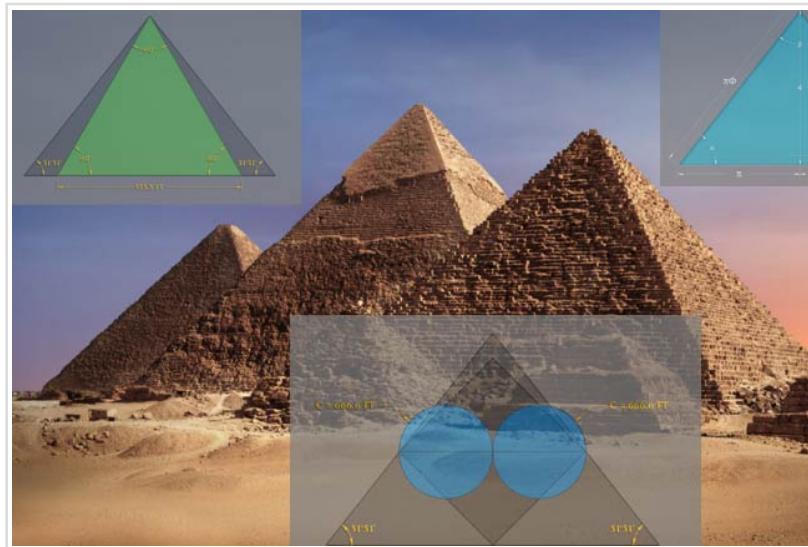
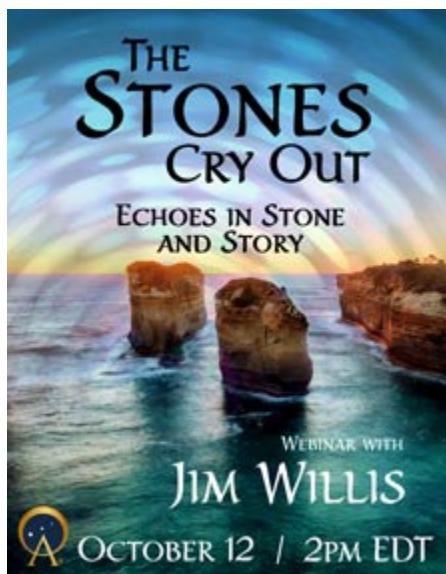


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13 NOVEMBER, 2014 - 11:24 SCOTT ONSTOTT

Mathematical Encoding in the Great Pyramid

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The Great Pyramid of Giza, the oldest and sole surviving Wonder of the Ancient World, has attracted the interest of philosophers, savants, and travelers for at least four millennia. Some of this interest has centered on the question of whether the ancient Egyptian culture possessed and encoded certain mathematical concepts in the pyramid's proportions and measurements.

I have analyzed the Great Pyramid's geometry without considering the issues of what mathematical knowledge ancient Egyptian architect-engineers did or did not authoritatively possess. If ancient designers did encode something in the Great Pyramid, I believe they would have wanted the structure's very geometry to carry the message.

