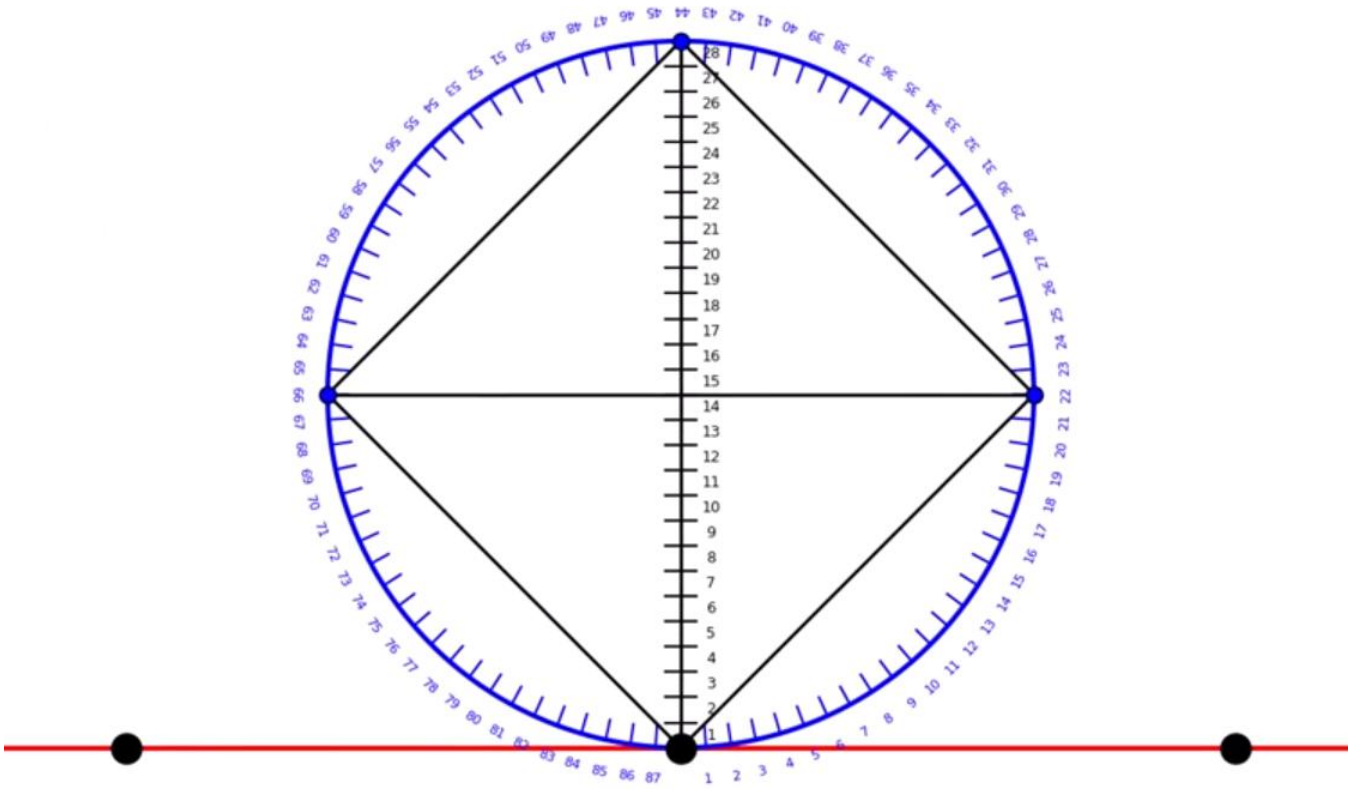


Latitude, Longitude and Design Between the Great Pyramid & Stonehenge

A BRIEF SUMMARY OF THE ACST IN LARGE SCALE METROLOGY

Carl Balowski | July, 2026

Abstract

This paper argues that the Great Pyramid and Stonehenge participate in a shared geometric and astronomical system rooted in the Approximated Circle-Square Template, or ACST. The ACST is based on practical ancient approximations of **π** and **√2**, expressed as **440/140** and **140/99**, and is reflected in Egyptian metrology through the relationship between the Remen and the **28-unit Royal Cubit**. In this system, the Remen represents the side of a square, while the Royal Cubit represents that square's diagonal.

The Great Pyramid, with its height of **280 Royal Cubits**, appears to emulate the Royal Cubit itself at monumental scale. Its King's Chamber floor, positioned **198 Royal Cubits** below the apex, then reflects the corresponding Remen measure within that same square-diagonal grammar. For this reason, the Great Pyramid is presented here as the primary architectural embodiment of the ACST proportional system.

The paper then examines the geographic relationship between the Great Pyramid and Stonehenge and their solstices. It argues that their latitudes, together with the Equator, form the proportional sequence 1 : √2 : √2 + 1, expressed through the ACST as 99 : 140 : 239, and that the diagonal of the Silver Ratio Rectangle was a paramount importance. In this large-scale model, again reflecting the square-diagonal logic of the Royal Cubit, the Great Pyramid functions as the dividing point between the Equator and Stonehenge, creating a latitudinal silver-ratio relationship.

Applying the ACST approximation of √2 to the latitude of the Great Pyramid projects a latitude within 9.9 meters of the Stonehenge Station Stone rectangle. The paper further proposes that Stonehenge's longitude was generated by the geometric mean, or "square-mean," of the controlling latitude measures, producing a calculated longitude only 0.021389° from the actual longitudinal separation. This cumulative pattern suggests a sophisticated astronomical and metrological design tradition linking the Great Pyramid, Heliopolis, and Stonehenge.

Finally, a brief animated summary of several key concepts discussed in this paper can be found on the author's YouTube channel at:

https://youtu.be/70kcb_GcGlo

Introduction

As in my previous papers, the Great Pyramid should not be understood as an isolated monument, but as the primary architectural embodiment of the Approximated Circle-Square Template, or ACST. Its exterior form, its relationship to Heliopolis, and its larger geographic relationship to Stonehenge all appear to participate in the same circle-square derived proportional grammar. This grammar is rooted in the relationship between the circumference and diameter of a circle, the side and diagonal of a square, and the practical ACST approximations of π and √2 as 440/140 and 140/99, respectively.

The ACST is especially informed by the fact that the ancient Egyptians incorporated √2 into their very system of metrology. In this system, the Remen represents the side of a square, while the Royal Cubit (0.5236 meters) represents that square's diagonal. Thus, because the Royal Cubit was divided into 28 units, the Remen, as the corresponding side of the square, necessarily measured 19 and 8/10ths units, since the side and diagonal stand in the relationship of 1 : √2 (Figure 1).[1] This produces the metrological relationship 28 : 19.8, or 280 : 198, which reduces to 140 : 99 — the same ACST approximation of √2 used throughout this study of Latitude and Longitude. It is little wonder then that the height of the Great Pyramid is precisely 280 Royal Cubits, and the floor of the King's Chamber as determined by Petrie is precisely 198 Royal Cubits below its apex or 82 Royal Cubits above its base. (Figures 2 and 3).[2]

