

PYTHAGORAS AND THE ANCIENT MYSTERIES

by

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The material for this paper was not taken from any of the published lives of this ancient teacher; its inspiration and part of its content is due to two articles entitled, "Mysticism and Science in the Pythagorean Tradition", which appeared in the "Classical Quarterly" of 1922-1923 from the pen of Professor F.M. Cornford, of Trinity College, Cambridge, who, although not a Freemason, is an authority on Philosophy and Science amongst the ancient Greeks, with several books to his credit.

Of Pythagoras as a citizen, we are told that he was born during the sixth century, B.C., but scholars differ over a range of sixty years as to just when. His parents were Greeks of high position and gave him the benefits of a liberal education; he repaid them by winning distinction as an athlete as well as in the fields of learning. He spent many years travelling in search of knowledge and visited, we are told, all the famous schools in the world of his time; twenty-two years are said to have been passed in Egypt alone, where he endured many severe trials of body and mind in the temples of Heliopolis, Memphis and Thebes. For their priestly teachers were unwilling to expose their mysteries to foreign eyes and although Pythagoras came with letters of recommendation from both the reigning Pharaoh and the ruler of his own State, his admission thereto was made extremely difficult especially at Thebes.

Any one who has tried to study that ancient Egyptian ritual, inaccurately known as "The Book of the Dead", of which the "Theban Recension" is the one generally known, will readily agree that these teachers quite thoroughly concealed their particular tenets under hieroglyphical figures, and taught their knowledge of those natural laws which govern this world by signs and symbols. It was expected that the Pythagorean System, or rather the system attributed to him, should have been established on a similar plan, and that many others of more recent times have copied this example, notably the Kabalists and the original Rosicrucians of mediaeval Europe.

So far as Freemasonry is concerned, there is less direct reference to Pythagoras and his teachings in its literature than one could reasonably expect. The oldest reference is found in the second of our two earliest "Old Charges", that known as "The Matthew Cooke Ms."

from its first publisher, and dated about 1425. The first or "Regius Ms" of about 1390, mentions only "The learned clerk Euclid" of all our ancient teachers prior to the Christian era.

This Cooke Ms. mentions Pythagoras twice, both quotations being ascribed to "The Polychronicon, or Dedes of many Tymes", compiled in eight books by Ranulph Higden, a monk who lived in what is now the city of Chester, during the 14th century. The first quotation names {"Pictogoras" as authority for the statement that Jubal, son of Lamech, founded the science and art of music. The second states "a great clerk that men call Putogoras" found one of the two antediluvian pillars set up by the three sons of Lamech to preserve their knowledge of the arts and sciences from being lost in the Noachian flood.

These legends were passed on with additions and changes in later copies of our Old Charges — of which a hundred have been discovered — until we come to the "Illustrations of Masonry" composed by our famous Br. Wm. Preston, who was born in Edinburgh in 1742. Like Pythagoras, he was the son of a man of wealth and learning, so had all the benefits of a liberal education, and gained a national reputation as a literary authority during his long tenure of office as editor of "The London Chronicle".

In 1762 Preston was initiated in a Scottish lodge which met in London, but affiliated a few years later with one under the senior Grand Lodge of England and, on being elected its W.M., he set out to employ and instruct his Brethren in Freemasonry, in a manner never equalled in British Masonic history. The first edition of his "Illustrations" was published in 1772; it created such a demand that twelve revisions and enlargements were brought out before his death in 1818, and several others since. As with the Craft of today, such enthusiasm for More Light was not shared by many, and one contemporary critic complains that "Preston has lectured and sung us our of the Lodge", which may explain why the first English Lodge of Masonic Research, "Quatuor Coronati", was not started until 1884.

My reason for mentioning this work of Preston's is that gradual changes in the English language had made many of the words and names in the Old Charges not only archaic but even unrecognizable, thus causing some literary problems, which have not all been solved as yet; for example the names of "Amon" "Naymus Grecus", "Peter Gower", "Lord Harnouester", "the Venetians" in Euclid's time, and "the broached dornall".

