

Our Ancient Friend and Brother, the Great Pythagoras

by

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"Let no one ignorant of Geometry enter here"

In our Masonic adventure we encounter this great historical figure or his work more than once. The first meeting occurs in the Third Degree in the company of the Hieroglyphical Emblems. We are not told much, being only presented with one paragraph of information which, you might say, contains a few odd statements. We hear that Pythagoras invented the formula that is known as the Forty-Seventh Proposition of Euclid (better known to us as the Pythagorean Theorem). That he traveled all over the known world: Africa, Asia and Europe (it is more likely that he kept to the Mediterranean rim). That he was Initiated into several orders of priesthood. From this point the paragraph begins to take on a strange twist. We are next told that he was raised to the sublime degree of Master Mason (since Pythagoras lived in the 6th century B.C. we can really count ourselves as being the world's oldest Fraternity). And finally we are informed that when he first realized the relationship that the Theorem defines he exclaimed EUREKA! I guess that is just a piece of wisdom trivia that has been handed down for 25 centuries. And because of his great excitement he sacrificed a hecatomb - which is a great public sacrifice of probably 100 oxen. This is even stranger knowing that Pythagoras was a vegetarian and is one of the earliest Western philosophers to teach the doctrine of the transmigration of souls - that souls are immortal and are continually reborn into new bodily forms.

We may be inclined to take lightly this part of the Lecture due to its quasi-historical nature and oddities but garner some feeling of respect and acknowledgement for an ancient philosopher and mathematician. But upon closer examination of this paragraph we find that such a casual attitude might be a mistake. I think we can be generous and give the author some credit and assume that there is something more within what he said (I think the paragraph was taken wholly from Thomas Smith Webb). One of the first things that come to our attention is the fact that Pythagoras is one of the only if not the only "outsider" mentioned in all the Blue Lodge Degrees. This fact alone gives us pause to wonder why he has been spotlighted by our Masonic ancestors. So who was this man given such high esteem in our Fraternity?

Pythagoras

Pythagoras was probably born about 570 B.C. on the island of Sarnos. He was an Ionian Greek. He immigrated to Crotona in southern Italy where he founded a philosophical and religious society. At one point it was persecuted and many of its leaders were killed. Pythagoras resettled but eventually it happened again and the fraternity was scattered. It seemingly died out in the fourth century B.C. Pythagoras himself died around 500 B.C. We do know a little about Pythagoras and the Pythagoreans but the earliest is from Plato. His school grew into a sort of brotherhood and fraternity with vows of secrecy.

Therefore, little was written down. The emblem of the society was a pentagram. At each point of the star was a Greek letter which all together spelled "health" (- Upsilon, gamma, iota, theta, alpha). And we know that Apollo was of major importance to their society. We know that:

"In earlier Greek theology, the Logos was personified in the shining figure of Apollo, the god of light, music, geometry, and harmony, whose nature most closely reflects the highest realizations of the Greek Spirit. As the god of harmony, he is said to have invented all music. Apollo was the god of reason (logos), yet he was also a god of prophecy. He is a personification of the celestial harmony, ...He was the leader of the nine Muses, the goddesses of inspiration and the arts,..." (David Fideler, Jesus Christ. Sun of God, page 63)

Although Pythagoreanism is of vast extent and far beyond the scope of this paper, so for brevity we can list its main doctrines as: "the immortality of the soul, philosophy as an assimilation to the divine, and the mathematical basis of the cosmos." (Encyclopedia of Philosophy. Vol. 7, page 39) The particular interest of this paper is the Hieroglyphical Emblem: the Forty- Seventh Problem of Euclid.

The Forty-Seventh Proposition of Euclid

The Pythagorean theorem states that for any right triangle the sum of the squares of its two legs equals the square of its hypotenuse ($a^2 + b^2 = c^2$). Or we could frame it as the sum of the square of the horizontal and the square of the perpendicular equals the square of the hypotenuse. We know this formulation was known before Pythagoras - there is evidence in ancient Egyptian work, ancient China (the Chou Pei manuscript), and the megalith builders. Regardless, it is attributed to Pythagoras and two hundred years later Euclid compiled his "Elements of Mathematics" where this particular proposition is found in Book One.

(47th) In every right angle triangle the square on the hypotenuse is equal to the sum of the squares on the other two sides.

(48th) If the square described on one of the sides of a triangle is equal to the square described on the other sides, then the angle contained by these two sides is a right angle.

This theorem has been called the root of all geometry and the cornerstone of mathematics. The practical applications alone are worthy of the high esteem that Masonry affords it. And this is the interpretation of the lecture that is most considered when masons speak of it But the meaning of this hieroglyphical emblem does not stop there.