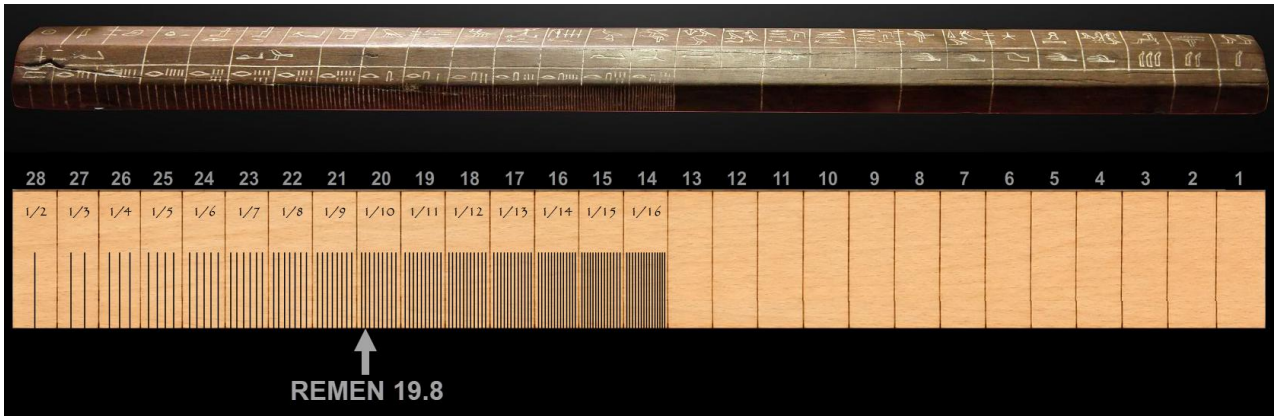


Figure 1 – The Royal Cubit of Maya

[1] The ancient Egyptians worked extensively with unit fractions, such as 1/2, 1/3, 1/8, and 1/10. When examining the Royal Cubit of Maya, it is significant that 15 units were labeled and then subdivide into unit fractions. The twentieth unit — or the ninth unit (if read from left to right) — was subdivided into 10 parts. This would have made 19 and 8/10ths units, or 19.8 units, visibly measurable as a Remen in relation to the full Royal Cubit of 28 units. This brings us remarkably close to Petrie's speculation that the ancient Egyptians used 20/28 as a practical approximation for the Remen. However, what Petrie does not appear to have considered is that the ancient Egyptian's counting system was base-10 and that the twentieth unit itself is subdivided into ten parts, thereby allowing the more precise value of 19.8/28, or 198/280, to be read directly from the instrument. Reduced, this becomes 99/140, giving the reciprocal relationship 140/99 as the ACST approximation of √2.

[2] Petrie measured the floor of the King's chamber as an average of 1690.5 inches above the base of the Great Pyramid. This is precisely 82.005 Royal Cubits, using a Royal Cubit of 0.523606 meters.

