividing each image along the ray for 0° the result is amazing for a period around 1500bc. To me, it indicates the true nature of Akhenaten's *God Given* beliefs and man's knowledge of angles.

HALF OF ONE IMAGE AND HALF OF THE OTHER, COMBINED:



At first the one and only 6° between 0° and 4° on the left hand side seems to be out of place in this **composite** image until one takes into account the sequence of all the **composite** angles (marked yellow) available commencing at 4° at the right hand side of 0° and then alternating the remainder between each hemisphere.

Thusly:

4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, degrees.

Could this be just another coincidence?

Can Two Atens combine their features to try to address certain maths or angular or geometrical requirements?

Can angles be **composite** copies of several rays from several Atens and even from two hemispheres of the same or different Atens?

Rays & angles could be traced and/or combined onto Papyrus or clay tablets.

Perhaps Atens were meant to combine their individual attributes to address specific angular requirements, but their individual contents were kept secret, even to this day. Was there a need for all knowledge of the Angles to be kept secret at that time? Was this a case of "Knowledge is Power"? Could other parts of the Talatat Wall that are not Atens be similarly associated by selecting parts from one area and associating them with parts from another area?



OBSERVATIONS:

There was also a concerted effort to conceal the contents and intents of the Aten's Rays:

- By having various hidden Focal Points for the Rays in each Aten.
- By not extending the Rays upwards through the Atens so as to avoid publicly revealing the locations and existence of these various Focal Points.
- By positively differentiating between left and right hemispheres by using a **verticle at 0°**.

There is further evidence of intent shown by the bundling of similar angles so they use the same Focal Point. Another Focal Point will have a different set of Angles bundled with it.

There is further evidence of intent shown by the placing of bundles of Rays with the same Focal Points in the same hemisphere (sometimes) on the same side of 0°.

There is a definite endeavor by Akhenaten to:

- Organise angles of *The Aten* into bundles.
- Mathematically quantify these bundles of Angles.
- Conceal the contents and accuracy of the Aten's Rays.
- Have various hidden Focal Points for the Rays in each Aten.
- Avoid publicly revealing the locations and existence of the Focal Points.
- Differentiate between left and right hemispheres.
- Mark 0°, on each Aten using the alignment of the Cobra, the Ankh, and the Triangle.
- Ensure that adjacent rays with the same spacing share the same Focal Point.
- Place the hidden Focal Points in relevant positions.

THREE SEPARATE FOCAL POINTS – WOULD REQUIRE 3 SEPARATE OCTANT READINGS.

When there are several adjacent rays with the same spacing they appear to share the same Focal Point.

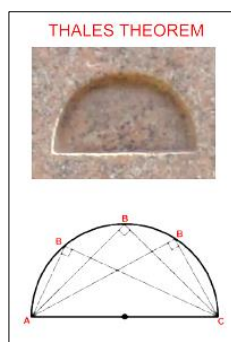
- There is evidence that 0°, as previously shown to be marked on each Aten by the alignment of the Cobra, the Ankh, and the Triangle, served a purpose of separating Rays with different Focal Points.
- There is evidence of numerical sequencing of angles in a manner that indicates intelligent design.
- These are not simply Kindergarten drawings of the Sun and its Rays. They definitely contain intelligent, previously (for 3500 years) unreported design, which could have practical applications.
- There is usually only one bundle of rays in the right hand hemisphere which is a similar concept to the dispersal of the shape producing tangents in my Ankh Circle.

THE CRADLE OF GEOMETRY



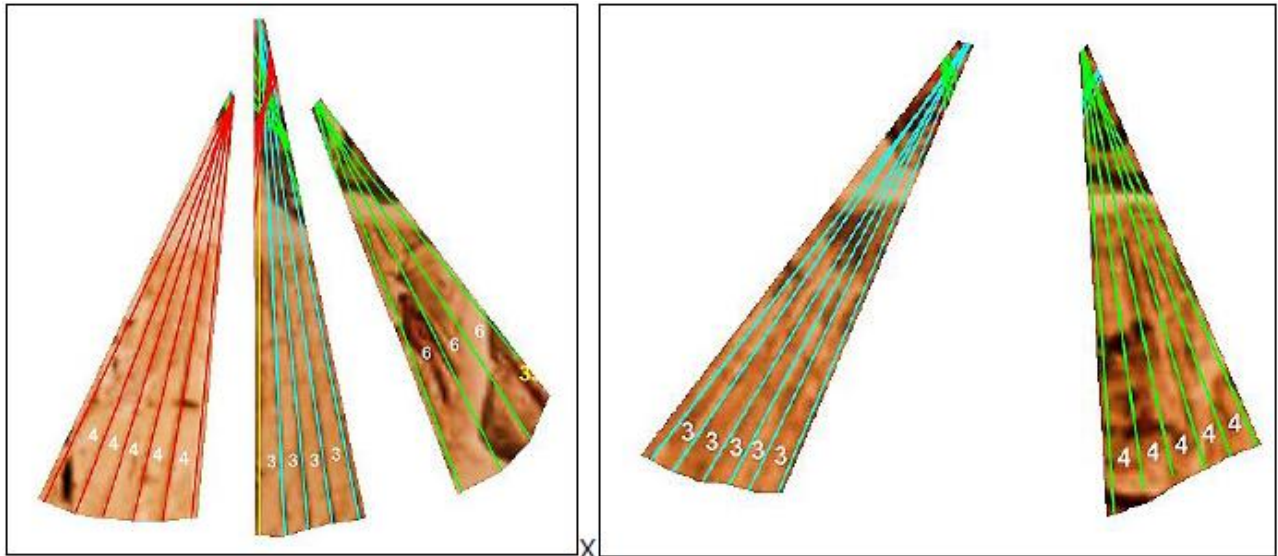


'GEOMETRICAL INSTRUMENTS' AT KARNAK



Instruments for use in Construction, Architecture, Stone Cutting, etc.

COPYING, & COMBINING ANGLES FROM THE ATENS:



WALL MOUNTED SET-SQUARES

Could they have used the Atens on the Wall as fixed Quadrants, Sextants or Octants and have traced the required angles from them onto papyrus or clay tablets? Given that the Focal Points are not shown on the Atens, this would be difficult.

Could they have used the fixed Atens on the Wall to manufacture hand held instruments, such as mobile, hand-held Quadrants, Sextants or Octants with marked gradient arms?

Would this help to give the Talatat Walls and the Temple the role of being a forefather to the Library at Alexandria?

WHAT HAVE WE DISCOVERED ABOUT THE ATENS SO FAR?

SOME FACTS:

The Atens may exist and communicate alone or in Sequences with others.

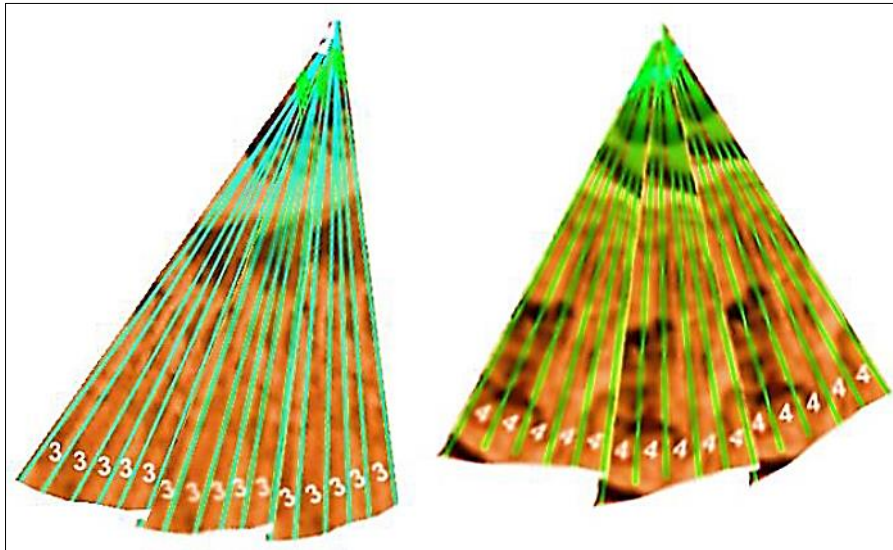
The Aten may be the original Quadrant, Sextant or Octant even though they are fixed to a wall.

In some Atens the Rays that originate from the same Focal Point are sets of the same degrees

2°, **3°**, **4°**, or **6°**, etc.

- This feature is an important starting point for understanding this particular analysis.
- This feature is repeated on many Atens.
- These *groups of similarly spaced rays* could have been copied so as to appear to originate from the same Focal Point and so be used conjointly as a measuring or design instrument.
- This could also explain why their rays were separated by **whole** degrees.

Sets of Rays the same angle apart, usually from the same Focal Point, could be copied repeatedly to produce an overall larger angle all multiples of that same angle.



The above image contains, on the left side $3^{\circ} \times 15 = 45^{\circ}$.

This composite we know gives the angle for the **Octogram**.

The above image contains, on the right side $4^{\circ} \times 15 = 60^{\circ}$.

This we know gives the angle for the **Equilateral Triangle**.

They could combine groups of Rays with similar angled spaces or copies of multiples of these angles e.g. $10 \times 4^{\circ} = 40^{\circ}$ or $12 \times 3^{\circ} = 36^{\circ}$, or $10 \times 36^{\circ} = 360^{\circ}$ (the full circle) to produce instruments.

If the left side of each composite image above is made verticle (i.e. made parallel to the ray at 0° or parallel to the verticle line thru the Cobra, The Ankh and the Triangle in each Aten) (which is, of course, the ray at 0°) the ray at the right hand side will be the shape producing tangent which if used with my *Ankh Circle* will proceed to produce the shape relative to the overall combined angle. Whether they did this or not it was certainly extremely possible and ticks all the boxes.

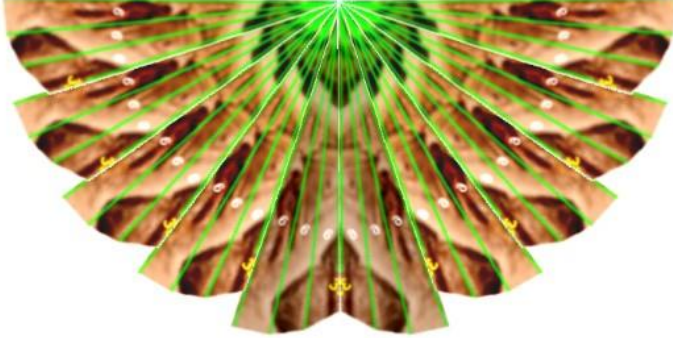
This also explains why:

- There are sets of similar angles bundled together;
- There is always a vertical ray for 0° which separates the left hand and right hand hemispheres.
- There is often (but not always) only one set of angles to the right side of 0°
- The Angles in The Atens are all whole degrees.
 - **THESE ARE ALL INDICATORS OF INTELLIGENT DESIGN. THIS IS NOT AN ACCIDENTAL EVENT.**

Most historians rely on solid visible evidence to give descriptions of the nature, wishes and desires of pharaohs such as Akhenaten and in his case they seem to rely upon his stellae and his hymns to 'The Aten', along with his 'religious' traits. But, if Akhenaten had kept the operational secrets of his "Atens" from those around him he would surely not sing openly about them in his hymns.

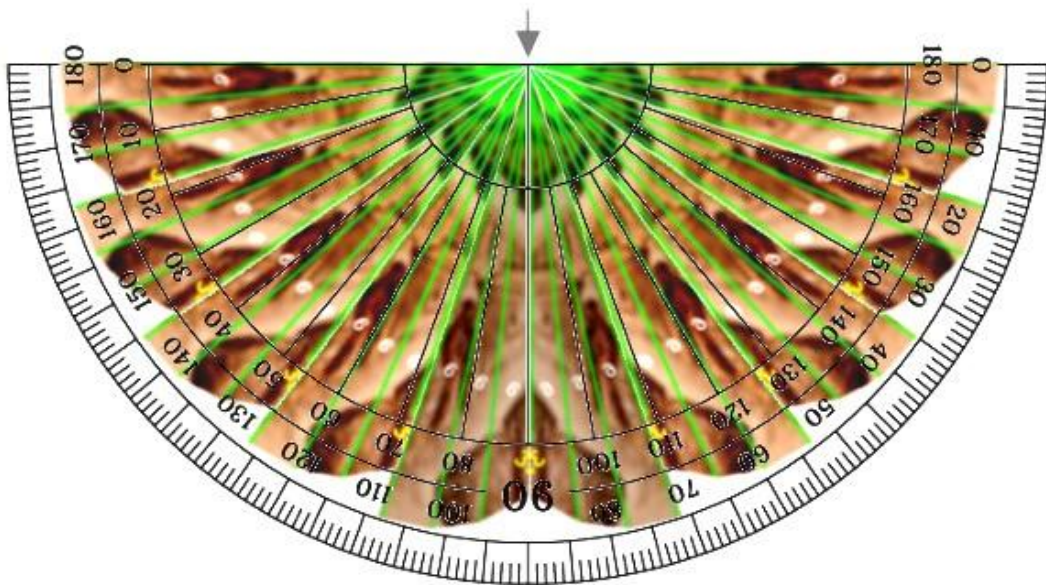
Akhenaten paid tribute to his One God - Geometry, the Mathematics of the Universe.

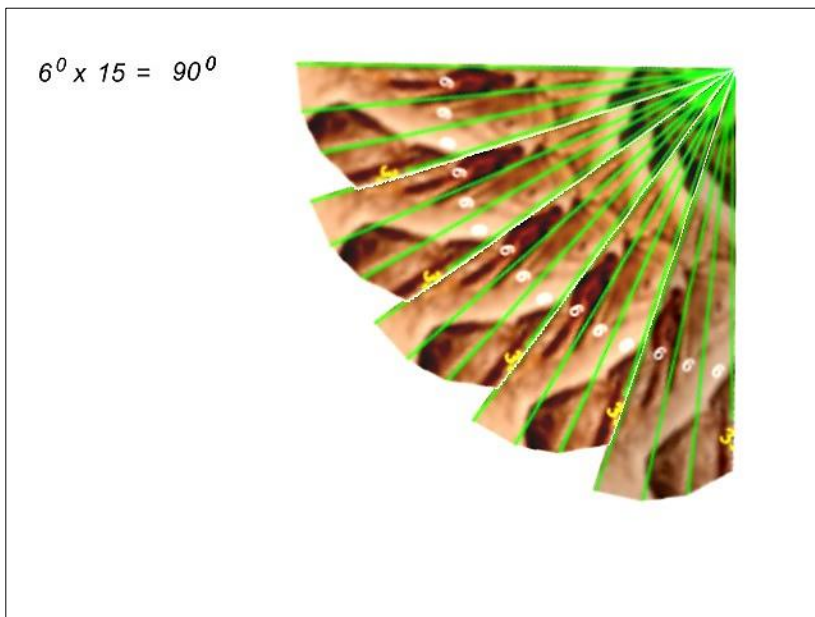
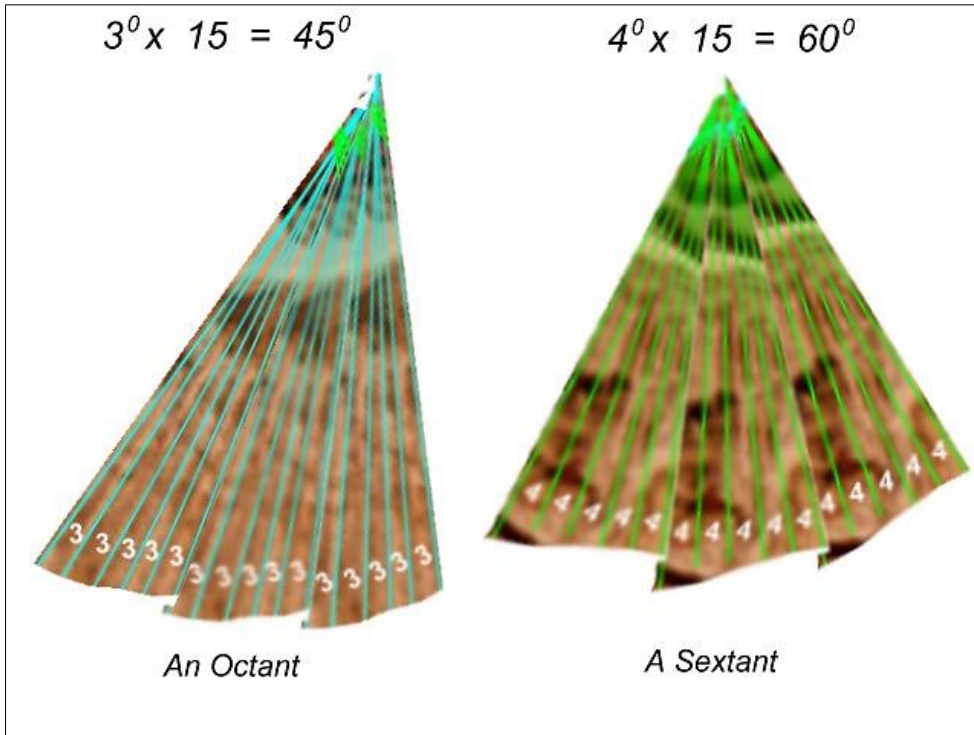
$$6^{\circ} \times 30 = 180^{\circ}$$



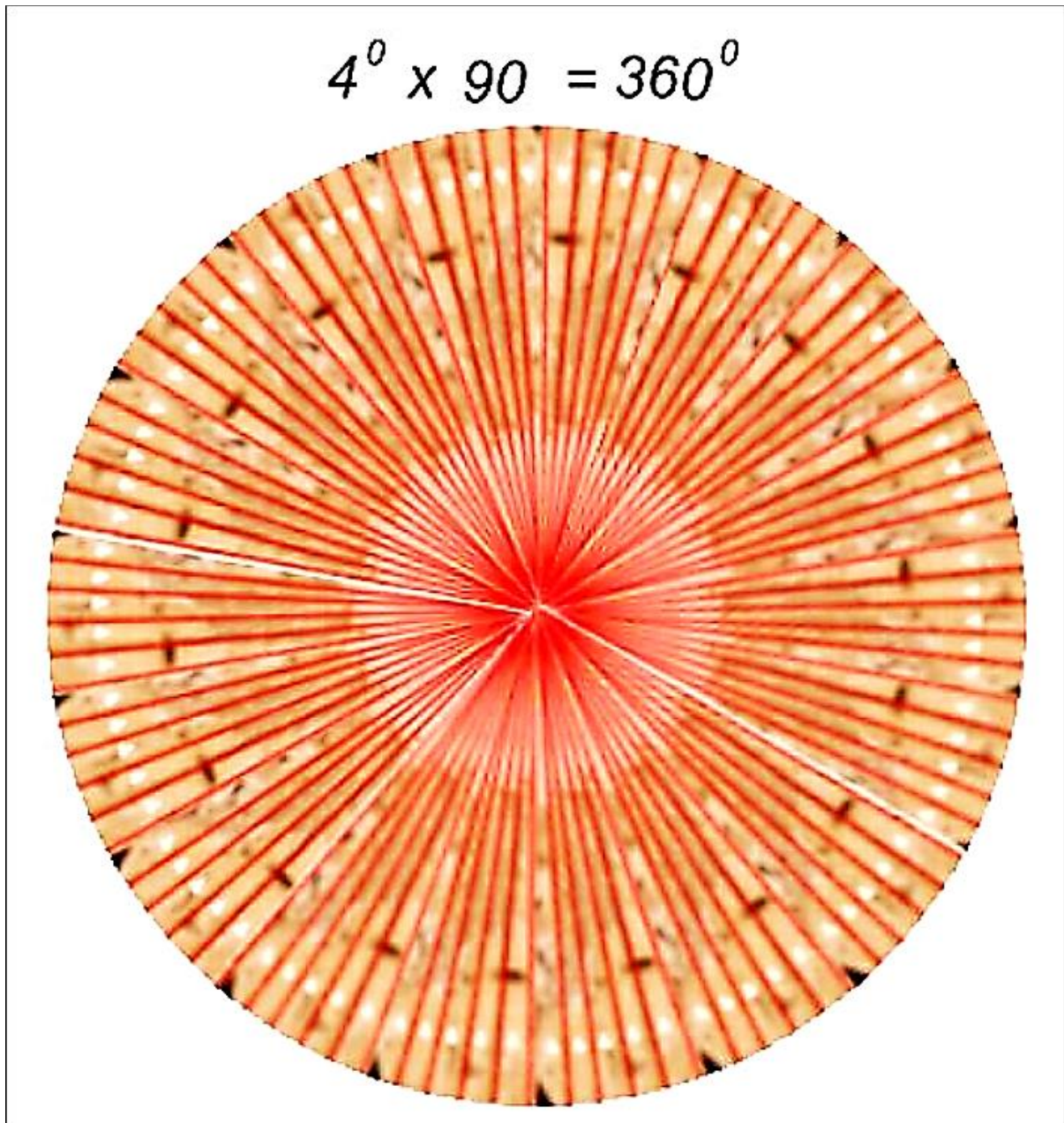
A primitive protractor.

$$6^{\circ} \times 30 = 180^{\circ}$$





*FURTHER COPYING AND COMBINING ANGLES FROM THE ATENS:
Taking it to the Limit – the Circle.*

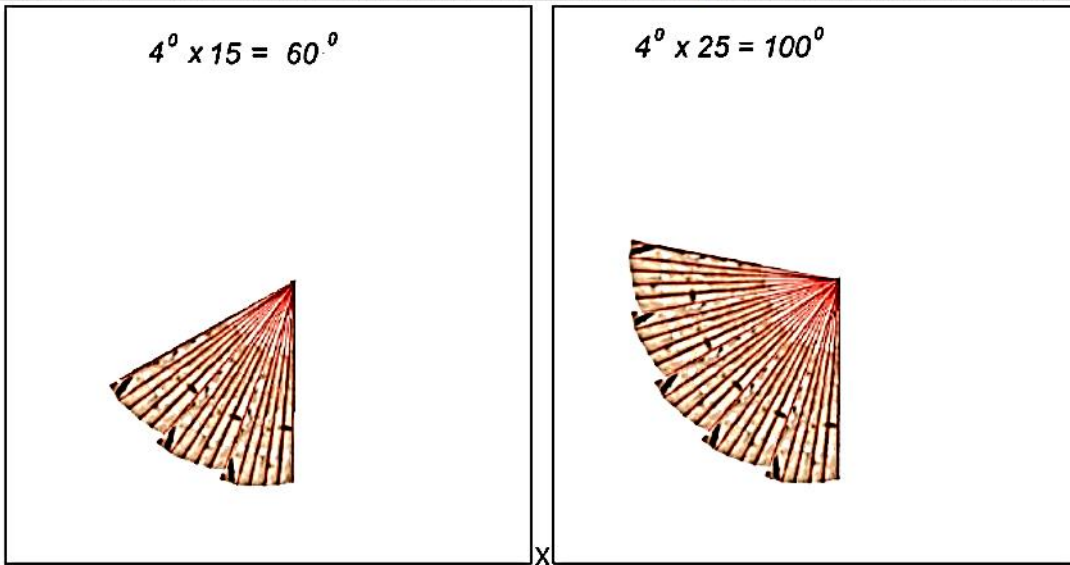


$4^{\circ} \times 90 = 360^{\circ}$. The full circle.

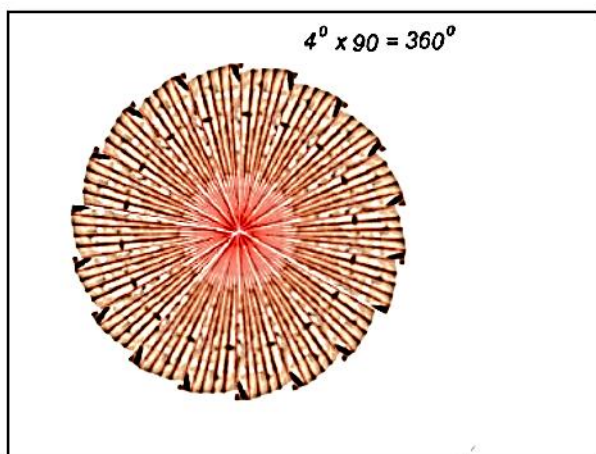
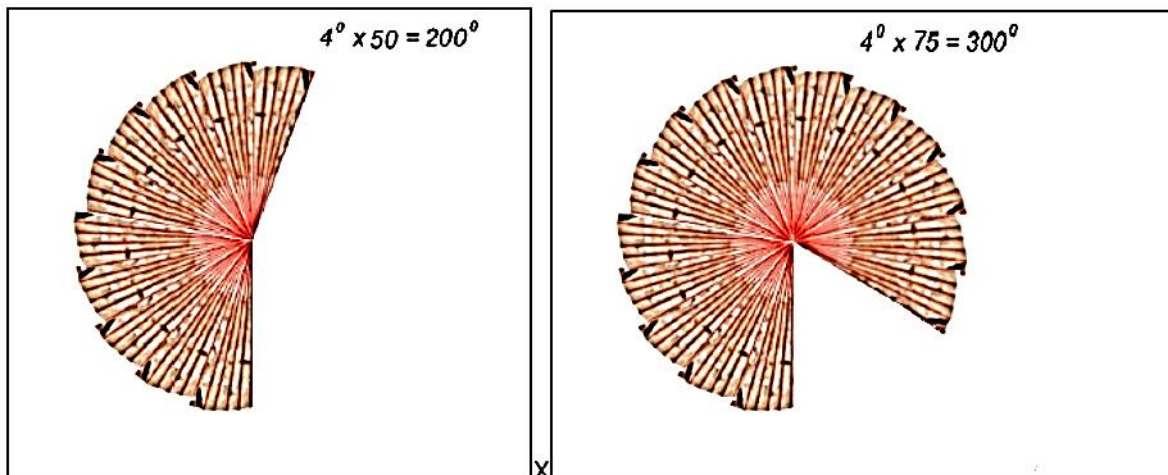
WHO FIRST DECIDED THERE SHOULD BE 360° IN A CIRCLE?
AND DID THEY USE AN ATEN TO ESTABLISH THIS FACT?
WHO FIRST DECIDED HOW BIG 1° SHOULD BE?
HOW ACCURATE WAS THIS METHOD OF PRODUCING COMPOSITE ANGLES?

