

43200:1

The Great Pyramid in relation to the Earth

by

Norman Scherer

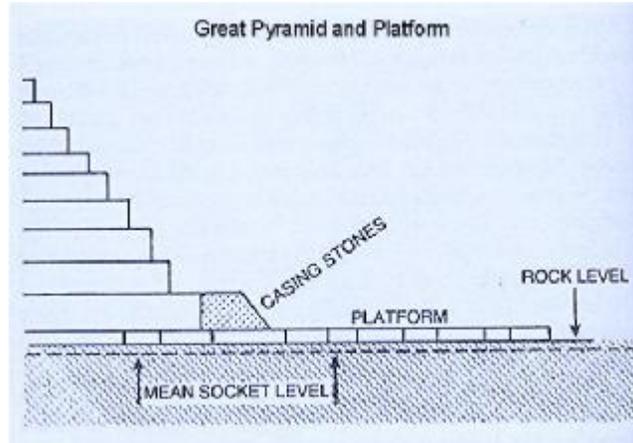
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Introduction

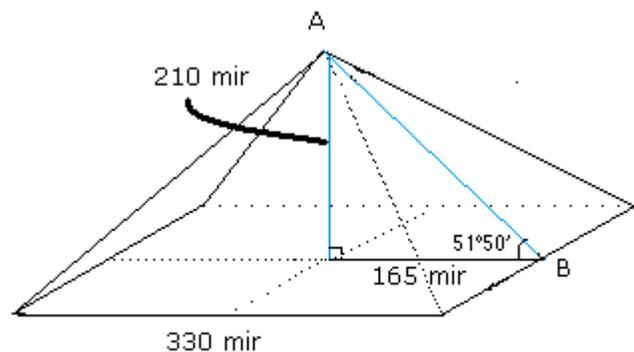
As discussed briefly in the *Construction Date of the Great Pyramid*, a unit of measurement mentioned by Edgar Cayce in Reading 281-25 called a *Mir* or *Mir* cubit, may have been used by the Egyptians during this time. Also, the Great Pyramid appears to incorporate measurements of the Earth on a scale of 43200:1.

Squaring the Circle

The Great Pyramid (GP) turns out to have the same perimeter length when measured in a horizontal plane, as a square, as it does when measured in a vertical plane, as a circle. If we take the *Mir* cubit to equal 27.483 inches (Cayce Reading 281-25 says a *Mir* is about 27 and one-half inches) then the perimeter of the pyramid's base equals 1320 *Mir* (which gives an *average* length of each side as 330 *Mir*). Since the top portion of the GP is missing the exact height is unknown. Currently there are 203 courses or layers of limestone that form the inner core masonry of the structure. This was covered with casing stones of white marble-like *Tura* limestone which gave the original surface a smooth finish.



These casing stones were removed sometime in the distant past. There are a few casing stones left at the bottom which makes it possible to get a slope angle measurement. A recent survey performed by Mark Lehner in conjunction with the Giza Plateau Mapping Project lists the angle of the Great Pyramid as $51^{\circ} 50' 40''$. The tangent of this angle is 1.2728. Since we know the base length we can calculate what the original height should have been. The average length of a side is 330 *Mir* so half of this would be 165 *Mir*. If we multiply 1.2728 by 165 we get a height of 210.012 *Mir*.



GP height calculated from tangent of slope

If we use this figure as a radius of a circle we find the circumference of this circle would be equal to 1319.54 *Mir* or very nearly the perimeter of the base, 1320 *Mir*. This height of 210 *Mir* may also correspond to the original number of courses of the GP and would be the only unit of measurement that ties the number of courses with the original height of the structure.

Height Squared=Area of one face

The length of the apothem AB can also be calculated by using the Pythagorean Theorem:

$$(165)^2 + (210)^2 = (AB)^2$$

Solving for AB we arrive at 267 *Mir* cubits. We can now find the area of each face of the pyramid by multiplying half the base length times the apothem which would result in 44066 square cubits. Interestingly, the square root of this number is almost exactly equal to the height of the pyramid (209.919). In other words the area of one of the faces of the GP equals the height of the GP squared.

Diagonal + 1000

Another unusual measurement is in the diagonals of the base. These can be calculated by multiplying the base length (330 *Mir*) by the square root of two which results in 466.69 *Mir*. To find the circumference of the circle with this diameter we multiply this length by π (Pi) to arrive at 1466.15 which is almost exactly 1000 + the diameter (diagonal). If we use the value for π that is built into the dimensions of the GP, namely 1320 (perimeter of the base) \div 420 (twice the height) we get a π value of 3.142857 which when multiplied by 466.69 gives 1466.74 which is even closer to the diagonal length + 1000.