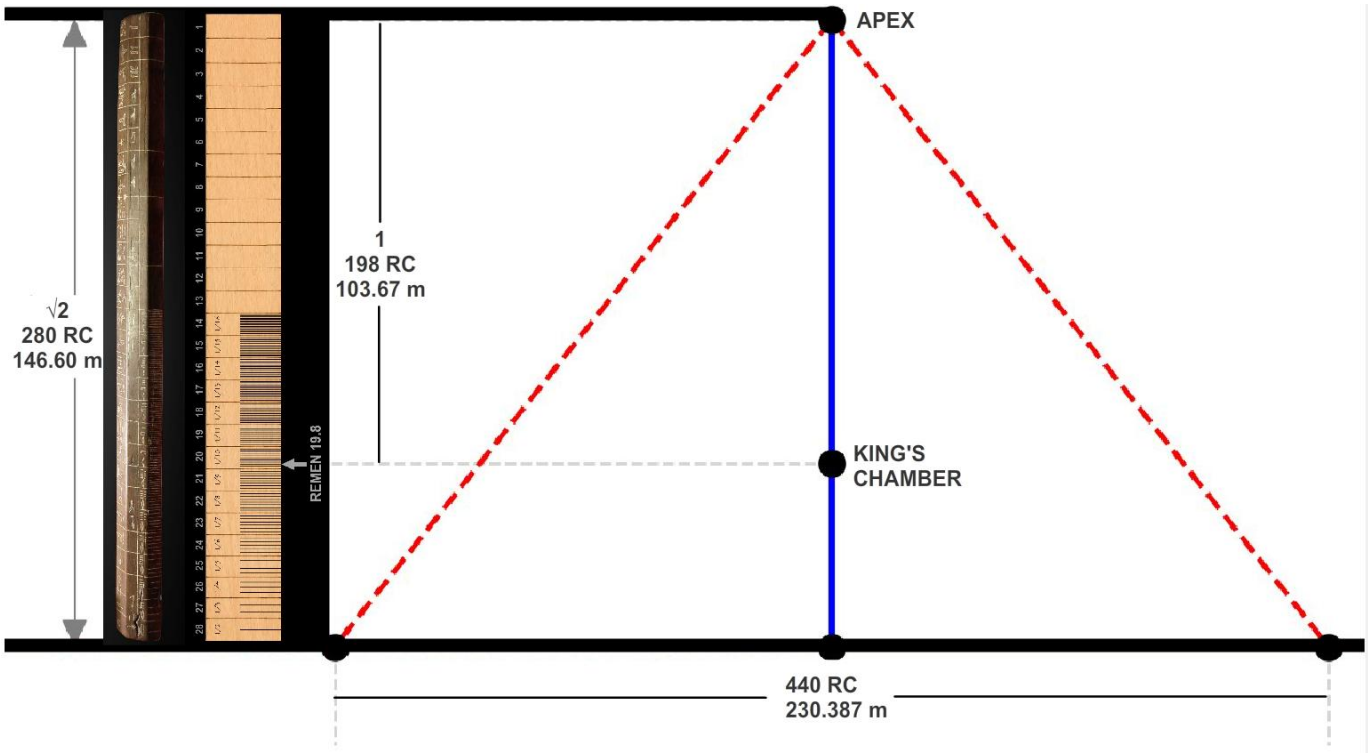


Figure 2 - The Royal Cubit and the Great Pyramid's Design

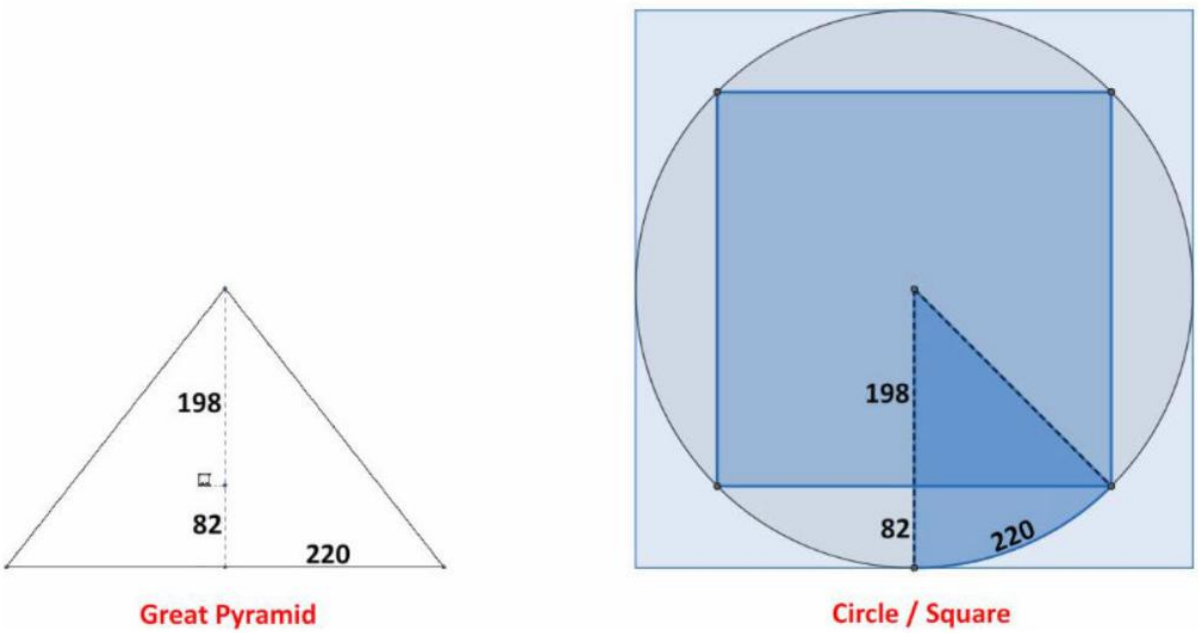


Figure 3 – The ACST and the Great Pyramid's Design

The Latitudinal ACST: Equator, Great Pyramid, and Stonehenge

The first and perhaps strongest evidence for this ACST relationship between the Great Pyramid and Stonehenge is latitudinal. Stonehenge stands at 51.178857° N, while the Great Pyramid stands at 29.979182° N. The latitudinal difference between them is therefore: **51.178857° – 29.979182° = 21.199675°**

This gives three significant north-south measures (Figure 4):

Equator to Great Pyramid = **29.979182°**

Great Pyramid to Stonehenge = **21.199675°**

Equator to Stonehenge = **51.178857°**

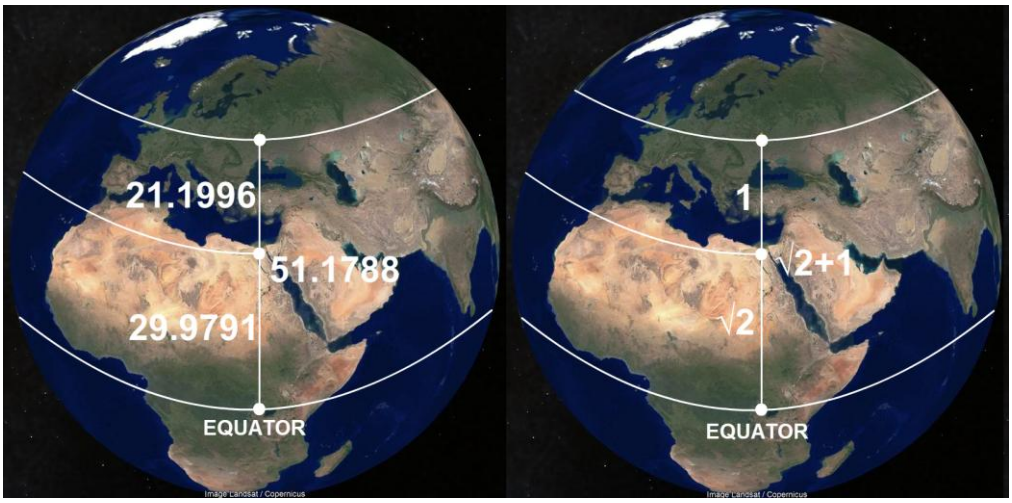


Figure 4 – Latitudes of, and Between, Stonehenge and the Great Pyramid

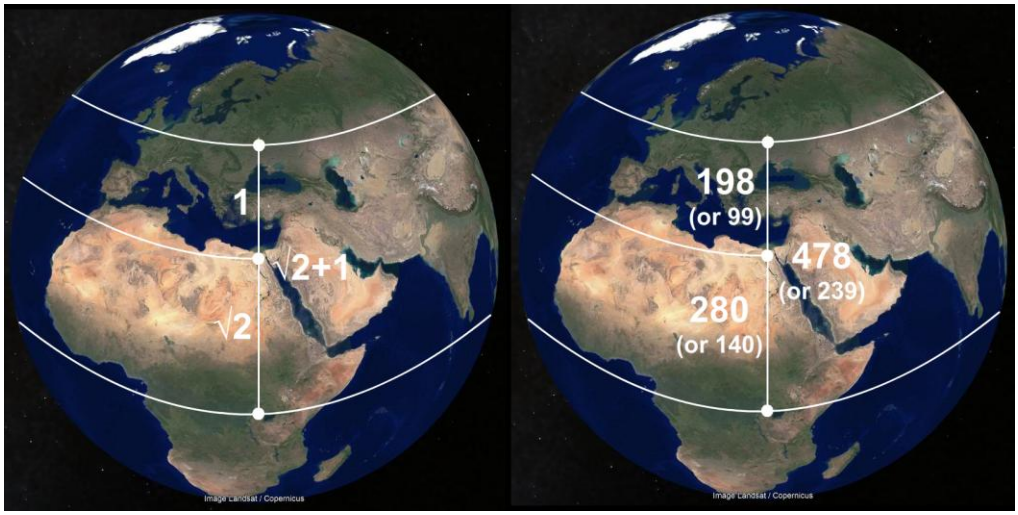


Figure 5 – Latitudes in Comparison to the ACST

When the Equator-to-Great-Pyramid measure is compared to the Great-Pyramid-to-Stonehenge measure, the result is: **29.979182 ÷ 21.199675 = 1.41413.** This matches, for all practical purposes, [3] the ACST approximation of √2: **140 / 99 = 1.41414 (Figure 5).**

In other words, the latitudinal distance from the Equator to the Great Pyramid corresponds to 140, while the latitudinal distance from the Great Pyramid to Stonehenge corresponds to 99. Together, these produce the larger sequence: **99 : 140 : 239**

Or, in proportional form: **1 : √2 : (√2 + 1)**

This means that the full latitudinal span from the Equator to Stonehenge, when compared to the interval from the Great Pyramid to Stonehenge, expresses both the ACST approximation of √2 and the silver-ratio extension of that same relationship, √2 + 1. The same result can be shown more directly. If the latitude of the Great Pyramid, 29.979182°, is treated as equivalent to 140, and this value is divided by the rounded ACST working value of √2, namely 1.41414, the result is: **29.979182 ÷ 21.199586° = √2**

When this value is added back to the latitude of the Great Pyramid, the result is: **29.979182° + 21.199586° = 51.178768°**

This projected latitude differs from the center of the Stonehenge Station Stone rectangle, 51.178857° N, by only 0.000089°, or 9.9 meters using 111,132.94 meters per degree. Over a latitudinal span greater than 2,350,000 meters, this is not a casual resemblance. It is hitting the bullseye!

This is the crucial starting point. The north-south placement of Stonehenge completes a latitudinal silver-ratio proportion in which the Great Pyramid functions as the dividing point between the Equator and Stonehenge. This becomes even more compelling when one remembers that the silver ratio is not confined to the geographic relationship alone. As shown elsewhere in this paper and my earlier studies, the King's Chamber divides the height of the Great Pyramid according to the silver ratio, while Stonehenge itself contains a megalithic silver-ratio rectangle whose perimeter equals the side length of the Great Pyramid: 230.387 meters, or 440 Royal Cubits. Even more strikingly, the Heel Stone is positioned at the height of the Great Pyramid from the corners of this rectangle, as will be shown again shortly.

