# Pythagorean Teachings across the Centuries

***Angela Tripodi, adapted and expanded by the Rosicrucian Research Library Staff and Friends***

*The school of Pythagoras has been defined by Vincenzo Capparelli and by several other authors, as the "Greatest school of Wisdom of the West." It has had profound influence across time and has contributed to providing the coordination needed to combine the search for mystical truth with a clear methodology of wisdom.*

Even if the inheritance of the Pythagorean tradition cannot be fully grasped, due to its initiatory character, which required a severe selection process and involved the obligation of absolute silence from its Neophyte members, it is still possible to relive the outlines of the sacred knowledge in the teachings. Several sources need to be consulted in order to retrace the spread of this inspired wisdom whose light reached far from its original source. According to the information transmitted by Porphyry, Iamblichus, and in part by Diogenes Laertius, when the school at Crotona[1] was destroyed, many essential concepts were lost forever.

**The School of Crotona**

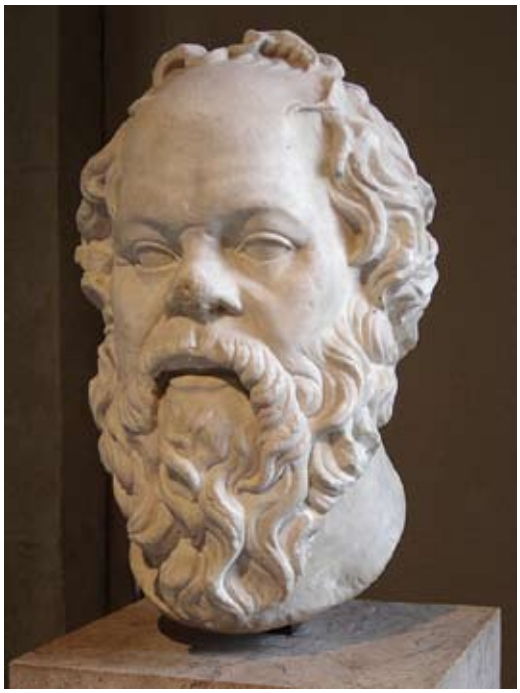
The type of initiation given at the school included a long period of training that was accomplished through various degrees. These trials were difficult to overcome for the majority of the aspirants. Their progress was hampered by severe tests that became harder to master as the applicant advanced farther, requiring special personal characteristics, qualities difficult to find among the students.

It can be understood that the most important and essential concepts of Pythagorean philosophy were not the subject

The last-remaining column of the temple dedicated to Hera Lacinia in Crotona, Italy. Photo by Sandro Baldi.

of teachings until the very last degrees. The few initiates able to enter the last doorway obeyed the sacred promise of absolute silence. This norm of silence was the secret of the school and is mentioned in several sources. It also implies that all especially profound information and teachings were hidden, not only from outsiders, but also from the participants of the lower degrees.

As is well known, the school had its center in Crotona. Shortly after being established, Pythagorean political, ethical, and religious concepts spread like wildfire across all of southern Italy, affecting life throughout the entire area known as *Magna Graecia*. This Pythagorean wisdom extended among the people of neighboring areas, such as Lucca, Pisa, and other Latin towns. Many were attracted to the Pythagoreans in order to learn about the marvelous teachings that resounded with unusual expressions among the people. Even the Roman institutions felt its influence, and Cicero himself remarked on this: "Many from our institutions are attracted by them."



*Portrait of Socrates*. Roman marble, first century CE, perhaps a copy of a lost bronze statue made by Lysippos. Louvre, Paris. Photo ©2005 Eric Gaba/Wikimedia Commons.

Given these beginnings, though this school had been founded by Greeks, it was intended to attract the interest of Italian Peninsular peoples more than all the other ancient schools; however, the contrary happened in many ways. Capparelli notes that in Italy the school of Pythagoras has had a negative reputation, at least in modern times.[2]

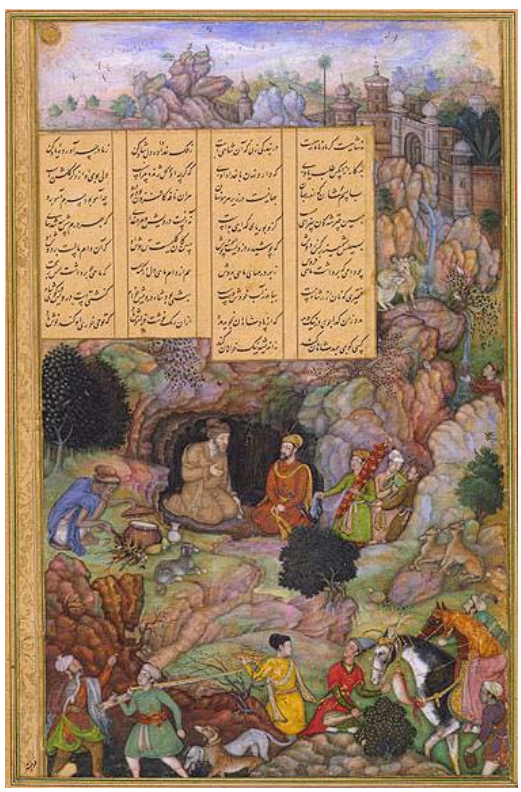
Several of the Pythagorean teachings have been attributed to other ancient philosophers such as Plato and Aristotle. Some literary critics, and among them, Burnet, give the following explanation.

## Pythagorean Influence on Socrates and Plato

The Pythagoreans, after being dispersed, went to Greece and regrouped around Socrates, who became their leader and incorporated the original teachings with the following modification: the Pythagoreans assumed the "universal" to be separated from the sensible objects. Socrates denied such separation and established the harmony of the universe and all the individual objects. Next, Plato, in his Dialogues, *Theaetetus*, *Parmenides*, etc., demonstrates the influence of the Pythagorean school, so much so, as Burnet states, that Plato established his own academy with the intention of continuing the line of teachings of the Pythagorean school.[3]

Moved by the desire for learning the secrets of this "initiatic knowledge," Plato was not satisfied to listen to the last representatives of Pythagoreanism, who had taken refuge in Greece (some of these, as noted before, were part of the group surrounding Socrates). Rather, he tried to get in touch with those more advanced on the initiatic path. From this desire arose his need, according to some authors, to investigate more deeply and more personally in those places that had been the theater of the "Pythagorean drama."

In such places the environment had preserved traces of the events and still kept



*Alexander Visits the Sage Plato.* Page from a dispersed manuscript of the Khamsa (Quintet) of Amir Khusrau Dihlavi. Mughal miniature attributed to Basawan, Lahore, 1597/87. New York, Metropolitan Museum of Art.

alive the voice of the Master. In addition, it was possible to listen to the many stories in which the pain of the destruction of the school was still fresh. Also in such surroundings, memories were preserved with great care in certain families and could suggest to the sensitive mind of Plato the correct materials for a reconstruction of a true and most genuine Pythagoreanism.