*IS THIS THE SOURCE OF WHAT WE NOW CALL "SET SQUARES", "THE PROTRACTOR", AND PERHAPS
THERE IS A "COMPASS" THERE SOMEWHERE.*

The same set of Rays could be copied repeatedly to produce an overall larger angle.

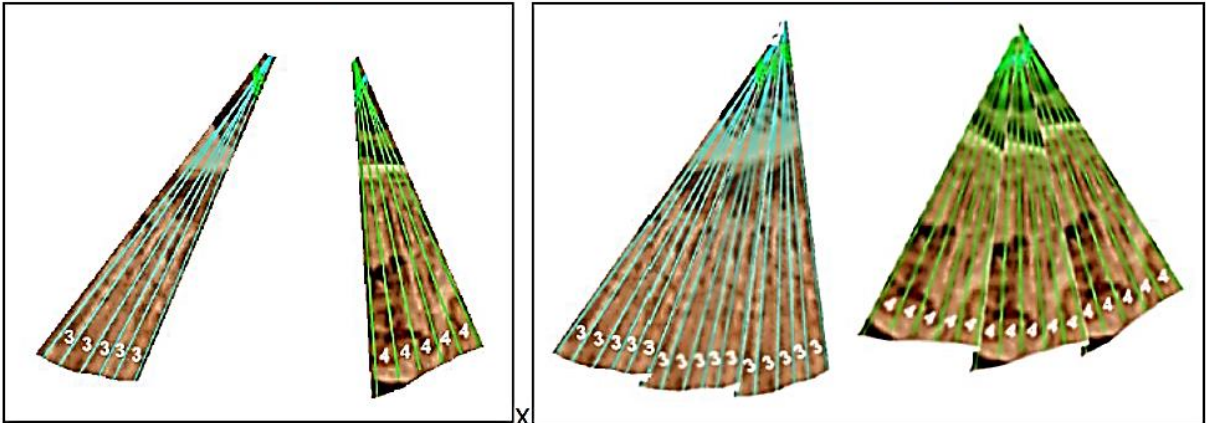


60° gives the Equilateral Triangle

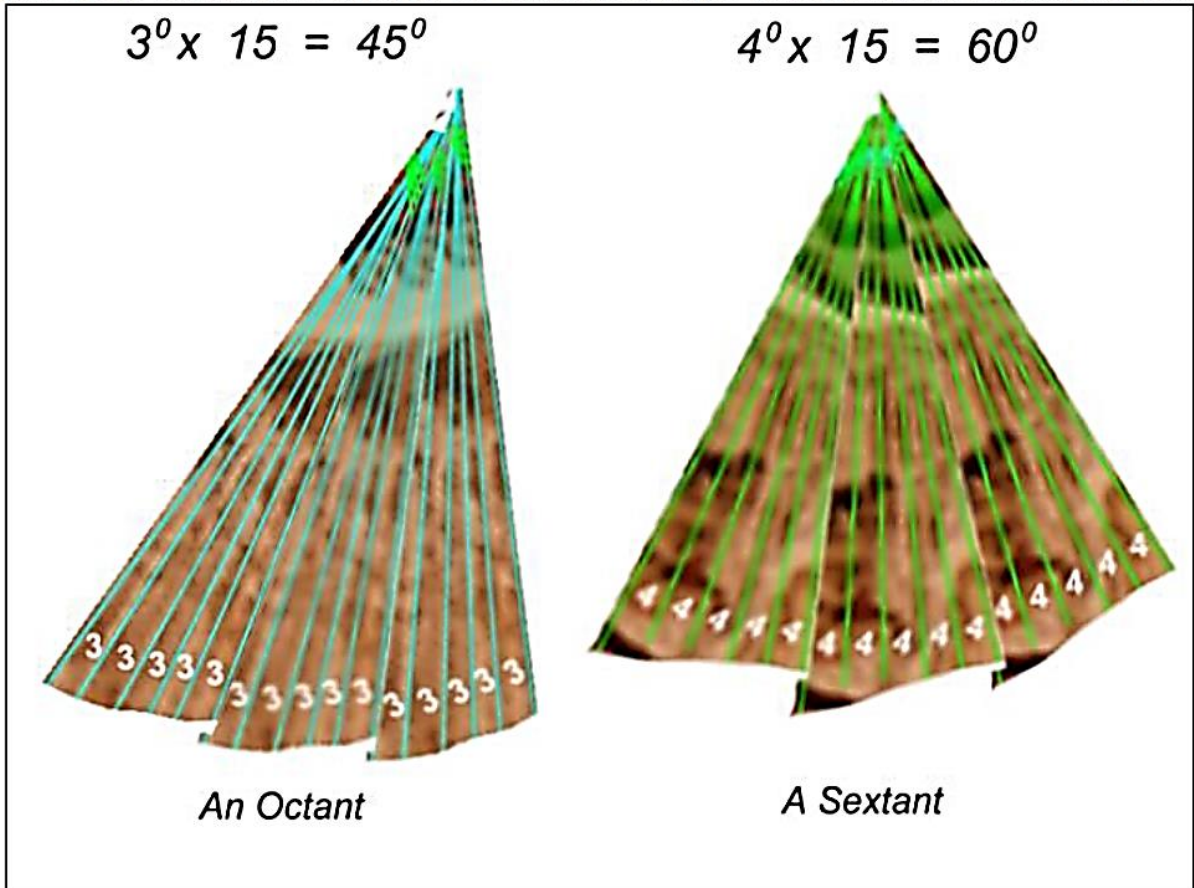


360° is the Full Circle.

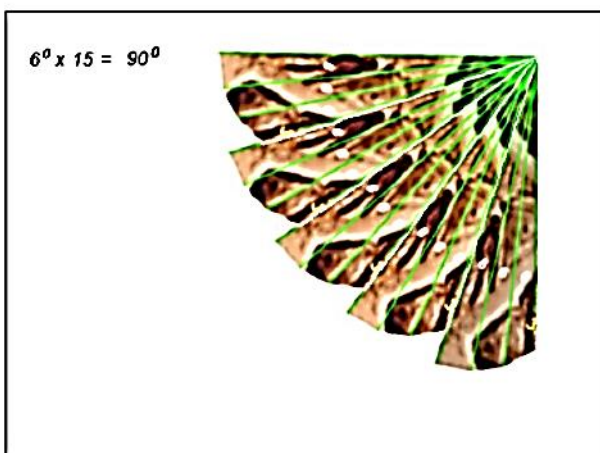
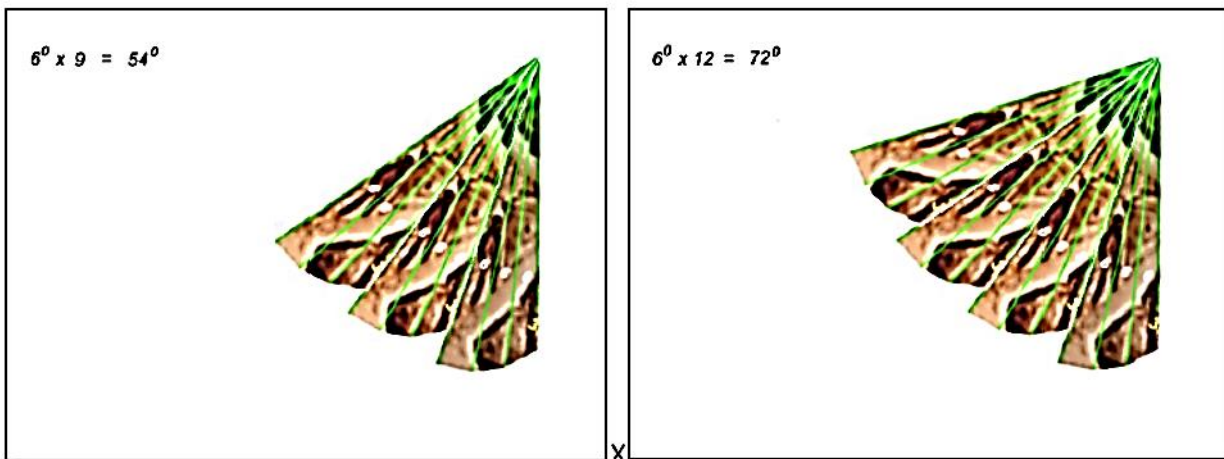
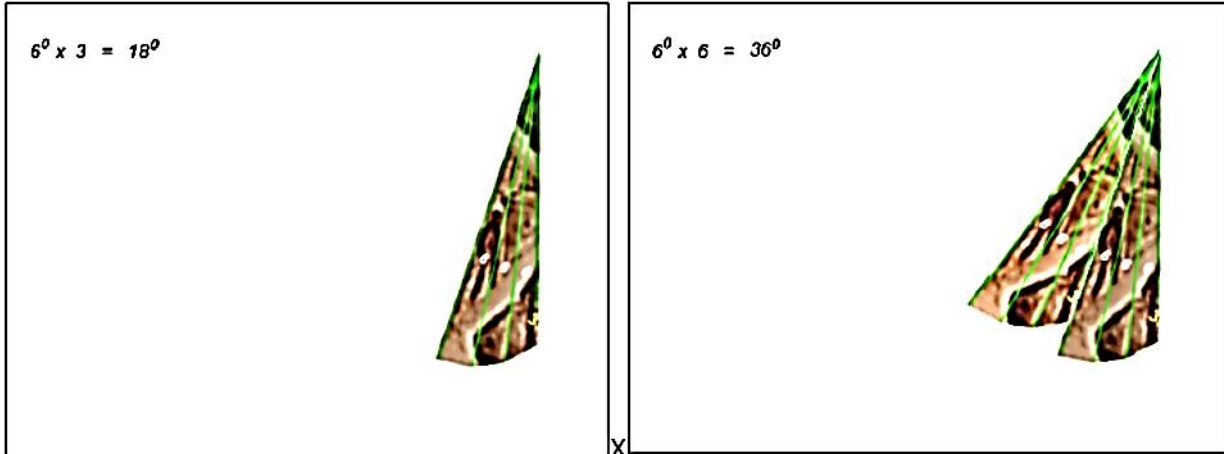
CERTAIN SETS OF DEGREES COULD BE USED TO MEASURE ITEMS or BUILDINGS:



THEY COULD BE USED AS SEXTANTS AND OCTANTS or maybe even SET SQUARES & PROTRACTORS:



THE ATEN AND SHAPE FORMING DEGREES
USING 6° SEGMENTS
USING A SET MADE UP OF 3 X 6°



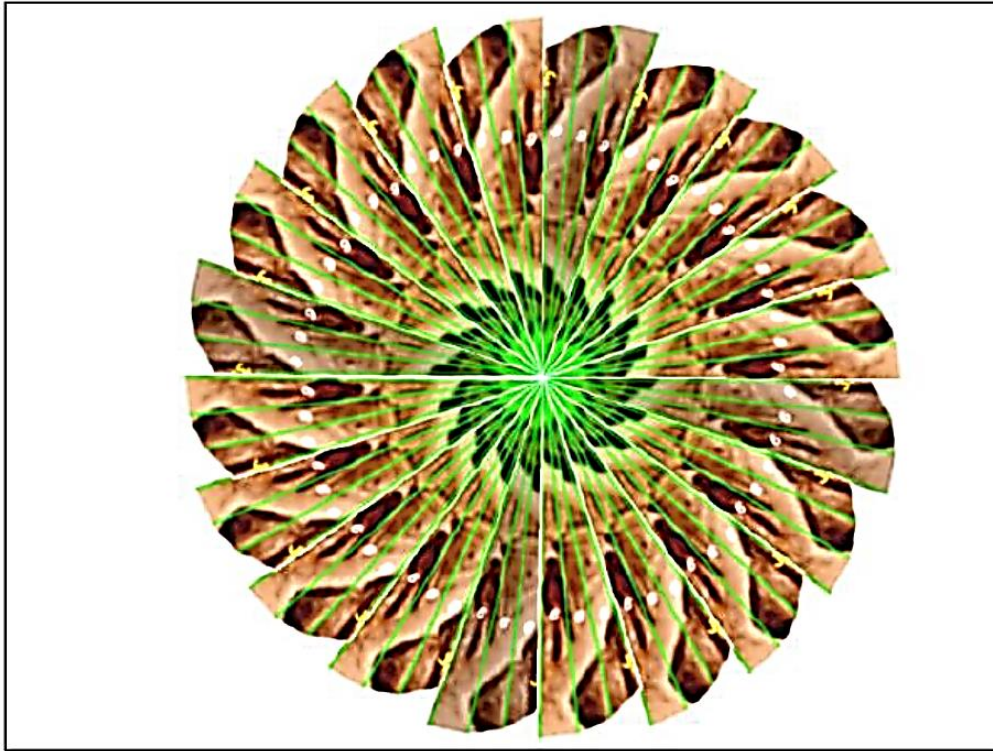
MY SHAPE THEORY:

Deg	Shape	Ratio
18	20pts	6.472135954999560
36	pentagram	3.236067977499790
54	20pts	2.212962963000000
72	10pts decagram	1.732050808000000
90	Square	1.414213562373100

THE FULL CIRCLE

USING 60 x 6° SEGMENTS

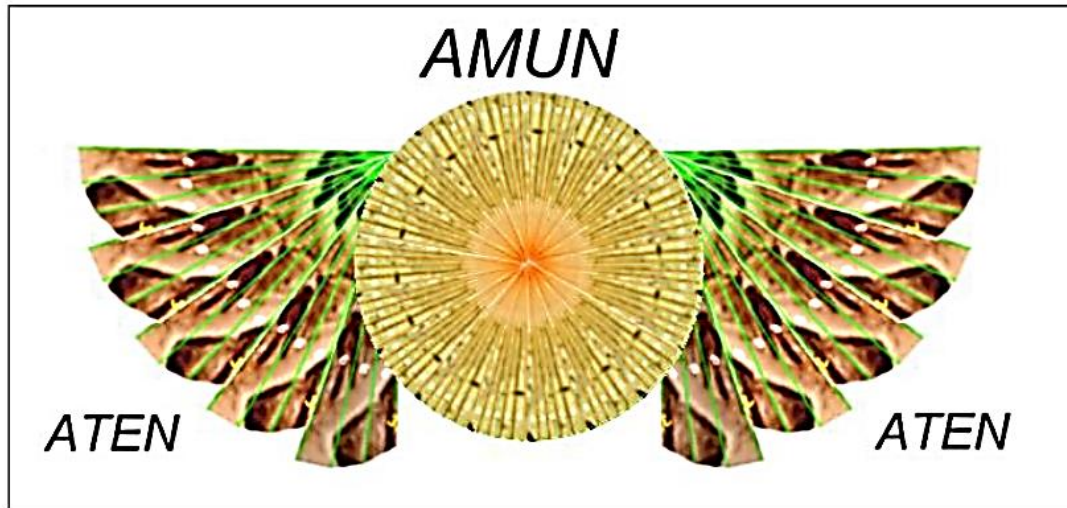
USING 20 SETS, EACH MADE UP OF 3 X 6°



Is this what "Ankhy Pankhy" is illustrating?

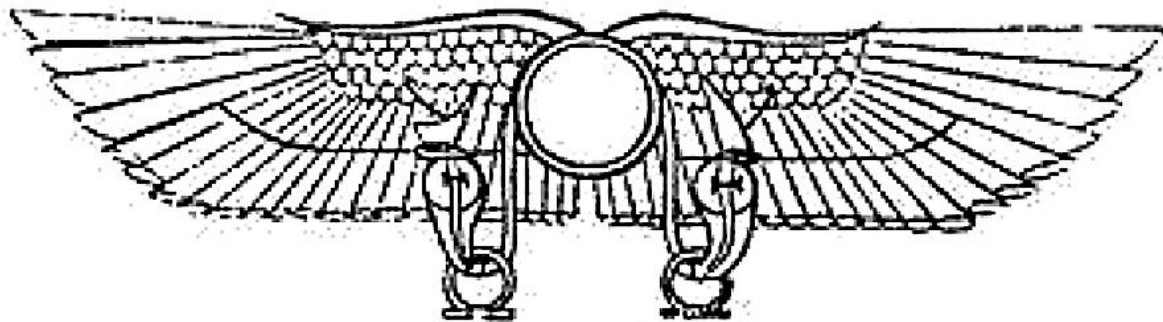


THE RELATIONSHIP BETWEEN AMUN AND HIS SUCCESSOR, ATEN.



THE WINGED SUN

"Winged Sun of Thebes" from Egyptian Mythology and Egyptian Christianity by Samuel Sharpe (1863). The winged sun is a symbol (sometimes known as Behedeti, a name of Horus) associated with divinity, royalty and power in the Ancient Near East (Egypt, Mesopotamia, Anatolia, and Persia).



Over the portico of the Theban temple there is usually a ball or sun, ornamented with outstretched wings, representing the all-seeing Providence thus watching over and sheltering the world.

From this sun hang two asps wearing the crowns of Upper and Lower Egypt.

And with Ankhs around the necks of the Cobras / Asps. (These are not Shen Rings!)
The image has been cropped.

PORTICO TO THE TEMPLE AT THEBES:

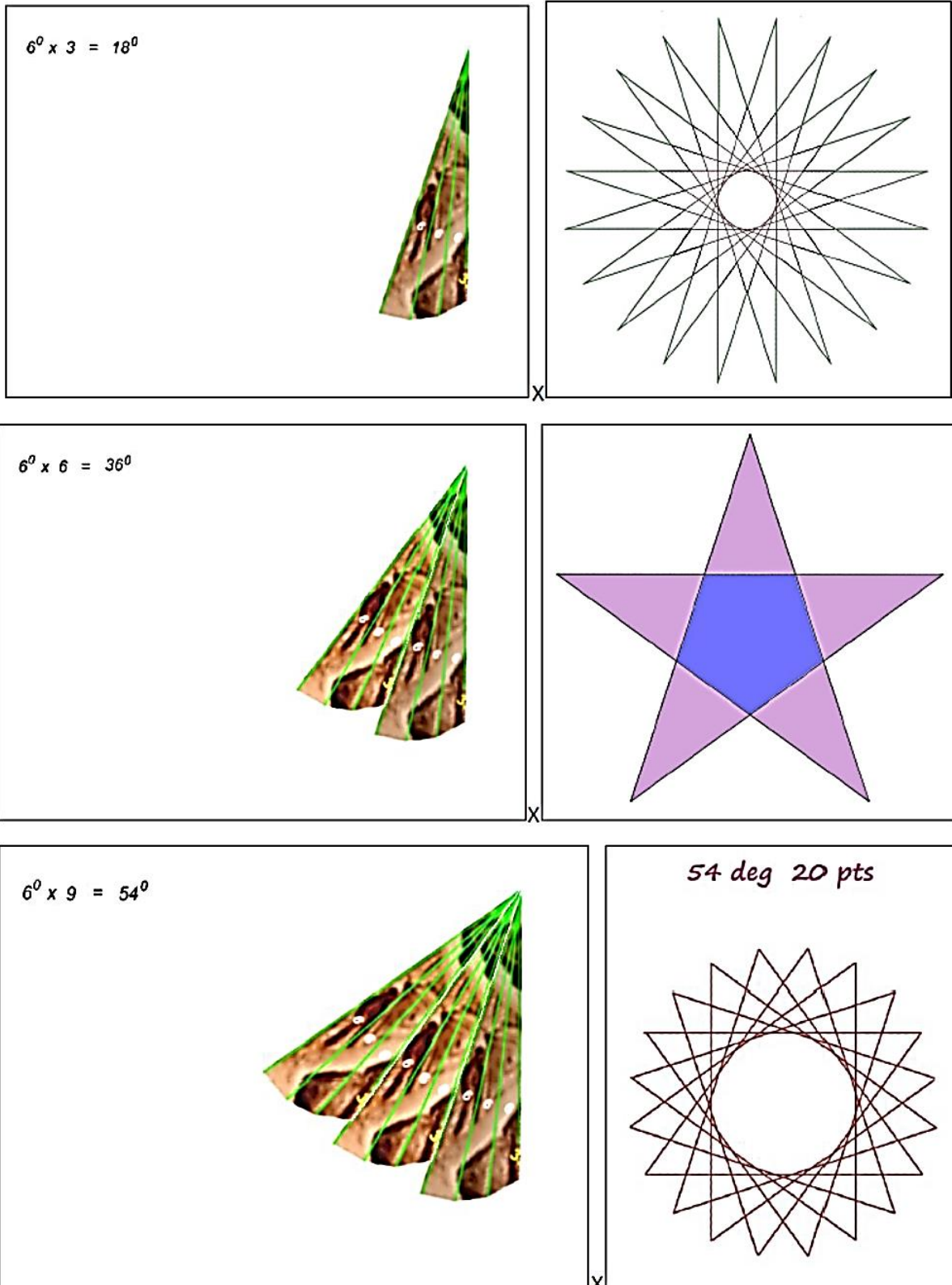



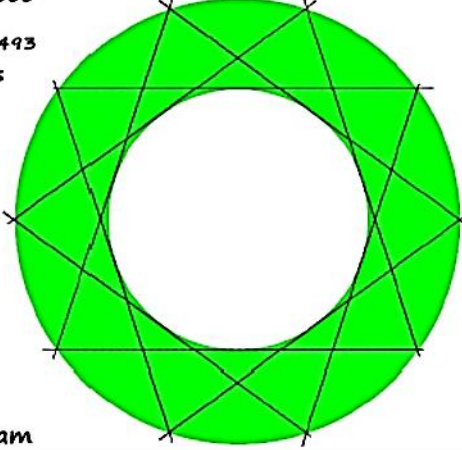
GODDESS MAAT:

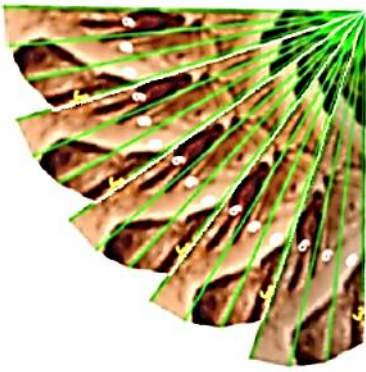
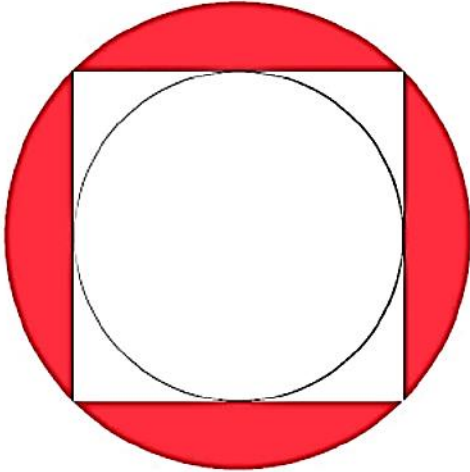


Was her Star the Pentagon?
And she has the Cobra and the Ankh!