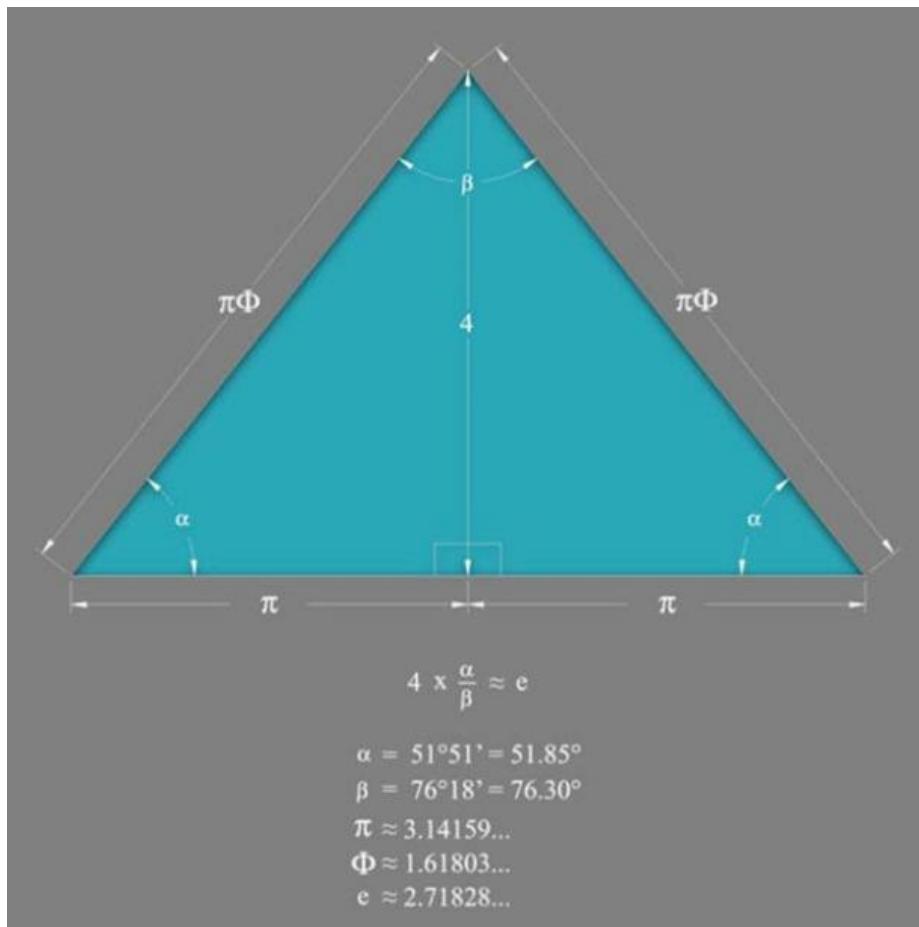
Perhaps the Great Pyramid is not a tomb but a tome—open to all those who possess geometrical understanding, much in the same spirit of what Plato's Academy inscribed millennia later on its door, "Let no one ignorant of geometry enter."

The Great Pyramid's elevation encodes three of the most important constants in mathematics: π , Φ , and e . The slope angle of $51^{\circ}51'$ (51.85° in decimal form) comes from measurements taken off the remaining casing stones, according to detailed survey data from **Flinders Petrie** and **J.H. Cole**.



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You can verify these encodings with the following equations. The accuracy percentage for each equation is given in parenthesis.

$$4 \times 51.85^{\circ} / 76.30^{\circ} = e \text{ (99.998%)}$$

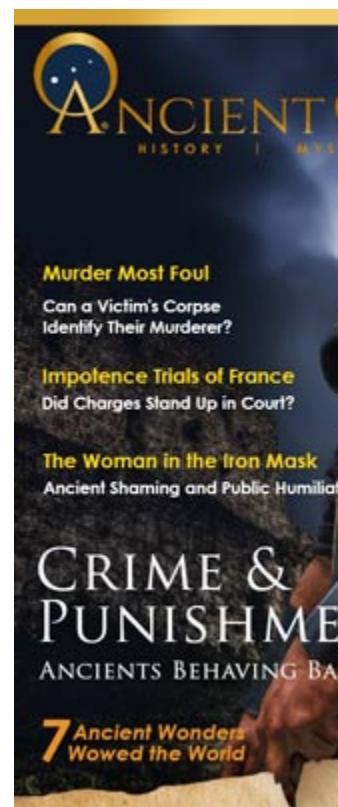
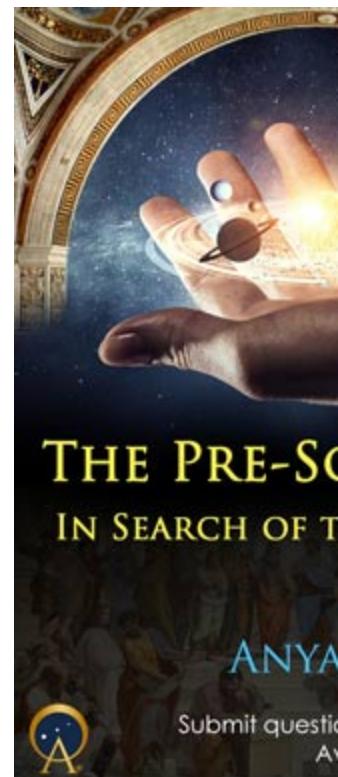
$$\tan 51.85^{\circ} = 4 / \pi \text{ (99.99%)}$$