[3] The miniscule percentage error is 0.0007%

The Silver Ratio as the Square Unfolded

Because the silver ratio has already been discussed extensively in my other papers, only a brief review is needed here.[4] The silver ratio is not an arbitrary mathematical curiosity. It comes directly from the square. If a unit square has sides of 1, then its diagonal is √2. When that diagonal is used to extend one side of the square, the resulting rectangle has a short side of 1 and a long side of 1 + √2. That is the silver rectangle, and it defines the eight sides of an octagon (Figure 6). Therefore, the silver ratio is the square unfolded through its own diagonal.

Amazingly, the diagonal of the Silver Ratio rectangle is exactly equal to the square root of its perimeter—a unique relationship exclusive to this remarkable shape. Even more compelling, this diagonal aligns with the diagonal of the Station Stone Rectangle at Stonehenge, whose perimeter matches the base of the Great Pyramid. Therefore, when squared, the diagonal of the Station Stone Rectangle also equates to the base length of the Great Pyramid itself! The marvel continues: this same diagonal, namely 2.613, compared to its side, corresponds to the angular distance of the winter solstice sunrise at both Stonehenge and the Great Pyramid, which, relative to the Equator, align in a Silver Ratio proportion to each other (Figure 7). This intricate alignment suggests a deliberate and profound harmony of geometry, geography, and astronomy embedded in these ancient structures.[5]

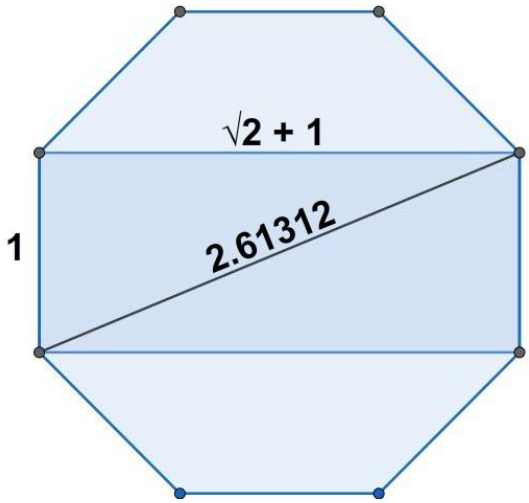


Figure 6 – The Silver Ratio Rectangle and its Diagonal

[4] Balowski, Carl. The Cosmology of the Great Pyramid. Part 1: Approximations of √2 and Pi and Initial Formulation of the ACST. 2024; Balowski, Carl. The Cosmology of the Great Pyramid Part 2: Exterior and Interior Design Based on the ACST. 2024; Balowski, Carl. The ACST and the Giza Grid: Circle and Square between Khufu and Khafre, Based upon Glen Dash's Mapping of GPMP Coordinates. 2024; Balowski, Carl. The ACST Cubit: How the Geometrical Relationship Between the Circle and Square Might Be at the Core of the Egyptian Royal Cubit. 2024.

[5] Balowski, Carl. The ACST and the Great Pyramid of Stonehenge: The Role of the Circle, Square, and Silver Ratio in Large-Scale Megalithic Design, Orientation, and Astronomical Observation. 2024.

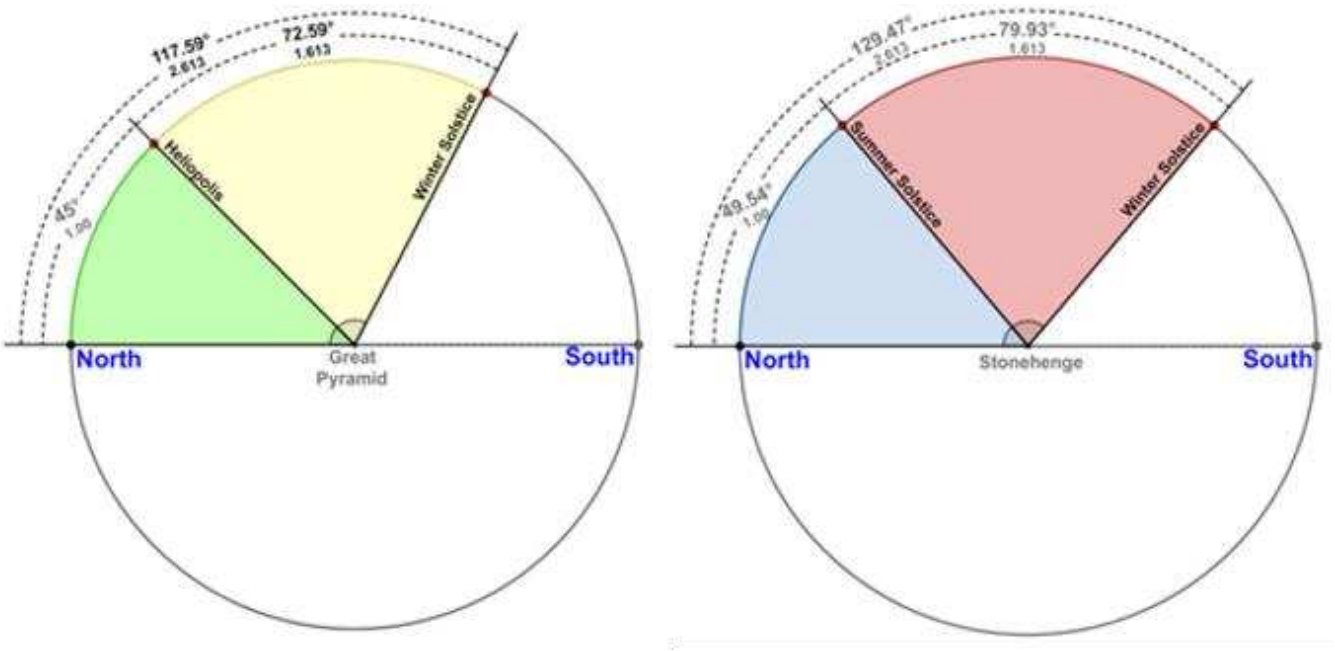


Figure 7 – The Great Pyramid and Stonehenge Solstices in 2.613 Ratio

This matters because the Silver Ratio sits at the heart of the ACST. The ACST depends on the practical relationship between the side of a square and its diagonal, and between the diameter and circumference of a circle. These relationships are expressed through the approximations $\sqrt{2} = 140/99$ and $\pi = 440/140$ (Figure 8). In other words, if the diagonal of the square is 140 (or 280), then its side is 99 (or 198); and if a circle circumscribes that square, its diameter is 140 (or 280) and its circumference is 440 (or 880).