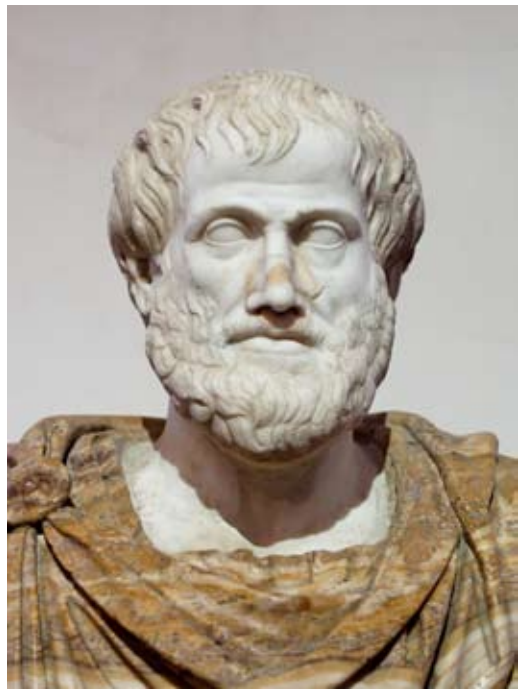
According to Gomperz, Plato made use of this information to construct a link between the Socratic and the Pythagorean teachings. Nevertheless, Plato, following the tradition of silence, at the beginning rarely mentions the Pythagoreans. After his first trip to Italy, unavoidably and progressively he is more and more attracted to the voice of the "Pythagorean Siren," so much so that, beginning with *Meno*, in his later dialogues and in the teachings of his immediate successors, we can witness the "inclusion of Platonism into the greater Pythagoreanism."

This change is also notable in *Phaedo*. In this work, Plato introduces Cebes and Simmias, Pythagoreans from Thebes, as those who listen to the last words of the dying Socrates, and talk with him about immortality. This choice is relevant, as Plato did not place some Sophists or followers of Heraclitus or Anaxagoras at the scene; rather he chooses Pythagoreans.[4]

### Pythagorean Elements in Aristotle's Work

Aristotle himself felt the influence of the Pythagorean doctrine, not only because he attended the Academy for twenty years, but also because he took part in the interesting meetings of Pythagorean savants. His early work, *On Philosophy*, discusses the teachings of the Pythagoreans and Plato; and similarly, he does so in *Eudemus* (or "On the Soul"), and *Protrepticus*, of which we only have short passages.

According to Vincenzo Capparelli, Aristotle was one of the greatest students of



*Bust of Aristotle*. Marble, Roman copy after a Greek bronze original by Lysippos from 330 BCE. The alabaster mantle is a modern addition. Palazzo Altaemps, Roma. Photo ©2006 by Marie-Lan Nguyen/Wikimedia Commons.

Pythagorean doctrine, "Not only because of the many years spent at the Academy, where he had the opportunity of learning all that was known there. This information was the result of the long researches made by Plato himself, and because of the systematic historic research that he himself did (or was done by his students), Aristotle was able to have a rich and vast library."

In his *Metaphysics*, Aristotle wrote, "With respect to the activity of these philosophers called *Pythagorean*, they began the study of mathematics and were the first to make progress in it. They grew accustomed to it to the point of believing that its principles were the principles of all entities. Given that numbers are the first elements of mathematics, they perceived in numbers much similarity with what exists and becomes.

"Therefore, they assumed that some aspect of numbers relates to justice, some other to soul and intellect, another is the 'right moment.' Besides, they found that the

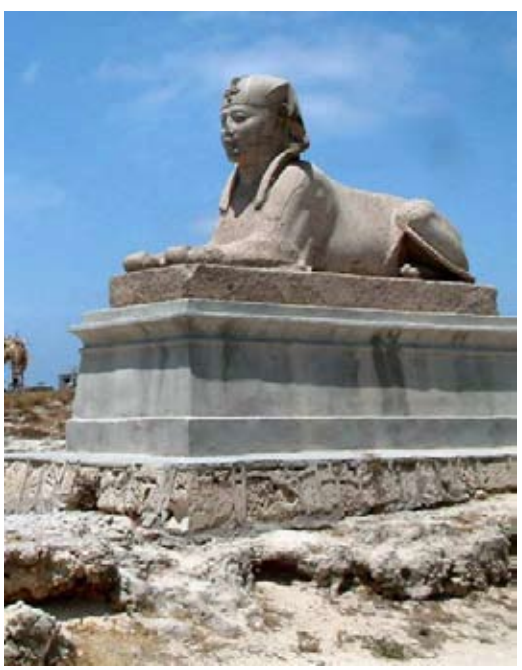
relationships of harmony consist of numbers, and that all reality would be similar to numbers.... So they arrived at the conclusion that the elements of number were the elements of all things, of all that exists on earth and that 'heaven was harmony and numbers.'"

In another part of the same work, he added: "The Pythagoreans say that the principles are ten, expressed in pairs of opposites: limit-unlimited; even-odd; one-many; right-left; male-female; stillness-movement; straight-bent; light-darkness; good-bad; square-rectangle."[5]

**The Tradition Returns to Egypt**

The Crotona School itself never rose from the ashes of destruction; however its influence spread with time more and more in the form of mysteries, of mysticism, almost of divination. So much so that Pythagorean thought found more fertile ground in Alexandria than in Athens. There, the Western world had come more closely in contact with the Eastern world and was better able to understand the various elements of Pythagoras's wisdom. This understanding primarily lay in the realization that the essential teachings did not refer only to science, but involved a new concept of human destiny: the strong aspiration for a natural renewal.

> Given that numbers are the first elements of mathematics, they perceived in numbers much similarity with what exists and becomes.



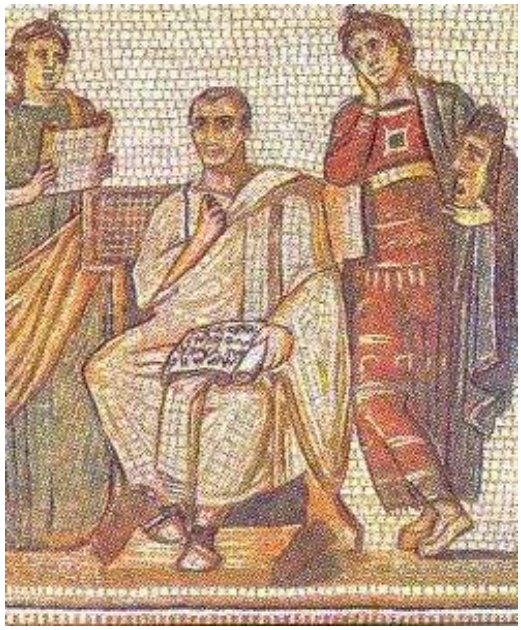
*Sphinx*, Ptolemaic Period, made from pink granite, Alexandria. Photo ©2005 by Chmouel Boudjnah/ Wikimedia Commons

Pythagorean mysticism spread in two directions in the vast cultural environment of Alexandria: the Jewish-Alexandrian Pythagoreans and the Roman Pythagoreans. The latter is better known in our philosophical tradition then the former. However, much of the content of the Pythagoreanism of the Jewish community in Alexandria found a strong resonance in the religious and moral continuity that gave rise to Christianity in Egypt.