$$\cos 51.85^{\circ} = 1 / \Phi \text{ (99.95%)}$$

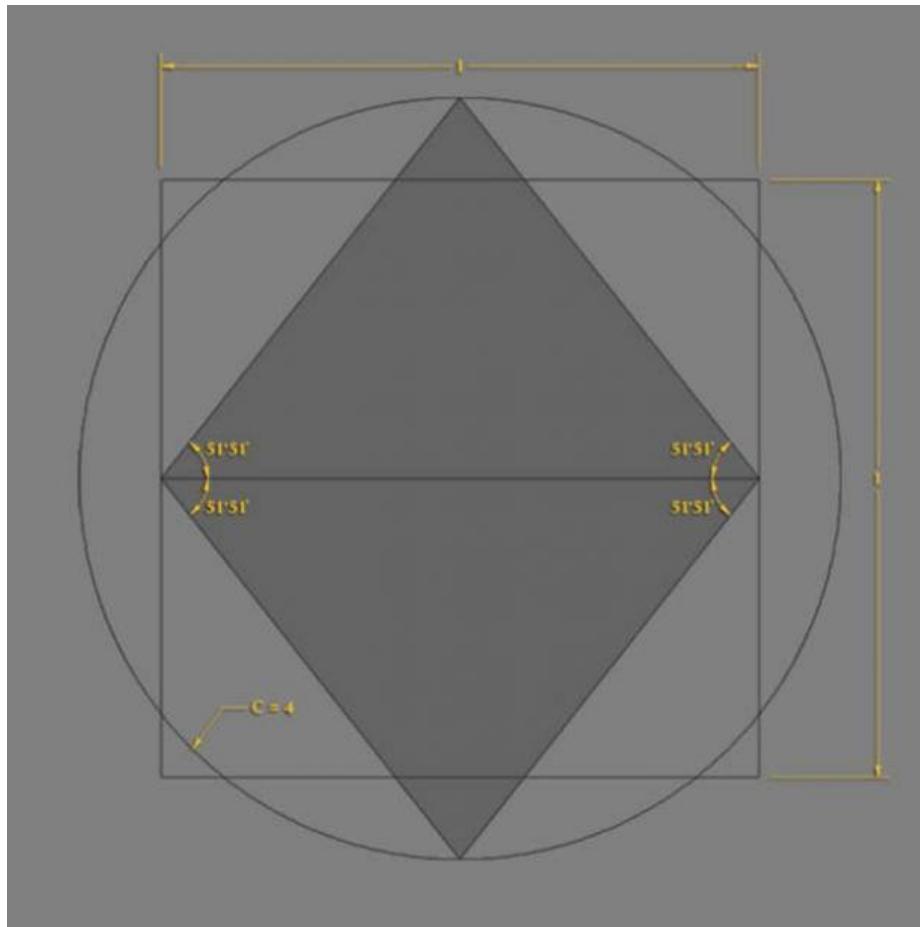
$$\sin 51.85^{\circ} = 4 / \pi\Phi \text{ (99.94%)}$$

The constant e , known as Euler's number, wasn't discovered until 1618. Consider the possibility that this was merely rediscovery. We are generally so accepting of the myth of linear progress that it is easy to forget that sometimes knowledge is lost and not rediscovered for a very long time, if ever. For example, it has been said that the plumbing system in the palace of Knossos, Crete built in 1900 BCE wasn't matched until circa 1900 CE in England.