THE ATEN AND PLANE REGULAR SHAPES:

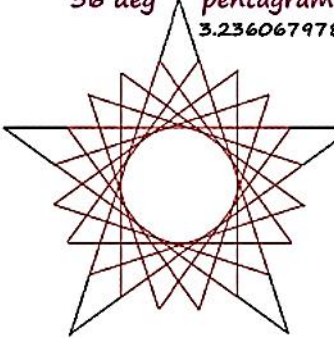
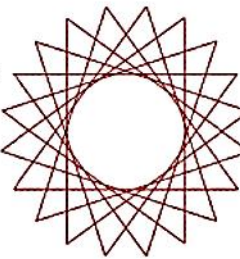
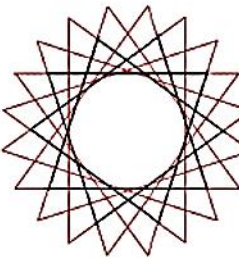
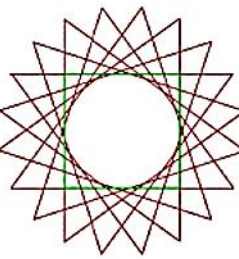


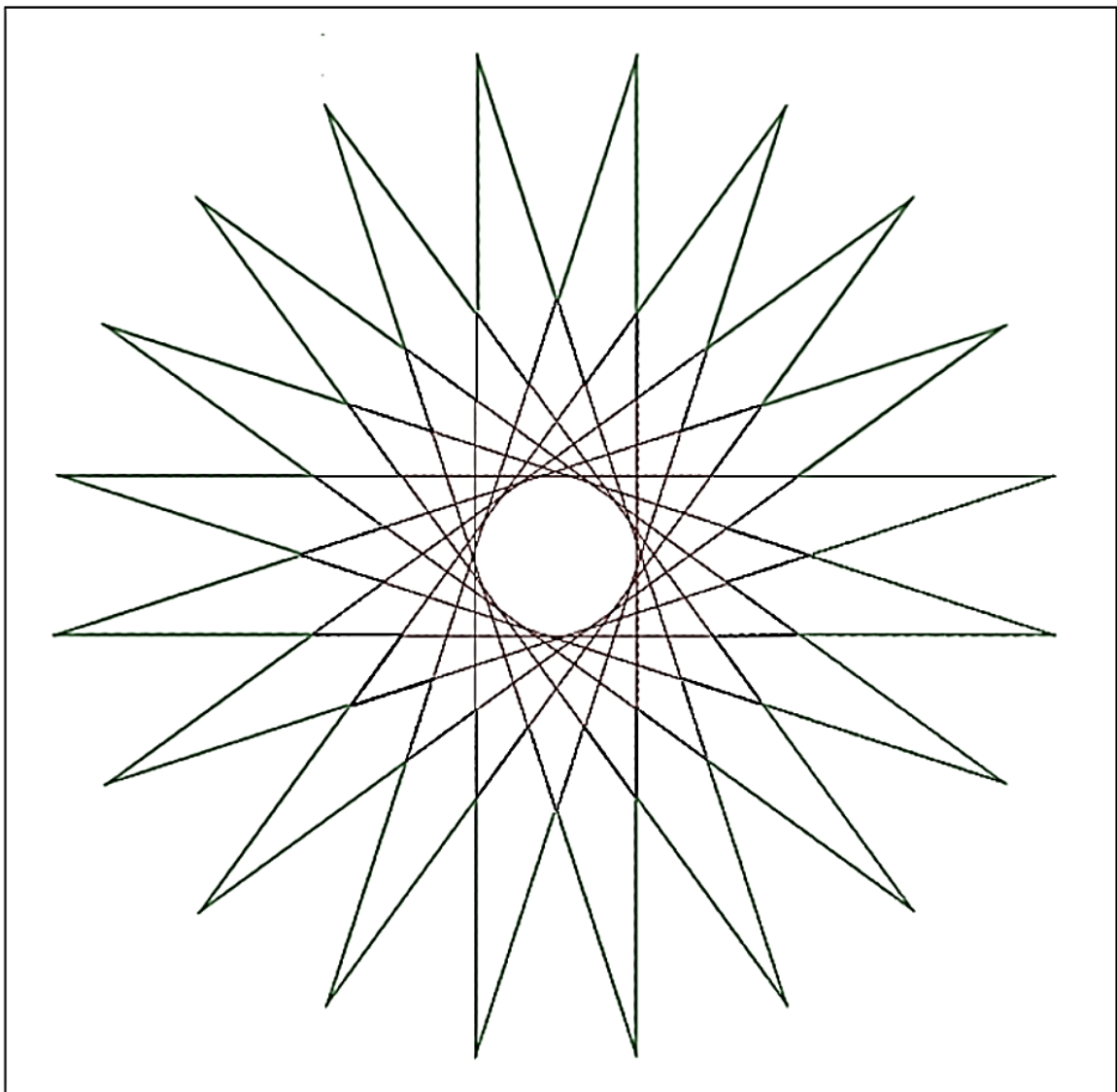
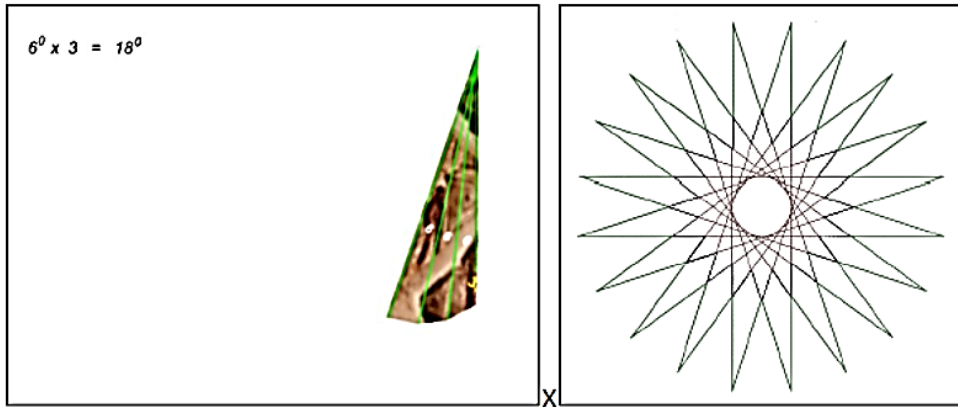
<p>$6^\circ \times 12 = 72^\circ$</p> 	<p>$1714 / 1000$ ratio: 1.713525493 72 degrees 10 points</p>  <p>Decagram</p>
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<p>$6^\circ \times 15 = 90^\circ$</p> 	
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ILLUSTRATING THE HARMONICS OF PLANE REGULAR SHAPE:

18 degree series & the 20 point star


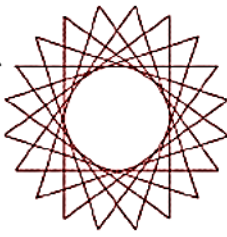
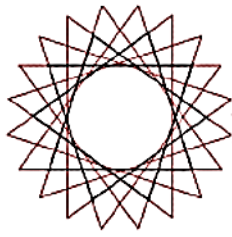
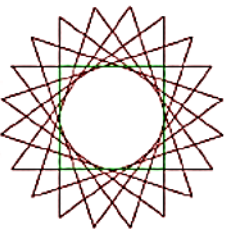
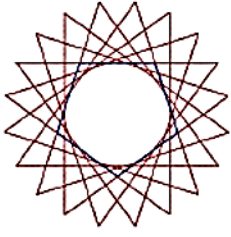
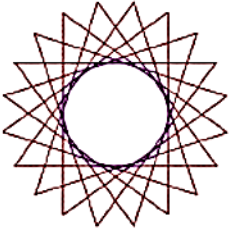
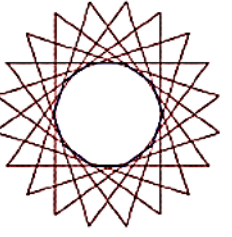
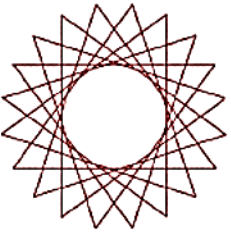
<p>36 deg pentagram 3.236067978</p> 	<p>54 deg 20 pts</p> 	<p>72 deg 10 pts 1.713525493</p> 	<p>90 deg square 1.414213562</p> 
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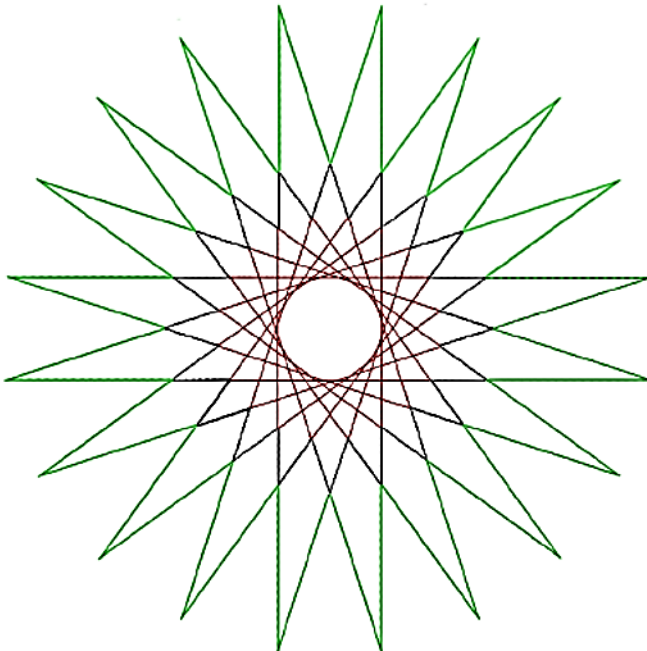
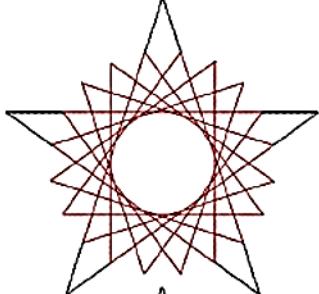
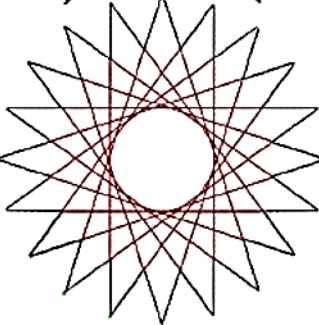
MORE THINGS TO DISCOVER ABOUT PLANE REGULAR SHAPES:

SHAPES MAY EXIST IN HARMONY INSIDE EACH OTHER.

18 degree series & the 20 point star

<p>36 deg pentagram 3.236067978</p> 	<p>54 deg 20 pts</p> 	<p>72 deg 10 pts 1.713525493</p> 	<p>90 deg square 1.414213562</p> 
<p>108 deg pentagon 1.236067978</p> 	<p>126 deg 20 pts 1.121516995</p> 	<p>144 deg decagon 1.053333+/-</p> 	<p>162 deg 20 sided polygon 1.01333333+/-</p> 

4 PENTAGRAMS IN THE 18⁰ SERIES:

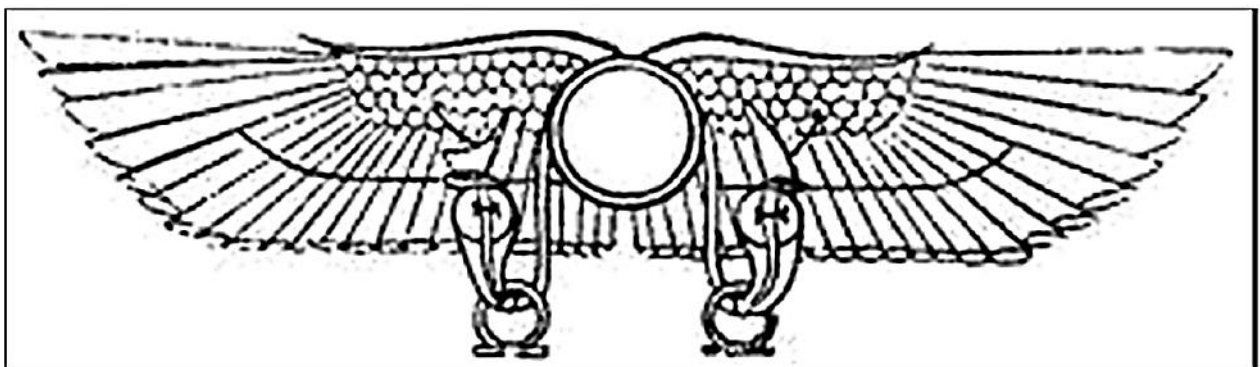
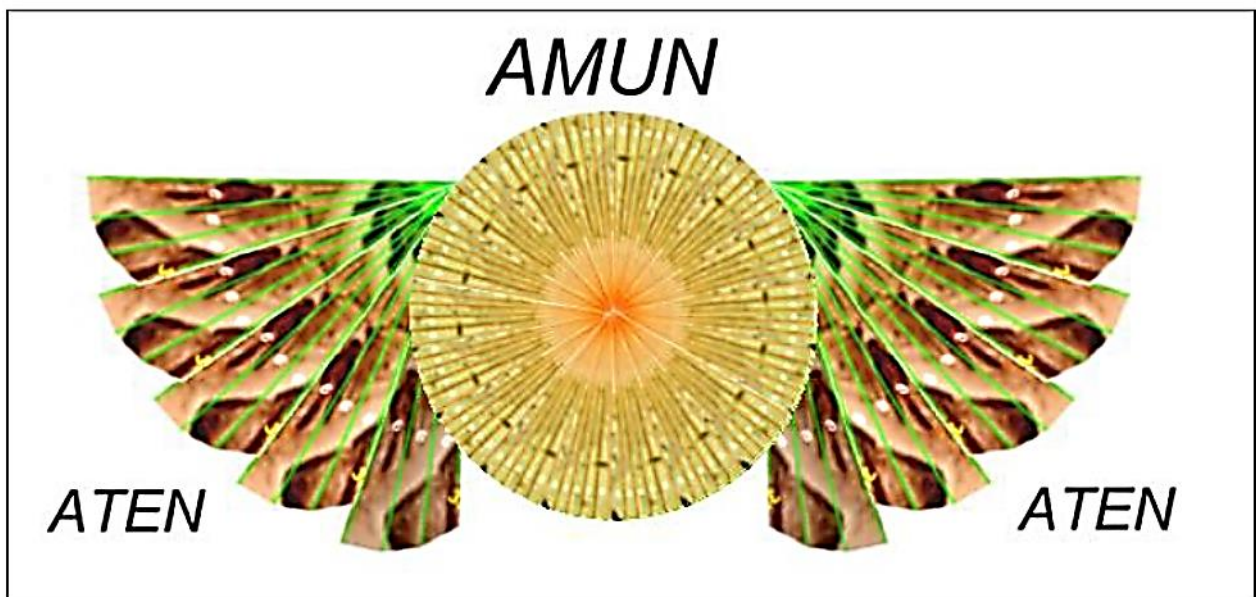
<p>18 degrees 20 points</p> 	<p><u>Pentagrams in the 18 degree series</u></p> <p>36 degrees 5 points ratio 3.236067978</p>  
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What I have tried to do over 14 years in the area of “The Harmony of Plane Regular Shape” with my “Ulead Iphoto Express” program along with hours and days and weeks and months and years of mind-boggling mathematics, Akhenaten had already done with his Atens. His ancestors were also adept in the use of his ‘Aten’ system; a system that I would call “**Graphical Mathematics**”.

Based upon the visual evidence of the display of various polygrams and polygons on ancient steles and monuments it is evident that this form of Graphical Geometry existed without the distraction of Trigonometry back well before 3,000bc. Many sites have visual evidence that the knowledge of Aten, Amun, and all their antecedents is the original ‘knowledge’.

- Did it come from the Garden of Eden at the **Tree of Knowledge** or from Adam & Eve’s apple eating orgy?
- Was it the subject of Enmeduranki’s visit to heaven with Adab to collect the Tablets containing the **Kibdu Secrets of Heaven and Earth**?

THE WINGED SUN



NEWGRANGE COUNTY MEATH
Knowth
Sundials in Ireland
Photo by permission of Ken Williams

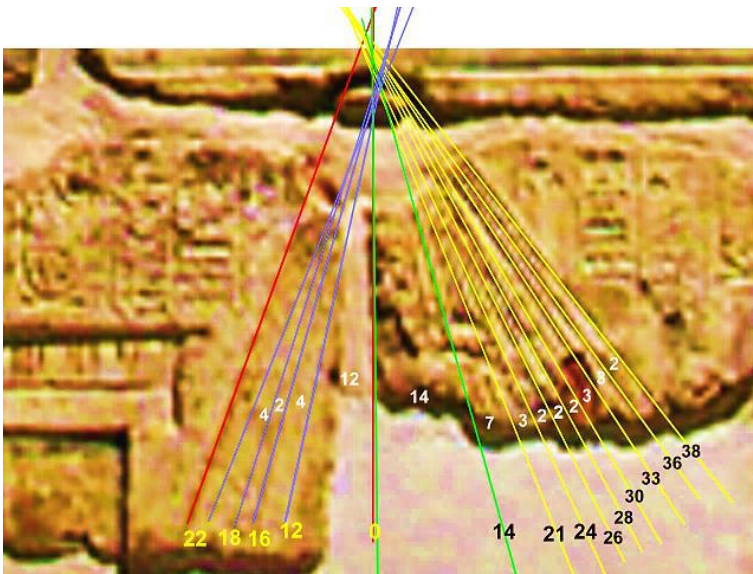


One can almost see the makings of Thales Theorem in this Stone's markings.
Whether they knew it or not it was there on the stone.
And it does include "Rays" in a Semi-Circle!

But, what did this stone represent?

- ATEN'S RAYS?
- THALES RIGHT ANGLED TRIANGLES?
- A SUN DIAL?
- SETS OF SIMILAR ANGLED RAYS?
- A PROTRACTOR?
- 18 DIVISIONS? (36 to the full Circle?)

A THIRD UNCONNECTED ATEN FROM 'THE FIVE UNCONNECTED ATENS'.



This Aten has its Focal Points on the opposite side of the verticle to its Rays.

(In the next hemisphere.)

GAPS BETWEEN THE RAYS: 4, 2, 4, - 12, 14, 7, - 3, 2, 2, 2, 3, 3, 2, DEGREES
OVERALL RANGE IS 60°. This would suggest the use of a sextant except for varying Focal Points.

WHY ARE THERE SO MANY ATENS?

What are the Atens if they are not rays at varying angles, bundled into groupings and radiating from groups of Focal Points? But this knowledge is only obtainable by extending the sun's rays in both directions so that the hidden features of The Aten may be detected. It is only these hidden features that give the true meaning to The Aten and The Aten Religion. The failed Heretic becomes a genius Geometrician.

- Was it intended that each Focal Point along with its attached rays should be utilised as a single separate item unattached from other rays in that Aten?
- Was it intended that each of the Focal Point groupings should be copied and aligned with the others by lining up the Focal Points for that Aten and addressing the now united groupings as a single bundle of rays for that Aten?
- Was it intended that each of the Focal Point groupings should be copied and aligned with Focal Point groupings from other Atens?
- Was the set of **four connected Atens** on the Talatat Wall, by the very fact that they are connected and by the "books" showing at the points of connection, verifying that the content of each of these Atens could be used in conjunction with the content of the other Atens in that set?
- Was the content of each and every Aten intended to be utilised in conjunction with the content of each and every other Aten?
- Did the Aten in general contain the mystery of the Harmonics of Plane Regular Shape?
- The Harmonics of Plane Regular Shape was actually the basis upon which I commenced my research for my theories.

HOW TO PRODUCE SHAPES WITH BUNDLES OF MULTIPLE COPIES OF AN ANGLE

SETS OF MULTIPLES OF SHAPES			
IN MULTIPLES OF FIVE			
Deg	Shape	Ratio	Points
36	36 deg pentagram	3.236067977499790	5
108	108deg pentagon	1.236067977499790	5
72	10pts decagram	1.732050808000000	10
144	10pts decagon	1.053333300000000	10
12	15 pt 12deg	9.152982445082920	15
84	84 degrees 15pts	1.497676197000000	15
132	15pts	1.100000000000000	15
156	15 sided gon	1.030000000000000	15
18	18deg 20pts	6.472135954999560	20
54	54deg 20pts	2.212962963000000	20
126	126deg 20pts	1.121516995000000	20
162	20 sided gon	1.013333300000000	20
79.20	25pts	1.564801117651930	25
24	24 degrees 30pts	4.846581983000000	30
48	48 deg 30pts	2.472135954999580	30
96	30pts	1.349166666600000	30
70	35pts		35
27	40pts	4.236067978000000	40
63	40pts	1.926610162000000	40
99	40pts	1.315789474000000	40
117	117deg 40pts	1.167184270000000	40
28	45pts	4.176904000000000	45
52	52 degrees 45pts	2.288245610000000	45
68	45pts	1.814652616077490	45
76	76 degrees 45pts	1.632993161855450	45
87	22.5deg series 45pt	1.448274121000000	45
88	45pts ... 11 index no.		45
92	45pts est ratio	1.386271242968660	45
124	45pts est ratio	1.131319763600000	45
148	45pts	1.040719200441880	45
164	45 pts		45
172	45 sided gon		45

In this exercise I have used a selection of my lists of "Degrees – Shapes – Ratios"

It will be noted that various multiples of 3^0 and of 4^0 will produce many shapes. It may be that The Aten analysis could have provided these "various Multiples".

$$4^0 \times 9 \quad 3^0 \times 12$$

$$4^0 \times 27 \quad 3^0 \times 36$$

$$4^0 \times 18 \quad 3^0 \times 24$$

$$4^0 \times 36 \quad 3^0 \times 48$$

$$4^0 \times 3 \quad 3^0 \times 4$$

$$4^0 \times 21 \quad 3^0 \times 28$$

$$4^0 \times 33 \quad 3^0 \times 44$$

$$4^0 \times 39 \quad 3^0 \times 52$$

$$4^0 \text{ n.a.} \quad 3^0 \times 6$$

$$4^0 \text{ n.a.} \quad 3^0 \times 18$$

$$4^0 \text{ n.a.} \quad 3^0 \times 42$$

$$4^0 \text{ n.a.} \quad 3^0 \times 54$$

Not whole degrees.

$$4^0 \times 6 \quad 3^0 \times 8$$

$$4^0 \times 12 \quad 3^0 \times 16$$

$$4^0 \times 24 \quad 3^0 \times 32$$

$$4^0 \text{ n.a.} \quad 3^0 \text{ n.a.}$$

$$4^0 \text{ n.a.} \quad 3^0 \times 9$$

$$4^0 \text{ n.a.} \quad 3^0 \times 21$$

$$4^0 \text{ n.a.} \quad 3^0 \times 33$$

$$4^0 \text{ n.a.} \quad 3^0 \times 39$$

$$4^0 \times 13 \quad 3^0 \text{ not applicable}$$

$$4^0 \times 17 \quad 3^0 \text{ not applicable}$$

$$4^0 \times 19 \quad 3^0 \text{ not applicable}$$

Not whole degrees.

$$4^0 \times 22 \quad 3^0 \text{ not applicable}$$

$$4^0 \times 23 \quad 3^0 \text{ not applicable}$$

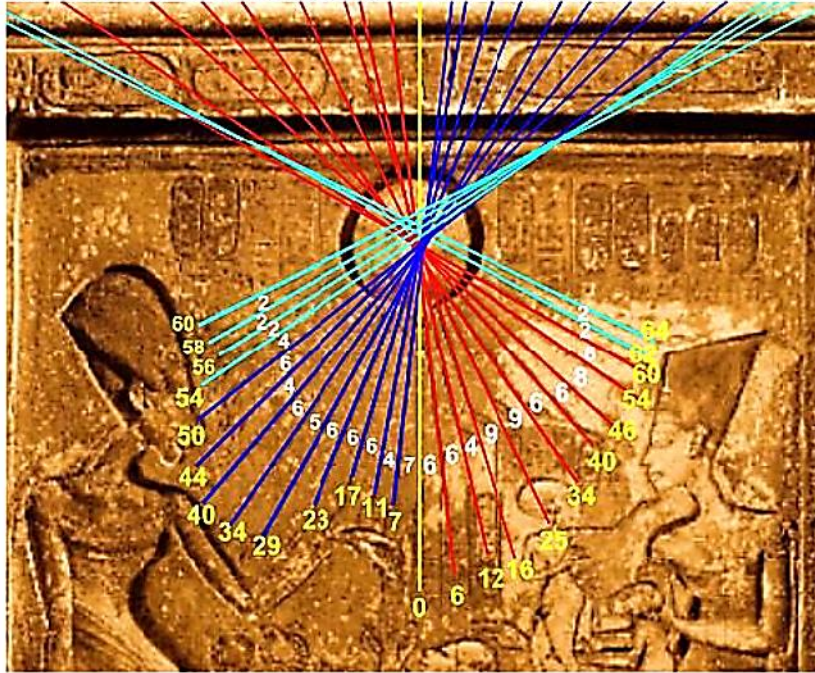
$$4^0 \times 31 \quad 3^0 \text{ not applicable}$$

$$4^0 \times 37 \quad 3^0 \text{ not applicable}$$

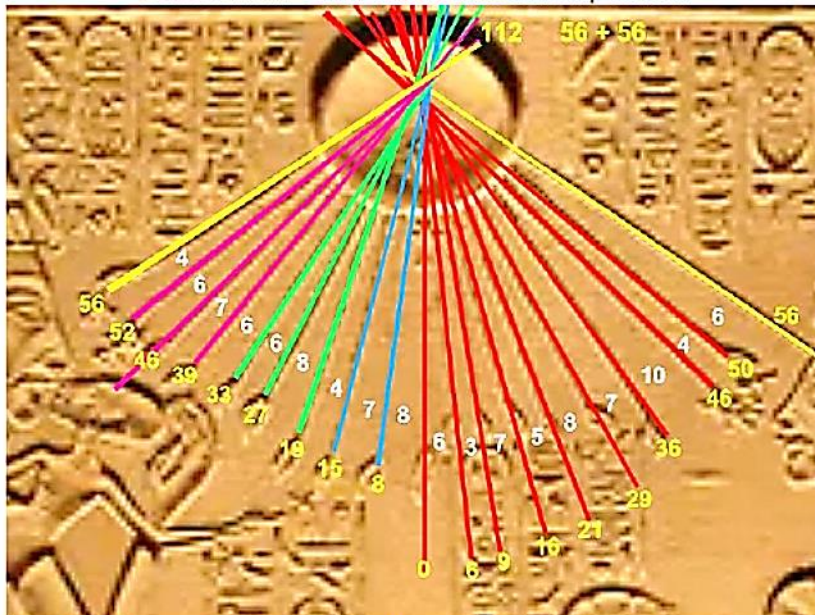
$$4^0 \times 41 \quad 3^0 \text{ not applicable}$$

$$4^0 \times 43 \quad 3^0 \text{ not applicable}$$

Some Atens have a veritable smorgasboard of degrees separating their Rays:



Some show other mathematical expertise:



FIVE FOCAL POINTS

RANGE 112° or $2 \times 56^{\circ}$.