The emblem we are usually presented is the 3,4,5 right triangle in this fashion: The vertical line is of 3 units, the horizontal is of 4 units, and the hypotenuse is of 5 units. Not only is our attention called to this geometrical figure in the Master Mason degree, it is

also prominent in the Scottish Rite in the 20th Degree - Master of the Symbolic Lodge and in the 25th Degree - Knight of the Brazen Serpent. Rex Hutchens, commenting upon the 20th Degree in his book on the Scottish Rite explains that:

Nine is a perfect number, being the triple of three. There are nine candles in three groups of three each on the East, West, and South of the Altar. They form a graphic representation of the 47th Problem It makes no difference in the equation if the other two angles are 45 degrees each or 30 degrees and 60 degrees or 5 degrees and 85 degrees. Because of the mystic meaning associated with numbers by the ancients, they considered the most beautiful triangle of all, the right angled triangle with sides of 3,4 and 5 units of measure. (Rex Hutchens, The Bridge to light, p.171)

In the 25th Degree commentary Hutchens describes the setting of this degree:

The ceremony takes place in four apartments. They are all remarkable in their simplicity. The first is called the House of the Earth. ...The second apartment is called the House of the Planets. The third apartment is ... styled the House of the Sun and Moon.... The principal chamber is called the House of the Light. Nine lights (candles) are arranged on the altar in groups of three, forming a representation of the Pythagorean Theorem,... (The Bridge to Light, p.215)

The evidence that the particular triangle alluded to in the Monitor is the 3,4,5 right triangle can be derived from the odd comments about Pythagoras' exclamation "Eureka" in the Grecian language. Here is where we can begin to apply the investigative tools of what is called gematria. As you know the ancient letters were also numbers. The correlation of numbers with letters gave ample opportunity to nest hidden meaning within words, phrases, and names. For example, if we take the word "Eureka" in Greek and consider the letters as numbers instead of letters, add them up to get a total value we get 534 - the units of this special triangle.

Maybe we can even find hints of this geometry in earlier degrees. A very interesting technique of symbolism can be seen when two different types of symbolism are fused together or alluded to by one another such as a legend that contains mathematical symbolism. For example, many of the blacksmiths of the gods were crippled or lame. In many cases the Sacred King was lame. The destiny of the Sacred King was to lose his life as a sacrifice; an act which will regenerate the world. Usually the lameness and sacrifice was deliberately caused. Vergil wrote a poem wherein the Queen who is resolved to die offering herself as a victim in the fire, he writes: "beside the altars, with one foot unshod, she calls as one about to die upon the gods and upon the doom-witnessing stars." There is an association between lameness and having one foot unshod. And in the idea of sacrifice and redemption. There is a Byzantine painting known as "Our Lady of Perpetual Help". This painting is of the Madonna holding her divine child. On each side of them there is an angel who holds some of the images associated with the Crucifixion. The divine child is looking at one angel and one of his shoes is falling off. We can even find this idea in the slanting foot-rest of the Russian Cross in the Eastern Churches.

We can develop this further. In geometry, there are three types of triangles: equilateral, isosceles and scalene. The equilateral triangle has 3 equal sides; the isosceles has 2 equal sides, and the scalene triangle has no equal sides. Scalene means "uneven"; it also means "limping". Of all the infinite scalene triangles, the one thought of by the ancients as special - the king of them all, was the 3,4,5 unit triangle. This one had the special properties and it grew to have mystical properties as well. In so considering the symbolism of the Egyptian structure one author states:

And so beneath the ideal pyramid, with its four great equilaterals pointing heavenward as they converge above the center of the basal square... there would be sacrificed, hidden in the foundations so to speak, a limping but necessary scalene, supplying the all-important right angle for the base and for the central elevation. (Denning & Philips, *The Magical Philosophy*, Vol. 2 p.58)

As we consider geometry as symbolism as well as Truth, we have to think of it as the ancients did. Pythagoras said "All is Number" and in *The Republic*, Plato wrote: "The knowledge at which geometry aims is the knowledge of the Eternal." The Eternal was to Plato the archetypal Forms, or the timeless truths of existence. In other words, the foundation of the universe. That aspect of the universe which always was and ever will be.

The Mystical Symbolism of the Pythagorean Triangle

According to Plutarch (46 - 120 C.E.), the Egyptians attributed the sides of the triangle in this fashion. The vertical line was of 3 units and attributed to Osiris. The horizontal line was of 4 units and attributed to Isis. And the hypotenuse was, of course, 5 units and attributed to Horus, the son of Osiris and Isis. It is noteworthy that Plutarch studied in the Academy at Athens and was a priest at Apollo's temple at Delphi for 20 years. In the myth of Osiris and Isis, Osiris is killed which makes Horus the Son of a Widow and links him with Hiram.

The units of the triangle's side are significant. The three units of the Osiris vertical has been attributed to the three Alchemical principles of Salt, Sulphur and Mercury (direct correspondence with the Hindu concept of the Gunas: Tamas, Rajas and Sattva.). All things are manifestations of these three principles according to Alchemical doctrine. The four units of the horizontal line of Isis relate to the so-called four elements: earth, air, water, and fire. These are of course the four Ancients. (Hindu classification: prithivi, vayu, apas, tejas). The ascending Horus line with its five units represents the five kingdoms: mineral, plant, animal, human, and the Fifth Kingdom. This is the Path of Return. The ascending line finally connects back up with the Osirian line. The Fifth Kingdom symbolizes the Adept as one who has consciously reunited with the Source of all Being.

The angles that this special triangle expresses are significant as well. Here we must dive deeper into the realm of gematria. Remember that the assumption is that words with the

same numerical value are in some meaningful way connected. The set angles of the 3,4,5 triangle (in whole numbers) are 90 degrees, 37 degrees, and 53 degrees. If we can understand that this geometrical figure is not only of the greatest practical value but also of the greatest mystical significance we must assume that every aspect of it sheds further Light upon our Quest. We can look upon this emblem as representing the ongoing incarnation of Spirit and the ensuing ascent of consciousness by building higher and more complex forms in which to express Itself.

Looking at where the vertical meets the horizontal (the conjunction of the Osiris and Isis) we have the 90 degree angle - the angle of a square. By Hebrew gematria we know right away that 90 is the value of the Hebrew word for Water - Mem (mem-yod-mem). of course this reference is to Water as symbolical as in the alchemical statement: "Our Sun and our Moon are conjoined in our Water." The union of the Father and Mother produces the child Horus.

The angle at the conjunction of Isis and Horus, the beginning of the ascension of the hypotenuse, is 37 degrees. We know from our Qabala that 37 is the number of Adam's second son - Abel (Hebrew spelling: heh-beth- lamed). Abel is considered a prototype of Christ. The number 37 is also associated with Yechidah - the Inmost Self (yod-cheth-yod-daleth-heh), and the word for Ark used in the Greek translation of the Old Testament in reference to both Moses and Noah - he thibe. (eta theta, iota, beta, eta). The ark was the instrument used to ensure the continuing life.

The angle at the conjunction of Horus and Osiris at the head of the corner is 53 degrees. This is the symbolical union of the Father with the Son. The Hebrew words whose value is 53 includes Garden - as in the Garden of Eden (gan: gimel-nun) and Stone (ehben: aleph-beth-nun). In the Greek we find the word Acacia, the sprig of immortality (alpha-kappa- alpha-kappa-iota-alpha). A further look at Ehben - stone- reveals another hidden point of light. If we look at the letters or letter it, Ab or father (aleph-beth or 3) and Ben or son (beth-nun or 52) can be joined in the letters aleph-ben-nun (53) or ehben which is stone. In other words, the father and son are conjoined in the Stone.

One further elaboration of these ideas - and we could continue this for some time - is the connection of Horns with Hiram Abiff (and Christ, Krishna, and Brother C.R. for that matter). The numeral value in Hebrew for Hiram Abiff is 273. The same value is found in the Hebrew words Aur Genoz meaning: the Hidden Light. We also find the familiar phrase in Psalm 118:22 "the stone which the builders refused". In Hebrew it is pronounced ehben masu ha-bonim and the value of this phrase - "the stone which the builders refused" is 273 just like Hiram Abiff and the Hidden Light. And if we listen to the syllables of this phrase out of Psalms we can find further light on the significance of the substitute for the Lost Word. If we just take the phrase "refused by the builders" (masu-ha- bonim) it equals the value 220. This is another very important number for the gematria is related to the Hebrew word for "lamb" (kaph-res), the Latin Christus Deus et Homo or Christ, God and Man; and Novus Ordo Seclorum - A New World Order.

With all this behind us I think that we can conclude that the value of the Pythagorean triangle to Masonry is beyond compare. It leads us into the inner recesses by its very nature. It links us with the inner teachings of the Ancient Mystery Schools even taking us back to the construction of the Pyramids with their triangular faces, four-fold base, and five corners and faces; back to the megalithic builders, also shedding light upon the cryptic words of the alchemists, aligns us with our Hindu brethren, binds us with the three pillars of the Qabalistic Tree of Life - Mercy, Severity, and Mildness and relating to our own pillars of Wisdom, Strength, and Beauty and the Three Grand Masters of the Temple.

I am indebted to the following works for their ideas on this subject:

The True and Invisible Rosicrucian Order by Paul Poster Case

A Bridge to Light by Rex Hutchens

Jesus Christ: Sun of God by David Piderer

Hermetic Masonry by Frank C. Higgins

Geometry for the Practical Man by J.E. Thompson

The Magic of Mathematics by Theoni Pappas

Stellar Theology and Masonic Astronomy by Robert Hewitt Brown

Restorations of Masonic Geometry and Symbolry by H.P.H. Bromwell

The Magical Philosophy Vol I - V by Melita Denning & Osborne Phillips