

Pythagoras Foundation



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This semi-annual Newsletter gives articles and a summary of literature, book reviews of recent publications concerning Pythagoras and Pythagoreans. Interesting internetsites, work in progress and conferences are included.

We will be very pleased to receive information of books and (journal, internet) articles to keep our lists up to date.

Nico Bader - Chairman of the Pythagoras Foundation.

“Socrates: One which is easy to point out, but very difficult to follow for through it all the inventions of art have been brought to light. See this is the road I mean.

Protarchus: Go on what is it?

Socrates: A gift of gods to men, as I believe, was tossed down from some divine source through the agency of a Prometheus together with a gleaming fire; and the ancients, who were better than we and lived nearer the gods, handed down the tradition that all the things which are ever said to exist are sprung from one and many and have inherent in them the finite and the infinite. This being the way in which these things are arranged, “ **Plato: Philebus [16c]**

http://www.perseus.tufts.edu/cache/perscoll_Greco-Roman.html

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Introduction

In the present newsletter we would like to start thanking Mrs. Foppe for her visits to the library of the Pythagoras Foundation. She helped us revise the books before 1900 (which we really enjoyed) and trace titles and subjects of books and articles written in Greek and Latin. We are grateful for her interest and inspiring questions.

We also like to thank Mr. Heyblom for his visit to the library and his donation.

Finally we would like to thank Mr. Pont for his advice.

The Pythagoras Foundation is becoming a well-known institution. The number of people interested in reading our newsletter keeps growing, and so are the questions we receive concerning different topics. We even get requests from the U.S.A. about articles, which cannot be found at university libraries, but are available at the Pythagoras Foundation library!

Thanks to those who have contributed to this newsletter!

The next newsletter will be issued December 2006.

Best wishes to all of you,

Marie-Anne de Roode

Pythagoras Foundation Library Information.

The Library collects all publications concerning Pythagoras and Pythagoreans.

The library is a lending library; also copies of articles can be ordered.

Copy costs and postage will be calculated.

The Foundation is a non-profit organisation; our Newsletter is free of charge.

Donations, also in the form of articles or books are very welcome.

The Pythagoras Foundation

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From Newsletter to Journal ?

Three years ago we started publishing the Newsletter. We did not foresee its success.

We are surprised about the continuous stream of publications, but more about the growing circle of people with interests in Pythagoreanism.

What is the actual situation? There are 200 subscribers, in which the versatility of Pythagoras becomes reflected. We see two groups of interests; science (70 %) and « outlook of life ».

Within science, philosophy and classical antiquity are the main groups.

The interests are international: there are readers in 23 countries, the United States leads with 25%.

We see a growing number of contributions and submitted articles.

What do we need to become a journal ?

- an ISSN (International Standard Serial Number) number; we have, see Colophon, p 3.
- a short description (of the scope) of the journal; more specific than the current description : see Colophon, p 3.
- more editors
- an editorial/advisory board: with representatives of the most important disciplines. In progress.
- fund ; insufficient at the moment.

Please send us your reactions or suggestions.

We will keep you informed.

Nico Bader

We would very much like to add the following books to the Library:

- | | |
|---|---|
| El Koussa, K.
Florentin, C. | Pythagoras: The Mathemagician. 2005. ISBN: 0976940426
Le tableau de Cébès : oeuvre anonyme (fin du I ^{er} , début du II ^e siècle de notre ère). 2004. ISBN 2951909039 |
| Gerke, P.R.
Hass, P. | Empedokles, Information und die kunstliche Seele. 2005. ISBN: 3-86548-021-7
Die Vorsokratiker : Thales, Anaximander, Anaximenes, Pythagoras, Xenophanes, Heraklit, Parmenides, Leukipp, Demokrit. 2005. ISBN: 3-7661-4891-5 |
| Hirsch-Luipold, R. | Pseudo-Kepes : Allegorie des Lebens ; Die Bildtafel des Kebes (Pinax) / Kebes. 2004. Schriftenreihe: Sapere ; 8. ISBN: 3-534-15574-2 |
| Huffman, C.A. | Archytas of Tarentum : Pythagorean, philosopher and mathematician king. 2005. ISBN: ISBN 0-521-83746-4 |
| Jacquemard, S.
Karamanides, D. | Tre mistici greci. Orfeo, Pitagora, Empedocle. 2004.
Pythagoras : pioneering mathematician and musical theorist of Ancient Greece. 2005. ISBN: 1404205004 |
| Manganelli, G.
Périllié, J.L. | La favola pitagorica : luoghi italiani. ISBN 88-459-1947-1
Symmetria et rationalité harmonique, Source pythagoricienne de la notion de Symétrie. 2005. ISBN 2747587878. |
| Schaffer, E.
Schibli, H.S.
Seddon, K. | Hegel und die pythagoreische Tradition. Halle (Saale), 2003. Thesis.
Hierocles of Alexandria. 2004. ISBN 0199249210
Epictetus' Handbook and the Tablet of Cebes : guides to Stoic living. 2005. ISBN: 0415324521 (hc.), 0415324513 (pbk.) |
| Sole, G.
Sperber, M. | Il tabù delle fave : Pitagora e la ricerca del limite. 2004. ISBN 88-498-1021-0
The Gates of Light. A Life of Pythagoras. 2005. ISBN 3-935176-34-1 |

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Colophon

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Leonid Zhmud

Pythagorean communities: from the individual to the collective portrait

In the middle of the doxographical discussion of the Presocratic theories in *De caelo*, Aristotle makes an interesting psychological remark: "It is what we are all inclined to do, to direct our inquiry not by the matter itself, but by the views of our opponents." (294b5). I think one can hardly find a better motto for the Pythagorean studies of the last two centuries. Most books on Pythagoras and early Pythagoreanism are highly polemical. This includes even such a paragon of objective research as Zeller, for he too had his own target. This was Röth's *Geschichte der abendländischer Philosophie*, which was ready to accept the entire ancient tradition on Pythagoras as historically reliable. Zeller's critical approach to the sources razed Röth's construction to the ground, so that very little remained of Pythagoras. Incidentally, what has remained – the philosophical doctrine that "all is number", the astronomical theory of the spheres, and the concept of the Central Fire – has nothing in common with Pythagoras. Admittedly, Zeller's approach per se is very sound and his distinction between the classical and the later sources is crucial, indeed. The problem is, however, that the classical authors do exactly what Aristotle says: they direct their inquiries not by the matter itself, but by the views of their opponents. Aristotle's own opponents were the Academics, and this left a deep mark on his treatment of the Pythagoreans. No other Presocratic thinker turned to be so early an object of such lively debates as Pythagoras. Starting with Xenophanes and Heraclitus, the entire 5th-century tradition on Pythagoras is polemical. This is one of the reasons why this tradition has much more to say about Pythagoras than about any other Presocratic. The first book about a Greek philosopher was Democritus' *Pythagoras*. At the same time, around 400 BC, a Sophist from Miletus, Anaximander the Younger, wrote a book on the Pythagorean *symbola*. When the Academy created the first genre of philosophical historiography, the monograph devoted to an individual thinker or a school, among its first specimens were Πυθαγόρεια by Xenokrates and *On the Pythagoreans* by Heraclides Ponticus. Speusippus wrote a book *On the Pythagorean numbers*. In addition to the works about or against individual Pythagoreans, Aristotle wrote two special monographs: *About the Pythagoreans* (fr. 191-197 Rose), which contains a collection of the materials, and *Against the Pythagoreans* (fr. 198-205 Rose), which discusses their philosophical and scientific views.