A Sextant would do.

The Red Rays seem to contain: 3, 4, 5, 6, 7, 8, & 9 ($6+3$), and 10 degrees on the right hand side of 0° .

Was this just a productive accidental occurrence?

And on the left we have **13** ($6+7$), **14** ($6+8$), **15** ($7+8$). Each with a ray between them.

As well as **10** ($6+4$), **11** ($4+7$), **12** ($6+6$). Each also with a ray between them.

Are these all accidental occurrences?

That gives us: 3, 4, 5, 6, 7, 8, & 9 ($6+3$), 10 ($6+4$), 11 ($4+7$), 12 ($6+6$), 13 ($6+7$), 14 ($6+8$), and 15 ($7+8$) degrees.



The Aten. What you see!



With verticle (0°) marked



Rays on right hemisphere.
Focal Point is on the Aten near its centre



With angles marked



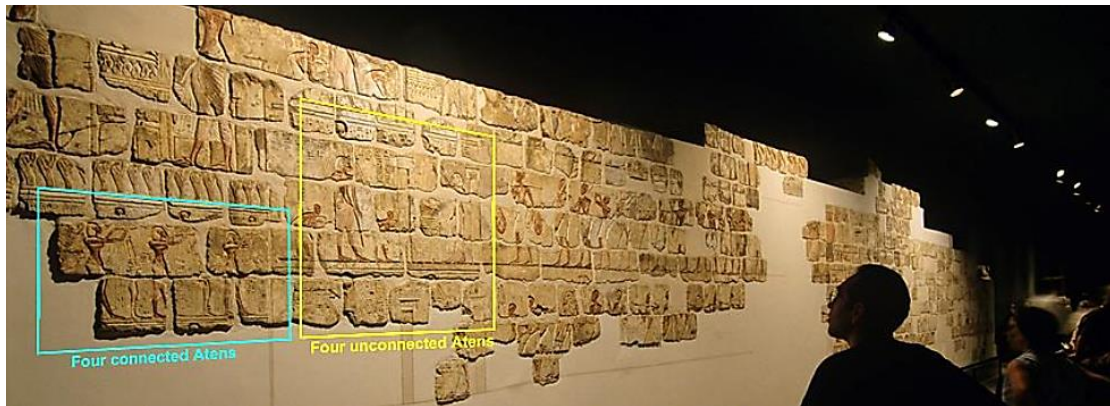
One set of rays in left hemisphere.
Focal Point is on the top edge of the Aten



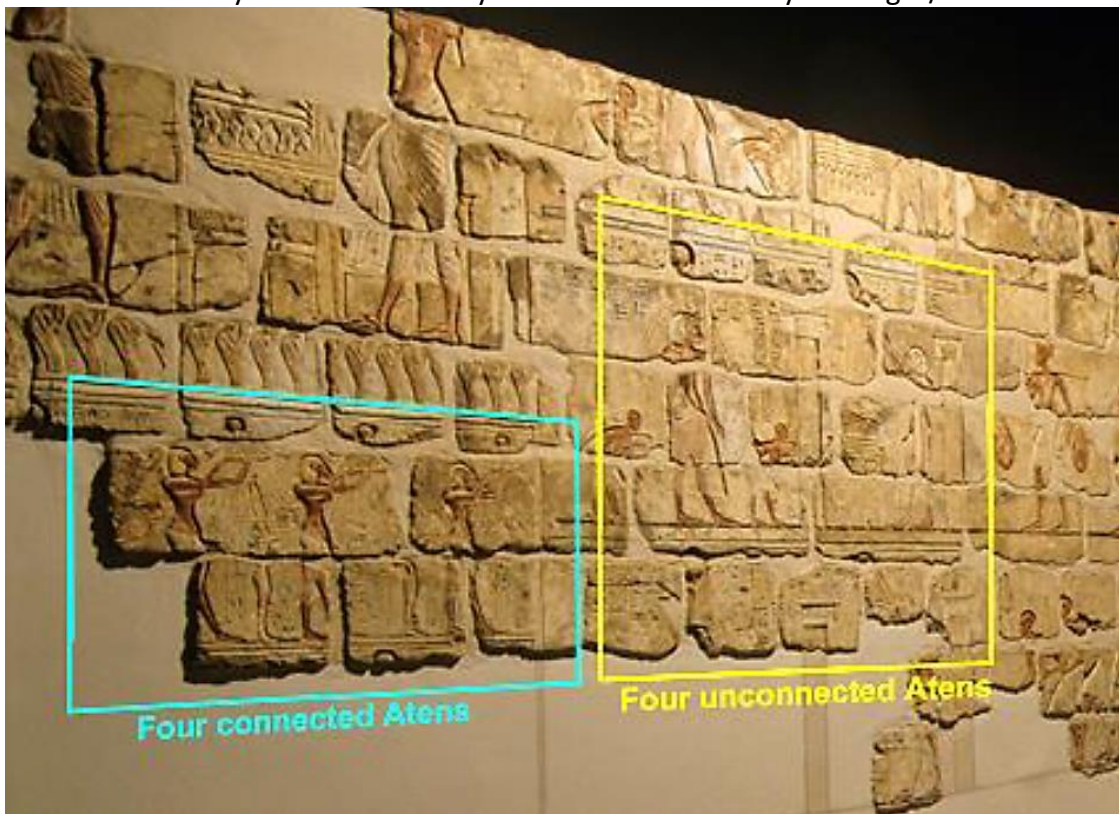
A second set of rays in left hemisphere
Focal Point is above the Aten

The separate Focal Points of the Rays in each case are obvious, and seem to be located in the same hemisphere as their Rays.

THE TALATAT WALL AT KARNAK
EIGHT ATENS IN CLOSE PROXIMITY



If “The Aten” just had one message would not one image of “The Aten” have sufficed?
Why are there so many Atens? Are there many messages/



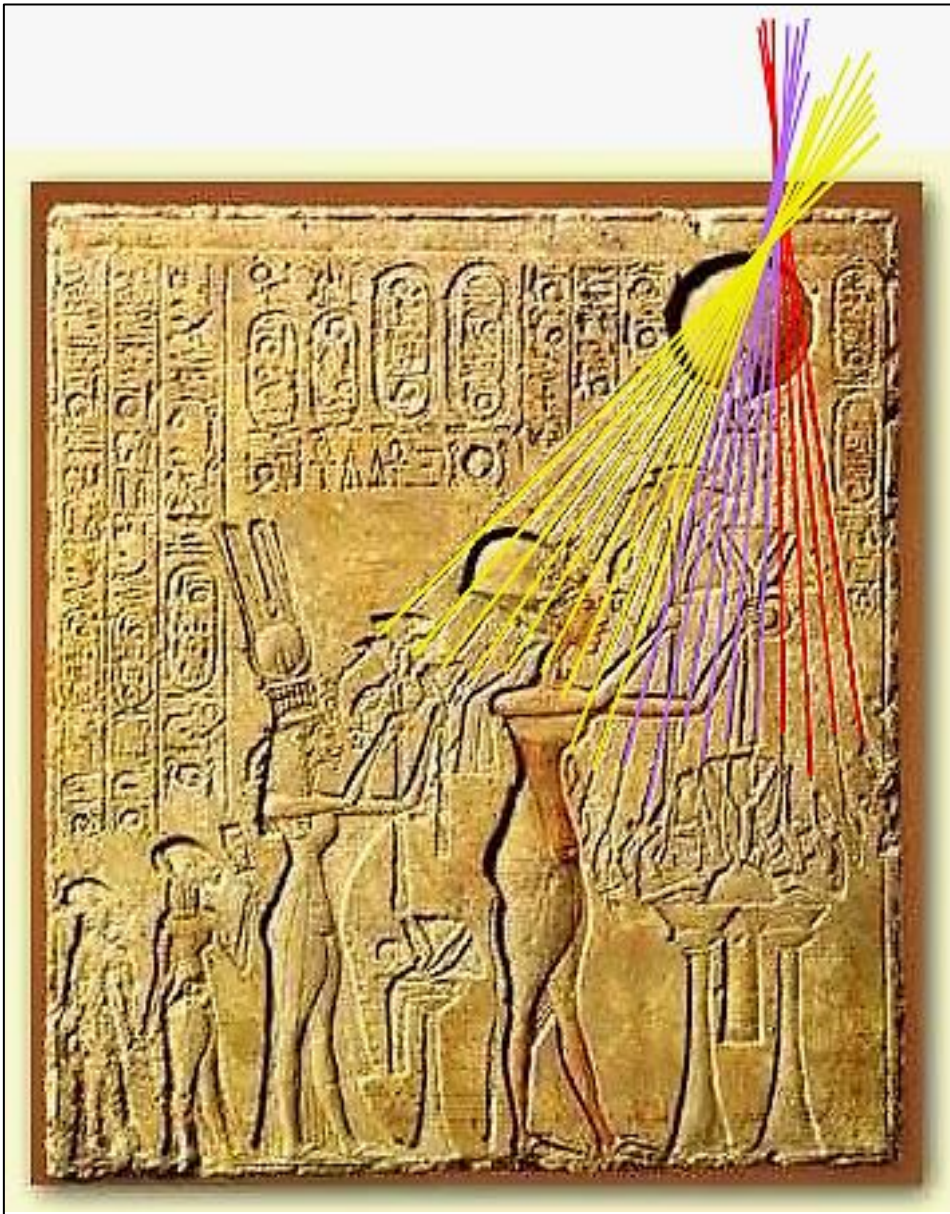
“It is for these reasons that Akhenaten's son and successor, Tutankhamun (c. 1336-1327 BCE), returned Egypt to traditional religious practices and **rejected the monotheism** of his father.”

“He did not live long enough to complete the restoration of Egypt, however, and so this was accomplished by Horemheb.”

“This era in Egypt's history is known as the Amarna Period and is usually dated from Akhenaten's reforms to Horemheb's reign:”

c. 1348 - c. 1320 BCE.

AKHENATEN, NEFERTITI AND THEIR CHILDREN.



NOTE THE THREE DIFFERING POINTS OF RADIATION. (Colour-coded).

- Golden rays for the nobility?
- Purple rays for the feast?
- Red rays for the rank and file?

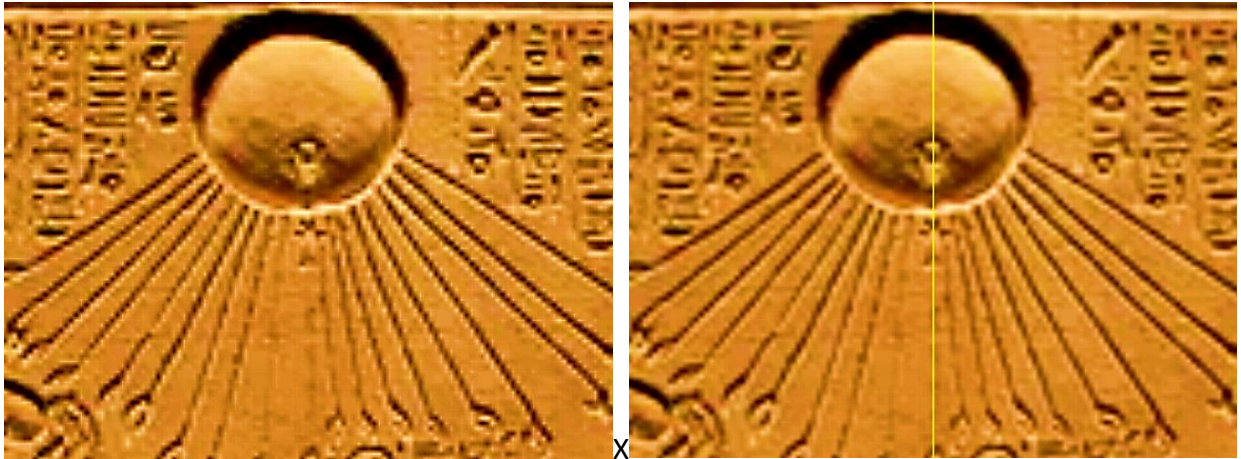
BUT this image does not comply with the others. The “verticle” ray at 0^0 is not verticle!

The ‘verticle’ ray that should pass thru the cobra, the ankh and the triangle is missing or is not ‘aligned’ as in other Atens.

So much for those postulations.

Now, the following pages will show how I see Akhenaten, his family and his God Aten. Without using fluffy words to highlight his beliefs and accomplishments or to denigrate him, I have chosen to look at him in the cold hard light of day, if I may use a pun. What did Akhenaten really see in his “Aten and its Rays”?

ATEN & RA & ANCIENT KNOWLEDGE OF ANGLES



It is important to identify which sunray is the starting point, and that is the “Vertical” at 0° . This centre point is also a Ray of the Sun; i.e. of *The Aten*. *The Aten* itself, through the locations of its Focal Points, will identify the position of the centre ray.

Also, just line up the **Cobra**, the **Ankh**, and the **Triangle**.



AND THERE IS NO “ONE, ALL POWERFUL ATEN”

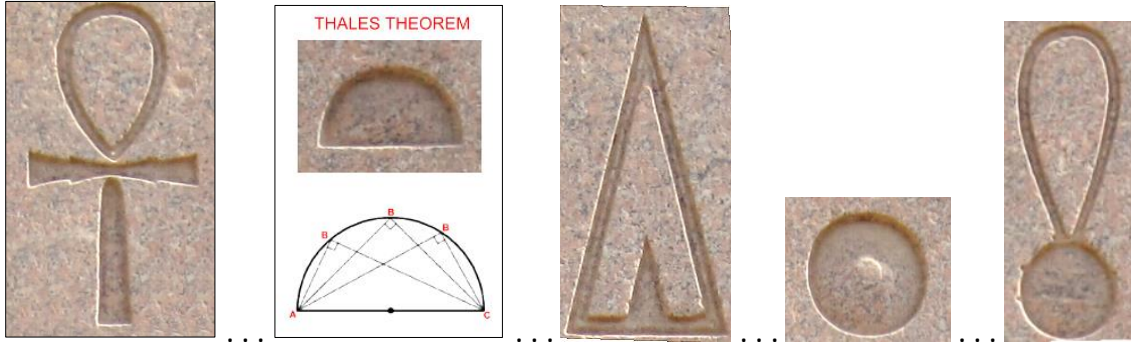
AND NO TWO ATENS ARE THE SAME.

THE ATEN

ALL IMAGES AND CLAY STELES OR EVEN WALLS WILL SHOW ATEN WITH THE SAME FEATURES:

A COBRA, AN ANKH, A TRIANGLE AND SUNRAYS.

ALMOST KINDERGARTEN STUFF.



It is important to identify which sunray is the "Vertical" 0^0 . The Aten will identify it.
Line up the cobra, the ankh, and the triangle.

THE ANKH AT KARNAK

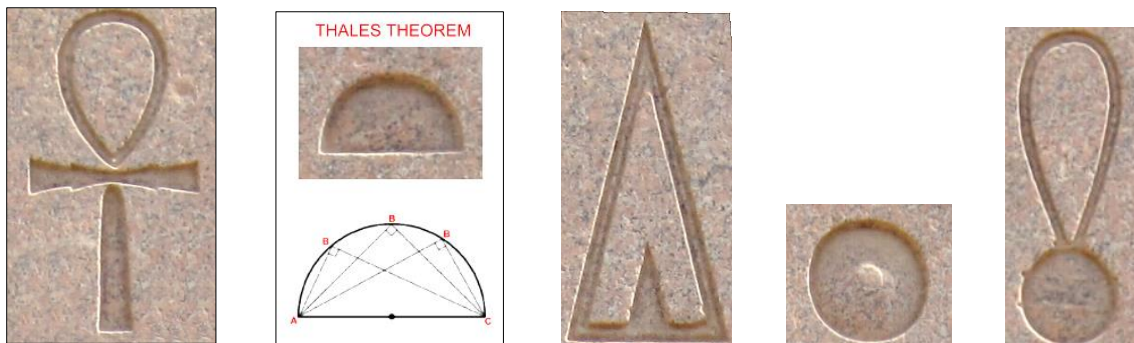
“. . . the cobra, the ankh, and the triangle”

These Symbols can be found on every one of Akhenaten’s Atens.
The better the photograph the better the images.



But they are also found in and around Cartouches and their antecedents going back to 3000bc. If they are **Geometrical Instruments** as I suspect then this knowledge goes back past 3000bc, to the time of Enmeduranki and the Kibdu secrets of Heaven and Earth.

‘GEOMETRICAL INSTRUMENTS’ AT KARNAK



Instruments for use in Construction, Architecture, Stone Cutting, etc.

AKHENATEN, with NEFERTITI, and THE ATEN



Akhenaten · Pharaoh of Egypt · Born: Around 1380 BC · Died: 1336 BC · Reign: 1353 BC to 1336



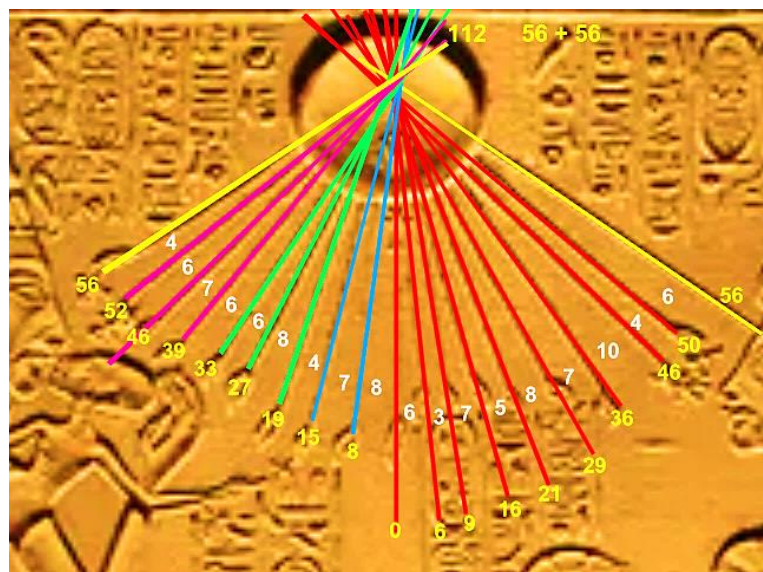
Once the sunray which is the “Vertical” at 0° has been identified by lining up the **cobra**, the **ankh**, and the **triangle** the next steps are to **identify the degrees in the angles traced out on each side of 0°** by each of **Aten’s Sunrays** and to **identify their focal points**.

A common trait with Atens seems to be their propensity to generate multiple focal points. The locations of these focal points should be noted for some further analysis.

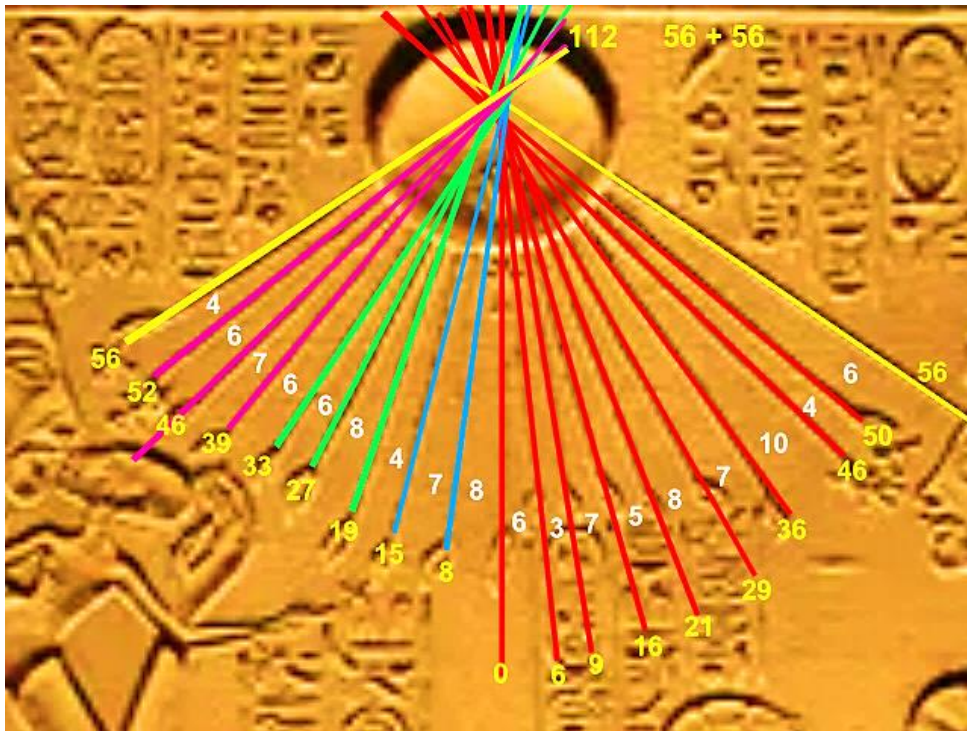
As my Graphics program is rather basic and only allows the selection of **whole angles**, it seems rather advantageous that I can still use it to analyse **The Aten** and its “Rays” from 1300bc.

It also shows that perhaps the ancients were also only able to advance in whole degrees or, maybe, had some reason to do so.

But every Aten exhibits this trait. Every sunray is advanced from the previous by whole degrees.



THE ANGLE OF THE DANGLE:
ANALYSING THIS ATEN.



RANGES	
56	LEFT HAND
52	
46	
39	
33	
27	
19	
15	
8	
0	
6	RIGHT HAND
9	
16	
21	
29	
36	
46	
50	
56	

- The overall range is **112°** which fits within two Sextants.
- It is balanced having **56°** on each side of centre.
- It also has nine rays on each side of the central **0°** mark.
- The only common angles to both sides are **46°** and **56°**.

If it was designed to have differing angles in order to complete the range of composite angles then perhaps the angle for one of my rays is incorrect.

COMPOSITE ANGLES AVAILABLE									
	Plus Other Adjacent Combinations (not shown)								
0	6	9	16	21	29	36	46	50	56
8	14	17	24	29	37	44	54	58	64
15	21	24	31	36	44	51	61	65	71
19	25	28	35	40	48	55	65	69	75
27	33	36	43	48	56	63	73	77	83
33	39	42	49	54	62	69	79	83	89
39	45	48	55	60	68	75	85	89	95
46	52	55	62	67	75	81	92	96	102
52	58	61	68	73	81	88	98	102	108
56	62	65	72	77	85	92	102	106	112

Perhaps, he invented the concept "Hidden in plain view."

ADJACENT ANGLES ON EACH SIDE OF 0°.
 (NOT INCLUDED IN 'COMPOSITE ANGLES AVAILABLE'.)

My range of **adjacent angles** on the same sides of 0°.

Also available for constructing more composite angles:

4, 6, 7, 6, 6, 8, 4, 7, 8,

6, 3, 7, 5, 8, 7, 10, 4, 6.

11 (4, 7), **12** (6, 6), **13** (6, 7), **14** (6, 8), **15** (7, 8),

4, 5, 6, 7, 8, **9** (6, 3), 10

The angles in **black** were those given by the rays of Aten from **both sides** of 0° taken together. The angles in **red** were those missing in the original compilation of **composite** angles but were later added from analysis of **adjacent** angles on **each side** of 0° taken separately.

ADJACENT ANGLE ANALYSIS														
ADJACENT ANGLE RANGE (ON EACH SIDE OF ZERO)						4 ALONE		Left / Right Hand Side						
4, 6, 7, 6, 6, 8, 4, 7, 8,			6, 3, 7, 5, 8, 7, 10, 4, 6.			5 ALONE								
Left Hand Side			Right Hand Side											
<table border="1" style="width: 100%; height: 100px; background-color: #fde9d9;"> <tr><td style="text-align: center;">22</td></tr> <tr><td style="text-align: center;">26</td></tr> <tr><td style="text-align: center;">32</td></tr> </table>						22	26	32						
22														
26														
32														
34 = 5, 8, 7, 10, AND 4,						Right Hand Side								
38 = 7, 6, 6, 8, 4, 7,						Left Hand Side								
41 = 4, 6, 7, 6, 6, 8, AND 4						Left Hand Side								
47 = 7, 5, 8, 7, 10, 4, 6.						Right Hand Side								
53 = CANNOT BE DONE														
								10 = 4 AND 6						
								11 = 4 AND 7						
								12 = 6 AND 6						
								13 = 6 AND 7						
								18 = 6, 8 AND 4						
								20 = 6, 6, AND 8						
								23 = 4, 6, 7 AND 6						
								23 = 3, 7, 5 AND 8						
								30 = 3, 7, 5, 8, AND 7						
								30 = 5, 8, 7, AND 10						
BELOW THE 56 LIMIT						ABOVE THE 56 LIMIT								
	10	20	30	40	50		60							
	11	21	31	41	51		61	71	81					
	12			42	52		62	72		92	102	112		
	13	23	33	43			63	73	83					
4 ALONE	14	24	34	44	54		64							
5 ALONE	15	25	35	45	55		65	75	85	95				
6	16		36	46	56					96	106			
7	17	27	37	47			67	77						
8	18	28	38	48	58		68		88	98	108			
9	19	29	39	49			69	79	89					

If I could find adjacent angles that add to **22°**, **26°**, and **32°** this Aten would be complete for 4° to 52°, 49 separate measures.