Another way of looking at the Great Pyramid is by analyzing its relative



proportions. If the base measures unit length then a square with an equal unit edge can be drawn as shown below. A circle drawn from the center with radius equal to the height of the pyramid has a circumference equal to the square's perimeter. Thus, the Great Pyramid "squares the circle." Its form approximates the solution sought by ancient geometers, who for many generations endeavored to square the circle by length (squaring a circle by area is a related problem). Note: exact squaring of the circle is impossible due to the transcendental qualities of π (proved by Lindemann in 1882).



In addition to relative proportions, I wondered if the Great Pyramid might encode anything in absolute units? To find out, I drew its elevation in a computer aided design program in actual size, according to J.H. Cole's surveyed values (I used 755.775 feet for the mean base edge length).

I rediscovered many layers of encoding in the Great Pyramid by taking its precise measure and looking for patterns. If you inscribe an equilateral triangle inside, this is what immediately pops out: the green triangle's



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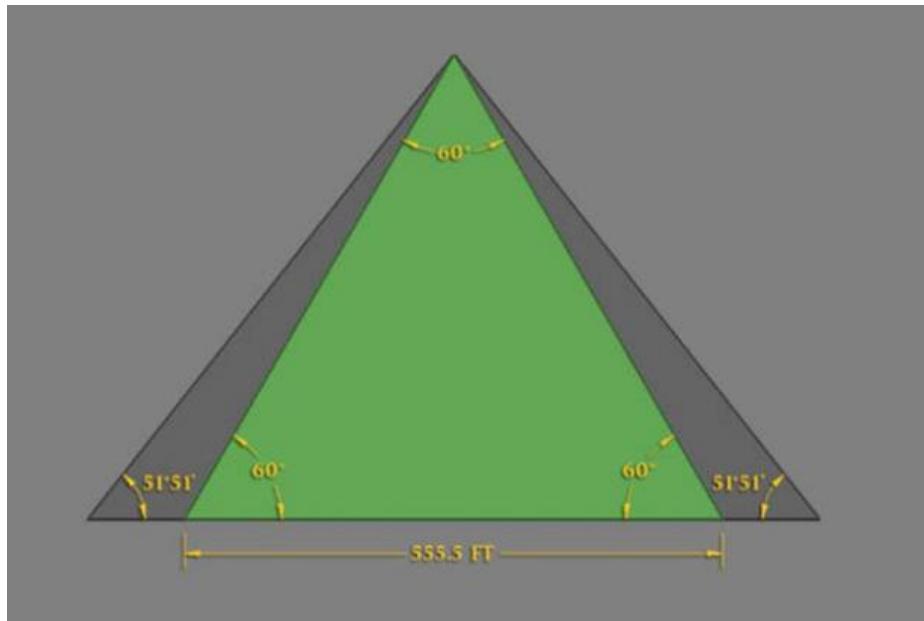
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The Mysterious Fairy Flag
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The Fairy Flag is one of the most famous talismans in Scotland, belonging to the chief of Clan MacLeod, a powerful family in the Western Highlands.

edge length is 555.5 feet, or 6666 inches. This distance happens to match the height of the Washington Monument and the length of St. Paul's Cathedral but that is another story (to learn more see my video series, Secrets In Plain Sight). The key pattern to observe is the repeating digits, even though it goes against what we think we know about the English foot's provenance.



Another method of analyzing the pyramid geometry is with a square rotated 45° with respect to the ground plane. The largest such square that fits inside the pyramid's elevation encodes two circles across its diagonal, having circumferences equaling exactly 666.6 feet each, allowing that the slope angle of 51°51' has an accuracy of only 99.8%.