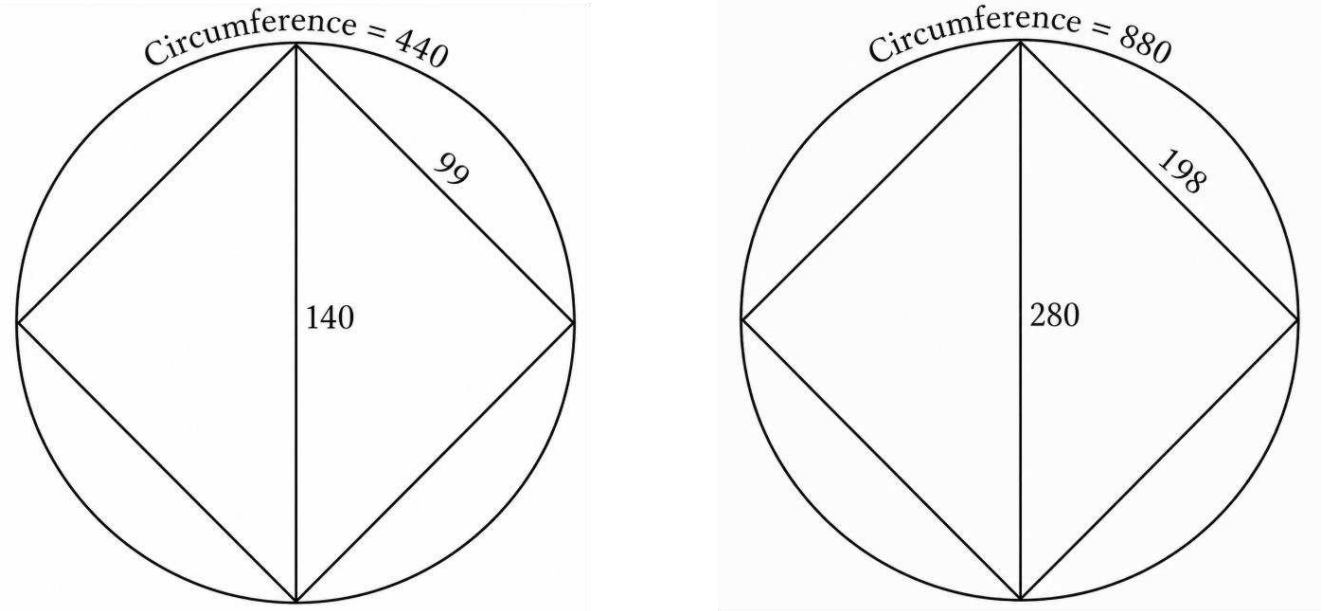


Figure 8 - The First Stage of the ACST

Therefore, the construction of both the Great Pyramid and the Station Stone rectangle at Stonehenge, along with the latitudinal relationship between the Equator, the Great Pyramid, and Stonehenge, is not merely numerical. It is square-derived, circle-related, and belongs to the same geometric family as the silver rectangle (Figure 9).

Longitude and the Geometric Mean

But latitude alone does not locate a monument. Latitude gives only a north-south line around the earth. A monument stands at a point, and a point on a sphere requires both latitude and longitude. Therefore, if Stonehenge was deliberately positioned in relation to the Great Pyramid, the argument must explain not only its latitude, but also its westward displacement. Latitude, in its own right, is not simple to pinpoint with precision. Even so, it remains comparatively accessible through astronomical observation. Longitude, by contrast, presents a far greater challenge. This does not mean that ancient observers could not approximate longitudinal relationships; rather, it means that any successful attempt to do so would almost certainly have depended on rigorous astronomical method, not ordinary geographical land measurement.

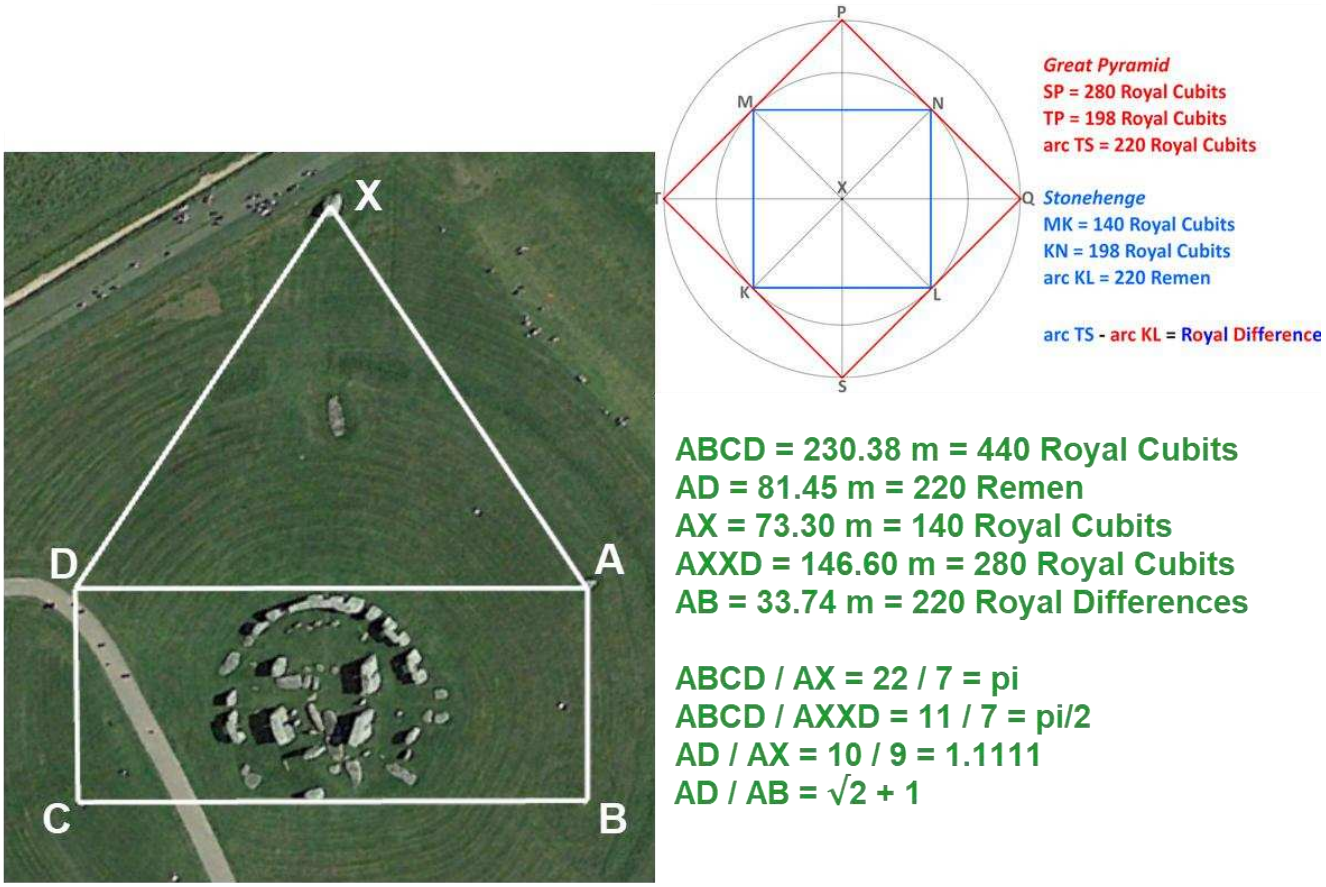


Figure 9 – The ACST and the Station Stone Rectangle w Heel Stone as the Great Pyramid

No one is suggesting that the ancient Egyptians physically measured the distance across the land from Egypt to Britain. The more plausible proposal is that they worked from the heavens: observing latitude, celestial rotation, horizon relationships, and angular displacement, and then applying a sacred proportional system to the surface of the earth itself. How this was accomplished remains unknown. What remains are not the methods themselves, but the metrological fingerprints suggesting that it was calculated and accomplished.