Egyptian Pharaohs, especially those who paid homage to Aten had an almost complete access to angles. This Sun not only provided the daylight for the crops. It also provided the knowledge and instruments for Architects and Builders and put the word 'light' in enlightenment.

Who was it who said 'these people had no real concept of Angle!'



“ . . . THE COBRA, THE ANKH, AND THE TRIANGLE & ATEN ”
Visible from 2500bc to 1300bc and back to maybe 3000bc.

2477–2467 BC



[Kakai](#)

Son of Sahure, born with the name Ranefer



1780–1770 BC

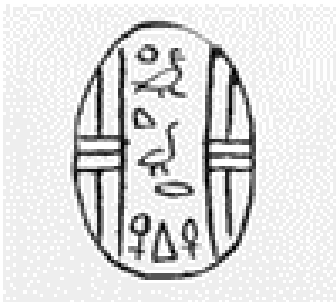


[Ya'ammu](#)

Chronological position uncertain, here given per Ryholt



1770–1760 BC



[Qareh](#)

Chronological position uncertain, here given per Ryholt



1745–1705 BC

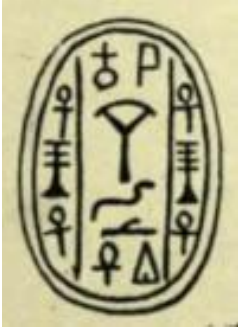


[Sheshi](#)

Chronological position, duration of reign and extend of rule uncertain, here given according to Ryholt. Alternatively, he could be an early Hyksos king, a Hyksos ruler of the second part of the 15th Dynasty or a vassal of the Hyksos.



Around 1700 BC



[Wazad](#)

May be identifiable with Sehebre or Merdjefare



1664–1663 BC

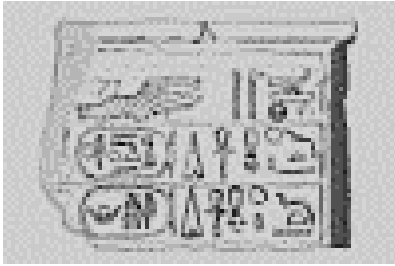


[Sobekhotep VII](#)

Reigned 2 years and 6 months



Around 1558 BC



[Senakhtenre](#)



1520–1492 BC



[Thutmose I](#)

Father unknown, though possibly [Amenhotep I](#). His mother is known to be [Senseneb](#). [Thutmose I](#) established family control over the Egyptian throne for the next 175 years. [Thutmose I](#) defeated the [Kingdom of Kush](#) and destroyed Kerma in [Nubia](#), he campaigned in Syria as far as the [Euphrates River](#). He is also the father of [Thutmose II](#) and [Hatshepsut](#)



1390–1352 BC



[Amenhotep III](#) The Magnificent

Father of [Akhenaten](#) and grandfather of [Tutankhamun](#).

Ruled Egypt at the height of its power.

Built many temples and monuments, including his enormous [Mortuary Temple](#).

Was the son of [Thutmose IV](#)

If “... **THE COBRA, THE ANKH, AND THE TRIANGLE**” go back to maybe **3000bc.**
 And if they are all associated with the Sun God;
 And if they are also indicative of the possession of Technical Knowledge;
 Are they part of the ‘Kibdu Secrets’ given by Heaven to Enmeduranki way back then?

HOW FAR BACK CAN WE TRACE THE TOOLS OF GEOMETRY?

Hieroglyphics | New Scientist



EGYPTIANS AND MESOPOTAMIANS

“Hieroglyphics is a writing system invented in Egypt around 5000 years ago. It is the second oldest form of writing, originating a few hundred years after **cuneiform**, which uses wedge-shaped characters and was devised by the Sumarians of Mesopotamia. The Egyptians were once thought to have got the idea of writing from the Sumarians, but their system is now generally *believed* to have emerged independently, although the details of its origins remain mysterious.”

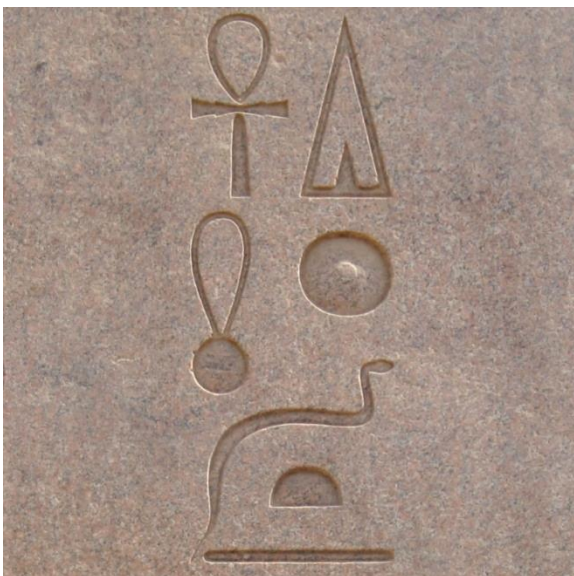
“Hieroglyphs take the form of pictures, each representing an entire word, syllable, or phoneme (the units of sound from which spoken language is built). The Ancient Egyptians referred to these scripts as “**the gods’ words**”, a phrase translated by the Ancient Greeks as “**sacred carvings**”, which gives us “hieroglyphics”. Strictly, the word applies only to the writing on Ancient Egyptian monuments. However, these days, it is used more loosely to describe other, unrelated, picture-based scripts including those employed by the Hittites in Anatolia, the Minoans in Crete and the Maya of Mesoamerica.”

“Egyptian hieroglyphs are written in rows and columns. They are read from top to bottom, and **either left to right or right to left – with the heads of the human and animal characters pointing toward the start of the line.**

The earliest texts remain largely indecipherable, except for names within them, even though many contain hieroglyphs used in later inscriptions. However, during the 3rd dynasty (between about 2650 and 2575 BC) hieroglyphics became regularised. From then, it continued with the same 700 or so signs for more than 2000 years.

Although hieroglyphics are no longer used, some of the Ancient Egyptian signs live on in modern alphabets. For example, the letter M takes the same form as the hieroglyphic water wave sign from which it derives.”

THE COBRA, ANKH, PLUMB BOB & TRIANGLE AT KARNAK WITH RA.
With the ROD and possibly THALES THEOREM (Hemisphere)



ALL THESE SYMBOLS APPEAR ON ATEN DEPICTIONS.

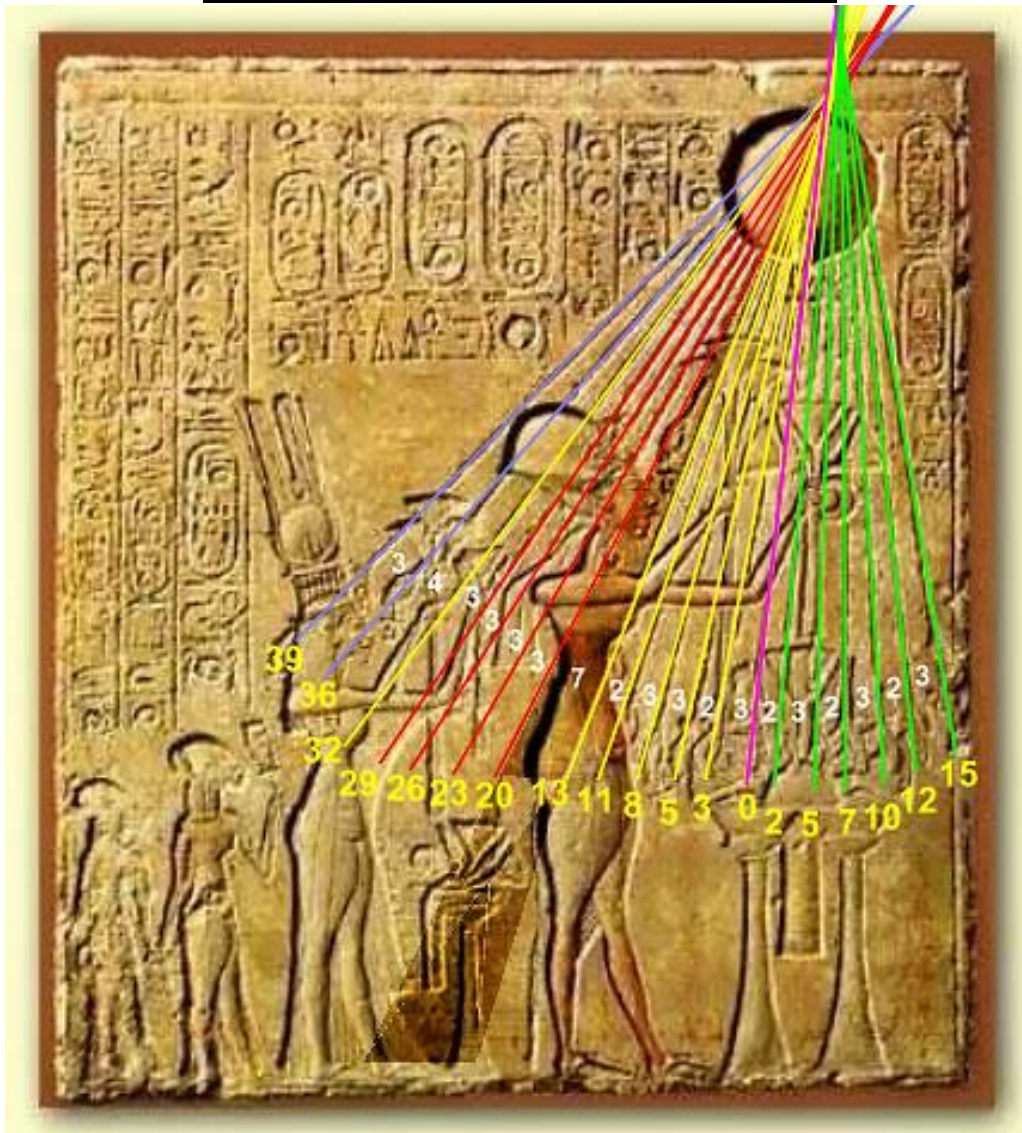
THE **COBRA**, THE **ANKH**, THE **TRIANGLE** with centre point marked upon it, THE **SUN** (with **Focal Point**), AND THE **SEMI-CIRCLE OF THALES** AND A TANGENT ROD?

THE **SEMI-CIRCLE OF THALES** ALSO INTRODUCES THE CONCEPTS OF RIGHT ANGLED TRIANGLES AND THENCE OF PLANE REGULAR SHAPE.

THE **PLUMB BOB** IS ALSO USEFUL TO IDENTIFY 0° AND OTHER ANGLES.

AKHENATEN & FAMILY WITH THE ATEN

(WITH THREE or FOUR SEPARATE FOCAL POINTS)



THE GAP IN THE RAYS THAT EQUALS 7° IS THE ODD ONE OUT IN THIS ATEN.

IT SEEMS TO FALL UPON A TABLE OF FOOD AND DRINK.

ALL THE OTHER RAYS ARE 2° , 3° , AND ONE AT 4° , APART.

NEFERTITI WEARS THE SHWTY CROWN EMBELLISHED WITH THE BULL HORNS AND RA CIRCLE.

THE REPITITION OF THE PAIRING OF 2° WITH 3° SHOWS INTENT; THIS IS NOT SIMPLY A SET OF RANDOMLY CHOSEN SUNRAYS. IT COULD HAVE ACTED AS AN ANCIENT PROTRACTOR.

3, 2, 3, 2, 3, 2, 3, 2, 3, 2, 7, 3, 3, 3, 3, 4, 3, IS NOT RANDOM. WHY IS IT SO?

THIS ATEN HAS GONE CLOSE TO PROVIDING ALL THE ANGLES BETWEEN 1° AND 55° .

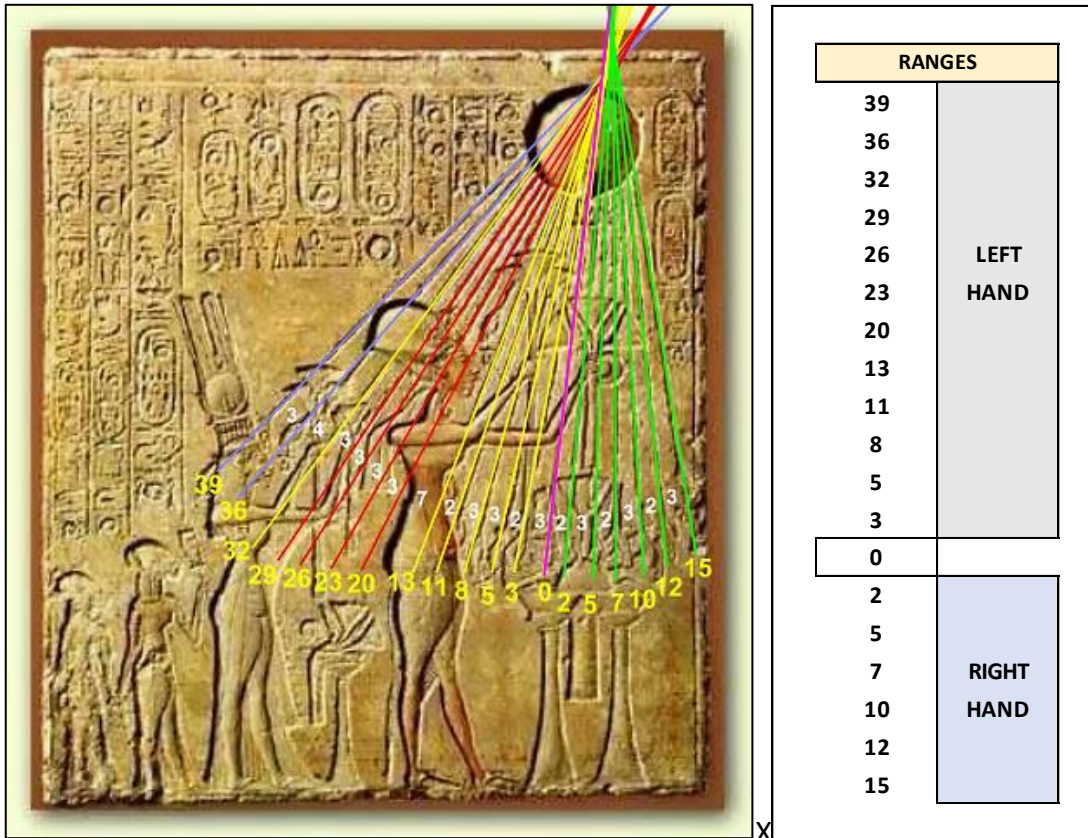
I SOMEHOW FEEL THAT AN ALTERATION OF 1° IN JUST ONE RAY COULD HAVE PROVIDED THE LOT.

BUT IT IS NOT THAT SIMPLE.

Perhaps those three sticks hinged at the top could have been useful in guaging a composite angle.

This would have required two separate steps to marry an angle at the left to one at the right.

THIS IS NO KINDERGARTEN DRAWING. IT IS VERY COMPLEX.



ADJACENT ANGLES ON EACH SEPARATE SIDE OF 0°.

3, 4, 3, **3, 3, 3, 7, 2, 3, 3, 2, 3,** and 2, 3, 2, 3, 2, 3,

COMPOSITE ANGLES SORTED					
0	10	20	30		
	11	21	31	41	51
2	12	22	32	42	
3	13	23	33	43	
			34	44	54
5	15	25	35		
	16	26	36	46	
7	17	27	37	47	
8	18	28	38	48	
		29	39	49	

Missing Angles above: 1°, 4°, 6°, 9°, 14°, 19°, 24°, 40°, 45°, 50°, but:

The largest sequence of adjacent angles is on the same side of 0° but can only add to its limit of 39°.

4° is found by itself as a single angle on the Left Hand Side.

6° is found using 2 adjacent 3° angles on the Left Hand Side.

9° is found using 3 adjacent 3° angles on the Left Hand Side.

The sequence 3, 4, 3, 3, 3, 3, adjacent degrees on the Left Hand Side gives the missing 19°

The sequence 3, 3, 3, 7, 2, 3, 3, adjacent degrees on the Left Hand Side gives the missing 24°

That gives us a complete set of angles from 2° to 39°, excepting only 14°.

ADJACENT ANGLE ANALYSIS

ADJACENT ANGLE RANGE (ON EACH SIDE OF ZERO)

343333723323	232323
Left Hand Side	Right Hand Side

4 = stand alone	Left Hand Side	
6 = 3, 3.	Left Hand Side	
9 = 3, 3, 3.	Left Hand Side	40 = <i>above limit</i>
14 = <i>not available</i>		45 = <i>above limit</i>
19 = 3, 4, 3, 3, 3, 3.	Left Hand Side	50 = <i>above limit</i>
24 = 3, 3, 3, 3, 7, 2, 3.	Left Hand Side	

ANGLES LOCATED IN ADJACENT RAYS ON EACH SIDE SHOWN IN RED

BELOW THE 39 LIMIT			
0	10	20	30
	11	21	31
2	12	22	32
3	13	23	33
4		24	34
5	15	25	35
6	16	26	36
7	17	27	37
8	18	28	38
9	19	29	39

ABOVE THE 39 LIMIT	
41	51
42	
43	
44	54
46	
47	
48	
49	

<i>ADDITION MATRIX</i>						
COMPOSITE ANGLES AVAILABLE						
Plus Other Adjacent Combinations (not shown)						
0	2	5	7	10	12	15
3	5	8	10	13	15	18
5	7	10	12	15	17	20
8	10	13	15	18	20	23
11	13	16	18	21	23	26
13	15	18	20	23	25	28
20	22	25	27	30	32	35
23	25	28	30	33	35	38
26	28	31	33	36	38	41
29	31	34	41	39	41	44
32	34	37	39	42	44	47
36	38	41	43	46	48	51
39	41	44	46	49	51	54

Composite angles are derived from the addition of each angle to the left of 0^0 to each one on the right of 0^0 .

<i>PLIMPTON 322</i>					
COMPOSITE ANGLES SORTED					
0	10	20	30		
	11	21	31	41	51
2	12	22	32	42	
3	13	23	33	43	
			34	44	54
5	15	25	35		
	16	26	36	46	
7	17	27	37	47	
8	18	28	38	48	
		29	39	49	
<i>HIGHLIGHTING MISSING ANGLES BETWEEN 0 AND 59 DEGREES</i>					

THERE ARE 13 ANGLES HERE IN THE PLIMPTON 322 RANGE.
AND ONE MISSING ANGLE (40^0) IN THAT RANGE, MAKING 14.
AND ANOTHER ONE WOULD MAKE 15 AS IN PLIMPTON.

ANGLE RANGE OF THIS ATEN

COMPOSITE ANGLES SORTED					
Plus Other Adjacent Combinations (not shown)					
0	10	20	30		
	11	21	31	41	51
2	12	22	32	42	
3	13	23	33	43	
			34	44	54
5	15	25	35		
	16	26	36	46	
7	17	27	37	47	
8	18	28	38	48	
		29	39	49	

HIGHLIGHTING SOME HORIZONTAL SEQUENCES

ANGLE RANGE OF THIS ATEN

COMPOSITE ANGLES SORTED					
Plus Other Adjacent Combinations (not shown)					
0	10	20	30		
	11	21	31	41	51
2	12	22	32	42	
3	13	23	33	43	
			34	44	54
5	15	25	35		
	16	26	36	46	
7	17	27	37	47	
8	18	28	38	48	
		29	39	49	

THIS ATEN HAS GONE CLOSE TO PROVIDING ALL THE ANGLES BETWEEN 1° AND 55° .
I SOMEHOW FEEL THAT AN ERROR OF 1° IN JUST ONE RAY COULD HAVE PROVIDED THE LOT.

AKHENATEN AS THE SPHINX with THE ATEN



NOTE:

**TWO DIFFERENT
BUT OBVIOUS
FOCAL POINTS**

**TWO DIFFERENT GIFT GIVERS?
TWO DIFFERENT RECIPIENTS?**



ADDITION MATRIX
COMBINATIONS OF ATEN'S RAYS

COMPOSITE ANGLES AVAILABLE						
	Plus Other Adjacent Combinations (not shown)					
0	2	4	7	10	12	15
8	10	12	15	18	20	23
14	16	18	21	24	26	29
22	24	26	29	32	34	37
28	30	32	35	38	40	43
33	35	37	40	43	45	48
39	41	43	46	49	51	54
47	49	51	54	57	59	62
55	57	59	62	65	67	70
60	62	64	67	70	72	75
63	65	67	70	73	75	78

RANGES	
63	LEFT HAND
60	
55	
47	
39	
33	
28	
22	
14	
8	
0	RIGHT HAND
2	
4	
7	
10	
12	
15	

RANGE OF PLIMPTON 322 if applicable							
COMPOSITE ANGLES SORTED							
Plus Other Adjacent Combinations (not shown)							
2	12	21	30	40	50	60	70
4	14	22	32	42	51	62	72
7	16	24	33	43	52	63	73
8	18	26	36	44	54	64	
		28	37	45	55	65	75
			38	46	56		
			39	48	58	67	78
				49			

COMPOSITE ANGLES WITH DUPLICATES REMOVED

What if there was an Aten somewhere that embodied all the angles of the shapes in Plimpton 322?

What if there was an Aten somewhere that embodied all the angles from 0° to 180°?

What would that do to ancient Egyptian and Sumerian research?