Preston devotes two pages of his "Illustrations' TO Pythagoras and states that "to his discovery is attributed the 47th proposition of the First Book of Euclid which "in geometrical solutions and demonstrations of quantities is of excellent use; and for which, in the joy of his heart, he is said to have sacrificed a hecatomb". When T.S. Webb revised these "Illustrations" for his first American edition, to suit the needs of Brethren in the newly formed United States, he added a quotation from Anderson that Pythagoras also "exclaimed 'Eureka' which, in the Greek language, signifies 'I have found it'."

Preston also refers to the so-called "Leland-Locke Ms" for this question and answer:-- "Howe comede ytt to Englonde? Peter Gower, a Grecian journeyedde ffor kunnyng yn Egypte, and in Syria, and yn everyche londe whereas the Venetians hadde plaunted maconrye". He then says "I was puzzled to guess who Peter Gower could be, the name being perfectly English, or how a Greek should come by such a name". But he finally noted the French pronunciation of the "Pythagore" to conceive how such a mistake ocured. It was left to a later scholar, however, to solve the puzzle of "the Venetians" as being contemporaries with the ancient Greeks, in another mispronunciation of the word "Phoenicians".

As English contemporary of Preston, Wm. Hutchinson, 1732-1814, also reproduced it in his "Spirit of Masonry", another valuable contribution to our literature. Mackey describes it as "the first philosophical explanation" of our symbolism, and Dr. Oliver says it explains "in a rational and scientific manner the true philosophy" of our Order.

In the second and third Lectures of his book, Hutchinson discusses the teaching of Pythagoras at some length, including the 47th proposition, and the opinion is offered that "from the great similitude in the principles of the Pythagorians and the Essenes, it seems as if they were derived from one origin.

As to this, however, Gould in his History of ?Freemasonry (Vol One) quotes both Josephus and Ginsburg to show that the Essenes were an offshoot from Judaism and cannot be traced before the second century B.C.

During the present century, however, there has been discovered evidence of a much greater antiquity for this 47th proposition, than our early Masonic writers ever imagined. A great number of clay tablets were found in the ruins of Babylon by various groups of explorers, which are now preserved in the British Museum, Yale

University, University of Pennsylvania and museums in Istamboul, Berlin and elsewhere in Europe.

Many of these tablets on being translated, were found to be treatises on scientific subjects, such as Arithmetic, Geometry, Astronomy, etc., and a detailed description of some of them is given by Prof. R.C. Archibald of Brown University (Providence, R.I.) In an article entitled "Mathematics before the Greeks" which appeared in "Science" for January, 1930.

In it he writes (p.116) "For the history of the Pythagorean theorem a portion of an Akkadean tablet, in the Prussian State Museum, dating back to about 2000 B.C., is of special interest. It was published by Weidner in 1916. The figure of a rectangle is drawn and the dimensions are given. Two methods are used to calculate the length of the diagonal... This tablet suggests that the Babylonians may have known the Pythagorean theorem for a right triangle. This appears to be a certainty when we consider two among the mathematical problems in "Cuneiform Texts, IX". It was less than nine months ago that the meaning of these two problems became clear."

It is impossible, now, to know whether Pythagoras learned about this famous proposition during his travels in search of More Light, or whether he rediscovered it by sheer force of thinking along similar lines. One can only admit, with certainty, that it awaited the independent efforts of astronomers, Adams, of Cambridge, and Leverrier, of Paris. But these two were contemporaries, whereas an interval of some 1500 years separated Pythagoras from Akked; an interval of great significance if the doctrine of reincarnation be taken into account.

Regarding this 47th proposition and its adoption as the design for a Past Master's jewel by the Grand Lodge of England, there is a valuable, illustrated, article by W. Bro. Rev. W.W. Covey-Crump in the 34th volume (1935-36) of the Transactions of the Leicester Lodge of Research. Included in the nine diagrams are two which, the learned author states might well be Pythagorean because of their known antiquity. But to reproduce them here is not practicable, so I can only refer those interested to this source.