1/2 Minute of Latitude

It is a well-established fact that twice the perimeter of the base equals one minute of latitude at the equator. To check this, we find that the length of 1° of latitude at the equator is equal to 362776 feet. Since there are 60 minutes in one degree, we divide by 60 to obtain the length of one minute of latitude (362776 \div 60 = 6046.266667 feet). Multiply by 12 to give inches (72555.2 inches) and divide by 27.483 (number of inches in 1 *Mir* cubit) to give us 2640.0029 *Mir*. This figure is exactly double the perimeter of the base of the GP which is 1320 *Mir*.

Put another way, the perimeter of the base of the GP is equal to 1/2 minute of latitude or 1/43200 of 360° (360 x 60 x 2).

1/2 Minute of Longitude

William Fix, in his book *Pyramid Odyssey*, explains how the GP incorporates 1/2 minute of longitude:

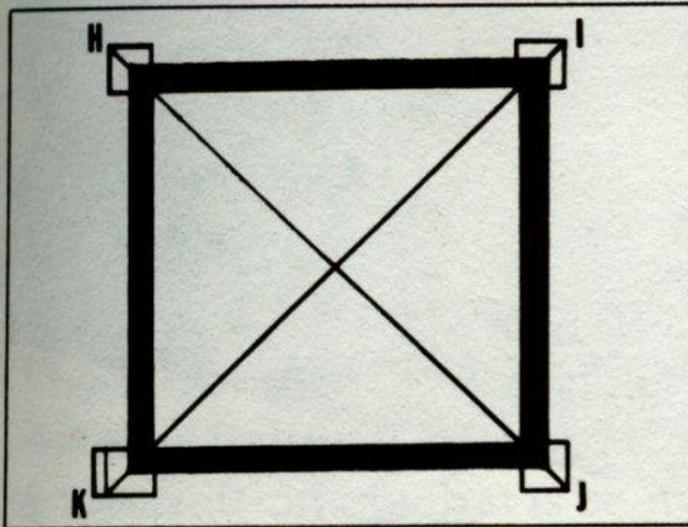
Now it happens that a little outside the four original corners of the Pyramid there are four roughly rectangular shallow holes called "sockets" cut into the bedrock, one at each corner. At one time it was thought that these marked the corners of the Pyramid itself, but it was later discovered the corners ended a bit short of the outside corners of these sockets. As with everything else about the Pyramid, men have been arguing about the significance of these sockets for hundreds of years. Most have thought that they marked the position of neatly cut stones adjoining the corners of the Pyramid.

I hunted up all the surveys and reports giving measurements of these sockets that I could find in the library of the Cairo Museum. Whatever these shallow depressions held, and however this fitted into the architecture of the Pyramid, it is a simple fact that the distances between the outside corners of these four sockets add up to an extremely exact value for a half minute of equatorial longitude, or 1/43200 of the equatorial circumference of the earth.

*Distance between the outside corners of the sockets=3043.7 feet
Length of 1/2 minute of equatorial longitude=3043.51 feet
Difference= .19 feet*

Even this insignificant difference of about 2.28 inches overall can be accounted for if it is assumed that the cornerstones that rested in these sockets had surfaces that tapered upwards, consistent with the style of masonry from the same age found elsewhere in Giza. The simplicity of the scheme is stunning. All we have to do to get an extremely accurate figure for the equatorial circumference of the earth is to multiply by 43200.

3043.7 feet x 43200=131,487,840 feet = 24903 miles



H-I-J-K-H = Perimeter reckoned from the outside corners of the sockets
= 927.72161 meters or 3043.7 feet
= 1/2 minute of equatorial longitude
= 1/43,200 of the earth's equatorial circumference

Polar Radius and the Great Pyramid

The GP height as calculated above is about 210 *Mir* which is very close to 481 feet ($210.012 \times 27.483 = 5771.7598$ inches $\div 12 = 480.97998$ feet). The polar radius of the earth is about 3949.9 miles. When multiplying the height of the GP by 43200 you get 3935.29 miles which is close, but still some 14 miles short of the expected answer. As you can see from the first diagram in this article, "Great Pyramid and Platform", there is indeed a platform that serves as a base for the pyramid. You can also see it in the picture below:

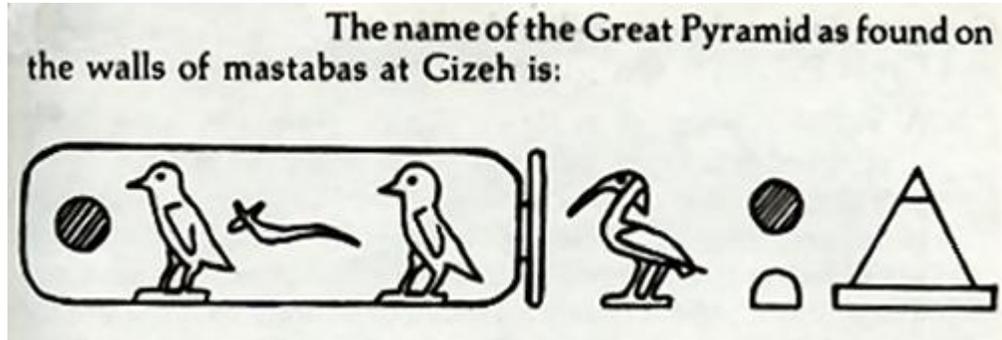


Casing blocks and the platform beneath them.