ADJACENT ANGLE ANALYSIS

ADJACENT ANGLE RANGE (ON EACH SIDE OF ZERO)

3,5,8,8,6,5,6,8,6,8.	2,2,3,3,2,3,
Left Hand Side	Right Hand Side

3 = stand alone	Left Hand Side	25 = 8, 6, 5, 6.	Left Hand Side
5 = stand alone	Left Hand Side	27 = 8, 8, 6, 5.	Left Hand Side
5 = 3, 2.	Right Hand Side	31 = 6, 5, 6, 8, 6	Left Hand Side
6 = stand alone	Left Hand Side	36 = <i>not available</i>	
6 = 3, 3.	Right Hand Side	42 = <i>not available</i>	
9 = <i>not available</i>		44 = <i>not available</i>	
11 = 5, 6.	Left Hand Side	50 = <i>not available</i>	
13 = 5, 8.	Left Hand Side	52 = 5, 8, 8, 6, 5, 6, 8, 6.	Left Hand Side
17 = 6, 5, 6.	Left Hand Side	56, 58 = <i>not available</i>	
19 = 8, 6, 5.	Left Hand Side		

ANGLES LOCATED IN ADJACENT RAYS ON EACH SIDE SHOWN IN RED

BELOW THE 63 LIMIT						
0	10	20	30	40		60
	11	21	31	41	51	
2	12	22	32		52	62
3	13	23	33	43		63
4	14	24	34		54	
5	15	25	35	45	55	
6	16	26		46		
7	17	27	37	47	57	
8	18	28	38	48		
	19	29	39	49	59	

ABOVE THE 63 LIMIT	
	70
	72
	73
64	
65	75
67	
	78

ANGLE RANGE OF THIS ATEN							
COMPOSITE ANGLES SORTED							
Plus Other Adjacent Combinations (not shown)							
0	10	20	30	40		60	70
		21		41	51		
2	12	22	32			62	72
		23	33	43		63	73
4	14	24	34		54	64	
		15		35	45	55	65
		16	26		46		
7			37	47	57	67	
8	18	28	38	48			78
		29	39	49	59		

COMPOSITE ANGLES SORTED INTO DECIMAL RANGES

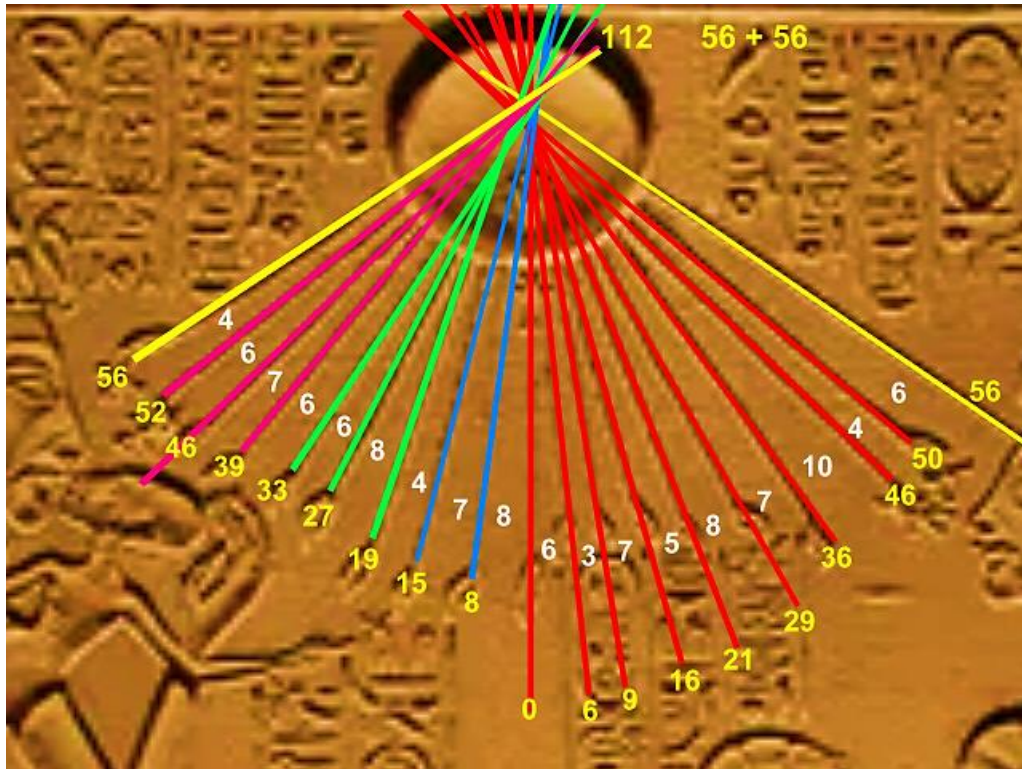
ANGLE RANGE OF THIS ATEN							
COMPOSITE ANGLES SORTED							
Plus Other Adjacent Combinations (not shown)							
0	10	20	30	40		60	70
		21		41	51		
2	12	22	32			62	72
		23	33	43		63	73
4	14	24	34		54	64	
		15		35	45	55	65
		16	26		46		
7			37	47	57	67	
8	18	28	38	48			78
		29	39	49	59		

HORIZONTAL SEQUENCES HIGHLIGHTED

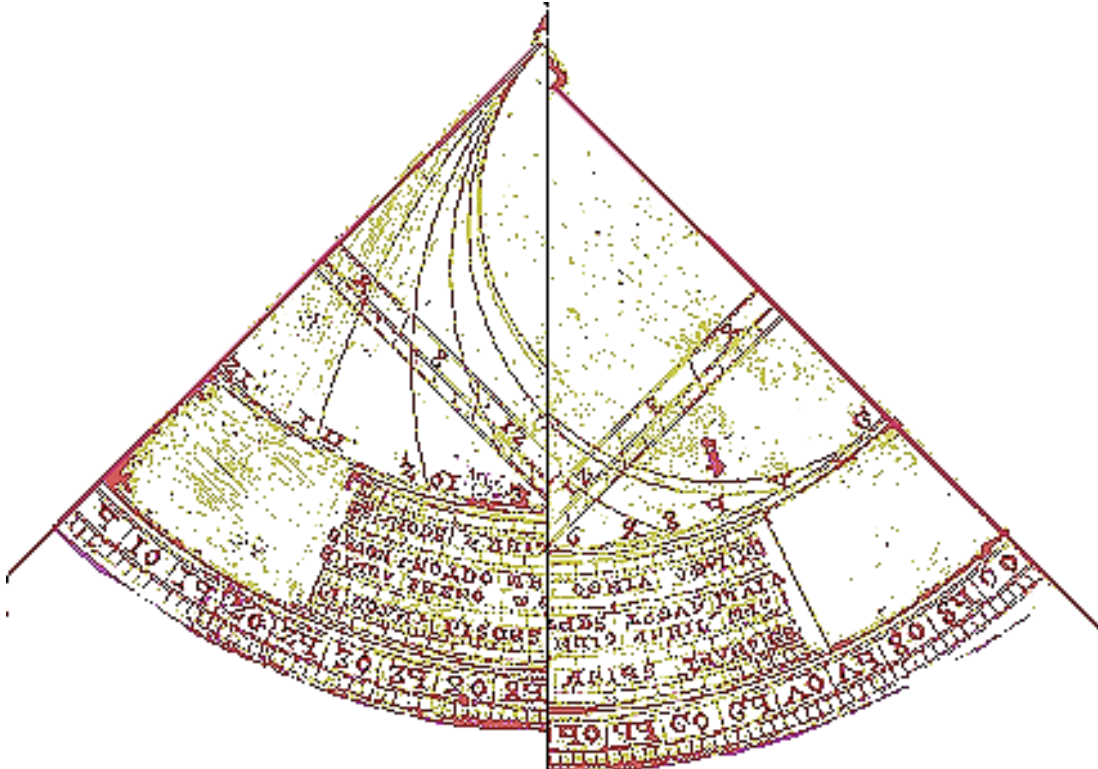
ANGLE RANGE OF THIS ATEN							
COMPOSITE ANGLES SORTED							
Plus Other Adjacent Combinations (not shown)							
0	10	20	30	40		60	70
		21		41	51		
2	12	22	32			62	72
		23	33	43		63	73
4	14	24	34		54	64	
		15		35	45	55	65
		16	26		46		
7			37	47	57	67	
8	18	28	38	48			78
		29	39	49	59		

VERTICLE SEQUENCES HIGHLIGHTED

THE ATEN & THE QUADRANT



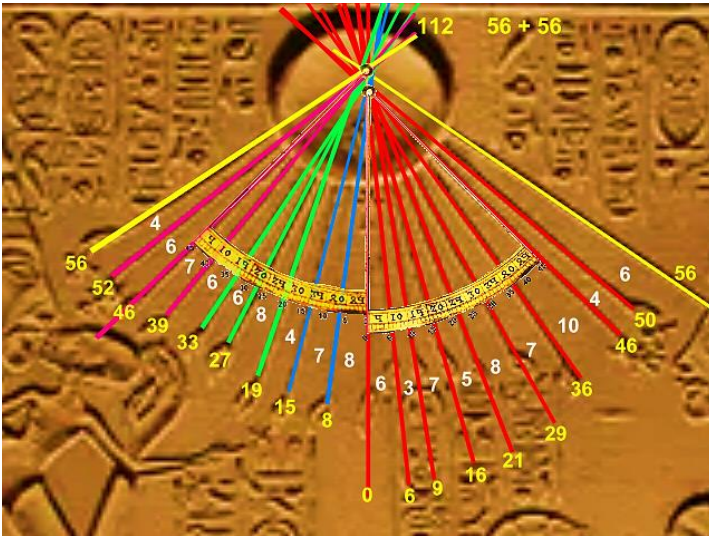
A QUADRANT SPLIT INTO TWO OCTANTS AND OFFSET FOR TWO FOCAL POINTS:



A SINGLE QUADRANT or TWO SEPARATE OCTANTS or SEXTANTS or BOTH?

The choice of tool for this quest would seem to me to be an **“Octant”** or one-eighth of a circle, with a range of 45° . The more popular modern tool would be a **“Sextant”** which is one sixth of a circle with a range of 60°

The best argument for the existence of an Octant or Sextant is that it enabled the gauging of Aten Ray angles where the Aten has more than one **“Focal Point”**, which seems to be the case with most Atens I have tried to analyse.

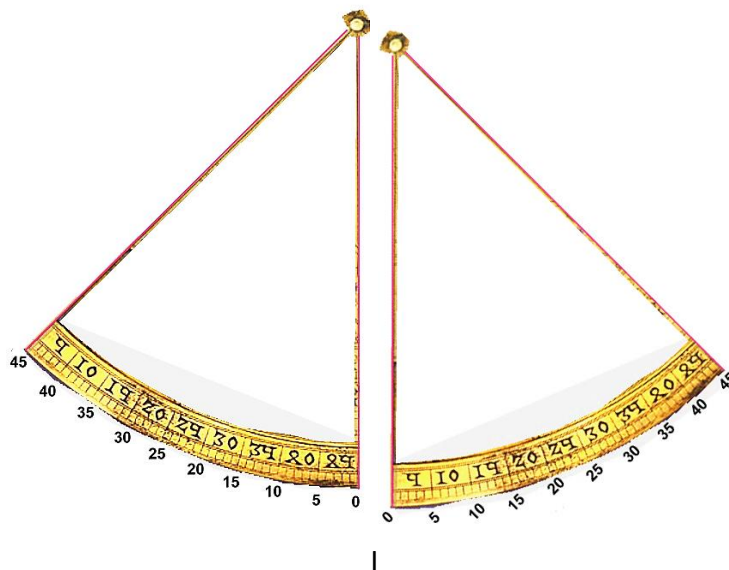


Was The Aten itself the Octant or Sextant from which degrees could be measured? Was it the original Quadrant, and a source of the Astrolabe?

Was each Aten a separate reference source from which required angles could be traced?

Perhaps, the wise ancient Egyptians have used another instrument. They built mega structures so the manufacture of simply an instrument should have been a simple task. The qualities I find to be associated with Atens indicate that they had the required knowledge to produce a Quadrant or even an Octant or Sextant; whatever was needed at the time.

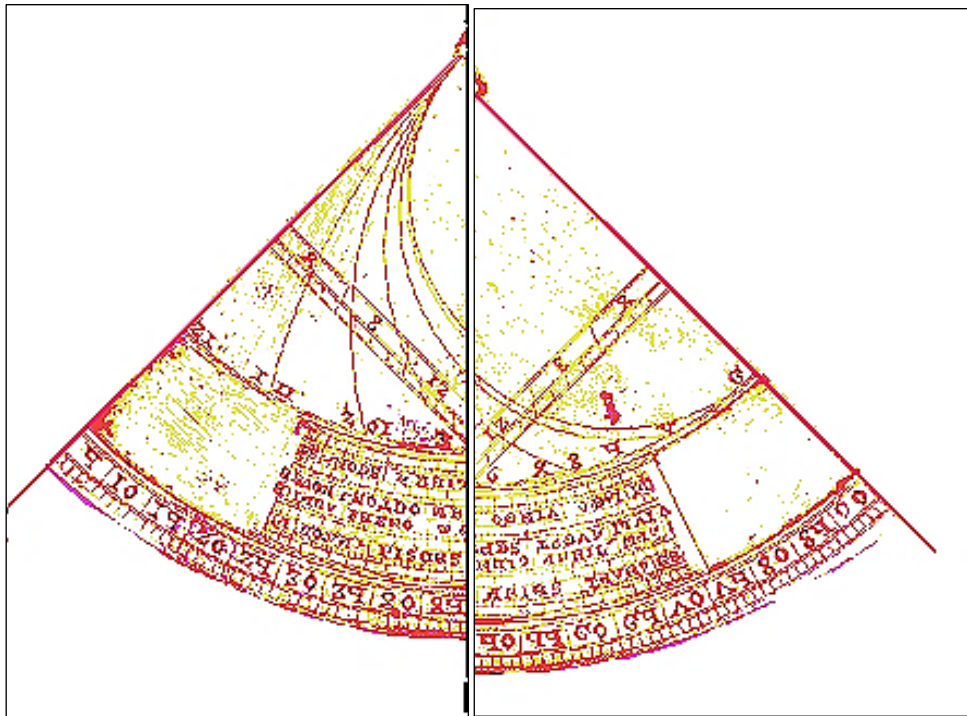
QUADRANTS, SEXTANTS, or OCTANTS:



ATEN & THE OFFSET OCTANTS

One cannot properly read the angles in The Aten with a Quadrant if there are two or more Focal Points for the sun's rays. Analysis of the Atens shows that the Focal Points for the Rays alters at 0° . Rays from the same Focal Point are located on one side of 0° only.

The fact that this occurs for all Atens is evidence that planning has gone into each Aten's shape.



- **A QUADRANT** is one-quarter of a circle with a range of 90° .
- **AN OCTANT** is one-eighth of a circle with a range of 45° .
- In my Shape Theory 90° gives us a **Square**.
- In my Shape Theory 45° gives us the **Octagram**.
 - The Octagram was associated with Inanna in ancient Mesopotamia.
 - Shamash was also associated with 8 pointed Octagrams.

SOME 'QUADRANT' HISTORY

*“The origin of the **astrolabe-quadrant** is more mysterious. The idea may seem simple. This involves using the symmetry of the eardrum of the astrolabe with respect to the meridian line and replacing the spider with a rope where a mobile pearl occupies the position of the Sun. The instrument is then easy to manufacture, very inexpensive and, **substituting a quarter disc for the entire disc, is relatively larger and therefore, a priori, more precise.**”*

“In the Muslim world, an astrolabe-quadrant called the “quadrant of arcs of height” (rub' al-muquantarāt) was developed, which could have been thought to have been derived from the quadrant of Profatius.”

THE QUADRANT: - Elementary approach

“Description”

“The instrument is made up of a few basic elements found on virtually all hourly quadrants. These are:

- the body of the quadrant, having the general shape of a *quarter circle*, on which there is a *graduated sector of 90° towards its outer edge* : the *limbus* ;
- *The sighting system* comprising two peephole pinnules attached to one side of the quadrant;
- a *plumb line* which allows the verticality of the instrument to be checked when aiming at the Sun (which must not be looked at in front) and which indicates on the limb the height of the day star;
- A network of hours drawn on the body of the dial. This network, which depends on the method of construction chosen, is of variable form and the hours, depending on the period, can be temporary hours and/or equinoctial hours;
- a small bead-index, adjusted “ sliding tight ” on the *plumb line*, after adequate adjustment, will indicate, when sighting the Sun, the time of observation on the time network. In the figure opposite, the time network (in red) represents the temporary six hours of the morning, the hour of noon being the sixth hour ; the afternoon hours are superimposed by symmetry on the morning hours, ie for example the pairs 5-7, 3-9, 1-11. The sliding bead (in green) indicates that we are at the beginning of the second hour of the morning or a little before the eleventh hour of the afternoon.”



AN OCTANT?

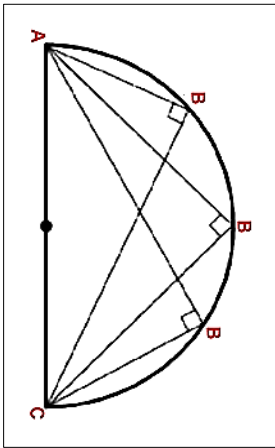
OR A COMPASS?

OR JUST REEDS FOR SCRIBES FOR CUNIFORM?

OR A METHOD OF MEASURING ATEN ANGLES?



ATEN ANALYSIS TOOLS
THE COMPASS, THE TRIANGLE, THE ANKH, AND THALES THEOREM



PLIMPTON 322

If Dr. Wildberger and Dr. Daniel Mansfield (Uni NSW) had kept their diagonal (hypotenuse) fixed in place of their fixed long side then their right angle would not be in a fixed position but would float around the circumference of a semicircle in the manner of the Theorem brought to Greece by Thales around 600BC.

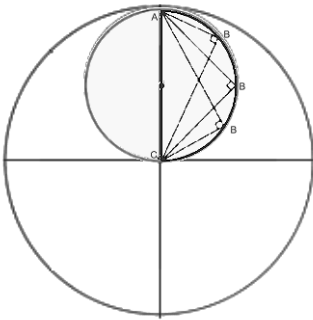
THALES THEOREM

It is possible that the concept behind Thales Theorem may have been known in Mesopotamia and Egypt long before he brought it back to Greece.

It is also possible that ALL right angled triangles may be **scaled** to be found within this semicircle (if scaled to a common hypotenuse).

The terminology Long Side and Short Side can obviously be associated with this “Thales” image.

THE CONNECTION BETWEEN STONEHENGE, PLIMPTON 322 & THALES, AND MY ‘ANKH’ CIRCLE:



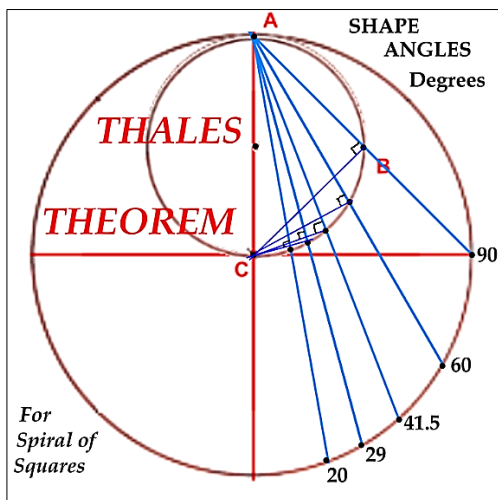
Could then the knowledge that **Thales** brought back to Greece from Mesopotamia and Egypt in 600bc be as old as **Plimpton322** or even older?

Stonehenge is older and it is clear that it was planned as a multi-circular monument to the knowledge behind its underlying shapes and to its many mathematical and construction harmonics. And the Spiral of Squares was found to be applicable to Stonehenge.

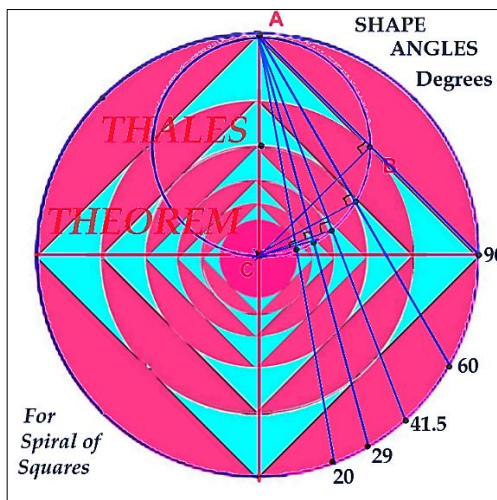
MY ‘ANKH’ CIRCLE, THALES & THE SPIRAL OF SQUARES:

SHAPE AND A SET OF RIGHT ANGLED TRIANGLES (Thales):

What the **Spiral of Squares** looks like in an “Ankh” Circle layout.

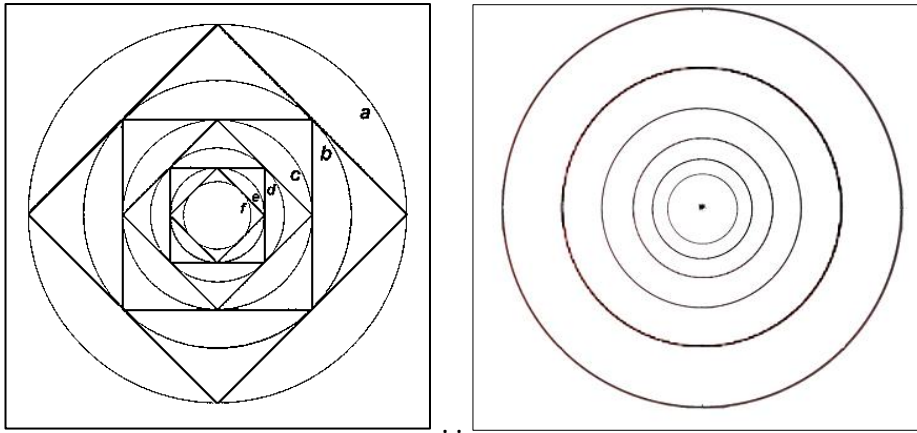


$\sqrt{2} \times \sqrt{2} \times \sqrt{2} \times \sqrt{2} \times \sqrt{2}$



Note the Tangents to each Circle

VARIOUS EXPRESSIONS OF THE EQUATION $\sqrt{2} \times \sqrt{2} \times \sqrt{2} \times \sqrt{2} \times \sqrt{2}$

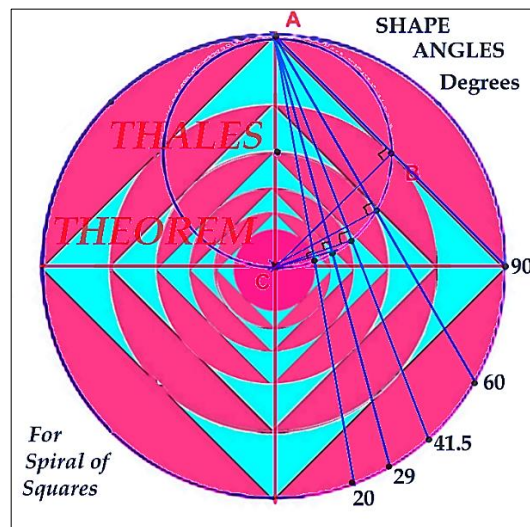
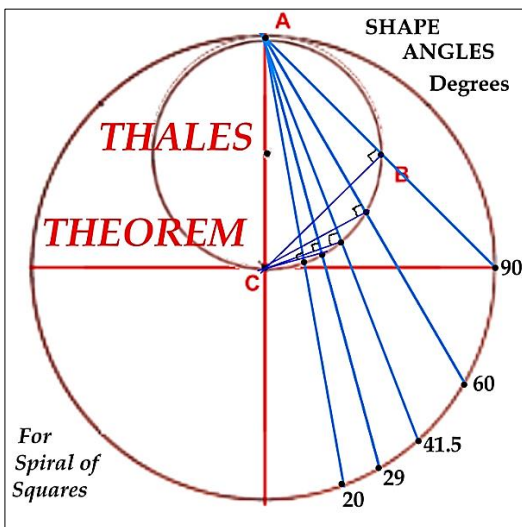


CIRCLES OF THE QUADRATURE

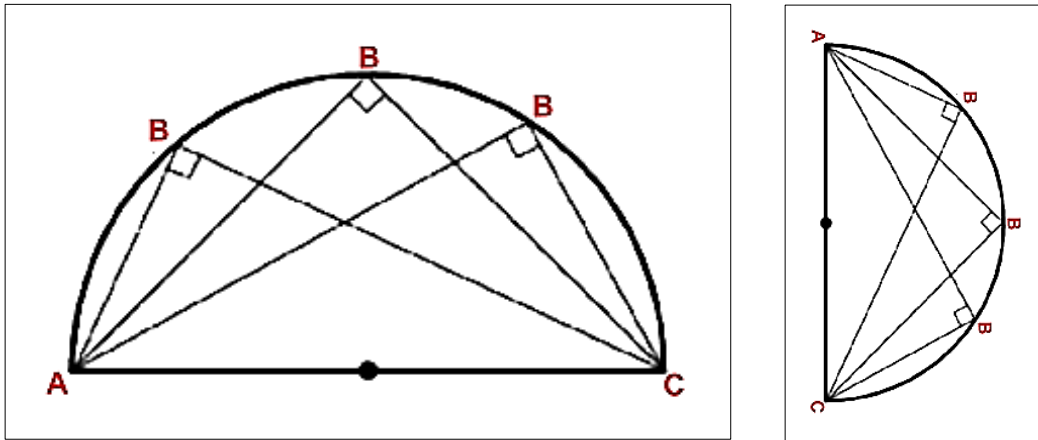
MATHEMATICAL HARMONICS

1.414213562
X
1.414213562
X
1.414213562
X
1.414213562
X
1.414213562

SYMMETRY



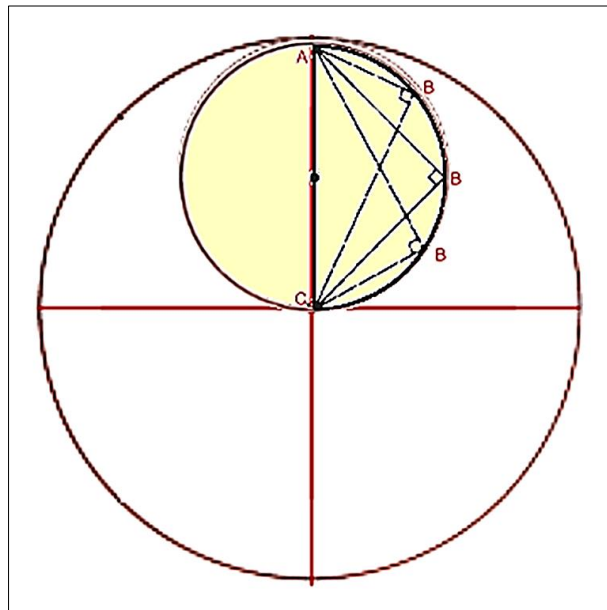
THALES THEOREM CONCEPT



THALES THEOREM incorporated in My Circle of Inner Harmony.

I would assert that the OB mathematicians could have inserted the Plimpton 322 right angled triangles into my Circle of Inner Harmony in the same manner that Thales did around 600bc.

They could then have traced out the related shapes.



Shape Ratio = AC / BC which is also

'The radius of Circumscribing Circle divided by the radius of the Inscribing Circle'

PLIMPTON 322 . . . "Diagonal / Short Side" . . . Anticlockwise

('Long Side' until we reach 45° for the Square . . . then **AB** becomes the 'Short Side' . . . Mostly polygons.

But Plimpton 322 only deals with shapes with angles between 60° and 90° . (And not with Polygons).