In the next generation, Aristoxenus' biographies of Pythagoras and his followers draw an idealized picture of the philosophers, scientists, and politicians who lived according to their ethical principles. This is not the picture that we find in Aristotle, or for that matter in Aristoxenus' biographies of Socrates and Plato, which are full of scandalous stories. Much less prejudiced, Dicaearchus also picks out Pythagoras, Socrates, and Plato as heroes of his biographical works and makes them represent various forms of philosophical life. In Eudemos' histories of mathematics and astronomy, we find the Pythagoreans quite dissimilar to the Pythagoreans of Dicaearchus, though not directly opposed to them.

Thus, even when restricting ourselves to the classical sources, we still get the same principal hypostases of Pythagoras as in modern scholarship: a religious and moral teacher, a politician, a philosopher and scientist. Their specific proportion seems to be a matter of a personal choice. 90% religion and 10% politics with no science and philosophy in Burkert, 50% religion and 50% mathematics in van der Waerden, 98% religion and 2% philosophy with no science in Riedweg. Now, I do not want to defend my own proportion, or if so, only in a very indirect way. Everyone who knows Carl Huffman's works on Philolaus and Archytas would agree that they are by far not as polemical as e.g. Burkert's book or my own book. In terms of their subject matter, there are two obvious reasons for this.

First, Huffman does not need to prove that Philolaus was a philosopher or that Archytas was a mathematician and a politician. Second, there is no Pythagoras in Huffman's books, for he does not need him. I still have great difficulty to speak about early Pythagoreanism without Pythagoras, even though everything that concerns him appears to be highly disputable.

In 1819, it was quite logical for A. Böckh to start Pythagorean philosophy and science with Philolaus, for he believed he could find here the undeniable written evidence that either does not exist in the preceding period or that is not so undeniable.

As we know, Philolaus' case proved to be more complicated than Böckh thought; it required joint efforts by many scholars to be secured. Yet it does not follow from this that the

earlier period cannot be reconstructed. Since it seems that Pythagoras himself is the main obstacle to such a reconstruction, I am going to leave him in peace for the time being and to turn to a much less problematic matter, namely to the Pythagoreans.

Why are they actually not as problematic as the founder of the school? Well, because they are different. Pythagoras pretended to possess supernatural qualities and was thereby the kind of person who attracted legends, even if originally they were not connected with him. In contrast to Pythagoras, no historically known early Pythagorean is connected with anything supernatural, mystical, or superstitious in the reliable part of the tradition. The doctors Democedes and Alcmaeon, the Olympionics Milon and Ikkos, the botanist Menestor, the philosophers Hippon and Philolaus, and the mathematicians Hippias and Theodorus all appear in our sources to be closer to Anaxagoras than to Empedocles. There is no evidence even of their belief in metempsychosis. They are as «normal» as they can possibly be. It is their normality that has strong appeal to me, for if these people were Pythagoras' students and followers, then we can learn something important about him and the society he founded. If, further, the Pythagoreans that we know of were not the superstitious ritualists who were not permitted to travel on the main roads, use public baths, speak in the dark, step over a yoke, sit on a bushel measure, stir the fire with a knife, etc., then we have to find out who were these ritualists. If they are not to be found, we had better abandon the idea that such Pythagoreans ever existed.

To be sure, some of the Pythagoreans known to us did perform miracles of faithfulness to their friends, like Damon and Phintias, but this is not a kind of miracle we should worry about. Nor should we worry about the slightly abnormal behavior of the Pythagorean athlete and general Milon: Aristotle calls him *πολύφαγος* (fr. 520 Rose; cf. NE 1106b3); according to the late sources, he devoured daily about 9 kg of meat and just as much bread and drank 10 liters of wine. Now, these stories are not just amusing anecdotes. Taken seriously, they reveal quite an important distinction. Milon, this Pythagorean of the Pythagoreans, behaves in a way exactly opposite to what should be expected of a true follower of Pythagoras. But how do we know what should be expected of a true Pythagorean? In other words: what are our sources for a collective portrait of a true Pythagorean? Are they the same as our sources for the individual Pythagoreans? No, they are not. If we collect everything that is known about the individual Pythagoreans and compare this with what is known about anonymous Pythagoreans, the Pythagoreans as a certain collective identity, these pictures are very different. Sometimes they are different even in one and the same author: Aristotle's individual Pythagoreans differ radically from his Pythagoreans «in general», this time in terms not of behavior, but of doctrines. This is one of the many reasons why we ought to be very cautious about the Pythagoreans as a collective identity, for it is the very part of the classical tradition where we can expect the most serious distortions.