It is not easy to fix the date when the revived Pythagorean movement established itself in Rome. Nevertheless, we must consider that those with austere ways who established the greatness of the Roman Republic would feel kinship with the Pythagorean elevated morality and severe discipline. Probably from this circumstance arose the legend of Numa as being a disciple of Pythagoras, the elaboration of the Sibylline books and during the Samnite wars, and the erection of the statue of Pythagoras at the side of the Curia where the Senate met, considering him to be the wisest of the Greek philosophers.

**Neopythagoreanism in the Classical World**

There is no space to describe in detail the great influence of the teachings of the Sage of Samos on many Latin authors and of the different opinions that were discussed,



*Mosaic of Virgil*, ca. 300 CE. Roman Villa in Tunisia.

both positive and negative. As an example we can consider, Publius Nigidius Figulus (105-45 BCE). He was a contemporary and a friend of Cicero, and in the introduction of his translation of *Timaeus*, stated that there was no one better than himself to renew that ancient Pythagorean discipline that appeared to be extinct during his time.

Nigidius, as all Pythagoreans, possessed an encyclopedic knowledge. Cicero declared that he possessed all the arts, and was a clever and diligent investigator of those mysteries that nature conceals within herself. In the frame of his philosophical and scientific research, he did not miss considering the esoteric tradition.

Some modern writers assume that Nigidius desired to rebuild the Pythagorean practice of social equality and goods held in common as a dream for new human happiness. We know that he adhered to a simple diet, but we know little about his teachings. It can be assumed that Nigidius used an analysis of Pythagorean morals and ethics as the rules of life for perfecting the individual and for manifesting latent virtues.

Another Latin author interested in Pythagorean knowledge was Cicero himself. In his analyses, he paused to take into account all aspects of the philosophy. This methodology helped him to understand and re-create Pythagoreanism in its essential aspects, its history and its teachings. Perhaps his best known work influenced by Pythagoreanism was the "Dream of Scipio" in his *De Republica*.

We can find Pythagorean influence in the writings of Virgil. According to the researcher Carcopino, several Pythagorean elements can be found in his fourth *Eclogue*.[6]

> *At last the Final Time announced by*
> *the Sibyl will arrive:*
> *The procession of ages turns to its origin.*
> *The Virgin returns and Saturn reigns*
> *as before;*
> *A new race from heaven on high descends.*
> *Goddess of Birth, smile on the new-*
> *born baby,*
> *In whose time the Iron Prison will fall*
> *to ruin*
> *And a golden race arises everywhere.*
> *Apollo, the rightful king, is restored![7]*

These elements include:

- The theory of the Great Year. This is a key element for the expected human regeneration.
- The Virgin, a sign of justice whose appearance predicts the end of the Iron Age and the beginning of the Golden Age.
- The invocation to Apollo. Pythagoras was considered to be an incarnation of this Deity.
- Apollo is supposed to rule the last century (during which the Many return to the One before re-manifesting again into the universe), and this painful transformation will generate the rebirth of the Golden Age.
- The *filia* (friendship) that will rule in the Age of Gold, in the spirit of which all species will live together without harming each other.

Similarly to the fourth *Eclogue*, the sixth book of the *Aeneid* reveals deep mystical Pythagorean influence.

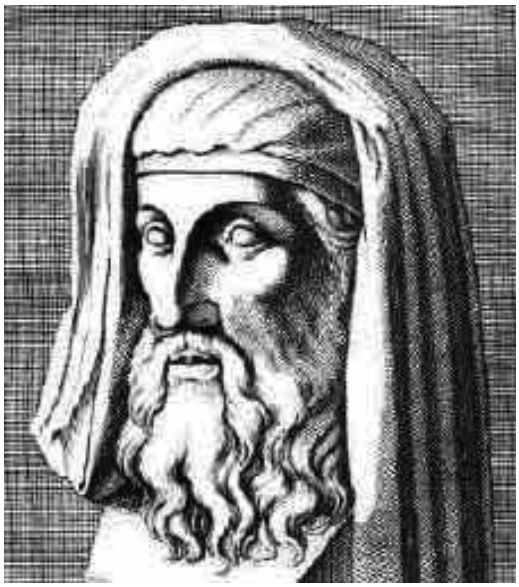
Plutarch, a Greek writer and philosopher (46-120 CE), was another leading proponent of the Pythagorean wisdom to which he gave ample testimony in his many literary works. Two short dialogues in the *Greek and Roman Questions* in the *Moralia* show how, during the first century of our era, Pythagorean groups were active and their teachings were transmitted under the seal of secrecy.

In others of his works, such as "On the *Daimon* of Socrates," "On the Face in the Moon," and "On Isis and Osiris," other fundamental concepts of the Pythagorean school are proposed, such as the description of the human soul. The soul is conceived of as being entangled in the vortex of its lower and gross instincts, limited by its continuing material needs. As such it will be driven toward reincarnation until such time as it can to lead a pure life, overcoming definitively its lower nature. The attraction of material objects will cease, and all that is perishable will be set aside. Then the soul can reach illumination and will become a *benign* daimon. It will then rise to superior heights, enter into direct contact with the Divine, and assist other souls that share the same desire and that have made great efforts with firmness and virtue.

### Diogenes Laertius and his *Life of Pythagoras*

The influence of Pythagorean thought was felt also in ancient Christianity, and some early writers defined Pythagoras as a follower of Moses' teachings. Diogenes Laertius (third century CE), in his work *Lives and Opinions of Eminent Philosophers*, was the first author to describe the life of Pythagoras in its entirety.[8] He described the school and its Master as follows:

"He is said to have been a man of the most dignified appearance, and his disciples



Diogenes Laertius (third century CE)

adopted an opinion respecting him, that he was Apollo who had come from the Hyperboreans; and it is said, that once when he was stripped naked, he was seen to have a golden thigh. And there were many people who affirmed, that when he was crossing the river Nessus it addressed him by his name.