associated with the Isle of
resides in Dunvegan Castl

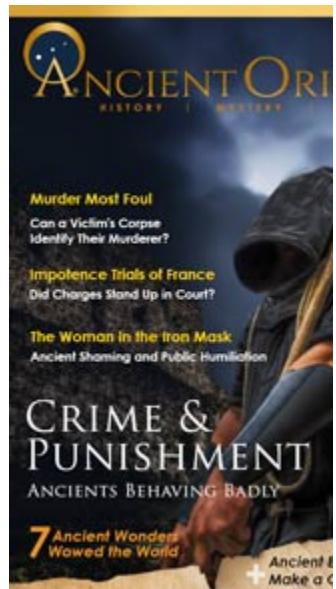
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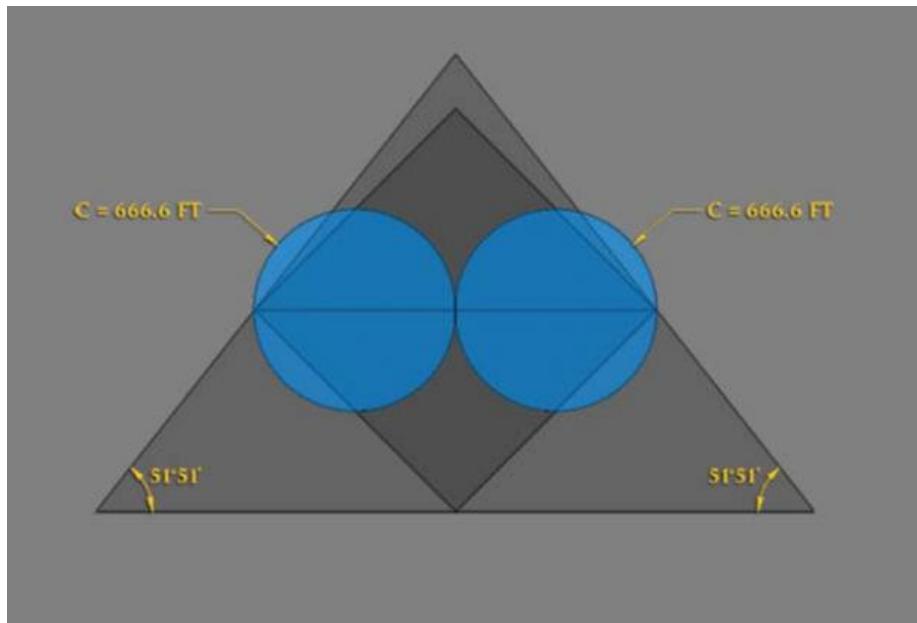
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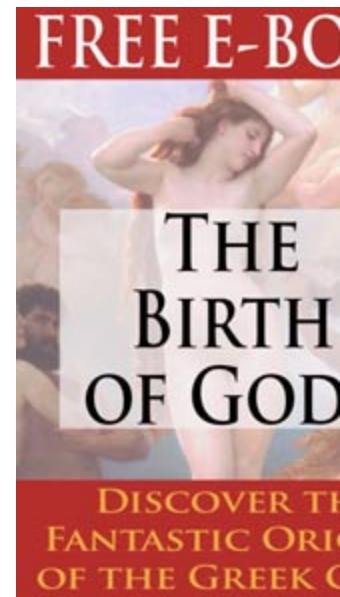
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If you circumscribe the pyramid's elevation triangle and then measure the circle's diameter, this equals 777.7 feet (99.97% accurate with a slope of $51^{\circ}51'$ and base length of 755.775 feet). In addition, the inscribed circles shown below in red and blue have circumferences of 777 feet and 7777 inches, respectively. Sevens abound!