In the modern as well as in the ancient world, the stories told about a social, ethnic, or cultural minority are often quite different from the stories told about individuals who constitute these minorities. Though the first are not necessarily false and the second always true, a distinction between them is quite important. If we proceed empirically, our collective portrait of the Pythagoreans should look more or less like a sum total of the traits common to all the individual Pythagoreans plus their specific traits that are irreducible to a common denominator. Certainly, *οἱ Πυθαγόρειοι* is often just a *façon de parler*, behind which the real figures are discernible, e.g. Archytas, who stands behind the Pythagoreans in Plato's *Republic*, or Philolaus, whose astronomical system Aristotle ascribes to some anonymous Pythagoreans. But equally often, the collective Pythagoreans do not correspond to any individuals known to us, e.g., the Pythagoreans of Anaximander the Younger, or those of Aristotle's *Metaphysics*, or those of Aristoxenus' work *Pythagorikai apophaseis*. In the last case as well as in Theophrastus' *Metaphysics*, they are very much like the Platonists. One can dispute these examples and adduce others, but this hardly affects my general thesis: If actions or ideas allegedly peculiar to the collective Pythagorean identity do not find an independent confirmation on the individual level, we will stay on much safer ground by preferring the individual to the collective evidence. Accordingly, still more suspicious are those testimonies on the Pythagoreans in general that plainly *contradict* the evidence on the individual Pythagoreans.

Here are some examples. First, rules of conduct. The tradition on Pythagorean vegetarianism is divided. Some sources say that they did not eat meat, some that they abstained from

particular kinds of meat or particular parts of the animals. On the individual level, strict vegetarianism is not attested, whereas consumption of meat is, so that we should rather conclude that some Pythagoreans did eat meat, even if some others probably did not. Second, the doctrines. Aristotle, and after him Theophrastus, and after them the entire later tradition, persistently say that the core of Pythagorean philosophy is that “all is number”. We do not find this thesis in any of the Pythagorean thinkers, though we find other ideas on number that differ both from the Aristotelian version and among themselves. I believe therefore that “all is number” is an Aristotelian interpretation of various Pythagorean philosophical and scientific ideas.

Third, institution. The story that the early Pythagorean society was divided into *mathematikoi* and *akousmatikoi* seems to be ineradicable from the scholarly literature, even though this story is found first in Porphyry and Iamblichus, and even though the word *mathematikos* is attested first in Plato’s *Sophist* (219c), whereas *akousmatikos* is first found five centuries later, in Clement of Alexandria (Strom. 5,59). There is obviously something fascinating in this story, which makes people stick to it. Burkert, who once tried to show that it comes from Aristotle, now admits that this is impossible to prove. But even if this story were a part of the 4th-century tradition, we still would not find in the 6th or the 5th century any individual counterparts to the *mathematikoi* as they are described by Iamblichus and even less to the *akousmatikoi*.

Should we believe that these people existed but left no individual traces, whereas their collective portrait was kept secret to be disclosed only by Porphyry? I think it is better to take this story at its real value, i.e., as an invention of the Imperial age.

Admittedly, the methodological individualism that I am professing is not completely unproblematic. In a sense, it is easier to follow its alternative, definitional essentialism, i.e., to define and discuss the specific Pythagorean qualities or theories. Speaking about the Pythagoreans in general, one does not need to care about every individual Pythagorean: a deviant case can always be treated as an exception. But if one starts from the individual level, everybody counts. In this case, the question “who is to be counted as a Pythagorean and according to which criteria” becomes crucial. This is not an easy question, and modern research has come up with widely differing answers.