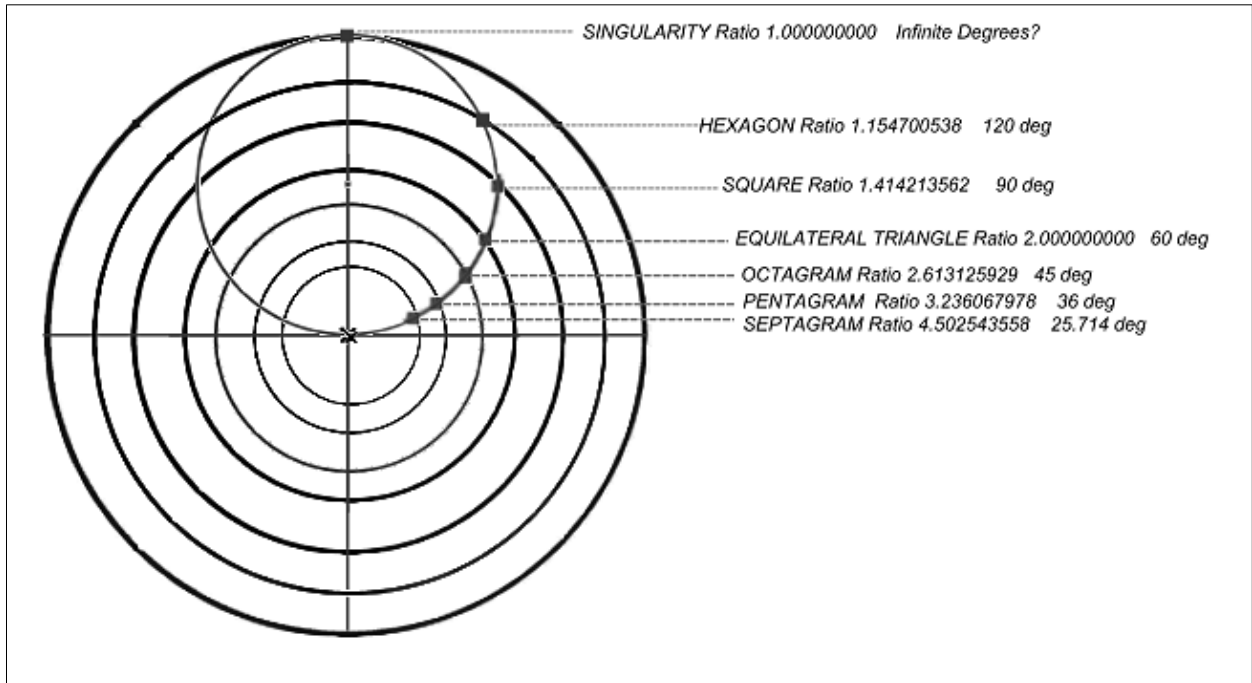
In Shape Theory, when the 'doubled degrees' at **A** reach 90° , the Long Side equals the Short Side, i.e. **AB = BC**

This is the angle at point **A** for the square, ratio 1.414213562 or $\sqrt{2}$.

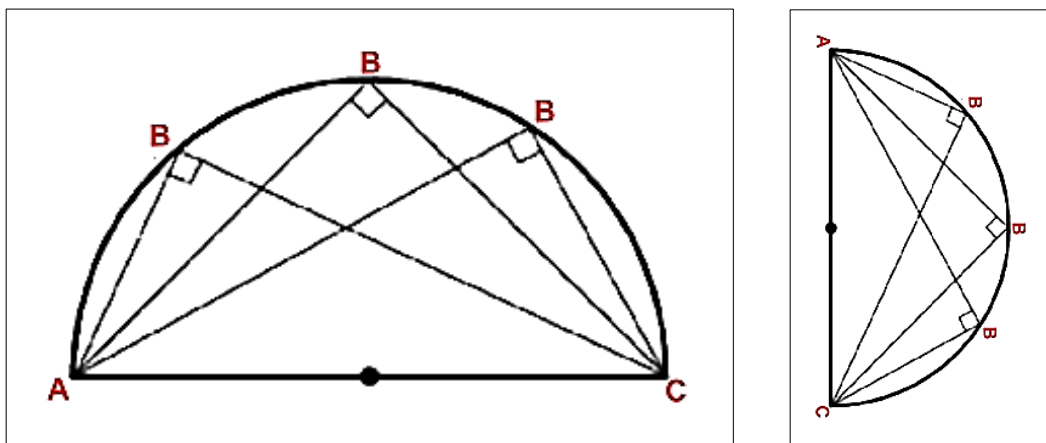
In Thales Theorem the apex at point **A** would be 45° . (Doubled it would be 90° .)

THE CIRCLES AND THALES THEOREM

This diagram indicates the points of intersection of the Circle of Inner Harmony (or Ankh Circle) with the Inscribing Circles for some Plane Regular Shapes given, of course, the use of a **fixed constant Circumscribing Circle** for all the shapes. . . . Note how the ratios increase as one proceeds clockwise around the Circle of Harmony.



THALES THEOREM



- THALES THEOREM,
- MY ANKH CIRCLE WITH THE SHAPE FORMING TANGENTS,
- THE ATENS, WITH THE RAYS
- AND PLIMPTON 322

THESE ARE ALL INTERCONNECTED PARTS OF THE MATHEMATICS AND HISTORY OF MY SHAPE THEORY.

THE HARMONIES OF PLANE REGULAR SHAPE

So, if **all** Right Angled Triangles can be scaled to be found in Thales Theorem's Semicircle;
 And, if **all** Plane Regular Shapes have in-built Right Angled Triangles;
 Then, **all** Plane Regular Shapes can be found in Thales Theorem's Semicircle.

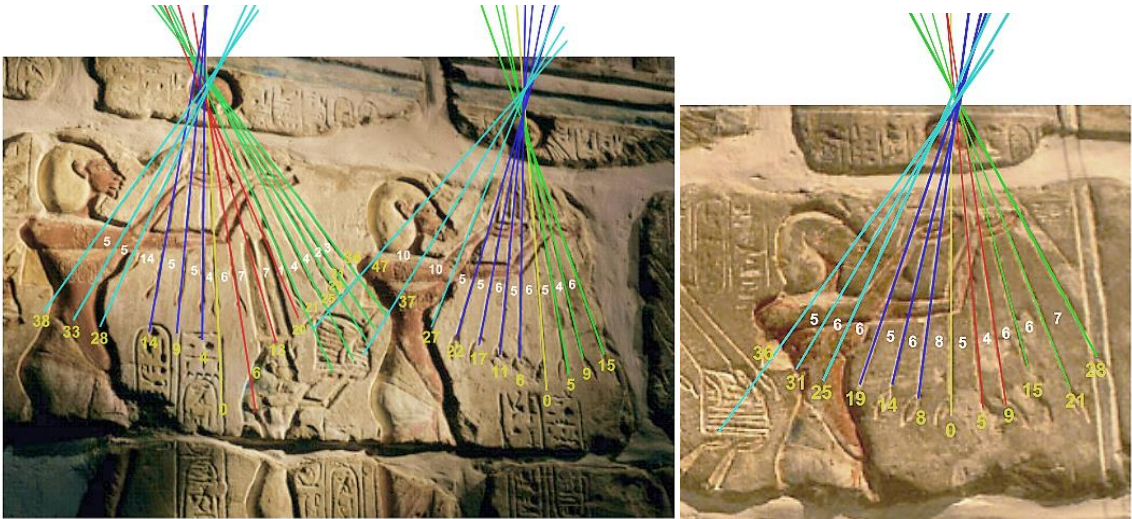
And if **all** Plane Regular Shapes can be scaled to be found in the complete Array of Angles;
 And if The Aten is by nature an Array of Angles;
 Then, The Aten may contain Angles for Plane Regular Shapes.

And, if **all** Right Angled Triangles can be scaled to be found in Thales Theorem's Semicircle;
 And, if Plimpton 322 contains 15 Right Angled Triangles;
 Then, Plimpton 322's 15 Right Angled Triangles can be found in Thales Theorem's Semicircle.

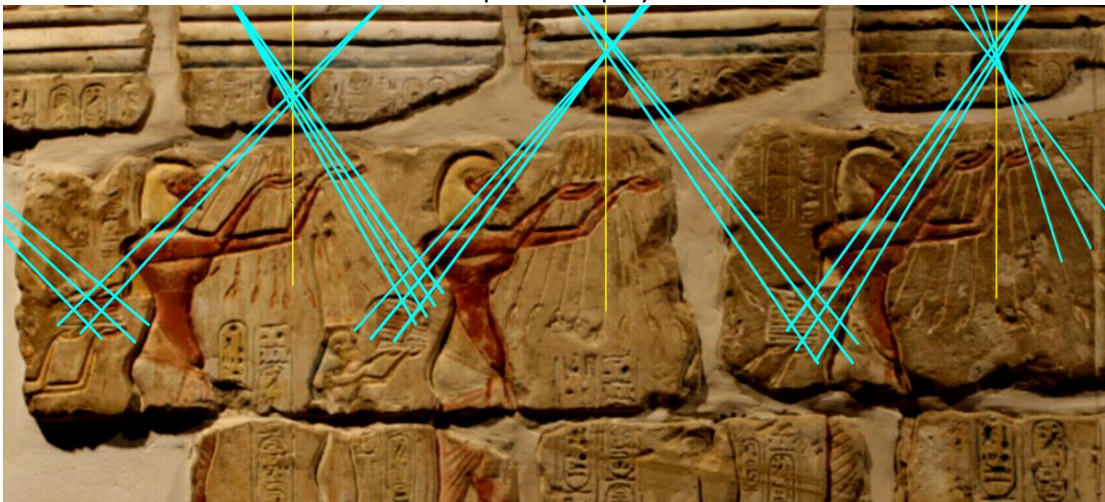
And, if **all** Plane Regular Shapes have in-built Right Angled Triangles;
 And, if Plimpton 322 contains 15 Right Angled Triangles;
 Then, Plimpton 322's 15 Right Angled Triangles may contain Angles for Plane Regular Shapes.

Each of these systems is part of the one overall design concept.

THREE (possibly four) ATENS IN SEQUENCE ON THE TALATAT WALL AT GEM-PA-ATEN



The Right Hand Aten has 4 rays that I have not yet analysed but they start in the middle Aten. They reflect off the "manuscript" held up by the one who wears the SHWTY crown (or Nefertiti). They then reflect down to the next "manuscript" held up by the next one who wears the double crown.



This is a tribute to those who have reconstructed the Talatat Walls. The alignment of the blocks would need to be perfect to enable this exercise to succeed. How much info was on the Walls?

VARIOUS IMAGES OF THE SAME ATENS DISPLAY VARIOUS QUALITIES

A



THE FOURTH ATEN'S OUTER RAYS GO NOWHERE ELSE. THEY LEAD INTO A NOTHINGNESS.

B



C



Note the angle of the pair of VERTICLE parallel lines.

- A Front on. Should give good approximations of Angles.
- B Extracted from Image A.
- C Same Atens. Good quality. But taken at an Angle. Not good for accurate work.

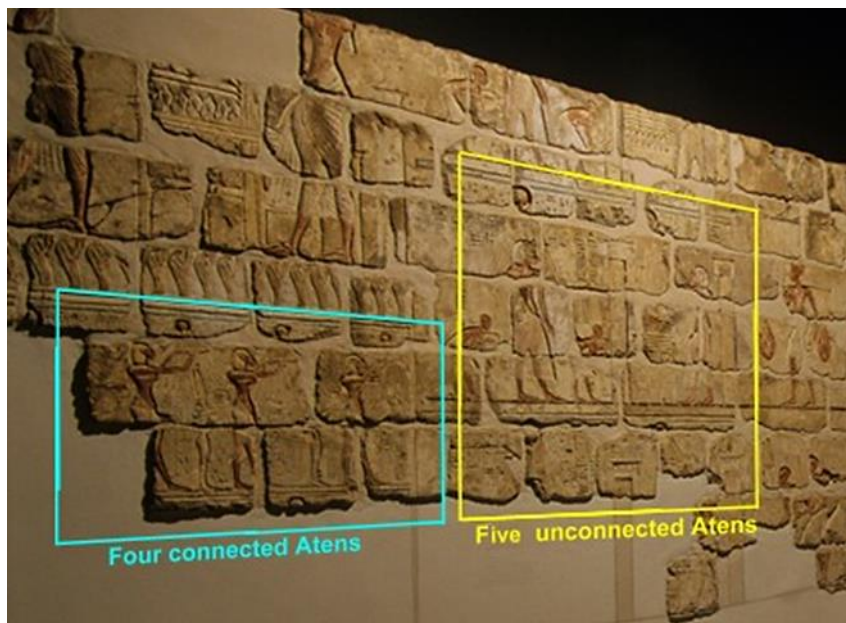
An exercise that initially seemed to be a study of kindergarten-style drawings of suns with sunrays has now developed into a maths exercise and an initiation into an ancient world of architecture, angles, shapes, instruments, and construction. A veritable “Plato’s Academy”, but in Egypt, at the time of Akhenaten (1350bc) and before, possibly back to 3000bc.

It has become a challenge to attempt to interpret, from afar, the knowledge, wisdom and art embodied in these drawings on the Talatat Walls at Karnak.

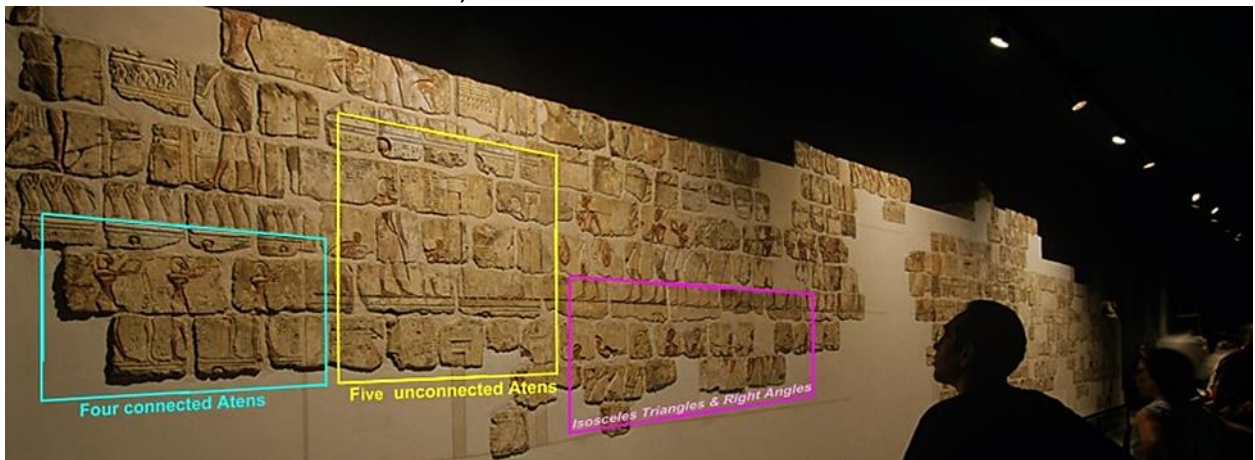
I have used the most basic of equipment but it still allowed me a limited insight into what could have been possible for them at those times. Angular Geometry and not a mention of Trigonometry. It now sits there in plain sight for all to see. Those who sought ways to destroy Akhenaten’s God have, in the long run, failed. The more success achieved in restoring the Talatat Walls can only restore more of this knowledge. It seems to me that religious bigotry, bias, prejudice, and intolerance has blinded them to the reality of what Akhenaten and his Atens were really about.

- He did build eight temples.
- He did build a new Town.
- He did invent Talatat Blocks to make construction simpler.
- He did seem to use his Atens to experiment with Angular Geometry (without Trigonometry).
- He possibly also invented the Quadrant, Sextant and Octant; and maybe the Triquetrum.
- Given the prior existence of Plimpton322 he may also have had extensive knowledge of right angles and of what has come down to us as “*Thales Theorem*”.
 - They were aware of the existence of polygrams and polygons and perhaps they had the means to derive them. Right angles go back before 3000bc.
 - It is possible that the concept that I refer to as my “*Ankh Circle*” was known and familiar to them.
 - His various Atens with various sets of Angles which seem to follow certain common directives and stipulations indicate the existence of a method of Angular Geometry, a *Graphical Geometry*, that precluded the need for Trigonometry, a later form of *Mathematical Geometry*;
- As an exercise draw an “*Ankh Circle*” with its regular shape rays of tangents;
 - Include the Semicircle of Thales identifying these same tangents and their Right Angled Triangles which indicated the existence of this “*Ankh Circle*”;
 - Place these on one of Akhenaten’s Atens;
 - Ascertain if the Shen Ring may be also applicable;
(*It has been described as a Circle with a ‘Tangent’ Rod.*)
- And ask ‘How old is Thales Theorem?’
 - What mathematics were used at Stonehenge, Newgrange, & Durrington Walls etc.?
 - Who invented the Sextant, Quadrant, Octant etc.?
 - Is there evidence that the ‘*Ankh Circle*’ was known then?
 - Were all these items used together in ancient times as Tools of Geometry?
 - Was Thales theorem present on a boulder at Newgrange in Ireland?

UNALLOCATED TALATAT BLOCK PIECES



FORERUNNER TO PLATO'S ACADEMY?
3,000 YEARS BEFORE PLATO.



FORERUNNER TO LIBRARY OF ALEXANDRIA?

It is one thing to reconstruct the Talatat Wall but to then interpret it is another.

FORERUNNER TO DISNEY CARTOONS?



ANKY PANKY?



An ancient Ankh posing as a cartoon character on the leg of a chair.

A Website:

The Akhenaten Temple Project and Karnak Excavations

Penn Museum

<https://www.penn.museum> › sites › expedition › the-a...

Restoration of a painting of a procession, showing five levels of worshipers. Restored processional scene from an **Aten** temple. The success of the project, ...

TALATAT BLOCKS

PENNMUSEUM

Volume 21

Issue 2

Originally Published in 1979

THE AKHENATEN TEMPLE PROJECT AND KARNAK EXCAVATIONS

By: *Donald B. Redford*

Scholarly study of the reign of Akhenaten, pharaoh of Egypt (ca. 1375-1357 B.C.), has focused with justification on the last thirteen years of his life and the new capital he founded in Middle Egypt at Amarna. Investigation of this latter site is rendered difficult, however, by the fact that the city was almost completely razed within a generation of Akhenaten's death, and its masonry removed to neighboring towns as new building material. To date **only some 2,000 relief blocks from buildings originally standing at Amarna have been recovered from neighboring Hermopolis.**



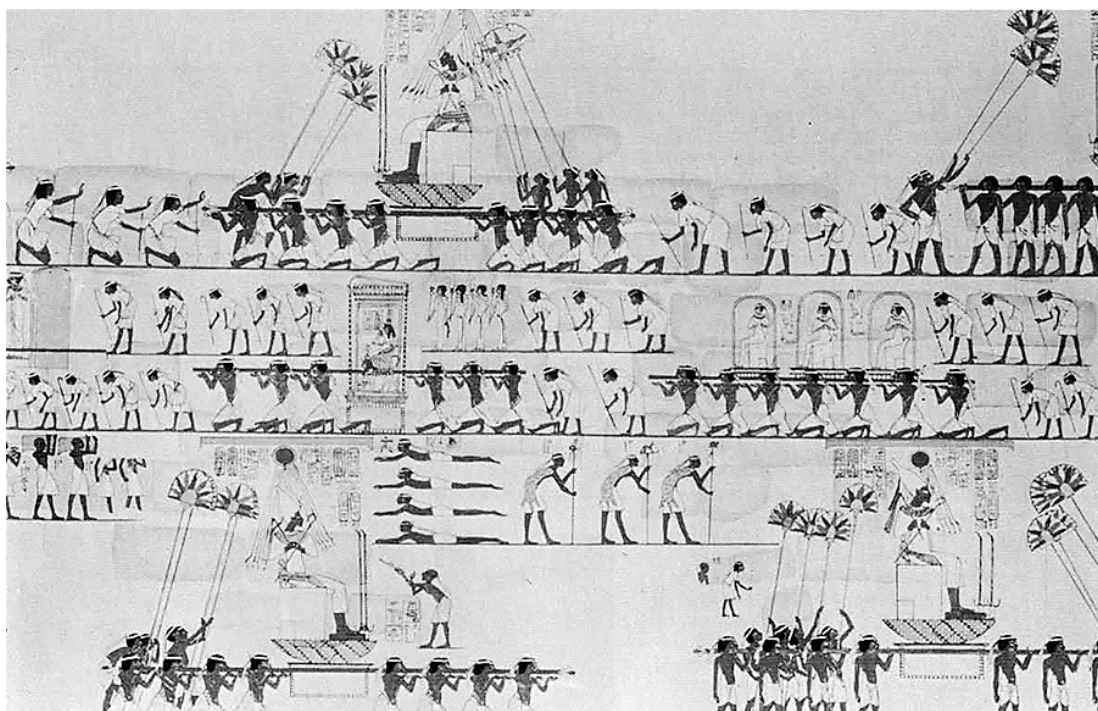
Stored talatat at Karnak

This paucity of material is not found at **Thebes**, the earlier capital of Akhenaten which he occupied during the first five years of his reign. Here, as early as the second quarter of the 19th century, the ruins of Karnak and Luxor had begun to yield blocks of a standard dimension, 52 x 25 x 22 cm. which the natives called "talatat." **By the mid '60's of the present century over 100,000 of these blocks had come to**

light, some 35,000 being decorated on one or more sides with parts of relief scenes. Beyond the obvious fact that the talatat were quarried and decorated by Akhenaten, and certainly belonged to long-dismantled structures of his at Thebes, **nothing was known of purpose or date**, or the number and identity of the buildings themselves. It seemed clear to all that, should it be possible to fit back together these "jig-saw" pieces of reliefs, decorated walls would begin to take shape and in fact the temple would be reconstituted. ***But no ground plans were visible, and so thorough had been the destruction that even the site of the buildings was unknown.***

Attempts to study the talatat seriously were rare and desultory before the late '20's. Then the vast restoration program at Karnak set on foot by the inspector of antiquities, Henri Chevrier, brought **tens of thousands of new talatat to light from inside later construction**, and made immediate study imperative. Nevertheless, storage facilities at Karnak were so poor that most of the newly extracted blocks, many brightly painted, were forced to remain in open-air stacks, a prey to the elements, and only a few were stored in a magazine. Moreover, the conditions under which the blocks were recovered were less than ideal, there often being no recording supervisor on the spot while the laborers worked. The result was that the storage areas were rapidly filled with a jumble of blocks, no two originally contiguous fragments being together, and there being no direct means of telling where a given block had come from. Scholarly study of the talatat during this period (ca. 1945-1965) was restricted to random selection and study of the "best" pieces, subjectively chosen, and **art books would feature photographs taken in desultory fashion to illustrate a particular point, not to elucidate the talatat themselves.**

In 1965 a retired American diplomat of distinguished career, one **Ray Winfield Smith**, became interested in the problem of the Karnak talatat. He conceived the plan of photographing all the Karnak talatat to scale, both those still in the Luxor area and those taken to Europe and America, and, with the aid of computer science, of attempting to reconstruct the relief scenes of which they were once the components. In 1966 Mr. Smith secured the sponsorship of the University Museum, amassed a skilled staff of Egyptologists, partly Egyptian, partly British, and set to work on a project which had become by this time a compelling dream. Smith was indefatigable in his pursuit of talatat. All the blocks at Karnak were photographed to scale, and then the intrepid investigator set out on a search which led him to France, Germany, Switzerland, and the U.S.A. Everywhere talatat were photographed, and Egyptologists willingly offered their own photos. Prof. W. Helck of Hamburg gladly lent his collection of photographs, the earlier collection of Prof. Legrain was secured, and M. Chevrier, now in retirement, offered by letter what his memory retained of the period when the blocks were being removed.



Restored processional scene from an Aten temple

Three Atens in this image.

The success of the project, dubbed the “Akhenaten Temple Project,” was phenomenal. The photographs were subjected to a rigid classification, and very soon matches began to be made. All photographs were classified according to content, and contact photos were mounted on glass plates. As matches were made, the photographs in question were removed from their respective “classification” plates, and mounted on “temporary scene” plates, which themselves were classified according to the content of the scene, thus “king and queen,” “princesses,” “servants,” “nature scenes,” “offerings” etc. To date thousands of these embryonic scenes have been put together, and matches between individual scenes, in fact, are not uncommon.

The work was carried on in Cairo, which constituted the headquarters of the Project. Here were available facilities for developing and printing of photographs, the drawing of facsimiles, and a library for research. Five years of the Project had produced a mass of partly digested material and the time had come for publication; and consequently the year 1971 witnessed increased research with a view to preparing a MS. From the outset the Project had enjoyed the services of a wide range of consultants, including Professors Abu Bakr of Cairo University, John Wilson of the University of Chicago, Sayed Tawfik of Cairo University, and Mr. Gerhard Haeny of the Swiss Archaeological Institute in Cairo. Chapters in the publication were assigned to Prof. Abu Bakr, Dr. Ramadan Saad of the Egyptian Antiquities Organisation, Prof. Tawfik and Mrs. Jocelyn Goharry, a Ph.D. candidate at the University of Liverpool working on the Project in Cairo. By dint of hard effort, and the services of two gifted artists, Mr. Leslie Greener and Mr. Joseph Clarke, the line drawings and the first half of the projected volume were completed in December 1971. The second half achieved MS form in September 1973, and the entire work, the first of a projected three volumes, was published in 1977.