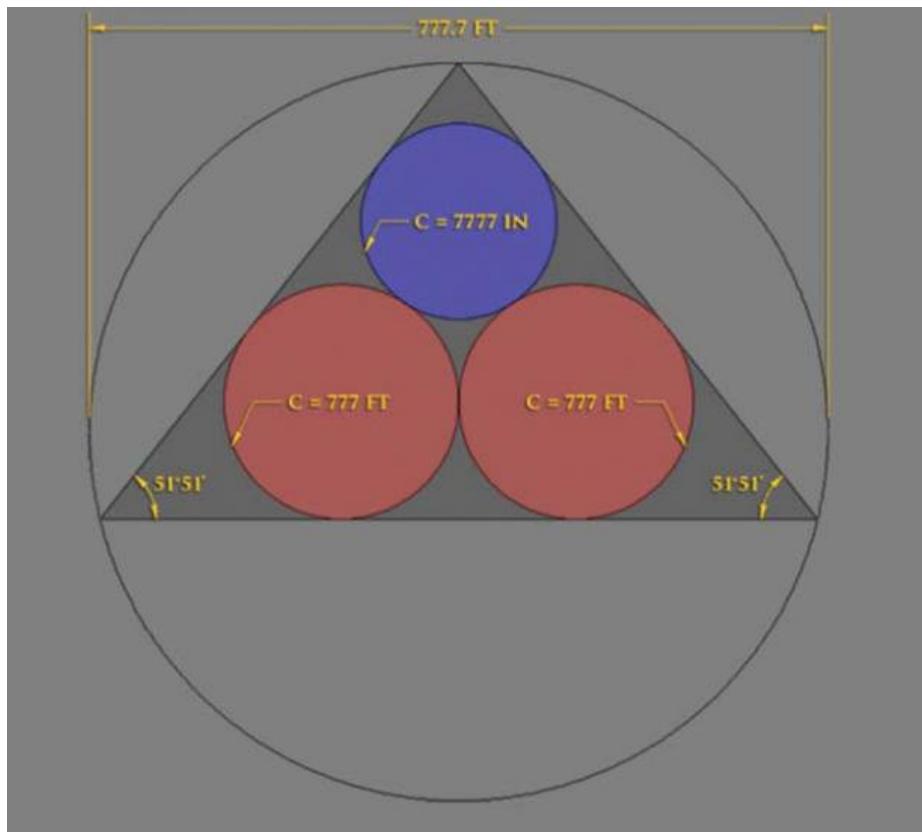
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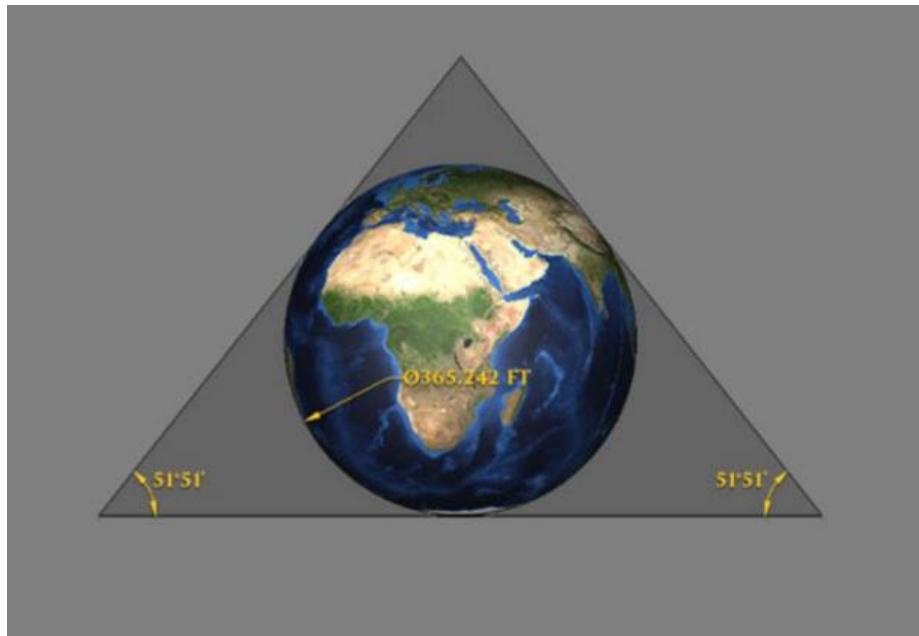
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This next image depicts a single inscribed circle having a diameter of 365.242 feet inside the pyramid's elevation that echoes Earth's tropical year of 365.242 days. The circle's exact diameter is 2.2 feet longer than this measurement, but this small delta might reference the Earth's atmosphere, which is like an onionskin at this scale, roughly equaling the thickness of the diagram's lines.