If one trusts the late sources, a written Pythagorean tradition starts only with Philolaus, who lived 100 years after Pythagoras. Accordingly, the Pythagoreans before Philolaus did not write books, and those who did, e. g. Alcmaeon, Menestor, and Hippon, were not real Pythagoreans. If one does not trust the late sources, but does trust Plato and Aristotle, the case does not get any easier, for both of them avoided calling anyone “a Pythagorean”. Neither Philolaus and his students in the *Phaedo*, nor Archytas in the 7th letter are called the Pythagoreans. Was Plato’s teacher in mathematics, Theodorus of Cyrene, a Pythagorean or a friend of Protagoras? Of course, he could be both, but Plato testifies only to the second. Obviously he had his reasons to be reticent. Aristotle’s treatises are quite densely populated with the anonymous Pythagoreans and to a much lesser degree with individual Pythagoreans. He does mention by name Alcmaeon (Met. 986 a 27), Hippasus (Met. 984a7), Hippon (Met. 984 a 4; De an. 405 b 2), Philolaus (EE 1225 a 30), Eurytus (Met. 1092 b 10), and Archytas (Met. 1043 a 21, Rhet. 1412 a 12, Pol. 1340 b 26), but never tells us that they were Pythagoreans.

If one appeals not to the ancient but to the modern authorities, the situation appears not so dramatic. But in Diels and in the other collections of Pythagorean materials, we face another problem: there are too many Pythagoreans. Partly this is because their selection criteria are either not clear enough or not very consistent. Diels does not explain his criteria for considering someone a Pythagorean, though he makes them quite visible, namely, by putting the evidence from Aristoxenus’ catalogue of the Pythagoreans at the beginning of part A. Except for one remark in Diels’ *Antike Technik*, I did not find any other explicit statements that he considered this catalogue to derive from Aristoxenus and to be evidence of primary importance, though this is certainly what he thought. Further, Diels does not always follow Aristoxenus. Thus, among the Pythagoreans of the 5th century he places Petron, Paron, and Xuphus, whose names are lacking in the catalogue. I think that he was wrong in all three cases. We know about Petron only from one Hippys of Rhegium, whose testimony is quoted by the Peripatetic Phantias of Eresos; it is very likely that this is a forgery. Paron owes his existence to Aristotle’s mistake in taking the participle ΠΑΡΩΝ for a proper name. Xuphus is mentioned only

once in Aristotle's *Physics*. In the comment to this passage, Simplicius calls him a Pythagorean; it is impossible to verify his claim.

In Maddalena's and Timpanaro Cardini's editions, the following persons are placed among the Pythagoreans: Epicharmus, Ion of Chios, Damon, Hippodamus, Polyclitus, Oenopides, and Hippocrates of Chios. This goes far beyond Diels and certainly too far. Not only are their names lacking in the catalogue, but no other classical source calls any of them a Pythagorean or a pupil of the Pythagoreans. Even if Oenopides or Hippocrates studied mathematics with the Pythagoreans, this fact alone does not make them Pythagoreans.

Among the Pythagoreans of the fourth century in Diels' collection there are three more persons who have to be stricken off the list. Timaeus of Locri (DK 49) owes his existence to the Platonic dialog and later to a Pseudo-Pythagorean writing. Okkelus of Lucania (DK 48) is mentioned in the catalogue, which means that Aristoxenus regarded him as a historical person, but all the doctrines ascribed to him are Pseudo-Pythagorean. In the case of the last Pythagorean, Lycon (DK 57), we are dealing with four different people. Since the identification of Lycon of Tarent, who is mentioned in the catalogue (A 1), with the other three persons seems quite unlikely, what remains of him is just a name. But we are not interested in mere names, for we have more than enough of them. We are looking for those Pythagoreans who possess individual features that can be incorporated into our collective portrait.

Why is it so important to look for the sources that explicitly call someone a Pythagorean?