The work of the ATP, by the very nature of the material it had to deal with, is concentrated in the formative period of Akhenaten’s program, viz. the first five years of his reign. At this time the king’s thoughts were undergoing change, and a good deal of experimentation informed the new, “expressionistic” style of art. ATP has elucidated all phases of the new program to a remarkable degree. *Chief among our findings was the hitherto unsuspected prominence in the relief decoration of Nefertiti, the chief royal wife of the heretic king.* Although this beautiful lady’s parentage and pedigree remain unknown, she is represented in the painted reliefs of her husband’s temples nearly twice as often as he himself; and one whole structure, “the Mansion of the Bnbn-stone” (hwt-bnbn) shows only Nefertiti and her daughters in its decoration. We also know that the inception of the new art form



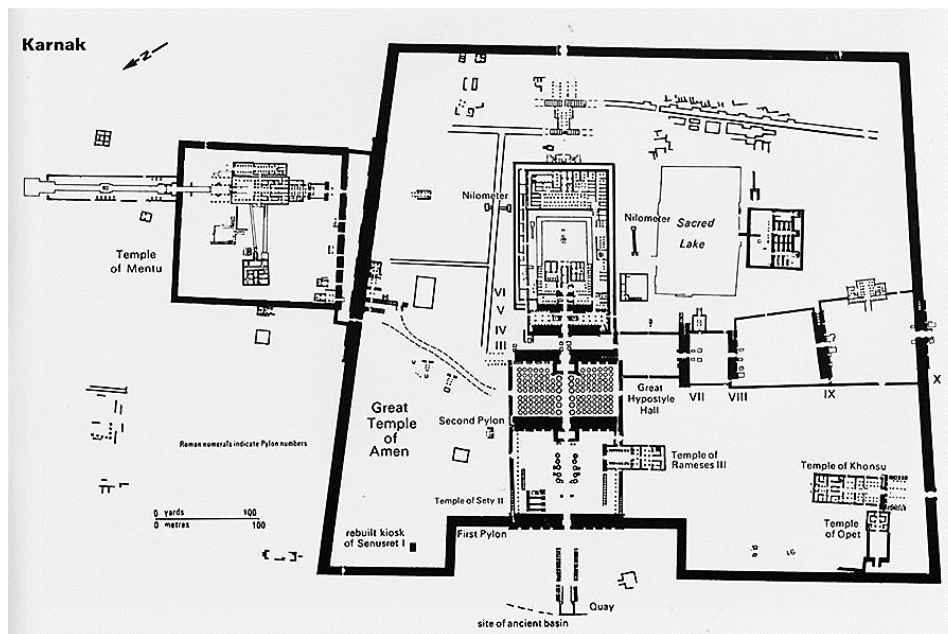
was attended by some uncertainty among the master artists who were commissioned by pharaoh to usher in the new relief art. The king must have adumbrated his ideas in general terms, and left it to his *chief draftsman* to effect his wishes in detail. At least six different treatments of the king’s form are discernible in the talatat reliefs, attesting apparently the latitude in interpretation permitted by the vagueness of the initial directives.

Only later at Amarna was the revolutionary art form confined in a single “canonical” channel.

Another discovery of note was the hitherto unsuspected fact that Akhenaten had erected at Thebes prior to his departure to Amarna at least eight structures, probably all temples. Judging by the frequency with which they are alluded to, four of these buildings were large and imposing, The largest, called the Gm(t)-p3-itn *“the Sun-disc is found,”* displayed on its walls sculptured scenes depicting almost exclusively the jubilee or *sd*-festival, and it is virtually certain that it was here that this great festival was celebrated in the second or third year of the king’s reign. Why he should have celebrated the jubilee so early in his reign (the 30th regnal year was the norm) is a mystery; but the lavish relief decoration of this temple has provided us with perhaps the best graphic description of the elaborate rites comprising the *sd*.

The first half decade of the reign was crucial for the inception of the new program and the experimentation which resulted in the final form to be taken by the new cult. One might expect to find texts of public royal speeches (which abound in other reigns) telling why the king did what he did. In fact, heretofore such inscriptions have been wholly absent from Thebes, so thorough was the destruction wrought by Akhenaten’s enemies. But the Project has now brought to light several fragments of hieroglyphic inscriptions which, in fact, have proved to be parts of just such royal monologues delivered to the court, informing of and rationalizing the monarch’s intended activity. One block, uncovered within the core of the 10th pylon as part of the filling, describes the king’s new sun-god and his attributes, as well as the shortcomings of the deities he is about to replace. These fragments prove that such inscriptions do exist, and further examination of the 10th pylon ought to produce a good many additional fragments.

Up until 1975 the Project was confined to the matching of talatat in photographic reduction, without reference to site, ground plans or other remains in situ. In fact the sites of these buildings had long since been lost, and although the talatat numbers mounted into the tens of thousands, no known site could be pointed out for any of the shrines. True, in 1925 a drainage canal dug around the Karnak site had by accident revealed a line of fallen colossal statues running east-west along the central Karnak axis, east of the main Amun temple. But the precise significance of the colossoi and the nature of the building they decorated were by no means certain.



Map of Karnak

It had been from the start the hope of the Project to initiate excavation at Karnak to complement, as it were, the reconstruction of wall reliefs. After unavoidable delays, caused partly by the October war of 1973, a concession was secured from the Egyptian Antiquities Organisation to excavate a wide tract of land east of the main temple of Amun at Karnak; and in April 1975 a survey team spent four weeks at the site producing a contour map. Successive campaigns in the summer of 1975, the winter and summer of 1976, 1977 and 1978 have laid bare a sizable area and have produced results more gratifying than could have been foreseen at the outset. The area chosen for excavation was the site of Chevrier's discovery of the colossal statues, the only site in Karnak known to have produced *in situ* Akhenaten material. By January 1976 excavation had detected the south colonnade of a large temple, and a lucky find revealed its identity to be none other than the **Gm(t)-p3-itn**. The summer of 1977 saw the south wall and colonnade exposed as far as the southwest corner, and the summer campaign of 1978 commenced the excavation of the western side. Although the destruction of the temple had been thorough, the wreckers had left a pile of masonry debris along the line of the temple wall, and from these piles **over 200 decorated fragments of relief have been retrieved**. They are identical in style and content to the thousands of talatat the ATP had been dealing with for over a decade. Moreover, as already suspected from our examination of the talatat coming from **Gm(t)-p3-itn**, all the fragments belong to jubilee scenes; **and some few even fit directly into incomplete scenes we have long since matched!**

In a very real sense the excavations constitute a necessary follow-up to the office work. We now have some idea, and are **bound shortly to increase this knowledge**, as to the layout and physical aspects of the temple. The shattered fragments, moreover, lying where they fell along the course of the wall, are telling us what the office project never could, viz. **the sequence along the wall of individual scenes**. In other words **the overall organization of the wall decoration is becoming apparent**. The next logical step in the present program of research would be physical restoration of the walls upon their original foundations, and **it would be relatively easy to select the individual scenes now known to follow in sequence for the rebuilding of the south wall of the temple**. But there are problems connected with such reconstruction. In the first place, a large sum of money would have to be secured for **an enterprise not directly related to archaeology or any other scholarly discipline!** In the second place, security requirements would necessitate the building of a special wall around the area, now unfortunately outside the Karnak temenos wall, the posting of guards, and the provision of protection from the elements. Thirdly, the component blocks of the various scenes are now scattered throughout five or six storehouses, in no special order and requiring some diligence in searching out.

But there remains far more to do than simple restoration. **Excavation has shown that there are other periods than that of Akhenaten represented in the 3.5 meters of strata at East Karnak**. The site was occupied by the domestic quarters of the city of Thebes in the Middle Kingdom (21st-18th centuries B.C.), by a cemetery in the 17th century B.C., and by some kind of defensive (?) installation in the 21st Dynasty (11th century B.C.). Thereafter, during the Kushite period (8th-7th centuries B.C.) Thebes once again spread its houses over the site, and a prosperous domestic and industrial (pottery manufacturing) quarter flourished until the coming of the Greeks (late 4th century B.C.). The sector was then abandoned, and became the dump which it remains today. All these periods must be carefully investigated from a variety of disciplinary standpoints (Egyptological, historical, anthropological, ecological etc.), and the Project has now graduated from a purely **art-historical** endeavor to a full-fledged modern archaeological expedition, for the area granted as a concession encompasses approximately one-third of the ancient Thebes, specifically the more domestic section of the city.

Of this the Akhenaten Temple was but a small part. Two other standing temples occupy the site along with two other shrines now buried, a mud-brick pyramid of uncertain date, and streets of houses, shops and industrial buildings, all awaiting excavation. In the latter alone lies the hope of elucidating how this once-great ancient capital functioned, how its citizens lived, what they ate and drank, what their occupations were, how they laid out their streets and houses. Whereas once the Project was made up of Egyptologists and artists only, our staff now shows a wide range of experts, including pedologists, osteologists, specialists in archeometrics, engineers, draftsmen, stratigraphers, ceramic experts.

If the Project has indeed shed some new light on the reign of history's first monotheist, there remain many unknowns. **We still know little of the king's motivation**, and even the family relationships of the dramatis personae of the period are obscure. As for the **Gm-p3-itn temple**, we can be sure only of its site and the presence within it of a colonnaded court. To date, the north wall of this court has been detected by magnetometer, but not dug, while the eastern end lies beneath the modern village and is probably forever inaccessible. The relief scenes of the temple suggest that a palace stood not far away, but again no such structure has yet appeared in the excavations. The sites of the remaining temples continue to defy investigation, although it is becoming increasingly clear that they all lay within the environs of Karnak. (Years ago an Akhenaten temple was postulated for the Luxor area, mainly because of the large number of talatat retrieved from the Luxor temple; but it is certain that it was Ramesses II that was responsible for taking them there).

Our uncertainty stems, of course, largely from the violence of the destruction which overtook Akhenaten's program, its monuments and buildings, after his death.

Mainly responsible for this systematic anathematization was **Pharaoh Horemhab** (ca. 1350-1320 B.C.), a former lieutenant-general in the armed forces, who was not related to the former royal house. Any doubt that it was, in fact, Horemhab that effected the destruction of the **Gm-p3-itn** at least was dispelled this year by a chance find among the debris along the west side of the colonnaded court. Here, under a pile of fractured masonry, was discovered a small bone appliqué with the cartouche of the pharaoh, probably from some wand of office borne by one of the supervisors of wrecking crews. To us in the excavation it was tantamount to a signature, marking the end of this glorious, zany and ill-conceived experiment **by a spiritual maverick**.

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For Pages Numbers please consult the PDF version.

“. . . the Gm(t)-p3-itn *“the Sun-disc is found,”*

“GEM-PA-ATEN”.

THE TALATAT WALL AT KARNAK



Talatat block used by Pharaoh Akhenaten, Luxor Museum, Egypt

Some of our Atens are located at the far left of this image.

The four Atens in the “Continuity” scene are in the bottom left of this image.

*“The king proclaimed that **the Aten had manifested itself for the first time** on the site and that the Aten had chosen this site for the king alone.”*

*“In order to quickly construct the city, **smaller building blocks, called talatat**, were introduced that were easier for unskilled laborers to manage. Most of the township and administration buildings were completed roughly three years later.”*

TALATAT BLOCK SIZE:

52 x 25 x 22 cm

520 x 250 x 220 mm

20.47” x 9.84” x 8.66”

1’ 8.5” x 10” x 8.5” roughly.

In terms of the size of this A4 page (210 x 297mm; or 8.27 x 11.69 inches):

In terms of the width of an A4 page:

520 x 250 x 220 mm

2.5 x 1.2 x 1.05 times the width of an A4 page.



(For scale purposes: Image copied onto a pallet 520 x 250 pixels/inch) = roughly, 1 Talatat block.

THE AKHENATEN TEMPLE PROJECT

The program of this project begins with black-and-white photography of the individual blocks. After the photography has been completed, further elements of the program are carried out in the project's headquarters at 15 Midan el-Tahrir in Cairo. The staff initially records a well-nigh infinite amount of descriptive detail for each block on special coding sheets.

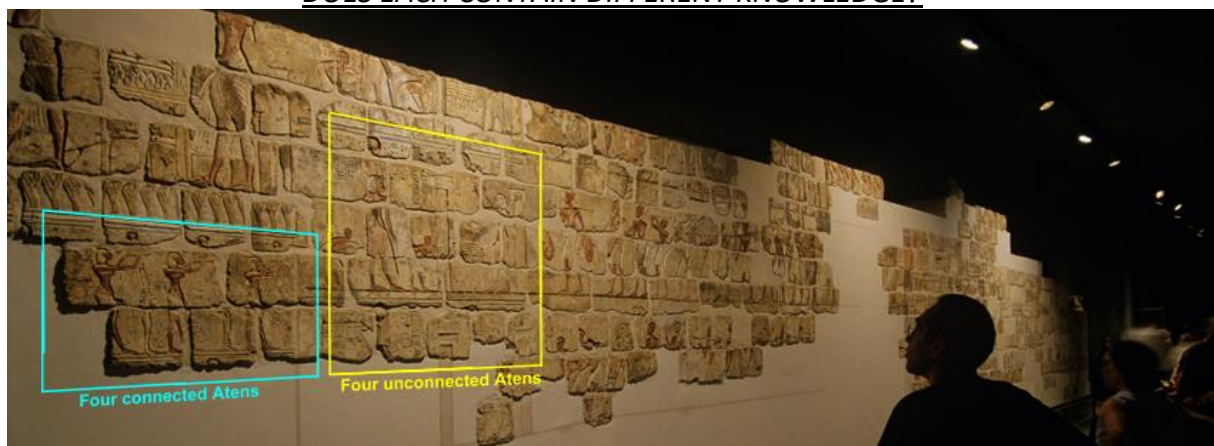
The coded information includes colors, which are manually recorded on cards when the black-and-white photographs are taken. Also coded are types and sizes of human figures and objects, cut-offs (top and bottom), **angles of sun rays**, details of hieroglyph inscriptions, types of represented scenes, architectural clues, details of deliberate defacements, and many other particulars. Fortunately, a virtually unlimited amount of information can be condensed into the **eighty columns of the IBM punch card**.

After the punch cards have been prepared, IBM provides us with lists of stones, broken down into an almost infinite number of combinations of categories. These will serve the next project phase, which involves piecing together the elements of this unprecedented jigsaw puzzle. **Unfortunately the stones, with rare exceptions, have become completely disarranged from their original juxtapositions in the temple.**

Let us suppose that the piecing together begins with a certain stone showing a portion of a kneeling figure placed on a horizontal register line at the left, the right side of a cartouche with his name, and a portion of an offering table also at the left. If it were necessary to search through tens of thousands of photographs to find the adjoining stone to the left, and repeat the process tens of thousands of times to complete the matching, the end of the project would never be reached.

In this hypothetical case the adjoining stone to the left would be immediately found, or its absence established, by consulting the IBM lists in search of a stone with the corresponding details at its right hand end. The number of blocks possibly qualifying would be so small that their photographs could be quickly examined. All of this matching can be accomplished in a matter of months by this method.

THE WALL AT GEM-PA-ATEN, KARNAK, WITH EIGHT DIFERENT ATENS **WHY EIGHT ATENS? IN WHAT WAY DO THEY DIFFER? DOES EACH SERVE A DIFFERENT PURPOSE?** **DOES EACH CONTAIN DIFFERENT KNOWLEDGE?**



When the matching stage is completed, and the appearance of the walls of this temple can be visualized, **the real study can begin**. We can already perceive that our project will encompass several distinct aspects of scholarship. Perhaps the most significant will be the role of this building in the history or art, at a period when the Egyptian artist and sculptor was taking off on new creative departures. Hardly less important are the other necessary analyses: (1) consideration of the place of the temple in the history of religion, when Akhenaten was briefly revolutionizing his country's religious beliefs; (2) the structural details of the building, and its place in the panorama of ancient Egyptian architecture; and (3) the history of the period, on which the great number of hieroglyphic inscriptions will throw light.


To accomplish these objectives and to prepare the project's final extensive publication, a high degree and depth of scholarship will be required. To measure up to this necessity, the University Museum has mustered a group of consultants, who will be increasingly active as the project develops. Professor John Wilson of the Oriental Institute, Chicago, has already been in Egypt and has given invaluable assistance in many ways. John D. Cooney, of the Cleveland Museum, will contribute his expertise, including his deep study of the parallel blocks from Hermopolis. Dr. H. Ricke, Director of the Swiss Archaeological Institute in Cairo, has already begun his study of the architectural aspects of our temple. Dr. George R. Hughes of the Oriental Institute will contribute his knowledge of the blocks, enhanced by his years of residence at Chicago House in Luxor. It is hoped that Professor William Kelly Simpson of Yale will serve on a later Editorial Review Board. Continuous advice has been provided by Dr. Charles F. Nims, Director of Chicago House, who has accepted an assignment as Resident Egyptologist. Numerous scholars in Egypt have been cooperative, and the officials of the Department of Antiquities in Cairo have furthered our activities in many ways.

Website:

The Akhenaten Temple Project

<https://www.penn.museum/sites/expedition/the-a...>

The *Akhenaten Temple Project* ... Since October 1966, an expedition of the University Museum has been engaged in a study of polychrome relief-cut blocks from the ...

By: [Ray Winfield Smith](#)  [View PDF](#)

Since **October 1966**, an expedition of the University Museum has been engaged in a study of polychrome relief-cut blocks from the Aten Temple built by Akhenaten at Thebes (modern Karnak) in the early years of his reign.

Akhenaten (1367-1350 B.C.) ruled an Egyptian empire, extending into Syria, Palestine and the Sudan which had been developed by his predecessors in the Eighteenth Dynasty and which gave Egypt a high degree of wealth and security. Akhenaten, however, seems primarily to have been interested in a religious "reform" by which the worship of the numerous gods of the Egyptian pantheon (dominated at this time by Amun, the god of empire) was replaced by an exclusive devotion to a deity represented by the sun-disc, the "Aten."

As of **September, 1967**, the staff in Cairo has coded nearly all of the approximately **16,000** blocks in a storehouse built several years ago along the west wall of the Khonsu Temple at Karnak.

CONCLUSION

It is my belief, after these minor experiments, that Akhenaten and his *Industry Leaders* would have had a practical use for each of his Atens. Their similarity in design with a certain consistency in the layout of the Rays, but difference in angles between the Atens whilst still maintaining the basic design concept leads me to this belief. Each Aten has a practical as well as a spiritual message. It is the practical use of The Aten for Angular Geometry that seems to have eluded us.

I would like to know, for example, if a certain Aten was applicable to the construction of a certain structure.

Were they perhaps used in the design of tools such as Quadrants and Octants?

Analysts often link mathematics or numbers on clay tablets to Music and Celestial bodies rather than to the construction of earthly bodies, shapes and monuments. Instruments for measuring and recording angles are allocated more often to celestial research than to earthly architecture.

And yet, Stonehenge, which I refer to as a monument to Plane Regular Shape and its Ratios, was commenced about 3,000bc as were the Callanish Stone circles and Newgrange in Ireland.

And what about 'The Sanctuary' and 'Durrington Walls'?

ATENS ARE CIRCULAR

And why are these ancient monuments all circular, many being made of concentric circles?

And is it not the concentricity of circles that signals the existence of shapes and their ratios?

And do not ratios lead to Shapes?

And does not Shape x Shape = Shape?

And do not plane regular Shapes contain right angled triangles in their constructions?

And do not these right angled triangles trace out another non-concentric but related semi-circle?

And are not these right angled triangles formed by the radii of the Inscribing Circles where they meet the Tangents which form the shapes within the Circumscribing Circles?

And did not Thales return from Egypt in 600bc with his theorem which placed right angled triangles within a semi-circle?

And does not Plimpton 322 from about 2,000bc contain the dimensions of 15 right angled triangles which existed between 30° and 45° (or in plane regular shape terms 60° and 90°) (or, in terms which are non-arithmetical, between the Square and the Equilateral Triangle)?

And did not Akhenaten in about 1,375bc have all this knowledge available to him?

- Was **The Aten** a form of Shape Theory?
- Was it the forerunner to Geometry?
- Was **The Aten** able to be combined with my Ankh Circle to define the shapes?
- Was **The Aten** the forerunner to Cosmology and measuring instruments?
- How did they measure Angle? They knew that there were 360° in a circle.

The Aten relates well to the tangents which along with my Ankh Circle form shapes.

The Aten relates well to the ***Shen Ring*** that, along with its *tangent rod*, and along with my Ankh Circle, forms shapes.

- Is it simply a co-incidence that these ancient artifacts seem to form a workable system?
- Was it an accident that in the construction of the Aten image they were able to draw the sun's rays by advancing their lines by whole degrees in each step?
- And Eleanor Robson would have us believe that they had no idea of angle!

They invented (or were given) angle!

Was knowledge of Shape Theory a "*Gift from the Gods*" (such as The Aten) and others?

Notably the *Kibdu Secrets* given to Enmeduranki during the time of Adam?

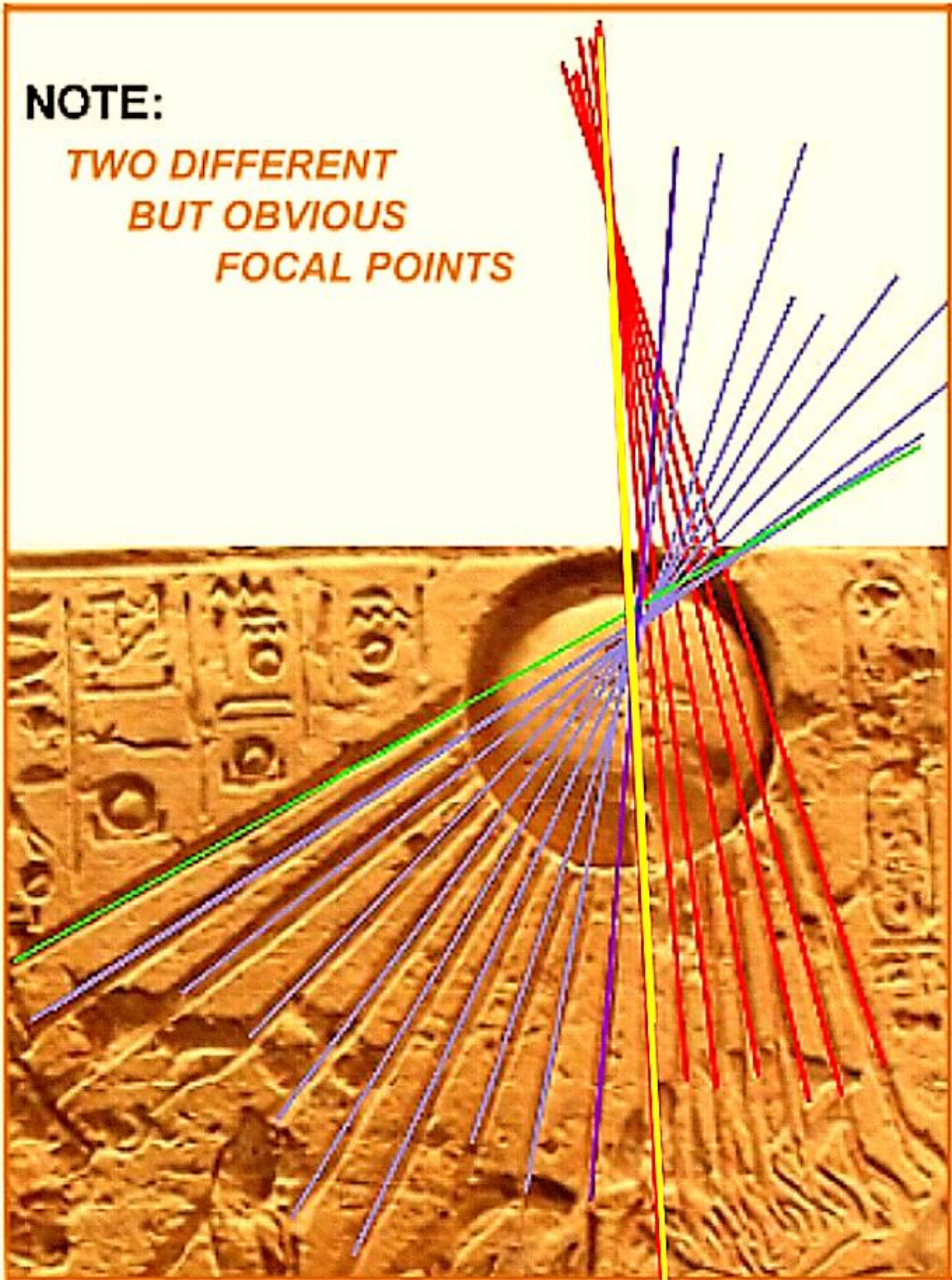
THE CRADLE OF GEOMETRY

THE ATEN & ITS RAYS

A SHAPE THEORY

NOTE:

*TWO DIFFERENT
BUT OBVIOUS
FOCAL POINTS*



John Marcus Crombie