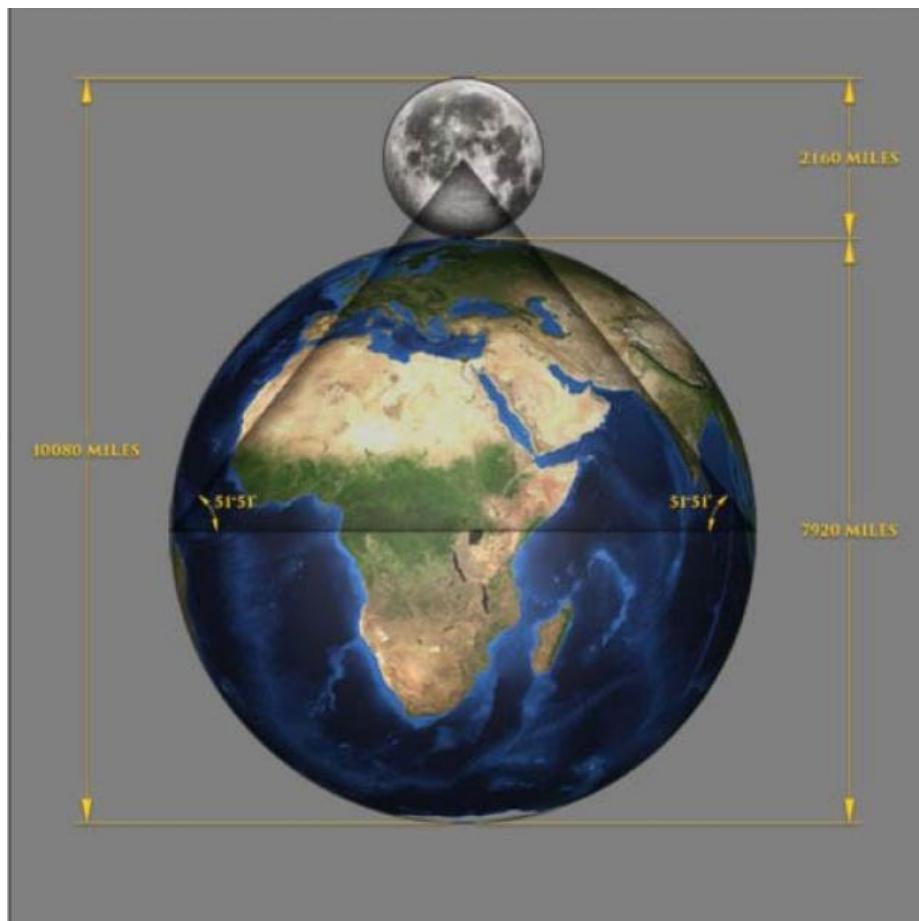


The most amazing realization is the Great Pyramid encodes all of this and more *simultaneously*. This single triangle is clearly above my pay grade to design!

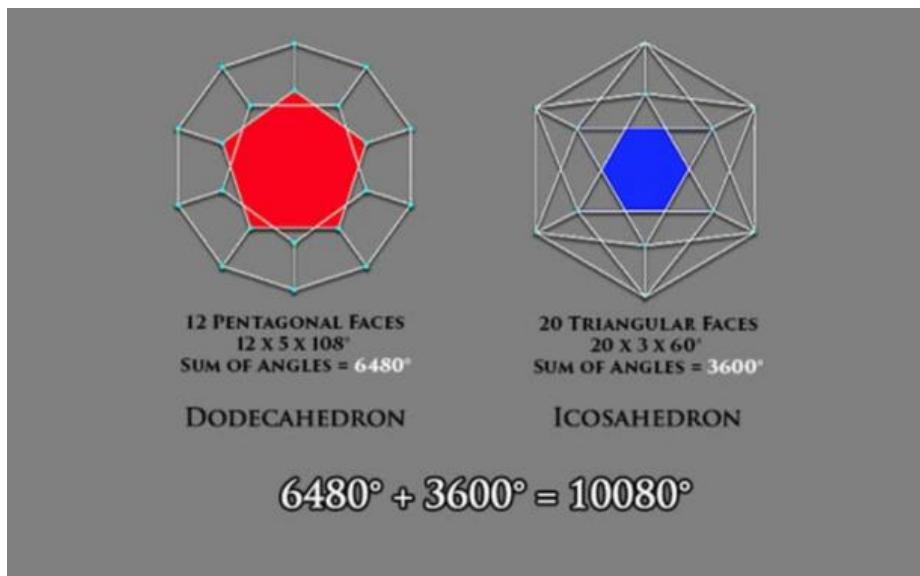
We don't really know when the inch, foot, yard, furlong, mile system was invented, although it appears to date back at least to Elizabethan England. Maybe that was when this system of measurement was rediscovered as a complete system, or maybe the knowledge resurfaced only after being long preserved by a secret society (John Dee and/or Francis Bacon come to mind). More research is needed to definitively answer these intriguing questions.