The thesis proposed here is that Stonehenge's longitude was calculated from the already-established silver-ratio latitude structure by means of the geometric mean, or what may be called the "square-mean." The geometric mean, known since antiquity, is the number that converts the area of a rectangle into an equivalent square. A rectangle measuring 9 by 4 has an area of 36. If that same area is reorganized into a square, the square must have sides of 6, since 6 × 6 = 36. Therefore, 6 is the geometric mean of 9 and 4 (Figure 10).

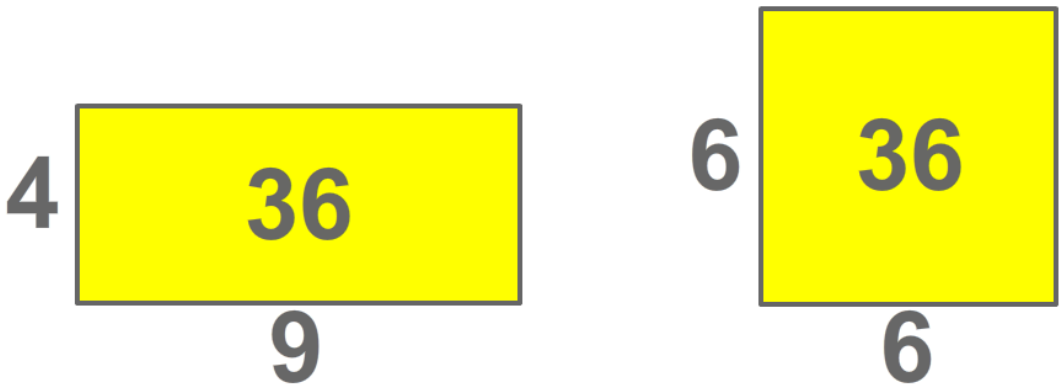


Figure 10 – The Geometric Mean

In general, the geometric mean between the two sides of a rectangle is: $\sqrt{(a \times b)}$

Or, in the example above: $\sqrt{(9 \times 4)} = 6$

Geometrically, this means that the area of a rectangle has been transformed into an equal-area square. The geometric mean does not merely average two numbers in the arithmetic sense. It finds their root — or, in the ancient Egyptian conceptual language of MAAT developed in an earlier paper, their KENBET —

reconciling them through area, proportion, and square-conversion.[6] This is why the geometric mean is so relevant to the proposed longitude relationship between the Great Pyramid and Stonehenge.

The latitude structure gives two controlling measures:

Equator to Stonehenge = **51.178857°**

Great Pyramid to Stonehenge = **21.199675°**

If these two latitude measures are treated as the sides of a silver-ratio rectangle, then their geometric mean gives the side of an equivalent square: **√(51.178857 × 21.199675) = 32.938961°**

This value of 32.938961° becomes the ***calculated*** longitudinal displacement according to the geometric mean between the Great Pyramid and Stonehenge (Figure 11).

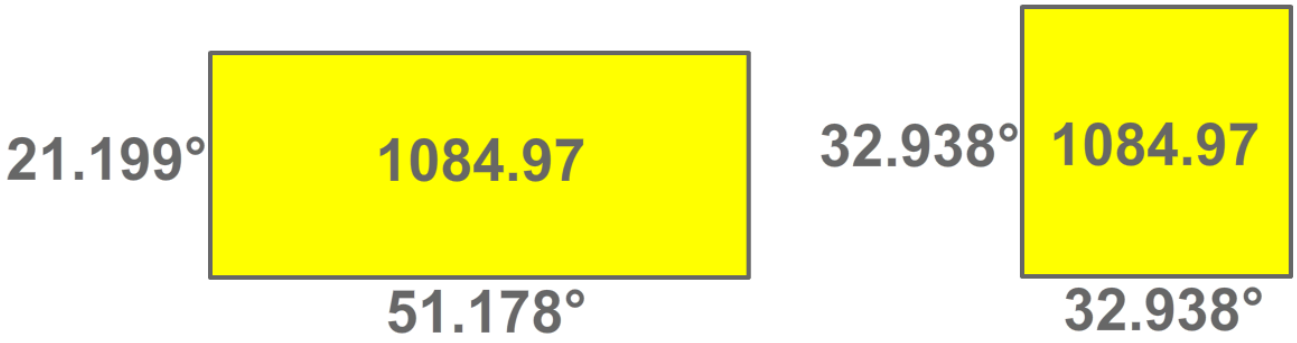


Figure 11 - The Calculated Longitude Geometric Mean of Stonehenge

So what is the longitudinal distance between the Great Pyramid and Stonehenge? Stonehenge is located at 1.82615° W, while the Great Pyramid is located at 31.13420° E. Because the two monuments stand on opposite sides of the Prime Meridian, their absolute longitudinal separation is found by adding the two values: **1.82615° + 31.13420° = 32.96035°**

The comparison is therefore:

Calculated longitude by geometric mean = **32.938961°**

Actual longitude separation = **32.960350°**

Difference = **0.021389°**

This is remarkably close. Over the vast distance separating Egypt and Britain longitudinally, the ***calculated*** geometric-mean longitude misses the ***actual*** longitudnal separation by only 0.021389°. This is

[6] Balowski, Carl. The Architecture of Existence: Squaring the Circle of Heliopolitan Cosmology. A Preliminary to the ACST. 2026.

not a vague or symbolic resemblance. It is a very small angular difference, especially considering that longitude is the far more difficult coordinate to determine. At the latitude of Stonehenge, this difference is 1501 meters of east-west displacement. When set against the enormous geographic scale involved, this is an astonishingly close result.

The contrast between latitude and longitude is important. The latitude relationship is, for all practical purposes, exact. The longitude relationship is not 'exact' in the same absolute sense, but it's precision is close enough to belong to the same cumulative pattern. If intentional, the latitude precision approaches a kind of positional exactness normally associated with modern GPS-level measurement, while the longitude precision addresses a problem that, in conventional history, was not reliably solved until the development of accurate marine chronometers in the late eighteenth century.

This does not mean that the ancient Egyptians possessed GPS or chronometers. That would be absurd. The point is comparative. The latitude and longitude values implied by this relationship display a level of angular precision that, according to the usual historical model, should not be expected in the third millennium BC. Therefore, if the relationship is intentional, it implies that the designers possessed a far more advanced command of astronomical positioning, angular measure, and proportional geodesy than is normally granted to them.

Stated proportionally, the longitude argument becomes even clearer. If the Great-Pyramid-to-Stonehenge latitude interval is treated as 1, then the full Equator-to-Stonehenge span becomes $1 + \sqrt{2}$. The geometric mean between these two values is therefore: $\sqrt{(1 \times [1 + \sqrt{2}])}$, or simply: $\sqrt{(1 + \sqrt{2})}$.

When this proportional value is scaled back up by the actual Great-Pyramid-to-Stonehenge latitude interval, it produces a calculated longitude displacement of 32.938961°. The observed longitude displacement is 32.960350°. The difference is 0.021389°. Thus, the longitude result should not be minimized because it is less exact than the latitude result. The opposite should be emphasized: the latitude relationship is virtually exact, and the longitude relationship is astonishingly close considering the difficulty of longitude determination and the immense distance between the two monuments (Figure 12).