Why not employ a doctrinal criterion, as is employed in the case of the other schools? Indeed, a Hellenistic philosopher can be regarded as a Platonist if he is known to belong to the Academy or to profess specifically Academic doctrines. The problem is that the Academy, the Lyceum, and the Stoa were institutionalized schools with definite sets of doctrines, even if different at different times. The Pythagorean school, on the contrary, was founded neither as a philosophical school, nor as an institutionalized school at all, but as a political *hetairia*. Besides, Pythagoras teaching was never fixed in black and white and the school itself was quite dispersed both geographically and chronologically, more than any other Presocratic school. That is why we do not find and should not expect anything like a Pythagorean orthodoxy. As long as the Pythagorean school was alive, i.e., till the mid-fourth century BC, every Pythagorean philosopher developed his own views. In certain important features, these can resemble the ideas of the other Pythagoreans, but it would be difficult to find even a single item that was shared by all the Pythagorean thinkers. Interestingly, in the case where we do encounter a Pythagorean orthodoxy, e.g. in the pseudo-Pythagorean literature, it is based on the Academic and Peripatetic interpretations of the Pythagorean ideas, not on the authentic Pythagorean tradition. Therefore the doctrinal criterion turns out to be of a limited value, though not invalid as such. For if we find a common view in the medical theories of Alcmaeon, Hippon, and Philolaus, this can confirm that they belonged to the same tradition, even if this view was lacking in Hippasus and Theodorus, who were not interested in medicine.

Admittedly, in Pythagorean science, i.e., in the four *mathemata*, the situation looks different. There is such a common body of theories here, and there are many more affinities among the views of different scientists. Yet this consistency is not any specific Pythagorean consistency, it depends on the methods of the respective science. Hippocrates of Chios developed Pythagorean geometry, Archytas solved the problem posed by Hippocrates, and Eudoxus studied geometry with Archytas, but neither Hippocrates nor Eudoxus were Pythagoreans. What is specifically Pythagorean in the exact sciences is the preoccupation with all four *mathemata*, including arithmetic and harmonics. Indeed, before Pythagoras (or, if you prefer, before Hippasus), theoretical arithmetic and mathematical harmonics did not exist; and after Hippasus, the Ionians – Oenopides and Hippocrates of Chios and to a certain degree also Democritus – developed only geometry and astronomy, not the other two branches of the quadrivium.

This means, among other things, that Theodorus of Cyrene, who is mentioned in Aristoxenus' catalogue and who taught all four sciences, was a Pythagorean and not just a friend of Protagoras. This means, further, that Archytas' predecessors, whose knowledge of all four *mathemata* he praises at the beginning of his work, were his Pythagorean predecessors, and on no account Hippocrates of Chios or other Ionian mathematicians.

This rather long digression was needed, I think, to make sufficiently clear why the question that I raised earlier should be settled on the basis of reliable classical sources that call a

person a Pythagorean. It does not suffice that a person calls himself a Pythagorean, like Lycon, the critic of Aristotle, or the Cynic Diodorus of Aspendus, for this is a sign that he was not. But if someone was recognized as a Pythagorean by his contemporaries or by the Pythagoreans themselves, this means that he was judged by more complex and reliable criteria than we can employ now. This means that he shared with the other Pythagoreans not just one but many common features, and at that exactly those features that make a Pythagorean of someone, both from an internal and an external point of view.

Now I come back to Aristoxenus' catalogue of the Pythagoreans. The first to recognize that the catalogue preserved in Iamblichus' *De vita Pythagorica* may go back to Aristoxenus was Erwin Rohde. Diels, as I said, used this document for the Pythagorean chapters of his *Vorsokratiker*, but did not go into any details. Later, Burkert and Timpanaro Cardini briefly commented on the catalogue, suggesting that it relies on the genuine historical, very probably documentary evidence: 218 names arranged by 27 cities and nations was not a piece of information that could be transmitted orally. A number of parallels between Aristoxenus' fragments and the catalogue make his authorship quite certain. The evidence Aristoxenus relied on came most probably from those last Pythagoreans with whom he was in contact, namely Xenophilus, Phanton, Echecrates, Diocles, and Polymnastes, the students of Philolaus and Eurytus (fr. 19). Another source of information on the Pythagoreans was his father Spintharos, who belonged to Archytas' circle; he is twice mentioned in Aristoxenus' biographical works.