"He was the first person, as Timaeus says, who asserted that the property of friends is common, and that friendship is equality. And his disciples used to put all their possessions together into one store, and use them in common; and for five years they kept silence, doing nothing but listen to discourses, and never once seeing Pythagoras, until they were approved; after that time they were admitted into his house, and allowed to see him."[9]

In another section of his work he described the secrecy of the teachings:

"…but until the time of Philolaus, there were no doctrines of Pythagoras ever divulged; and he was the first person who published the three celebrated books which Plato wrote to have purchased for him for a hundred minae. Nor were the number of his scholars who used to come to him by night fewer than six hundred. And if any of them had ever been permitted to see him, they

wrote of it to their friends, as if they had gained some great advantage.

"The people of Metapontum used to call his house the temple of Ceres; and the street leading to it they called the street of the Muses, as we are told by Favorinus in his Universal History. And the rest of the Pythagoreans used to say, according to the account given by Aristoxenus, in the tenth book of his Laws on Education, that his precepts ought not to be divulged to all the world...."[10]

**Porphyry Followed the Pythagorean Life**

In this brief summary about the evolution of the Pythagorean thinking, two important sources cannot be omitted: the writings of Porphyry and Iamblichus. Porphyry (ca. 233-ca. 309 CE), a Phoenician disciple of Plotinus, was a true follower of the Pythagorean teachings. Faithful to the doctrine of the school, he believed that all life must be dedicated to the purification of the soul, to the control of the body, and to overcoming passions in order to merge with the Divine. In order to attain this elevation toward God, it is necessary to overcome the obstacles produced by the vibrations and impulses of matter. One must have determination to rid oneself of that "clothing that imprisons and obscures the soul."

In his work, *On Abstaining from Using Animals as Food*, Porphyry highlights the advantages of a vegetarian diet. The interesting aspect is not so much what he tells us about the food, but the ethical concept of this practice—of this rule of life related to eating—from the Pythagorean point of view. He explains that the Pythagorean rule is not only healthy, but rather is a necessary instrument for the union with the Divine, which must be the goal of life for all human beings who are aware of their divine origin.

Peter Paul Rubens, *Pythagoras Advocating Vegetarianism* (1618-20). Royal Collections of the United Kingdom.

In this work Porphyry discussed his theory concerning sacrifices, considering them as inferior acts of worship and only likely to invoke evil spirits. Only philosophers, understood as disciples of Pythagoras, avoid these practices of low magic in order to consecrate themselves to God, since they are students of nature and understand her signs. Further, they are seen to be intelligent, modest, moderate, and always intent on raising themselves to the Divine.[11]

**Porphyry's *Life of Pythagoras***

His best known work is *The Life of Pythagoras*, in which Porphyry described the school of Crotona as follows:

"When he reached Italy, he stopped at Croton. His presence was that of a free man, tall, graceful in speech and in gesture, and in everything else. Dicaearchus relates that the arrival of this great traveler, endowed with all the advantages of nature, and prosperously guided by fortune, produced on the Crotonians so great an impression, that he won the esteem of the older magistrates by his many and excellent discourses. They ordered him to deliver exhortations to the young men, and then to the boys who flocked out of the school to hear him, and then to the women, who came together for this purpose.

"Through this he achieved great reputation, and he drew great audiences from the city, not only of men, but also

of women, among whom was a specially illustrious person named Theano. He also drew audiences from among the neighboring barbarians, among whom were magnates and kings. What he told his audiences cannot be said with certainty, for he enjoined silence upon his hearers. However, the following is a matter of general information. He taught that the soul is immortal, and that after death it transmigrates into other animated bodies. After certain specified periods, he said, the same events occur again, for nothing is entirely new. All animated beings are kin, he taught, and should be considered as belonging to one great family. Pythagoras was the first one to introduce these teachings into Greece.

"His speech was so persuasive that, according to Nicomachus, in one address made on first landing in Italy, he made more than two thousand adherents. Out of desire to live with him, these built a large auditorium, to which both women and boys were admitted. [Foreign visitors were so many that] they built whole cities, settling that whole region of Italy now known as Magna Graecia. His ordinances and laws were by them received as divine precepts, and they would do nothing to transgress them. Indeed, they ranked him among the divinities and held all property in common; and whenever they communicated to each other some choice bit of his philosophy, from which physical truths could always be deduced, they would swear by the Tetraktys, adjuring Pythagoras as a divine witness, in the words,

"I call to witness him who to our souls expressed the Tetraktys, Eternal Nature's fountain-spring."[12]

Porphyry emphasized the image of Pythagoras, perhaps even enhancing this image for his readers. He represented him as a divine being with extraordinary powers:

"He soothed the passions of the soul and body by rhythms, songs, and incantations. These he adapted and applied to his friends. He himself could hear the Harmony of the Universe, and understood the universal music of the spheres, and of the stars which move in concert with them, and which we cannot hear because of the limitations of our weak nature."[13]

With respect to Pythagoras's teachings, Porphyry indicateed:

"His utterances were of two kinds, plain or symbolical. His teaching was twofold: of his disciples some were called Students (*mathematikoi*), and others Hearers (*akousmatikoi*). The Students learned the fuller and more exactly elaborate reasons of science, while the Hearers heard only the summarized instructions of learning, without more detailed explanations."[14]

**Iamblichus and the Pythagorean Tradition**

Another philosopher who developed the Pythagorean teachings was Iamblichus. His approach was different from Porphyry's. While

Monfredo de Monte Imperiali, *Imaginary Debate between Averroes and Porphyry*, in Liber de Herbis, fourteenth century.

Open cluster of the Pleiades.
Photo by NASA/Caltech.

Porphyry recognized the importance of the Pythagorean teachings as a new interpretation of the ancient Greek culture, Iamblichus tried to give new life to Pythagorean thought by considering it to be the real essence of philosophy. He defined it as an "aspiration to attain wisdom and in a certain sense, love for it." Therefore, the act of teaching philosophy is equivalent to introducing the student to the Pythagorean doctrine.

Iamblichus (245-c. 325 CE) was an Assyrian Neoplatonist who presented the Pythagorean teachings as an organized body of work, an integral whole in the fields of physics, ethics, and theology, based on the affirmation that "everything reduces to number." In respect to his concept of Pythagoras himself, his opinion was new and significant. He focused on the Master, using a good part of the ancient tradition. He did this by calling upon some special sources. He avoided quoting Porphyry and went back further to Nichomachus, drawing upon an unknown source. The interpretation that he presented concerning the personality of Pythagoras and of his performance as Master had not been seen before in the traditional history of the Pythagoreans.

He made the point that if Pythagorean philosophy was the Divine philosophy, then Pythagoras was its author. In addition, he affirmed that the soul of Pythagoras, Divine in heaven, did not fall to earth; rather he was sent to bring philosophy as a gift to humanity from heaven:

"Pythagoras is said to have been the first to call himself a philosopher, a word which heretofore had not been an appellation, but a description. He likened the entrance of men and women into the present life to the progression of a crowd to some public spectacle. There assemble those of all descriptions and views. One hastens to sell wares for money and gain; another exhibits bodily strength for renown; but the most liberal assemble to observe the landscape, the beautiful works of art, the specimens of valor, and the customary literary productions.