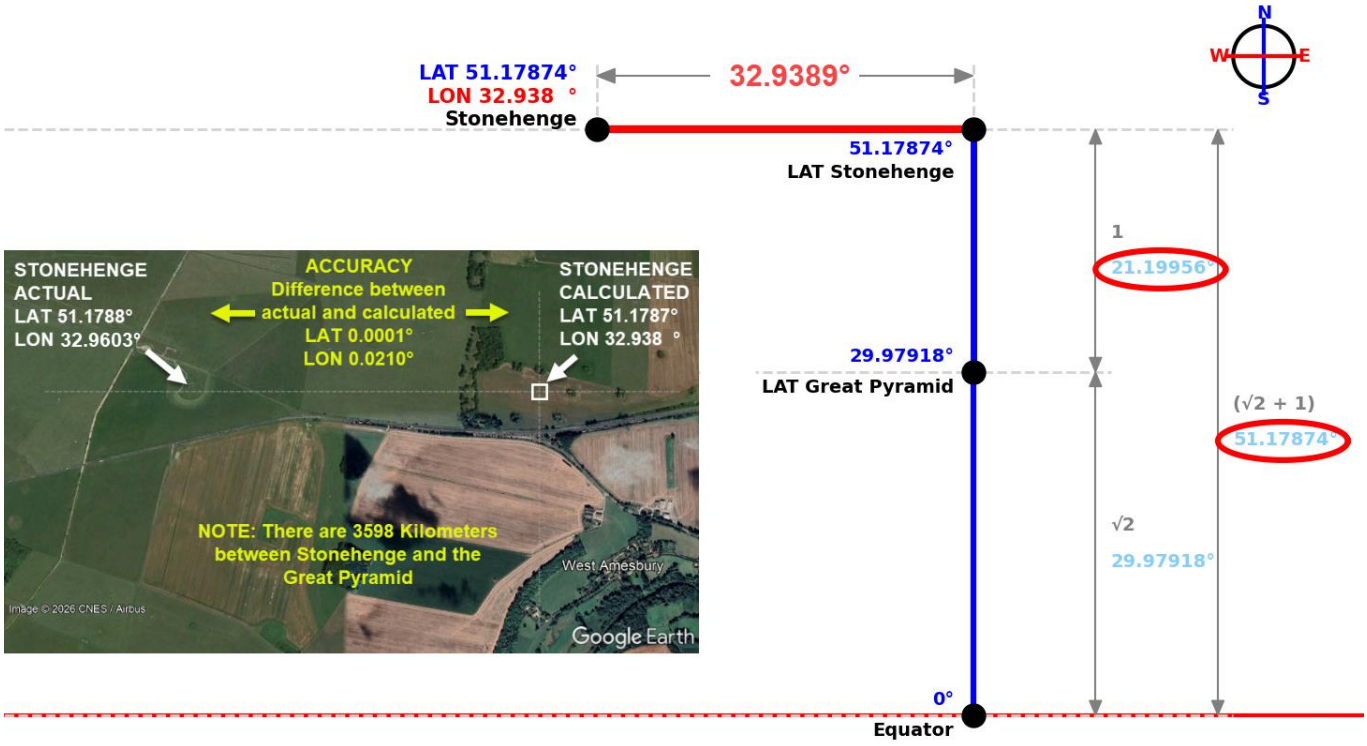


Figure 12 – Latitude and Longitude relation between Stonehge and the Great Pyramid according to the ACST

Precision, Marksmanship, and the Moving Target

A useful way to understand this difference is through marksmanship. The latitude placement is like shooting at a fixed target while using a stable sighting point. For the ancient observer, that stabilizing point was the north polar axis: the unmoving center around which the heavens appeared to turn. By sighting against this celestial axis, latitude could be read with comparative directness. On this scale, the ACST latitude projection lands within 9.9 meters of the Stonehenge Station Stone rectangle over a north-south span greater than 2,350,000 meters. Reduced to a 70-meter Olympic archery shot, that is equivalent to missing the exact center by less than 0.3 millimeters. Virtually invisible to the naked eye, that is not merely a good shot. It is dead center.

The longitude placement, by contrast, is like shooting at the same target while it is moving. Longitude is an east-west reckoning on a rapidly spinning earth. Unlike latitude, which can be stabilized against the polar axis, longitude requires determining position along the direction of the earth's rotation itself. In that sense, the target is not merely distant; it is moving beneath the heavens. Yet even under this harder condition, the longitude placement misses the actual Great-Pyramid-to-Stonehenge separation by only

1.5 kilometers over an east-west span greater than 2,300 kilometers. Reduced to the same 70-meter Olympic archery shot, that is equivalent to missing the center of a moving target by only 4.5 centimeters.

This is where the scoring system becomes important. In Olympic-style recurve archery, the target is shot from 70 meters, the target face is 122 centimeters wide, and the central 10-ring is 12.2 centimeters in diameter. That means the 10-ring has a radius of 6.1 centimeters. This is already an extremely difficult shot, reserved for elite archers who have trained for years to compete at the Olympic level. Yet, scaled to this distance, the latitude result would strike the center for all practical judging purposes.

The longitude result represents an even harder shot — not merely slightly harder, but immensely harder. Obviously, there is no 70-meter "moving-target" competition in Olympic archery, precisely because such a shot would be far more difficult than the already demanding fixed-target event. The analogy is used only to provide a familiar scale by which the precision of the longitude placement can be appreciated on its own terms. Even under this far more difficult condition, the longitude result lands 4.5 centimeters from the center, still inside the 6.1-centimeter radius of the perfect 10-ring.

The latitude result is like an Olympic archer striking the exact center of a fixed target while sighting from a stable celestial anchor. The longitude result is like asking that same archer to attempt an immensely harder shot at a moving target across the same range — and still score a perfect 10.

This suggests that the east-west placement of Stonehenge may have been generated from the same conceptual world as its north-south placement. It was not likely achieved through ordinary land surveying, but through astronomical observation, angular reckoning, proportional scaling, square conversion, and the practical geometry of side and diagonal working in cooperation with the skies.

The argument, then, does not rest on one impressive number. It is cumulative. The latitude relationship between the Equator, the Great Pyramid, and Stonehenge expresses the ACST approximation of $\sqrt{2}$ through the sequence 99 : 140 : 239. That same sequence produces the silver-ratio structure $1 : \sqrt{2} : \sqrt{2} + 1$. The longitude displacement then closely matches the geometric mean of the two controlling latitude measures: $\sqrt{(51.178857 \times 21.199675)} = 32.938961°$. The observed longitude separation is 32.960350°, differing from the calculated value by only 0.021389°. That is the cumulative force of the claim: latitude gives the ACST structure, the silver ratio gives its proportional form, and longitude appears to supply the second coordinate through the geometric mean.

This same square-diagonal logic is independently reinforced at Giza itself. As Giulio Magli first observed, the Giza plateau appears to be oriented generally toward Heliopolis. My own analysis suggests a more

precise relationship: the ancient temenos of Heliopolis stands on a 45° diagonal relationship with the apex of the Great Pyramid, as though the pyramid's square base were conceptually projected toward Heliopolis. The distance between the Heliopolitan temenos and the Great Pyramid's apex is 23.458 kilometers, which equals 72 times the diagonal of the Great Pyramid's square base (Figure 13). The side of the Great Pyramid's base is 230.387 meters. Its diagonal is therefore 325.816 meters, and 325.816 × 72 = 23,458.75 meters.