What is meant by 'documentary evidence' is not any formal membership list of the Pythagorean society: such a list hardly ever existed, if only because there was never any centralized Pythagorean society. Aristoxenus' list can be regarded rather as a cast of the collective Pythagorean memory about prominent Pythagoreans of the sixth, the fifth, and the early fourth centuries – prominent not necessarily in philosophy or science, but also in politics, or athletics, or medicine. They were prominent members of the Pythagorean communities, dispersed throughout the entire Greek world from Cyrene in Africa to Cyzicus in Asia Minor. Some of them came from different cities to study with a master, be it Pythagoras, Philolaus, or Archytas, but most of them, I assume, remained in their own cities. Of these 218 Pythagoreans, only about 60 are mentioned in the other sources; the rest remain mere names, and only with about half of these 60 do we possess information that can be of any help to us. The largest group in Aristoxenus' list, 48 names, comes from his home city Tarent; the smallest, 2 names, from Katana. There are only 8 individual Pythagoreans in the catalogue, with no other fellows from the same city, and of these 8 at least 3 are rather dubious figures. I would like to point out here that we should approach Aristoxenus' list critically, like any other historical document, especially taking into account that it comes from Iamblichus, who lived 600 years later. Though it does not contain any names of the individuals who lived after Aristoxenus, it is possible that some of the famous names on the list were added after Aristoxenus. Presence in the list is not a 100% guarantee that the person in question really was a Pythagorean. In several cases, doubt remains; in some others, we have enough evidence to strike the person from the list. But if we *do not* have such evidence, we should consider the data of the catalogue to be a sufficient proof that the person in question belonged to the Pythagoreans.

Though it is our most important document, the catalogue is by far not the only one. Aristotle's fragment mentions a Pythagorean Cercops (fr. 7 Rose); Theophrastus mentions Hicetas of Syracuse, who is lacking in the list, whereas his compatriot Ecphantus is misplaced among the Pythagoreans from Croton. Pythagoras' contemporary, the famous Crotonian doctor Democedes, who married a daughter of the Pythagorean athlete Milon, is not on the list either. Obviously, in the course of catalogue's transmission, some names were lost. For example, Aristoxenus' father Spintharos is absent here, as well as Amyclas, though Aristoxenus mentions both him and his friend Cleinias (fr. 131), who is on the list. Absent from the list are also Philolaus' students Simmias and Cebes. The name of Parmenides' teacher, the Pythagorean Ameinias, appears only in the Hellenistic biographer Sotion (D.L. IX, 21). These are 'pluses' to the catalogue that should be taken seriously.

On the other hand, the catalogue contains some obvious 'minuses'. To these belong, first, the ancient lawgivers Zaleucus of Lokri and Charondas of Catane. They seem to be associated with Pythagoras by the Pythagorean community in Locri already in the 5th century, so that in this case Aristoxenus' sources reflect a respectful though unreliable historical tradition. The

other duo is the famous wonder-workers Aristeas and Abaris. Aristeas of Proconnesus, a shadowy figure from the 7th century BC, was the author of the *Arimaspea*, a poem describing his journey in search of the Hyperboreans. During his lifetime, Aristeas disappeared twice, and 240 years later, as Herodotus informs us, he reappeared in Metapontum and told the citizens to set up an altar to Apollo and a statue bearing Aristeas' own name. In the catalogue, he is duly registered among the Pythagoreans from Metapontum. Abaris, the mythical priest of Apollo and the expert on the Hyperboreans is the only representative of these fabulous people in the catalogue. As Bolton showed, Aristeas and Abaris were associated with Pythagoras in the 5th-century legendary tradition, so that Aristeas' wonders, such as bilocation, were transferred to Pythagoras. Thus, in this case too, the legendary and the historical tradition overlap.