"So also in the present life people of manifold pursuits are assembled. Some are influenced by the desire of riches and luxury; others, by the love of power and dominion, or by insane ambition for glory. But the purest and most genuine character is that of those who devote themselves to the contemplation of the most beautiful things, and they may properly be called philosophers.

"Pythagoras adds that the survey of the whole heaven, and of the stars that revolve therein, is indeed beautiful, when we consider their order, which is derived from participation in the first and intelligible essence. But that first essence is the nature of Number and 'reasons' (*logoi*) which pervades everything, and according to which all those [celestial] bodies are arranged elegantly, and adorned fittingly.

"Now veritable wisdom is a science conversant with the first beautiful objects which subsist in invariable sameness, being

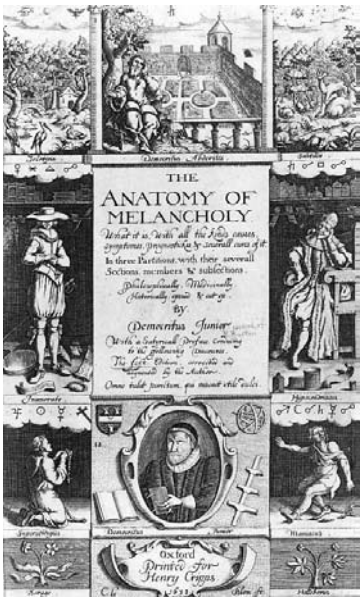
undecaying and divine, by the participation in which other things also may well be called beautiful. The desire for something like this is philosophy. Similarly beautiful is devotion to erudition, and this notion Pythagoras extended, in order to effect the improvement of the human race."[15]

**Pythagorean Therapeutics**

Iamblichus also emphasized the healing and therapeutic capacities of the great philosopher:

"According to credible historians, his words possessed an admonitory quality that prevailed even with animals, which confirms that in intelligent persons learning tames even wild or irrational beasts… Through such and similar occurrences, Pythagoras demonstrated that he possessed the same dominion as Orpheus over savage animals, and that he allured and detained them by the power of his voice."[16]

"Pythagoras used to make the very best possible approach to men and women by teaching them what would prepare them to learn the truth in other matters. For by the clearest and surest indications he would remind many of his intimates of the former life lived by their soul before it was bound to their body. He would demonstrate by indubitable arguments that he had once been Euphorbus, son of Panthus, conqueror of Patroclus."[17]




Robert Burton, *The Anatomy of Melancholy*, 1638. Fronticepiece.

"Pythagoras conceived that the first attention that should be given to people should be addressed to the senses, as when one perceives beautiful figures and forms, or hears beautiful rhythms and melodies. Consequently he laid down that the first erudition was that which subsists through music's melodies and rhythms, and from these he obtained remedies of human manners and passions, and restored the pristine harmony of the faculties of the soul.

"Moreover, he devised medicines calculated to repress and cure the diseases of both bodies and souls. Here is also, by Zeus, something which deserves to be mentioned above all: namely, that for his disciples he arranged and adjusted what might be called 'preparations' and 'touchings,' divinely contriving mingling of certain diatonic, chromatic and enharmonic melodies, through which he easily switched and circulated the passions of the soul in a contrary direction, whenever they had accumulated recently, irrationally, or clandestinely—such as sorrow, rage, pity, over-emulation, fear, manifold desires, angers, appetites, pride, collapse or

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spasms. Each of these he corrected by the rule of virtue, attempering them through appropriate melodies, as through some salutary medicine.

"In the evening, likewise, when his disciples were retiring to sleep, he would thus liberate them from the day's perturbations and tumults, purifying their intellective powers from the influxive and effluxive waves of corporeal nature, quieting their sleep, and rendering their dreams pleasing and prophetic. When they arose again in the morning, he would free them from the night's heaviness, coma and torpor through certain peculiar chords and modulations, produced by either simply striking the lyre, or adapting the voice.

"Not through instruments or physical voice-organs did Pythagoras effect this; but by the employment of a certain indescribable divinity, difficult of apprehension, through which he ex-tended his powers of hearing, fixing his intellect on the sublime symphonies of the world, he alone apparently hearing and grasping the universal harmony and consonance of the spheres, and the stars that are moved through them, producing a melody fuller and more intense than anything effected by mortal sounds.

"This melody was also the result of dissimilar and varying sounds, speeds, magnitudes, and intervals arranged with reference to each other in a certain musical ratio, producing a convoluted motion most musical and gentle. Irrigated therefore with this melody, his intellect ordered and exercised thereby, he would, to the best of his ability exhibit certain symbols of these things to his disciples, especially through imitations thereof through instruments or the physical organs of voice.

"For he conceived that, of all the inhabitants of earth, by him alone were these celestial sounds understood and heard, as if coming from the central spring and root of nature. He therefore thought himself worthy to be taught, and to learn something about the celestial orbs, and to be assimilated to them by desire and imitation, inasmuch as his body alone had been well enough conformed thereto by the divinity who had given birth to him.

"This peculiar organization of Pythagoras's body, far finer than that of any other person, seems to be what Empedocles was obscurely driving at in his enigmatical verses:

> *Among the Pythagoreans was a man transcendent in knowledge;*
>
> *Who possessed the most ample stores of intellectual wealth,*
>
> *And in the most eminent degree assisted in the works of the wise.*
>
> *When he extended all the powers of his intellect,*
>
> *He easily beheld everything,*
>
> *As far as ten or twenty ages of the human race!*

"These words 'transcendent,' 'he beheld every detail of all beings,' and 'the wealth of intellect,' and so on, describe as accurately as possible his peculiar and exceptionally accurate method of hearing, seeing and understanding."[18]

The Pythagorean use of music therapy did not end with the dissolution of the school of Crotona. Examples include the "Turco-Persian psychologist and music theorist al-Farabi (872–950), known as *Alpharabius* in Europe, dealt with music therapy in his treatise *Meanings of the Intellect*, where he discussed the therapeutic effects of music on the soul.[19] Robert Burton wrote in his seventeenth-century classic work, *The Anatomy of Melancholy*, that music and dance were critical in treating mental illness,[20] especially melancholia."[21]

From the Greek traditions of Neoplatonism and Neopythagoreanism, the tradition of the school of Crotona moved

in two directions. The first has been well documented by Dr. Peter Kingsley as the tradition returned to Egypt in Neoplatonic and Hermetic garb, and was thus transmitted further east as far, at least, as Persia.[22] This history is intertwined with the spread of Hermetic thought throughout the Middle East within Islam, chronicled by Robert Zoller[23], and the seminal work of Dr. Garth Fowden, discussing the Egyptian roots and Hellenistic expansion of this tradition.[24]

The other direction is toward the Latin West, through late antiquity to the Middle Ages in Western Europe.