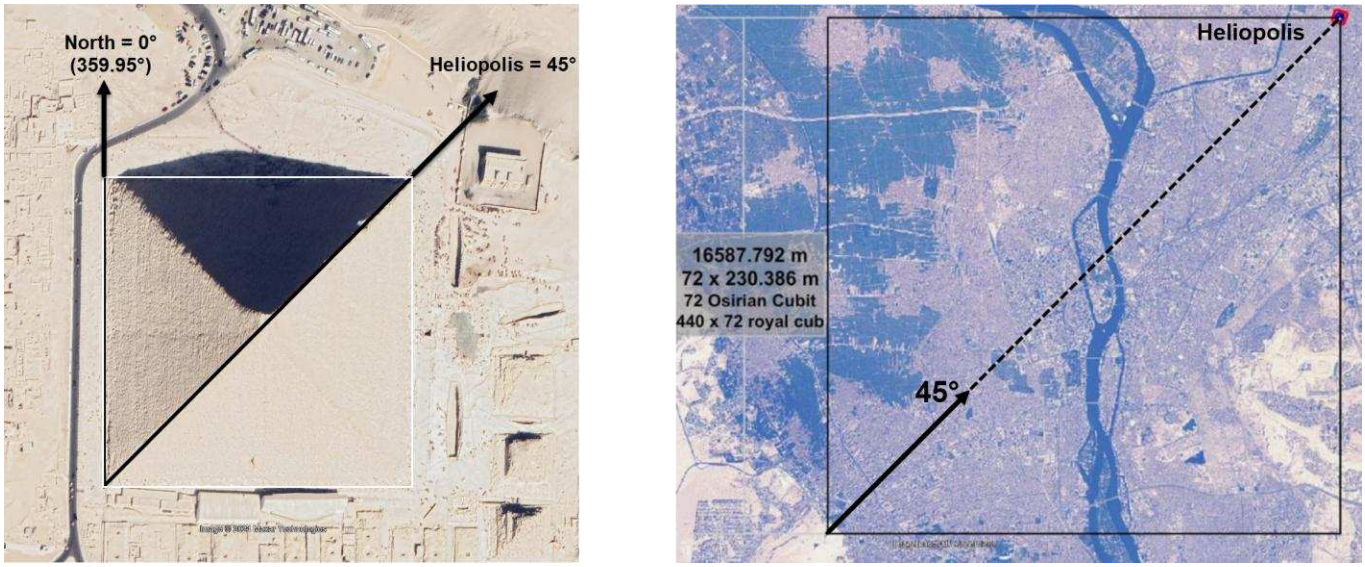


Figure 13 – The Great Pyramid's 72x Footprint and exact 45° orientation toward Heliopolis

This again places emphasis on the square and its diagonal — the very same geometric logic behind the ACST, the silver ratio, and the proposed geometric-mean longitude relationship. The Great Pyramid's relationship to Heliopolis therefore supports the same symbolic and mathematical structure found in the larger geographic relationship with Stonehenge.

Thus, the Great Pyramid appears to function as more than a local Egyptian monument. Its exterior itself embodies the ACST. Its diagonal relationship to Heliopolis reinforces the sacred geometry of the square. Its latitude establishes the √2 division between the Equator and Stonehenge. And Stonehenge's longitude appears to echo that same system through the geometric mean.

The latitude relationship gives the primary evidence. The longitude relationship gives the second coordinate. Together, they suggest that Stonehenge may have been positioned according to a large-scale astronomical and geographic application of the same square-derived proportional grammar already embodied in the Great Pyramid itself.

In this reading, the ACST and silver ratio is not merely a pleasing mathematical proportion. It becomes a guiding archetype for both construction and placement. It governs the north-south relationship through the sequence $1 : \sqrt{2} : \sqrt{2} + 1$, and it appears to generate the east-west relationship through the geometric mean $\sqrt{(\sqrt{2} + 1)}$. The result is a coherent geographic structure in which latitude, longitude, square, diagonal, silver ratio, Heliopolis, the Great Pyramid, and Stonehenge all participate in the same underlying geometric language.

Conclusion

The evidence presented in this summary paper suggests that the relationship between the Great Pyramid and Stonehenge is not adequately explained as a loose visual resemblance, an isolated numerical coincidence, or a symbolic association imposed after the fact. The pattern is too integrated. The Great Pyramid's exterior form embodies the ACST through the practical approximations of π and $\sqrt{2}$. Its internal structure reflects the same proportional grammar through the King's Chamber division. Its relationship to Heliopolis reinforces the square and diagonal at the scale of the sacred Egyptian landscape. And its relationship to Stonehenge appears to extend that same grammar across the surface of the earth.

The strongest evidence is latitudinal. The Equator, the Great Pyramid, and Stonehenge form a north-south sequence that corresponds to 99 : 140 : 239, or proportionally, $1 : \sqrt{2} : \sqrt{2} + 1$. This places the Great Pyramid at the dividing point of a silver-ratio relationship between the Equator and Stonehenge. When the ACST approximation of $\sqrt{2}$ is applied directly to the latitude of the Great Pyramid, the projected result lands within 9.9 meters of the center of the Stonehenge Station Stone rectangle. On a span greater than 2,350,000 meters, this is not a vague alignment. It is precision.

The longitude relationship then supplies the second coordinate. If the Equator-to-Stonehenge latitude and the Great-Pyramid-to-Stonehenge latitude are treated as the sides of a silver-ratio rectangle, their geometric mean produces a calculated east-west displacement of 32.938961°. The actual longitudinal separation between the Great Pyramid and Stonehenge is 32.960350°, a difference of only 0.021389°, or 1501 meters at the latitude of Stonehenge. Considering the immense difficulty of longitude determination, especially on a rapidly spinning earth, this result should not be minimized. The latitude strikes the fixed target; the longitude, though the harder moving-target shot, still lands within the perfect scoring ring.

This does not require the claim that the ancient Egyptians possessed modern GPS, chronometers, or anything like modern geodetic instruments. It suggests something more subtle and perhaps more important: that they possessed a disciplined astronomical and metrological worldview capable of

translating celestial observation, sacred measure, and square-derived proportion onto the earth itself. The methods remain unknown. But the metrological fingerprints remain visible.

The cumulative force of the argument is therefore clear. The Great Pyramid is not merely aligned, measured, or proportioned according to the ACST in one isolated way. Its exterior, interior, Heliopolitan orientation, and geographic relationship to Stonehenge all appear to participate in the same underlying system. Stonehenge, in turn, is not merely located at a notable latitude, nor does it merely contain a silver-ratio rectangle. Its latitude completes the ACST sequence from the Equator through the Great Pyramid, while its longitude appears to be generated by the geometric mean of that very latitude structure.

In this reading, the ACST and the silver ratio function as more than mathematical curiosities. They become a guiding archetype of construction and placement. The square, its diagonal, the circle, its circumference, the Remen, the Royal Cubit, Heliopolis, the Great Pyramid, and Stonehenge all converge into a single proportional language. If intentional, this language reveals a level of astronomical positioning, metrological sophistication, and sacred geometric design far beyond what is normally granted to the ancient world.