Another, and exhaustive, treatise — "the Pythagorean Proposition" — with many diagrams, was published in 1927 by Elisha Loomis, Ph.D., 32nd Degree, of Baldwin Wallace College, Cleveland, Ohio. A very large volume entitled "Restorations of Masonic Geometry and

Symbolry" and illustrated with 30 plates in colors of this proposition and its components was compiled by M.W. Bro. H.P.H. Bromwell, of Illinois, and published in 1905 by a committee of the Grand Lodge of Colorado, of which he was an Honorary Member. Copies of these three items can be consulted in our Grand Lodge Reference Library.

As to its symbolic value, this is truly a speculative matter and, in view of the reference to Philolaus, there appear no grounds for even assuming how its "Discoverer" may have used it, other than as a geometrical demonstration of spatial properties. History, especially religious history, contains many unfortunate results accruing from "reading into" our inheritance from the past, our own interpretations based on modern knowledge and theories, and these can be found, too, in all three schools of Masonic exegesis.

Turning now to the articles of Professor Cornford, the first point to be noted is that they are based entirely on quotations from Greek writers of the fifth and later centuries B.C. So it seems advisable to include here a few details of their connections with the Pythagorean School, in time as well as thought, so as to get both a correct perspective and to see the problem outlined for his readers. To begin with, there is an unexpected similarity in the setting of this School and that of the New Testament, in that neither of their Founders left any personal writings or, at least, any which are known as such, so that their followers, when necessity for such writings became evident, had to depend on their memories for whatever details they wished to preserve as the true teachings of their Masters. From what we are told of these systems it is certain that the Pythagorean is much more correctly presented, by reason of the very definite training established in the school at Crotona. The earliest dat allowed for any document of the New Testament by literary critics is, I understand, 125 A.D., and Professor Cornford tells us that "The Pythagoreans left us no literature before Philolaus, who was a teacher at Crotona during the 4th century, B.C., about one hundred years after the supposed death of its founder.

There is also a parallel with 18th century Freemasonry, in that our earliest information of its esoteric details comes from those who were its most sever critics, when they were not actually hostile to it, as seen in the various English and French "exposures", published between 1723 and 1801, of which about thirty are known. The early method of teaching "from mouth to ear" still faithfully used in The Grand Lodge of Ireland, was then prevalent in the senior Grand Lodge of England; except, then, for exoteric matters of History and Constitutional growth,

these "Exposures" give Modern Masonic students a service as valuable as it was foreign to their writers' intentions.

The first of these Greek critics was Parmenides, who was born about the time that Pythagoras died; he was a pupil at Crotona but seems to have disagreed violently with some of the founder's teachings, so he left and started an institution of his own at Elea, now known as "The Eleatic School". He was succeeded by Zeno, who had worked up from being a pupil at Elea to rank of leader, and under him the new body diverged still further from its source. With Zeno were associated other philosophers — notably Empedocles and Anaxagoras — who attained great reputations for their capacities in argument and assertion. We find, then, by the beginning of the third century B.C., when Aristotle was born, whose writings are frequently quoted by Prof. Cornford, that the Greek world of philosophy was divided, broadly speaking, into two main systems: first that of Pythagoras, which progressed through Socrates to its full flower in Plato, and taught an ever-becoming plurality of the Creator in the created, or the "Mystical School"; second that of Parmenides, through Zeno and best set forth by Aristotle, or a "Scientific School" based on an infinite number of monads, or atoms, which have an inherent power of movement and intelligent cooperation, now known as "Atomism". Since I am concerned, here, only with Pythagoras, this other system will not be mentioned again.

Of all that is definitely ascribed to Pythagoras of symbolic teaching, the most famous seems to be his "Tetractys" or "Tetrad", said to be "a compendium of Pythagorean mysticism". It is shown as a group of points from one to four, arranged as a pyramid and represents "the elements of number, which are the elements of all things", and contain "the concordant ratios of harmony in the musical scale as discovered by Pythagoras". In connection with this musical scale it seems fitting to note here the recent publication of a book "The Greek Aulos, a Study of its Mechanism and its Relation to the Model System of Ancient Greek Music" by K. Schlesinger (Metheun's London, illustrated, \$10) "Aulos" is usually translated as a "flute" but actually means any wind instrument from the "War-horn of Mars to the reed-pipe of Pan", including the double pipe used in religious and other processions.