**Late Antiquity**

In late antiquity, the Roman philosopher Severinus Boëthius (ca. 480—24 or 525 CE) studied many subjects, and was a devotee of Pythagorean mathematics, geometry, and music theory. He translated works by the Pythagoreans Porphyry and Nichomachus.

Boëthius, *On the Consolation of Philosophy*, 1385, Italy. Miniatures of Boëthius teaching and imprisoned. Glasgow University Library. Manuscript by Gregorius of Genoa and the scribe Brother Amadeus.

He introduced a three-fold concept of music, clearly drawing on Pythagorean ideals:

1. *Musica mundana*: music of the spheres/worlds
2. *Musica humana*: harmony of human body and spiritual harmony
3. *Musica instrumentalis*: instrumental music (including the human voice)[25]

Boëthius's work marks the transition in the Latin West from classical Roman philosophy into the scholastic tradition which would follow. His works influenced the entire Western Middle Ages, and insured that Pythagorean thought would continue in the educational system of Western Europe for hundreds of years through his foundational work on what would become the curriculum of the *quadrivium*:

"The *quadrivium* consisted of arithmetic, geometry, music, and astronomy. These followed the preparatory work of the *trivium* made up of grammar, logic (or dialectic, as it was called at the times), and rhetoric. In turn, the quadrivium was considered preparatory work for the serious study of philosophy and theology."[26]

**Numbers and Mysticism in Medieval Western Europe and the Renaissance**

After these ancient authors who were thoroughly dedicated to the Pythagorean teachings, a few major thinkers were able to recognize, and deeply understand that knowledge that appeared mysteriously on the world landscape, and mysteriously disappeared in the vortex of a chaotic world to which they tried to give order.

Even though Pythagorean ideas and ideals permeated Medieval Western Europe, which was fascinated by numbers and their significance,[27] the reputation of the Pythagorean school itself sometimes fell into the shadows.

Vincenzo Capparelli, analyzing this phenomenon in Italy, comments: "…with

*The Seven Liberal Arts: Music and Pythagoras*, fifteenth century, colored pen drawing. Salzburg University Library.

respect to this, we are forced to discuss a somewhat unpleasant topic: the unlucky outcome of Pythagoreans in Italy." To support this conclusion, he cites Dante, who, even if informed with discretion about the Pythagorean teachings, which he often quoted in his works, did not consider it wise to include Pythagoras among the "philosophical family."

Even the early researchers of the Academy of Florence did not pay much attention to the contribution of Pythagoras as such, since they were under the spell of Plato and Neoplatonism.[28] Nevertheless, under other names, the tradition continued unabated.

There were outstanding exceptions to this, in both the Medieval and Renaissance periods. One was Leonardo of Pisa, known to history as Fibonnaci (ca. 1170-ca. 1250). Clearly inspired by Pythagoras, he is best known today for:

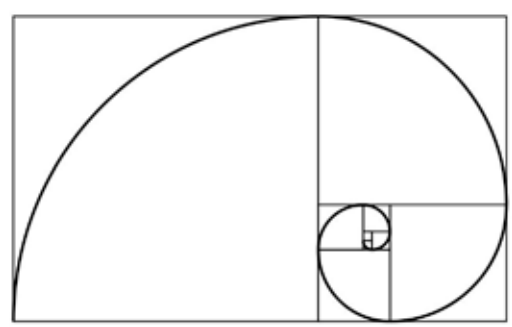
- "The spreading of the Hindu-Arabic numeral system in Europe, primarily through the publication in the early thirteenth century of his Book of Calculation, the *Liber Abaci*.[29]
- "A number sequence named after him known as the Fibonacci numbers, which he did not discover but used as an example in the *Liber Abaci*.[30]

"In the Fibonacci sequence of numbers, each number is the sum of the previous two numbers, starting with 0 and 1. Thus the sequence begins 0, 1, 1, 2, 3, 5, 8, 13, 21, 34, 55, 89, 144, 233, 377, 610 etc. The higher up in the sequence, the closer two consecutive *Fibonacci numbers* of the sequence divided by each other will approach the golden ratio (approximately 1 : 1.618 or 0.618 : 1)."[31]

The golden ratio was known to the Egyptians and other ancient mystery schools, and is often found in natural structures. It was widely used in Renaissance art. It stands to reason that Pythagoras, with Egyptian, Middle Eastern, and Central Asian connections, would have understood this as, perhaps, part of his advanced curriculum.

The brilliant work of Fibonacci, as well as the Boëthian foundations of the whole educational system of the Western Middle Ages, insured that Pythagorean ideas would be transmitted in many forms.

With the great philosophers of the Renaissance, there is a new evaluation of the



A Fibonacci spiral created by drawing arcs connecting the opposite corners of squares in the Fibonacci tiling, using squares of sizes 1, 1, 2, 3, 5, 8, 13, 21, and 34.[32]

Jacopo de' Barbari (?), *Ritratto di Frà Luca Pacioli*, 1495, Naples, Museo e Gallerie di Capodimonte. Luca Pacioli is the central figure. The table is filled with geometrical tools: slate, chalk, compass, a dodecahedron model. A rhombicuboctahedron (an Archimedean solid, with eight triangular and eighteen square faces) half-filled with water, is hanging in the air.

Pythagorean school. Marsilio Ficino recognized the influence of Pythagoras on Plato.

Giordano Bruno taught that "the world of Pythagoras is better and more pure than that of Plato."[33] Tommaso Campanella lovingly studied Pythagoras and was accustomed to introducing himself as a follower of the tradition.[34] Furthermore, Campanella considered Galileo as the one who was able to resurrect the glory of the Pythagoreans in the scientific field. Even Leonardo da Vinci referred to them in his studies and research.

One of Leonardo's collaborators, Fra Luca Bartolomeo de Pacioli (ca. 1446-1517) was an Italian mathematician and Franciscan friar. He drew on the earlier work by the painter and mathematician Piero della Francesca (ca. 1415-October 12, 1492), whose work he incorporated into his own writings.

Pacioli instructed Leonardo in mathematics and geometry, and Leonardo illustrated Pacioli's reworking of della Francesca's *Short Book on the Five Regular Solids*, which Pacioli expanded and published in 1509 as *De Divina Proportione* (On the Divine Proportion): "The subject was mathematical and artistic proportion, especially the mathematics of the golden ratio and its application in architecture."[35]

There can be no doubt that the Pythagorean mystical tradition was certainly among the major influences on these Renaissance geometers. Their work connects the ancient world and more modern scholars such as Schwaller de Lubicz. Pacioli describes the heritage the Renaissance had received from the ancient sages and initiates:

"The Ancients, having taken into consideration the rigorous construction of the human body, elaborated all their works, as especially their holy temples, according to these proportions; for they found here the two principal figures without which no project is possible: the perfection of the circle, the principle of all regular bodies, and the equilateral square."[36]

**Later Pythagorean Influences**

In the eighteenth century, some astronomers reviewed the Pythagorean teachings, and attributed to them the concept that the planet was round, and the heliocentric theory. In the second half of the previous century, the "Boëthian Question" had emerged, related to the Pythagorean teachings in the field of mathematics. This last deserves to be more extensively explored as an example of how little we know about the great mystical and initiatic Pythagorean tradition.