It is also worthwhile to note that the measurements of the 2nd Pyramid at Giza (Cephren) have always included the base or platform as part of the actual structure. As Fix notes in his book:

What all this amounts to is that all measurements of the Second Pyramid have always included the platform, while the reverse was true of the Great Pyramid. It is hardly a radical suggestion that analyses of these structures proceed from the recognition that these platforms are distinct yet integral parts to be included in some calculations and excluded from others.

There is also hieroglyphic evidence to support the idea that the Egyptians themselves thought of these two pyramids as having three parts:



The platform beneath the pyramid averages about 55cm or 21.6535 inches. When you add this amount to the original height of 5771.7598 inches you come up with 5793.4133 inches or 482.78444 feet. This number multiplied by 43200 will give you 20,856,287.88 feet which equals 3950.0545 miles. This is a difference of only about 816 feet out of almost 4000 miles! Put another way, since we were multiplying by a factor of 43200 a decrease in the platform thickness of less than 1/4 of an inch (0.226 inches) would have made the figures agree exactly. Actually you could say they *do* match exactly because the measurements used for the platform are only an average thickness.

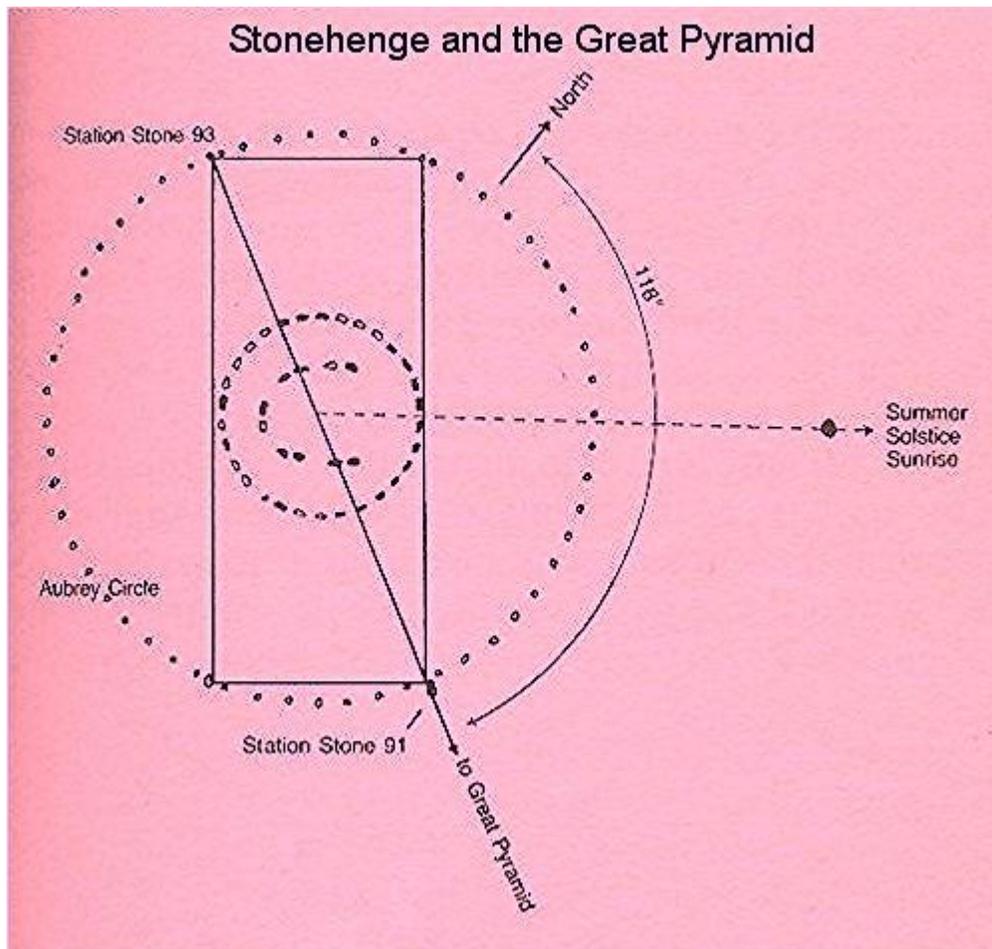
Stonehenge

From Bonnie Gaunt's book *Stonehenge....A Closer Look*, we find that there is a relationship between the two monuments. There are four stones within the Aubrey Circle called Station Stones and are numbered 91, 92, 93 and 94. These four stones within this circle form a rectangle and are aligned with the solstice sun (short side of rectangle) and moon (long side of rectangle.).