The author spent many years over this work, starting from original flutes in the British Museum, where there is a large collection, all having this feature in common — that the holes are pierced equidistantly. After having facsimiles made, an even greater problem presented was to discover the law of acoustics which governed their scales — so different from ours. It was found to be based on the

mathematical ratios of the harmonic series, but reversed. It was also found that modes based on this archaic scale show not only a remarkable range in producing small intervals, but also that all the tones of the scale may be sounded together with harmonious results; an impossibility with the piano or violin. This discovery amounts to a new language of music and composers are already using it in concert work.

Returning to the Tetractys, we find it is also known as "The Decad" as its points totalled ten, which was held to be a perfect number because eleven and twelve and their successors are merely increments to the decad and not the production of a new source". These integral numbers and their combinations are the subject of many volumes of explanation by Greek philosophers; they are not easy to follow, but the patient scholarship of Prof. Cornford, in quoting from many writers makes it possible to present a coordinated mosaic pavement whereon to approach the Sanctuary.

It seems clear that the Pythagoreans regarded number "both as the matter of things and as their properties and states. The elements of number are even and odd, of which the even is unlimited, the odd limited. The One (or Unity) consists of both, for it is both odd and even. Number proceeds from the One, and numbers contain the whole". This statement may be further explained:-- "First, there is the identification of the Even with the Unlimited, the Odd with the Limited, or Limit. Euclid's definition of Even and Odd (Book VII, 6/7) seems to be derived from the Pythagorean definitions given by Aristoxenos. Plato, too, in his *Euthypro*, symbolises Even by an isosceles and Odd by a scalene figure.

Plutarch explains further, "since even numbers start with two, odd numbers with three, and five is generated by the combination of these, five has rightly received honour as the first product of first principles, and has been named 'Marriage' because the even is like the female, the odd like the male. For when numbers are divided into equal parts, the even is completely parted asunder and leaves within itself, as it were, a receptive principle or space, whereas when the odd is treated in the same manner, there is always left over a middle, which is generative. And again, when numbers are equally divided, in the uneven number a unit is left over in the middle, while in the even there is left a masterless and numberless space, showing that it is defective and imperfect."

Thus the Dyad, as the first even number, stands for the female receptive field, the void womb of unordered space, the evil principal of the Unlimited. The Triad as its opposite, the good principle of Limit, the male whose union with the Unlimited produces the Limited. Or as Aristotle says, "the Universe and all things in it are limited, or determined, by three. The numbers 5 ($2 + 3$) and 6 (2×3) are both symbols of the marriage of Even and Odd, of Unlimited and Limit".

One very essential Pythagorean dogma arises from this — that the Monad consists of both odd and even, and does NOT proceed from them; this is the formula common to most early stories of creation. It is picturesquely set forth in one of the plays of Euripedes, wherein Melanippe the Wise says "the tale is not mine; I had it from my mother; (1) that Heaven and Earth were once one form and (2) when they had been sundered from one another, (3) they gave birth to all things, and creatures that the sale sea breeds, and the race of mortal men". Other writers discarded the imagery of sex, but told a similar story on an impersonal basis. Yet others showed this process as a war of aggression, the pairs of opposites invading each other's province, unjustly, to form those temporary combinations which are living beings.

The next stage in explaining the Tetractys is the identification of four, as the first square number, "Justice" and is therefore of special interest to Freemasons. This "Justice", however, is much more Mosaic than Masonic, since the word so translated is ANTIPEPONTHESES, which also means Retaliation, and shows the primitive idea of balance — an eye for an eye, etc. — To temper Justice with Mercy by paying a penalty on the instalment plan, while the necessary lesson is being learned does not appear as an ethical teaching until Christianity was founded.

The extreme limit of application of the Tetractys appears in Pythagoras' teaching about music: "as the unlimited range of musical sounds is marked off by consonant numbers in to the definite intervals of the musical scale, so the blank field of darkness is marked off by those boundary points of heavenly light, the sun, moon, stars and planets, whose orbits (still conceived as material rings) are set at musical intervals to form the celestial harmony, or scale, bridging and binding together the visible order from earth at the center, to the outermost spheres of the fixed stars. How this majestic order was evolved is not evident, and there is no sign that the earliest Pythagoreans went further." But I feel free to suggest that if Professor Cornford were equally familiar with the Vedic scriptures of India, as he

is with the Acousmata of Greece, he might well have added that Pythagoras had received this further illumination during his stay in that country. As another scholar, Max Müller, has shown us in his many translations from "The Sacred Books of the East", notably the Hymns of the Rig Veda. Bro. Hutchinson has this same idea, in a footnote to his Lectures referred to above.