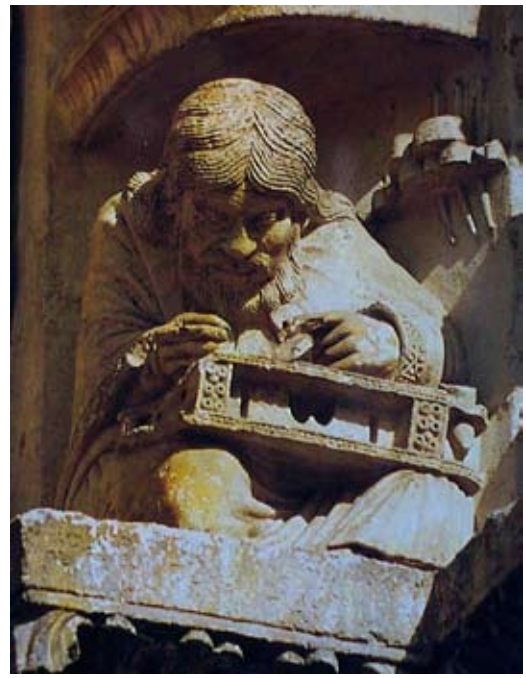
This question arose from a discovery by the seventeenth century historian and bibliophile Isaac Vossius while he was reading a passage of the *Geometry* of Boëthius in

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| European | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| Arabic-Indic | ٠ | ١ | ٢ | ٣ | ٤ | ٥ | ٦ | ٧ | ٨ | ٩ |
| Eastern Arabic-Indic (Persian and Urdu) | ٠ | ١ | ٢ | ٣ | ۴ | ۵ | ۶ | ٧ | ٨ | ٩ |
| Devanagari (Hindi) | ० | १ | २ | ३ | ४ | ५ | ६ | ७ | ८ | ९ |
| Tamil | | ௧ | ௨ | ௩ | ௪ | ௫ | ௬ | ௭ | ௮ | ௯ |

Comparison between five different styles of writing Arabic numerals, ©2006 by Madden/Wikimedia Commons.

which it was suggested that the Pythagoreans invented the characters called *numerals*, including the zero. These are the same as our modern Western numbers, and Boëthius stated that the Pythagoreans were "supremely ingenious and very clever" in their use. They used them for the performance of multiplication and division without errors and "never failed."

The history of numbers currently ascribes our modern Western numbering system to the Hindu-Arabic tradition, largely spread through the work of Fibonnaci.[37] Even if Vossius's reading comes from a later revision of Boëthius's fragmentary *Geometry* (for example, in the eleventh- or twelfth-century manuscripts of Boëthius's *Geometry* in Paris and Chartres), it still significantly demonstrates the interaction of the Pythagorean tradition with the Arabic and other Eastern cultures, as Peter Kingsley discusses elsewhere in this issue of the *Rosicrucian Digest*. The ancient—and modern worlds—are not isolated culture islands. Humans have interacted in this way for untold millennia. What comes from one source flows outward and then eventually returns to its origins.[38]



Pythagoras within the tympanum at the right bay of the royal portal of Chartres Cathedral, situated on top of the middle column of the right jamb, twelfth century. Photo © 2001 by Jean-Louis Lascoux.

The golden ratio was known to the Egyptians and other ancient mystery schools, and is often found in natural structures. It was widely used in Renaissance art. It stands to reason that Pythagoras, with Egyptian, Middle Eastern, and Central Asian connections, would have understood this as, perhaps, part of his advanced curriculum.

Later mathematicians and philosophers have been inspired by the Pythagorean vision, including possibly Hilary Putnam (1926- ) in the United States, certain aspects of whose theories resemble Pythagorean tenets. The connections of the Pythagoreans with the Essenes and the Theraputae have also insured that the tradition from Crotona will not vanish.[39]

**Conclusions**

This brief survey has dealt with vast and complex topics and attempted to arrive at a synthesis which would highlight the greatness of Pythagoras of Samos to whom the Western world is so much in debt.

Vincenzo Caparelli, a twentieth-century Pythagorean researcher, came to this conclusion:

"Pythagoras represents a synthesis of the knowledge that existed before him

and he missed nothing of what others had uncovered that was essential. These findings, organized in a vast system, acquired new meanings and new significance in scientific and philosophical research."[40]

Nevertheless, as it has been noted in the course of history, there has often been little interest and a corresponding lack of recognition of this divine knowledge. The school of Crotona was never literally revived from the ashes of destruction, perhaps because, as emphasized by the Pythagoreans themselves, they had transmitted discoveries and doctrines that appeared to be folly to their contemporaries, and so they may still appear today. Perhaps they are patiently waiting their turn to be officially recognized.

The true drama of the Pythagorean school is that its wisdom is outside of time. The ancient Pythagoreans were conscious of this fact and this was the major reason for maintaining secrecy and not propagating their doctrines to the uninitiated. The Pythagorean doctrine in ancient times was overcome by the weight of its own magnitude in Italy; however, it lived on through the centuries under many names and many guises, as we have seen.

It may have been a greatness that was painful and perhaps still is for some today. These truths offended their contemporaries and many of the uninitiated public who had somehow been convinced that their modest nature could not attain such heights. The mob took revenge by killing the bodies of the philosophers, in the hope of destroying their ideas. As we know, this can never happen, and Divine Light and Truth shall always endure.[41]

## ENDNOTES

[1]Around 508 BCE the Pythagorean community at Crotona was attacked by Kylon, a neighboring governor who had applied to Pythagoras's school and been refused admittance because of character flaws. Members of the community were expelled, and Pythagoras, along with his immediate family, escaped to the city of Metapontum.

[2]Vincenzo Capparelli, *La sapienza di Pitagora* (Rome: Edizioni Mediterranee, 1988); *Il tenore di vita pitagorico ed il problema della omoiosis* (Padua: R. Zannoni, 1958).

[3]John Burnet, *Early Greek Philosophy*, 3rd ed. (London: Adam and Charles Black, 1920).

[4]Theodor Gomperz, Laurie Magnus, George Godfrey Berry, *Greek Thinkers: a History of Ancient Philosophy* (London: J. Murray, 1901-12).

[5]Aristotle, Metaphysics, bk. 1, part 5, trans. W.D. Ross, http://classics.mit.edu/Aristotle/metaphysics.l.i.html.