Parmenides and Empedocles are also the sole representatives of their cities. There seemed to be no Pythagorean communities in Elea and Agrigentum, so that in this case we can speak only of the Pythagorean teachers of Parmenides and Empedocles. In the 4th-century biographical tradition (Theophrastus, Neanthes, Timaeus), both of them appear as students of the Pythagoreans. This could be a reason for including them in the catalogue, though we do not know whether this attribution came before or after Aristoxenus. The influence of Pythagorean ideas on Parmenides and Empedocles is undeniable, but both are too independent and significant philosophers to be completely integrated into Pythagorean tradition. They should rather remain considered Pythagorean sympathizers. The next and the last minus is Melissus, named together with 5 other Pythagoreans of Samos. If there was a Pythagorean community on Samos, he could be its member, even if in philosophy he followed Parmenides and Zeno. But to be safe, we should strike him from the list, for there is no need to be greedy.

After all these additions and subtractions, we are ready to strike a preliminary balance. The Pythagoreans of the first four generations (i.e., people born between 560 and 470), whose personalities are at least to some extent discernible can be placed in the following overlapping categories. First, politicians. This is the most numerous category, in which the majority of the names in the catalogue should actually be reckoned. Among the most prominent of them is Milon, who won a battle against Croton's neighbor Sybaris around 510. This victory made Croton the dominant city in Southern Italy; as the coins show, the neighboring Pandosia, Temesa, and Kaulonia also became the dependent "allies" of Croton. The conquering of Sybaris caused a conflict within the ruling Crotonian aristocracy, which led to Pythagoras' flight to Metapontum. Aristoxenus describes this conflict as a plot against Pythagoras, who did not accept the rich aristocrat Kylon among the Pythagoreans and thus made him his enemy. Aristotle confirms the personal rivalry between Kylon and Pythagoras and mentions another rival of Pythagoras, Onatas (fr. 75 Rose), who is listed among Crotonian Pythagoreans. As the archenemy of Pythagoras, Kylon is not on the list, but if he really was the Crotonian exarch of the Sybarites, as Iamblichus says (VP 74), he must have been a Pythagorean. Anyway, we know that political conflict also took place within the Pythagorean society: Hippasus, e.g., sided with Pythagoras' enemies, while Democedes remained Pythagoras' supporter. In the last case, we have two prominent Pythagorean intellectuals who were politically active, as any good citizen was supposed to be. Milon was very successful both in politics and in athletics, and this leads us to the second category of the Pythagoreans, the athletes. From 532 to 488, Croton achieved an extraordinary series of victories in the Olympic games. The catalogue gives us the names of four Olympic victors: Milon, Timasi(the)os, Astylos, and Ikkos (DK I, 446.14, 20, 447.1). There is no doubt that there were many more. And there is no need to prove the importance of athletics for the ethos of the ruling Italian aristocracy. We can safely assume that many of the Pythagorean athletes were also politically active, as was the case with Milon. Athletics, connected on the one hand with the aristocratic way of life, was on the other closely linked to medicine. Our third category, the doctors, is less numerous than the politicians, but very important for understanding the role of the natural sciences in ancient Pythagoreanism. Ikkos of Tarent, who won in the pentathlon in 476, later became a trainer and famous doctor. He specialized in dietetics and gymnastics and won Plato's praise for his wisdom and temperate way of life. Democedes and Alcmaeon were two other prominent representatives of Crotonian school of medicine, that always stressed the importance of dietetics and gymnastics in preserving health, conceived as the balance of qualities. The botanical book of Menestor was related to medicine, just as were the natural-philosophical writings of Alcmaeon and later of Hippon.

Our fourth category is natural philosophers, *physikoi*, according to the Aristotelian terminology.

Here we have Alcmaeon, Brontinus, who was one of the addressees of Alcmaeon's book, