Pythagoras, the Tetraktys and the Masonic Compasses and Square

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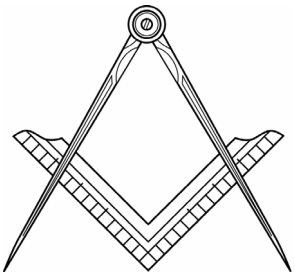
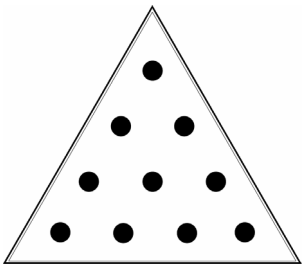




The origins of Freemasonry, as we know it today, are veiled in a shroud of time and speculation. While many continue to pursue a solution to this great puzzle, we can, in the meantime, consider the numerous ancient and related mystery systems that are known to us. In each, a wealth of knowledge and wisdom awaits the enthusiastic student. Strip from these ancient mysteries the layers of social and cultural debris that has collected over time and below we find gleaming jewels of a time past from which we can learn, a time untainted by modern moral and ethical distractions.

This evening Brethren, I would like to explore a possible connection between the philosophy of the Pythagorean school of thought and our beloved Freemasonry. It is a work in progress and hypothetical in that there is insufficient evidence to suggest that there is any direct connection between the two. However, as we consider the brief account of the life of Pythagoras, we will hear many names and places that will suggest that those ancient mysteries and our Freemasonry do, indeed, share a common origin. Later, I will explore the numerically and geometrically symbolic connection between two devices; the Pythagorean Tetraktys and the Masonic Compasses and Square.

The Life of Pythagoras of Sidon (fl 500 B.C.E.)

It has been suggested, "the safest general characterization of the European philosophical tradition is that it consists of a series of footnotes to Plato." If this is the case, what might then be said of Pythagoras, to whose philosophy Plato was so greatly indebted? Not only did Pythagoras first employ the term philosophy and define the discipline thereof in the classic sense, but that he bequeathed to his followers, and to the whole of Western civilization, many important studies and sciences that he was instrumental in either formulating or systematizing.

Fig.1 Pythagoras of Sidon

True as this may be, much mystery surrounds the figure of Pythagoras, despite the significant influence of Pythagorean thought in antiquity. Of course, many things

can be precisely stated. He was both a natural philosopher and a spiritual philosopher, a scientist and a religious thinker. He was a political theorist and a mathematician.

The mystery that surrounds Pythagoras is due, in large part, to the fact that Pythagoras left no writings. Pythagoras' teaching was delivered orally. While he seems to have made some speeches upon his arrival in Croton, southern Italy to the populace, the true fruits of his philosophic inquiries were presented only to those students who were equipped to assimilate them, i.e. his initiates.

Yet, despite the lack of first-hand writings by Pythagoras himself, we need not be deterred. There is an immense wealth of material in the biographies of Pythagoras that go back to a very early date, and it is certainly possible to sketch an accurate if not complete picture of early Pythagorean philosophy.

I provide here a more brief and incomplete, although detailed, introduction to the life of Pythagoras than might be justifiable only because of the relevant interest to this particular Lodge.

After Imblichus:

> Ancaeus who dwelt in Samê in Cephallenia was sired by Zeus. But whether he gained his reputation by moral excellence or by greatness of soul, he surpassed the other Cephallenians in judgment and renown. He received an oracle from the Pythia to assemble a colony from Cephallenia, Arcadia, and Thessaly, and to take additional settlers from Athens, Epidaurus, and Chalcis. In charge of all these, he was to colonise an island, which because of its excellent soil and land, was called "Melamphyllus," i.e. "dark-leaved"; and to name the community "Samos" after Same which is on Cephallenia.
>
> The oracle went as follows:
>
> > Ancaeus, the sea-island Samos instead of Samê,
> > I command you to settle, and this (island) is named "Phyllis."
>
> Evidence that groups of colonists came together from the aforementioned places is provided not only by the honours and sacrifices given to the gods (these being transferred from the places from which the main groups of colonists came), but is also provided by the family connections and guilds which the Samians came to form. The tradition is that Mnemarchus and Pythais, Pythagoras' parents, were from the household and family started by Ancaeus who founded the colony.
>
> Although this noble origin is told by the citizens, a Samian poet says that Pythagoras was the son of Apollo. He spoke thus:
>
> > Pythagoras, whom Pythais bore for Apollo, dear to Zeus,
> > she who was loveliest of the Samians.

It is worthwhile to relate how this story prevailed. When Mnemarchus the Samian was in Delphi for trade purposes with his wife pregnant, but not yet obviously so, the Pythia prophesied to him when he consulted the oracle about his (impending) voyage to Syria, that it would be most pleasant and profitable; and that his wife, now pregnant, would bear a child surpassing in beauty and wisdom those who had ever yet existed, and he would be of enormous help to the human race in its whole manner of living. Mnemarchus concluded that since he had not inquired about a child, the god would not have given such an oracle unless the child were to have some special superiority and be truly god-given. So he immediately gave his wife a new name, "Pythais," instead of "Parthenis," a name derived from her offspring and from the prophetess. And when she gave birth in Sidon of Phoenicia, he called the son born "Pythagoras," because he was prophesied to him by Pythian Apollo.

When Mnemarchus returned to Samos from Syria with very great gain and abundant profit, he built Apollo a shrine, dedicated it to the Pythian god, and brought up his son with various and quite remarkable subjects of instruction. At one time he left and entrusted him to Creophylus; at another time to Pherecydes of Syros; and at still other times to almost all who were experts in divine matters, that he might be taught thoroughly and sufficiently about divine matters as much as is humanly possible. He was thus educated, and having had this good fortune, he became the most handsome and godlike of those ever recorded in history. After his father's death, he grew up to be most dignified and sound-minded, and while still quite young he was already thought worthy of all respect and reverence even by the oldest. Both on sight and at first hearing, he attracted everyone's attention; and on whomever he gazed, he appeared marvellous, so that by the multitude he was naturally confirmed to be a god's child.

Strengthened by such opinions, by his upbringing from infancy, and by a natural godlikeness, he strove earnestly to show himself even more worthy of his present privileges, and disciplined himself with religious observances, scientific studies, and extraordinary regimens. Having achieved stability of soul and mastery of body, his every word and action were accomplished with tranquillity and inimitable calmness. Never overcome by anger, laughter, envy, contentiousness, or any other mental disturbance or rashness, he lived on Samos like some beneficent guardian spirit.

Hence, while still a youth, his great reputation spread abroad to the sages: Thales at Miletus and Bias at Priene, and to their neighbouring cities. Many everywhere glorified the youth, now the proverbial "long-haired Samian", and lauded him to the skies with continued gossip. And when Polycrates' tyranny was just starting

to grow, Pythagoras, now about eighteen years old, foreseeing where it would lead, and that it would be a hindrance to his goal and to his love of learning, which he valued above all, escaped by night without anyone noticing. He fled together with Hermodamas. With (Hermodamas), then, he journeyed over the sea to Pherecydes and to Anaximander, the natural philosopher, and to Thales at Miletus. And as he visited each in turn, the result of association with him was such that all cherished him and admired his character, and made him a partner in their discourses. And what is more, Thales gladly accepted him as a student, and admired his difference from other youths. Because it was greater and exceeded the reputation that already preceded him, (Thales) gave whatever lessons he could.

But then, giving as an excuse his own old age and weakness, (Thales) urged him to sail to Egypt, and especially to meet with the priests in Memphis and Diospolis. For it was by these, he said, that he himself had been provided with the very things in virtue of which the multitude believed he was wise. Indeed, Thales said that he himself had gained neither by nature nor by training so many privileges as he saw in Pythagoras. Hence, he could proclaim nothing but good news: if Pythagoras associated with the priests, he would be most divine, and wisest beyond all humans.

Helped, then, by Thales in other matters, especially in making the best use of his time, for the sake of which he renounced drinking wine and eating meat, and still earlier, excessive eating, (Pythagoras) limited himself to light and easily digestible food. Acquiring form this (regimen) the need for little sleep, alertness, purity of soul, real and unimpaired health of the body, he sailed to Sidon. He learned that it was his native land at birth, and rightly believed that from there his passage to Egypt would be easier.

There he joined the descendants of ‘Mochus’, the prophet and natural philosopher, and other Phoenician hierophants, and was initiated into all sacred rites of the mysteries celebrated especially in Byblos and in Tyre, and in many parts of Syria. (Pythagoras) did not experience these as a result of superstition, as someone might foolishly suppose, but much more with a desire and yearning for theoretical knowledge, and a reverent concern that nothing worthy of learning kept in the secrets or mystic rites of the gods escape his notice. Having learned besides that those which existed there (in Syria) were somehow derived and descended from the sacred rites in Egypt, he hoped thus to participate in the more noble, more divine and pure rites of Egypt. Filled with admiration for them, then, in accord with instructions from his teacher Thales, he was transported without delay by some Egyptian seamen who had most opportunely anchored at the shore under Carmel, the Phoenician mountain where Pythagoras spent a good deal of time alone in sacred pursuits. They (the seamen) gladly welcomed him, looking

forward to making profit from his youth, and, if they sold him into slavery, the high price he would bring.

On the voyage, however, since he passed the time with self-control and nobly, in accord with his habitual way of life, they became better disposed to him, and saw in the youth's good behaviour something greater than human nature. And they remembered how, when they first anchored, he was seen coming from the top-most crest of Carmel (for they believed it the holiest of mountains, and not accessible to the common multitude). He walked leisurely and unconcernedly, no precipice or impassable rock barring his way. They also remembered how on reaching the boat, he had said only "is your voyage to Egypt?", and when they nodded "yes," he boarded and sat in silence where he would not be the slightest hindrance to those navigating. They also recalled that throughout the whole voyage, he kept the same posture for two nights and thrice days, without food, drink, or sleep and that their voyage was uninterrupted, swift, and, contrary to expectation, went straight to its destination as if some god were present.

After reflecting on all such incidents, and drawing a reasonable conclusion, they were persuaded that truly a divine guardian spirit had crossed with them from Syria to Egypt. They completed the rest of the voyage most auspiciously with a favourable wind, and spoke and acted more respectfully than usual to one another and to him, until their boat docked without mishap or rough weather at the Egyptian shore.

There, on disembarking, all supported him and helped him ashore in turn, and seated him on the cleanest sand. After fashioning an impromptu altar before him, heaping up whatever fruits they had in their cargo and laying these down before him like some sacrificial offerings, they raised anchor and sailed off to their intended destination. But he, rather weak in body because of much lack of food, neither opposed the support and guidance of the sailors at his disembarking, nor, when they departed, did he abstain for long from the fruits provided. After eating them, and restoring his strength, he arrived safely at the settlements nearby, maintaining his same disposition, undisturbed and reasonable in every respect.

From there he visited every holy place, full of great zeal, and with a desire for careful inspection. He was both admired and cherished by the priests and prophets with whom he associated. He learned everything most attentively, and neglected neither any oral instruction commended in his own time, nor anyone known for sagacity, nor any rite anywhere and at anytime honoured. He also left no place unvisited where he thought he would find something exceptional. Hence, he visited all the priests, and benefited from the special wisdom of each.

> So he spent twenty-two years in the sanctuaries of Egypt studying astronomy and geometry and being initiated in all the mysterious rites of the gods, not superficially nor haphazardly, until, taken prisoner by Cambyses' soldiers, he was brought to Babylon. There he spent a mutually gratifying time with the magi. Educated thoroughly in their solemn rites, he learned perfect worship of the god's with them, and reached the highest point in knowledge of numbers, music, and other mathematical sciences. After spending another twelve years there, he returned to Samos, now about fifty-six years of age.

Pythagoras and Number

The Pythagorean understanding of Number is quite different from the predominately quantitative understanding of today. For the Pythagorean, Number is a living, qualitative reality which must be approached in an experimental manner. Whereas the typical modern usage of number is as a sign, to denote a specific quantity or amount, the Pythagorean usage is not, in a sense, even a usage at all: Number is not something to be used; rather, its nature is to be discovered. In other words, we use numbers as tokens to represent things, but for Pythagoreans Number is a universal principle, as real as light or sound.

Because Pythagorean science possessed a sacred dimension, Number is seen not only as a universal principle but also as a divine principle. The aim of Pythagorean and later Platonic science is different from that of modern "Aristotelian" science: it is not so much involved with the investigation of things, as the investigation of principles. It should be very firmly emphasized, however, that for Pythagoras the scientific and religious dimensions of number were never at odds with each other. Moreover, the Pythagorean approach to Number, for the first time in Greece, elevated mathematics to a study worth pursuing above any purely utilitarian ends for which it had previously been employed.

The Pythagoreans were in the habit of representing arithmetical numbers as geometric forms and may well have resulted in the discovery of geometric theorems. Moreover, the observation that the relationships between different types of "geometric numbers" follow certain definite patterns surely furthered the Pythagorean contention that mathematical study is an important route leading to the perception of universal laws.

The most well known example of such a "figured number" is the famous Pythagorean Tetraktys ("Quaternary"), consisting of the first four integers arranged in a triangle of ten points:

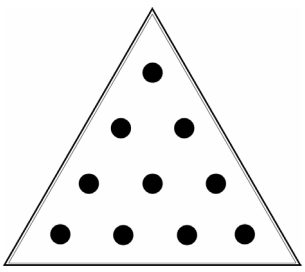


Fig.2 The Pythagorean Tetraktys

For the Pythagoreans the Tetraktys symbolised the perfection of Number and the elements that comprise it. It could be said that the Tetraktys symbolises, like the musical scale, a differentiated image of Unity. In the case of the Tetraktys, it is an image of unity starting at One, proceeding through four levels of manifestation, and returning to unity, i.e., 10 (1+0=1).

Geometrically, One represents the point, Two represents the line, Three represents the surface and Four the tetrahedron, the first three-dimensional form. Hence, in the realm of space the Tetraktys represents the continuity linking the dimensionless point with the manifestation of the first solid form; the figure of the Tetraktys itself also represents the vertical hierarchy of relation between Unity and emerging Multiplicity.

We might further note that the Tetraktys is composed of consecutive integers, incorporating both the Odd and Even. Since the universe is comprised of limit and unlimit woven together through mathematical harmony, it is easy to see from these considerations why the Tetraktys, or the Decad, was called Kosmos (world-order), Ouranos (heaven), and Pan (the All). In Pythagorean thought the Tetraktys came to represent an inclusive paradigm of the four-fold pattern which underlies different classes of phenomena. Not only does a four-fold pattern underlie each class, but each level is in a certain fashion analogous or proportionately similar with that same level in every other class of phenomena. In many respects Pythagorean philosophy is a philosophy of analogia.

The Pythagoreans, then, were the first to use numerical and geometric diagrams as models of cosmic wholeness and the celestial order. This use of arithmetic and geometric paradigms of whole systems has a long and interesting history, extending from antiquity through Medieval times, through the Renaissance, up until the modem era. If geometric principles actually shape the phenomena of nature, why not use those same geometric forms to illustrate the harmonies and symmetries which exist between natural phenomena? This is no doubt the reasoning behind this symbolic usage of number and geometry, and its appeal seems firmly rooted in the human imagination. In fact, it might be argued that such paradigms possess greater merit than more arbitrary typologies insofar as, being based on the principles of natural order, “Pythagorean” models have more intrinsically in common with the phenomena they seek to classify than other typologies which are of merely human invention. Whereas other models sometimes fail, Pythagorean cosmological symbolism seems particularly well suited in showing how parts relate to a larger whole, thus illustrating the principle of unity underlying diversity.

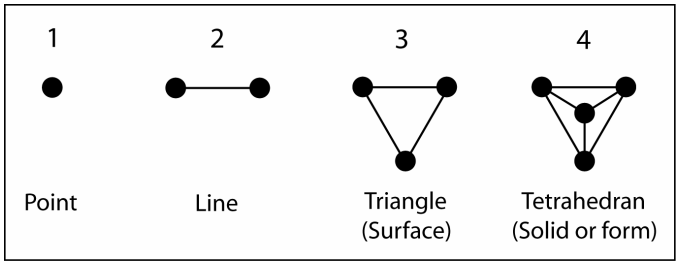


Fig.3 The four levels of representation in the Tetraktys

Let us consider further the four geometric representations of the Tetraktys and their relationship with the Masonic Compasses and Square.

The Pythagoreans believed that Number is "the principle, the source and the root of all things." But to make things more explicit: the Monad, or Unity, is the principle of Number. In other words, the Pythagoreans did not see One as a number at all, but as the principle underlying number, which is to say that numbers, especially the first ten, may be seen as manifestations of diversity in a unified continuum. To quote Theon of Smyrna:

> *Unity is the principle of all things and the most dominant of all that is: all things emanate from it and it emanates from nothing. It is indivisible and it is everything in power. It is immutable and never departs from its own nature through multiplication (1x1=1). Everything that is intelligible and not yet created exists in it; the nature of ideas, God himself, the soul, the beautiful and the good, and every intelligible essence, such as beauty itself, justice itself, equality itself, for we conceive each of these things as being one and as existing in itself.*

The number One can, of course, define a quantity. But in its other sense, it perfectly represents the principle of absolute unity, and as such has often been used as the symbol to represent the Supreme Being. As a statement of form it can in one sense represent a point or in another sense it can represent the perfect circle. In Freemasonry, we symbolise this by the point within the circle as is communicated to the candidate in the Entered Apprentice Degree in:

> "The Compasses, which form that perfect figure, the Circle, remind us that we should surround our conduct by a line to keep in check unruly passions and unlawful desires."

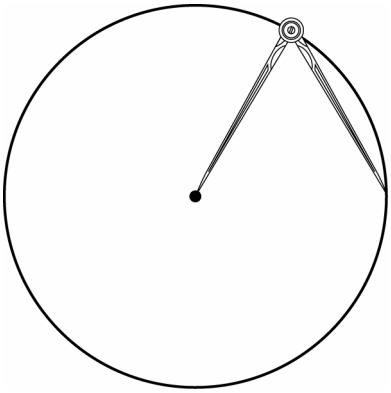


Fig.4 The Compasses inscribing the circle

Fig.5 Representation of creation

However, it is also indicative of the means by which that circle is inscribed; by placing anywhere one point of the Compasses and inscribing a circle with the other. Thus we find a direct connection to the Masonic Compasses. The circumference cannot exist without the centre. When perfection is achieved the circumference becomes the centre; we have become one with the Supreme Being, Unity.

If One represents the principle of Unity from which all things arise, then Two, the Dyad, represents Duality, the beginning of multiplicity, the beginning of strife, yet also the possibility of logos, the relation of one thing to another:

> *The first increase, the first change from unity is made by the doubling or halving of unity which becomes 2, in which are seen matter and all this is perceptible, the generation of motion, multiplication and addition, composition and the relationship of one thing to another.*

While the Dyad can be generated by doubling, it can also be created by dividing, the principle of opposites. With the Dyad arises the duality of subject and object, the knower and the known. Two is a quantity, but symbolically it represents the principle of Duality, the Law of Opposites, the power of multiplicity. At the same time, it has its formal sense in the representation of a line, in that two points define a line. These, we might consider to be the two points of the extended compasses between which a line is created, or indeed, by which a line can be measured.

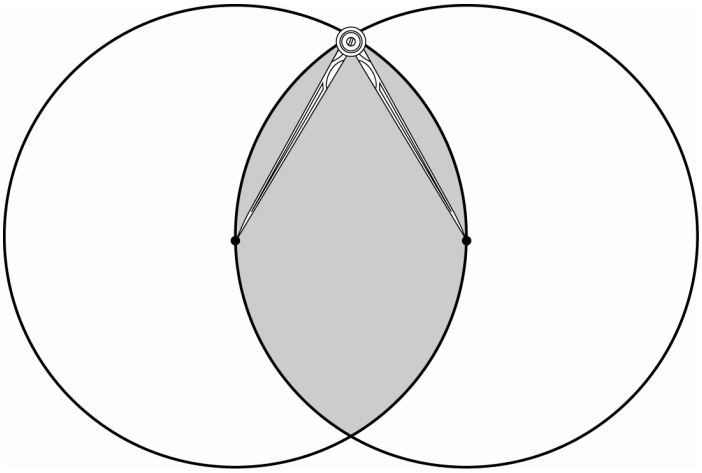


Fig.6 The creation of the Vesica Piscis

While a circle may be inscribed by keeping one point fixed and using the other to inscribe the circumference, if we now keep the point used to inscribe the first circle fixed and use the other to inscribe a second circle, we form a well know geometric figure, the ***Vesica Piscis*** or ***Vessel of the Fish***.

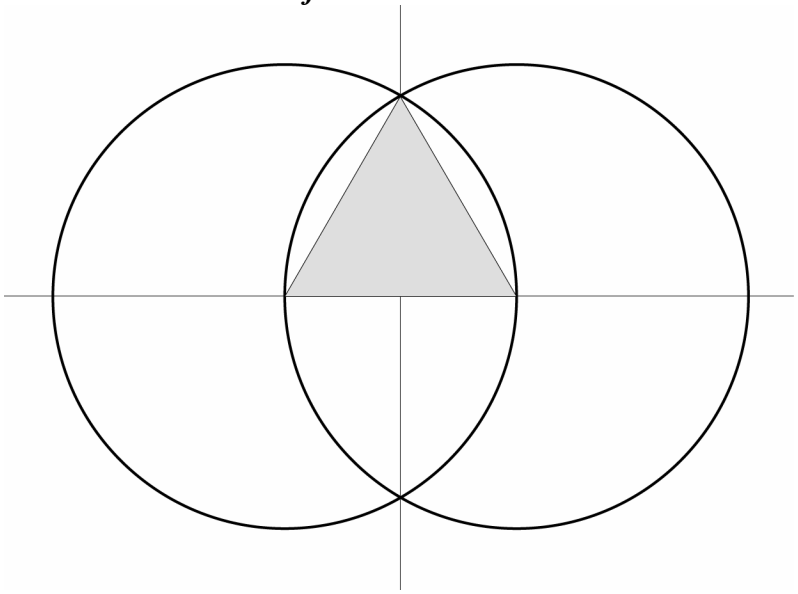


Fig.7 The creation of the 'perfect' geometry of three, the equilateral triangle.

It is from this form, suggestive of the reproductive principle, that the Trinitarian and other geometries are generated. It is the ***Vesica Piscis*** that allows the student of pure mathematics to derive the first true geometric form, the triangle and the first surface. By joining the centres of each circle to their point of union, the perfect geometry of three is formed, a perfect equilateral triangle.

Fig.7 The use of geometric representations in religious imagery.

With the advent of the Triad the gulf of dualism is bridged, for it is through the third term that a Relation or Harmonia is obtained between the two extremes. While Two represents the first possibility of logos, the relation of one thing to another, the Triangle achieves that relation in actuality. The Triangle represents the Law of Balance, the principle of balance, the Deity. It is this sense that it is said that in the Trinity duality becomes unity – the three in one and one in three.

THREE, as a principle, represents the Trinity. With three a qualitative transition is made from the pure, abstract elements of point and line to the tangible, measurable state which is called a surface. In India the triangle was called the Mother, for it is the membrane through which all the transcendent powers of unity and its initial division into polarity must pass in order to enter into the manifest realm of surface. The triangle acts as the mother of form.

It should be noted here that while three represents a balancing of opposites, esoterically, the Triangle also represents the principle or element of fire, one of purification, change and transformation. In the context of the creative principle being considered here, it is at this point that the possibility of creation has been realised, through the principle of the Trinity and the element of fire.

From the Triangle, Creation first manifests itself as the Tetrahedron, comprising of Four equilateral triangles and having Four vertices. It is the first of the Platonic solids and is also representative of fire. In purely geometric terms it is also represented as a

square; four equal sides and is symbolic of the element earth. It is form manifest as solid or material.

Three is a principle of creation, forming the passage between the transcendent and the manifest realms, whereas Four represents at last the 'first born thing', the world of Nature, because it is the product of the procreative process.

The material or earth is also represented by a cube. This cube, or ashlar, is a universal Masonic symbol and is normally represented in two forms; the rough ashlar (or the before) and the smooth ashlar (the after).

Every student is encouraged to perfect the Craft of shaping the stone so that it may take its rightful place in the Temple "*not made by hands, eternal in the Heavens*". Its trueness is measured by the skilled craftsman using the Square. The Square itself being emblematic of Morality. Only through the application of the Higher Moral can our Earthly form be perfected and thereby entitle us to our place in the Heavenly Temple.

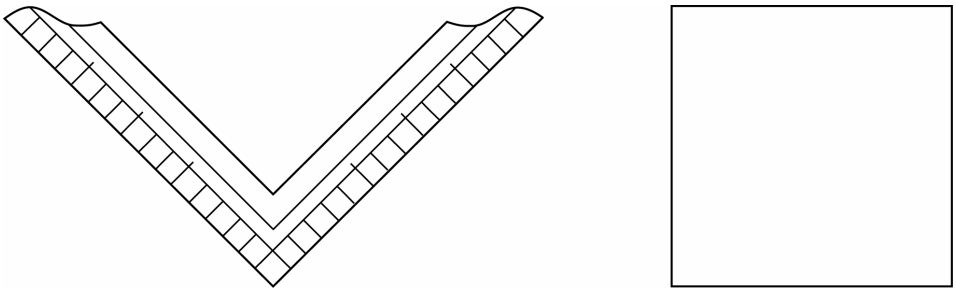


Fig.8 The Masonic and geometric 'Square'.

The creative process is now complete. From unity (the point or circle), through division, duality and opposites (the line) came balance (the triangle or Trinity). Having found balance through union, form was born (the tetrahedron or square). This is completely embodied within both the Pythagorean Tetraktys and the Masonic Compasses and Square.

This is indeed a Numeric philosophy of creation from a Divine Principle to an Earthly form. It is equally suggestive to the Pythagorean student a means by which we can learn, once again, to find a path back to that Unity. In Masonic Ritual, it is also inferred in the names ascribed to the Deity in each of the degrees.

In the First Degree, we refer to the Deity as the Most High God, the GAOTU. It could be argued that Architecture is the pursuit of perfecting earthly form. While lost to that profession today, the wealth of beautiful architecture of the ancient world in its temples and monuments is a testament to a lost time of enlightenment. Freemasonry remembers this in symbolically recognising the builders art form and exemplified in the Three Orders of Architecture represented by the Three Pillars. The First Degree is

also a beginning. A truth has been revealed to the one who has come searching for a way and an answer.

In the Second Degree or the Degree of Fellowcraft, when the Entered Apprentice is ready to advance, further light is revealed (a point of the Compasses is revealed) and he is encouraged to learn. In this Degree, the Deity is referred to as the Most High God, the GGOTU. The Lodge has been 'raised' and it now recognises not earthly form as represented by Architecture, but the science and philosophy of Geometry. One that is higher than Architecture and one which Architecture depends upon to achieve its form, beauty and stability.

Only when the candidate is ready is he raised to the Sublime Degree of Master Mason, one which transcends all forms of manifestation and addresses the Unity. In this Degree the Deity is referred to as the Most High God, the GGOTU.

When all business is finished upon each of the higher Degrees, the Lodge is 'lowered' until it is returned to its 'earthly' state from which all leave when closed.

The Lodge has, in these three steps, transcended from earthly form to Union with Divinity. This is not alone a Masonic observance nor even a western esoteric one but a universal one as is demonstrated by the calligraphic shown below. This Japanese Zen calligraphic drawing beautifully shows 'creation' through the simple progression from the Unity of the circle, through the triangle, to the manifest form of the square. It can just as equally be read in reverse and be more revealing.

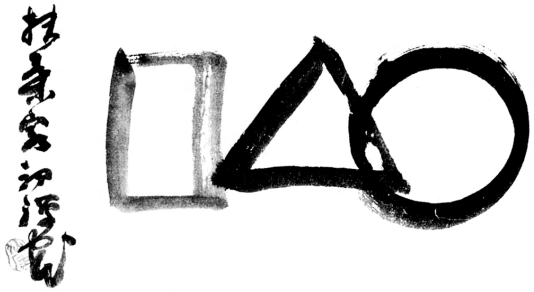
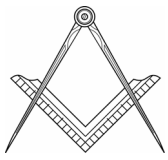


Fig.9 The Zen calligraphic of Creation.

What we have seen in this example of Pythagorean and Masonic paradigm, based on the universal principles of pure Number and Form, is the emergence from Unity of the principles of Opposites and Balance and ultimately Form. This process is the archaic and archetypal paradigm of cosmogenesis, the pattern of creation which results in the world.

The world is ornamented with order. The universe is beautifully ordered.



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