[6]Jérôme Carcopino, *Virgile et le mystére de la IVe églogue* (Paris: L'Artisan du Livre, 1930).

[7]Virgil, *Fourth Eclogue*, trans. Philip K. Dick in "The Eye of the Sibyl," in *The Eye of the Sibyl and Other Classic Stories* (New York: Citadel Books, 2000). Available at www.rosicrucian.org/publications/digest/digest2_2008/Web%20version/WS_02_PKD/c_WS_02_PKD.pdf.

[8]Diogenes Laertius, "Pythagoras" in *The Lives and Opinions of Eminent Philosophers*, trans. Charles Duke Yonge (London: H. G. Bohn, 1853), bk 8:1-26. Available at http://classicpersuasion.org/pw/diogenes/dlpythagoras.htm.

[9]Ibid., bk. 8:9, 8.

[10]Ibid., bk. 8:15.

[11]Porphyry, *De abstinentia ab esu animalium*, edited by Jean Bouffartigue, M. Patillon, and Alain-Philippe

Segonds. 3 vols., (Paris: Budé, 1979-1995). Available at www.animalrightshistory.org/library/porphyry/animal-food-bk1.htm.

[12]Porphyry, *The Life of Pythagoras,* chaps. 18-20. Trans. in Kenneth Sylvan Guthrie, *The Pythagorean Sourcebook* (1920), new edition edited by David R. Fideler (Grand Rapids, MI: Phanes Press, 1987), 126-127.

[13]Ibid., chap. 30, 129.

[14]Ibid., chap. 37, 130.

[15]Iamblichus, *The Life of Pythagoras,* chap. 12. Trans. in Kenneth Sylvan Guthrie, *The Pythagorean Sourcebook* (1920), new edition edited by David R. Fideler (Grand Rapids, MI: Phanes Press, 1987), 70.

[16]Ibid., chap. 13, 70-71.

[17]Ibid., chap. 14, 71.

[18]Ibid., chap. 15, 72-73.

[19]Amber Haque, "Psychology from Islamic Perspective: Contributions of Early Muslim Scholars and Challenges to Contemporary Muslim Psychologists," *Journal of Religion and Health* 43 (4) (2004): 357-377 [363].

[20]cf. Robert Burton, *The Anatomy of Melancholy*, (London, H. Cripps, 1652), subsection 3, on and after line 3480, "Music a Remedy": "But to leave all declamatory speeches in praise of divine music, I will confine myself to my proper subject: besides that excellent power it hath to expel many other diseases, it is a sovereign remedy against despair and melancholy, and will drive away the devil himself. Canus, a Rhodian fiddler, in Philostratus, when Apollonius was inquisitive to know what he could do with his pipe, told him, 'That he would make a melancholy man merry, and him that was merry much merrier than before, a lover more enamoured, a religious man more devout.' Ismenias the Theban, Chiron the centaur, is said to have cured this and many other diseases by music alone: as now they do those, saith Bodine, that are troubled with St. Vitus's Bedlam dance." Available at www.gutenberg.org/files/10800/10800-8.txt; John Crellin "Humanities are the Hormones: A Tarantella Comes to Newfoundland. What Should We Do about It?" in *MUNMED, Newsletter of the Faculty of Medicine*, Memorial University of Newfoundland, 1996. Available at www.med.mun.ca/munmed/84/crellin.htm; Steven K.H. Aung and Mathew H.M. Lee, "Music, Sounds, Medicine, and Meditation: An Integrative Approach to the Healing Arts," *Alternative & Complementary Therapies*, Oct. 2004, vol. 10, no. 5: 266-270, available at www.liebertonline.com/doi/abs/10.1089/act.2004.10.266?journalCode=act.

[21]"Music Therapy," at Wikipedia, http://en.wikipedia.org/wiki/Music_therapy.

[22]Peter Kingsley, "Paths of the Ancient Sages: A Pythagorean History" *Rosicrucian Digest*, vol. 87, no. 1 (2009), 2-9. See also: Kingsley, "From Empedocles to the Sufis: 'The Pythagorean Leaven,'" *Ancient Philosophy*, 359-370; and Kingsley, "Empedocles and the Ismā'īlīs," *Ancient Philosophy*, 395-396.

[23]Robert Zoller, "Hermetic Tradition" (New Library, 1995); "The Hermetica as Ancient Science" (New Library, 1997), available at www.new-library.com/zoller/features/.

[24]Garth Fowden, *The Egyptian Hermes: A Historical Approach to the Late Pagan Mind* (Princeton, NJ: Princeton University Press, 1993).

[25]"Boethius" in *Wikipedia*. http://en.wikipedia.org/wiki/Boethius.

[26]"Quadrivium" at *Wikipedia*. http://en.wikipedia.org/wiki/Quadrivium.

[27]See Vincent Foster Hopper, *Medieval Number Symbolism* (New York: Copper Square Publishers, 1969).

[28]Capparelli, *La sapienza di Pitagora*.

[29]Leonardo Pisano - page 3: "Contributions to number theory." Encyclopædia Britannica Online, 2006.

[30]Parmanand Singh, "Acharya Hemachandra and the (so called) Fibonacci Numbers" in *Math*, ed. Siwan , 20(1):28-30, 1986.

[31]See "Fibonnaci" at *Wikipedia*. http://en.wikipedia.org/wiki/Fibonnaci.

[32]"Fibonacci Number" at *Wikipedia*, http://en.wikipedia.org/wiki/Fibonacci_number.

[33]Giordano Bruno, *Dialoghi italiani* (Florence: Sansoni, 1986).

[34]See "Tommaso Campanella" at *Wikipedia*. http://en.wikipedia.org/wiki/Tommaso_Campanella.

[35]"Luca Pacioli" at *Wikipedia*. http://en.wikipedia.org/wiki/Luca_Pacioli.

[36]Luca Pacioli, *De Divina Proportione* (Milan: Silvana, 1982).

[37]See "Arabic Numbers" and "Hindu-Arabic Numeral System" at *Wikipedia*. http://en.wikipedia.org/wiki/Arabic_numbers and http://en.wikipedia.org/wiki/Hindu-Arabic_numeral_system.

[38]Peter Kingsley, "Paths of the Ancient Sages: a Pythagorean History" *Rosicrucian Digest* 87:1 (2009), 2-9. See also Kingsley, "From Empedocles to the Sufis, 'The Pythagorean Leaven,'" *Ancient Philosophy*, 359-370, and Kingsley, "Empedocles and the Ismā'īlīs," *Ancient Philosophy*, 395-396.

[39]See *Rosicrucian Digest* "The Essenes," 85:2 (2007).

[40]Capparelli, *La sapienza di Pitagora*.

[41]A version of this essay was originally published in *Rosa+Croce*, no. 30 (Winter 2007), 34-48. It has been adapted and expanded by the Staff and Friends of the Rosicrucian Research Library.