Around the time of my birth, writer and deep-thinker John Michell rediscovered that the Great Pyramid's elevation geometry encodes the true proportions of the Moon and Earth. This is evident when you bring these two bodies together such that the Moon is tangent to Earth's surface. The tip of the shaded pyramid diagrammed below is at the center of the Moon and the base of the pyramid runs along Earth's equator.

I have illustrated this relationship and added relevant dimensions. It turns out that the combined mean diameters of Moon and Earth measure 10080 miles (99.96% accurate according to NASA).



The five Platonic solids include the icosahedron and dodecahedron, which are specifically classified as mathematical *duals*. In this context, dual means the vertices of one solid correspond to the faces of the other. Therefore, the icosahedron and dodecahedron are like opposite sides of the same coin. Consider the following correlation, showing that the sum of all the angular degrees in these two solids equals 10080, the same number of miles in the Moon-Earth system's mean diameter.



Was the mile specifically designed to encode this “Platonic” relationship with the Moon-Earth system or is our system—and by extension the entire universe—a mathematical construct in a simulation?

If so, then who are you?

These questions are areas of my continuing metrological and philosophical research as explored in my **Secrets In Plain Sight** videos and books **Taking Measure** and **Quantification**.

Featured image: The Pyramids of Giza, Egypt. Source: BigStockPhoto

By **Scott Onstott**

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ROSA MESTRES WROTE ON 28 SEPTEMBER, 2018 - 22:17

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Hola, buenas noches. No tengo mucha idea para las matemáticas, pero, me fascina ver el trabajo de personas como Nikola Tesla y no me preguntes porque, cuando veo la gran

pirámide me viene a la mente los diagramas de Tesla. Sobretodo ese que le llaman el mapa de multiplicaciones y aquel donde exponía la magnificencia de 3 6 y 9 en sus formas geométricas. Tu que eres matemático. Puedes comprobar si encaja? Así como anécdota. Gracias

[REPLY](#)**LOURENS WROTE ON 25 JANUARY, 2016 - 18:35**[PERMALINK](#)

Search for decoding bible codes pyramids and general numbers 42 for new info on Giza.

[REPLY](#)**ROBERT TEMPLE WROTE ON 7 JANUARY, 2016 - 05:12**[PERMALINK](#)

Let me suggest Douglas A. White who wrote THE COSMIC GAME, an extremely interesting exploration and analysis of Egyptian mathematics, physics, and geometry. Look up the PDF. By the way, I enjoyed your analysis as well.

[REPLY](#)**NICK WROTE ON 26 MAY, 2015 - 15:01**[PERMALINK](#)

$4 \times 51.85^\circ = 207.4^\circ$? Not 2.718?

[REPLY](#)**PETER HARRAP WROTE ON 11 JANUARY, 2015 - 22:08**[PERMALINK](#)

Now, if you still can find it, read "The Great Pyramid Decoded by Peter le Mesurier Compton Russell 1977.

It is THE masterwork on this subject.

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