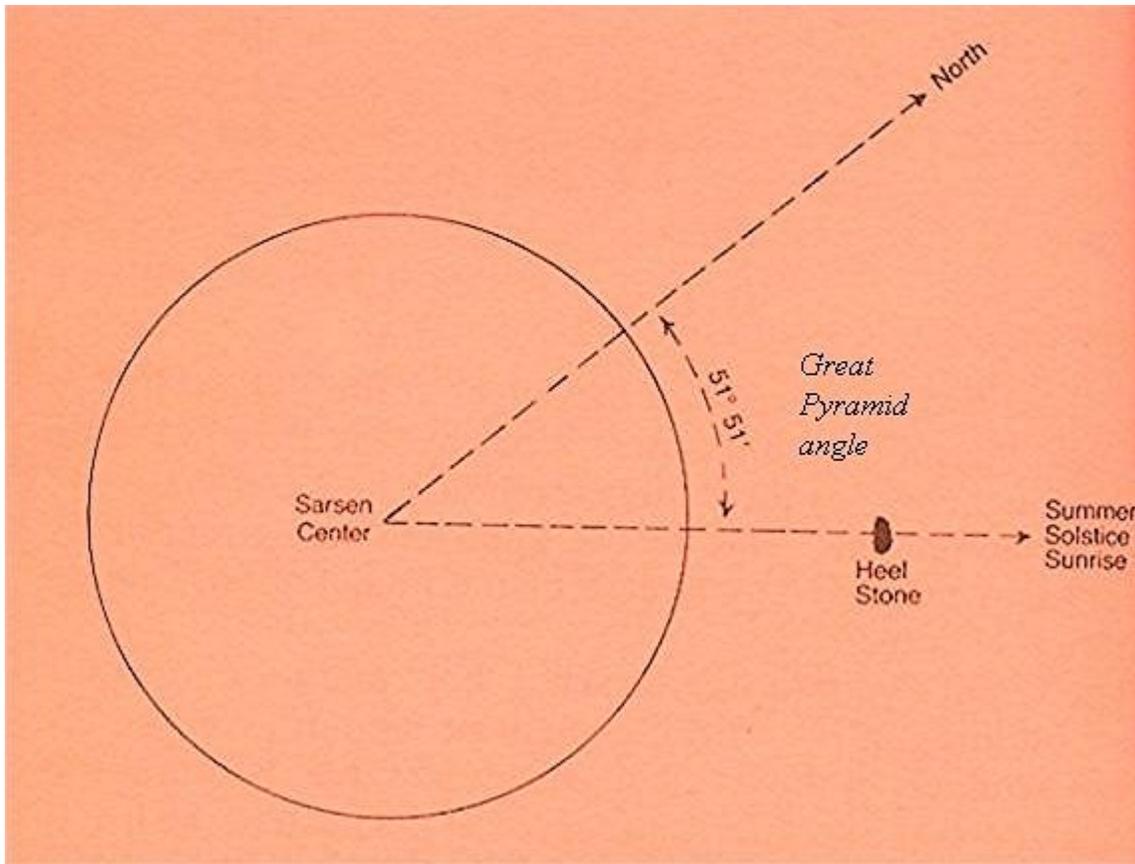
Gaunt goes on to write,

Thus the rising and setting of the sun and moon form a rectangle. If we were to move Stonehenge a few miles north or south, the Station Stones

would have to form a parallelogram. Stonehenge is at latitude 51.17° north and at this latitude the solstice movements of the sun and moon form a rectangle. Aside from the remarkable sun-moon alignments of the Station Stones,....the diagonal alignment of stone 93 to stone 91 points directly to the Great Pyramid of Egypt....The azimuth from Stonehenge to the Great Pyramid is 118° from north....In other words, if you walked from Station Stone 93 to Station Stone 91 and kept walking in that exact direction, you would bump into the Great Pyramid.



As noted earlier, the Great Pyramid angle has recently been measured at $51^\circ 50' 40''$. This angle allows the Great Pyramid to "square the circle". But there is something even more remarkable. It is the angle of summer solstice sunrise to north at Stonehenge.



Sources

Fix, William R., Pyramid Odyssey, Urbanna, Virginia: Mercury Media, 1984.

Gaunt, Bonnie, Stonehenge, A Closer Look, New York: Bell Publishing, 1979.