Another aspect to be considered is the geometrical character of the Pythagorean arithmetic; indeed we are told that he "identified geometry with science in general". It is very suggestive to note that the word used, here, by Iamblichus and translated "science" is HISTORIA, which also means any learning by the process of enquiry, no less than the narration of what one has learned. It is through this time-value that this word has been adopted into English as "history". In the unlimited darkness of night all objects lose, to the eye, their colour and shapes; in the daily renewed creation of the dawn of light they resume their distinct forms, their surfaces and colours. This, in the physical world, Light the vehicle of knowledge acts as a limiting principle which informs the blank darkness with bodies bounded by measurable planes and distinguished by all the varieties of colour. A body is thus a visible thing in which two opposite principles meet — the Unlimited (darkness and space) and Limited (colour and form). It is again very suggestive to Freemasons that the word here translated as 'colour-form' is SCHEEMA which has been adopted into English as an equivalent for a Plan, and does not the phrase "The Great Architect" inevitably connote the application of a plan. True to its mathematical character, this teaching tends to conceive any "sensible" (as Thomas Taylor called them) as essentially a geometrical solid, whose surfaces are ultimately reducible to numbers and their inter-relations. This is the mode of conception applied in Plato's TIMAEUS to the atoms of the four elements and, in this way, things represent numbers.

Most of Aristotle's allusions to the doctrine of the Pythagoreans refer to this theory that (1) there is only one kind of number, namely mathematical number; (2) that this number does not exist separately but sensibles are composed of it; indeed they construct the whole Heaven of number. (3) these numbers do not consist of abstract units, but are conceived as having spatial magnitude. (4) They are described as being indivisible magnitudes. (5) Things, or bodies, are identified with numbers composed of these indivisible magnitudes. (6) These numbers are generated, just as the rest of the sensible world is.

It seems clear then, that whatever simplicity may have marked the original teachings of Pythagoras, they became more complex as they

passed through the minds of his successive principals at Crotona, since it developed into the theory of bodies, or sensibles — being collections of monads. But there is an implication here which is not brought out by the word "collection" as a translation of the Greek "SUSTEEMA". This in its modern form as System implies an arrangement in some definite coordination, which "Collection" does not. We should not lose sight of this in any talk of mere spatial units. I suggest that such a system has been evolved for use by modern analytical chemistry, which portrays the known physical elements and their combinations in graphs, as in H-O-H for water, of NaCl for common salt, etc.

Time, no less than space limits, oblige me to omit much interesting argument and illustration contained in Prof. Cornford's articles, so I will close our consideration of the Tetractys by some references to its shape. The Professor thinks the Pythagoreans "confused the physical process of building bodies with the so-called processes of arithmetical generation and geometrical construction. They had not faced the question which puzzled Socrates — how one and one can become two, or how division can be the cause of one becoming two. There was some idea of the growth or generation of a solid by the flowing of a point into a line, of a line into a surface, and of a surface into a solid. Now, the first, and simplest solid is the Tetrahedron, or Pyramid, which has four triangular faces. This is readily identified with the atom of fire and the principle of Limit, and Aristotle stated that Fire "is the only element having a pyramidal form." Indeed, our word Pyramid means fire-shaped. He also stated that certain Pythagoreans held the doctrine that the soul is fire — or composed of atoms of fire — and, because of this, can penetrate anywhere, as the fire atom is the most piercing of all. Plato deals with this theory in his Dialogue entitled "Parmenides", if you wish to follow it further, but it is certainly true that, in the above mentioned Rig Veda, which is of much greater antiquity, the human soul is referred to as a spark of the diving fire; and its most revered hymn, the Gayatri. Is a prayer for reunion therewith. No teaching of the Mysteries can point to anything further, or better, than such reunion; whatever the path by which it is accomplished.

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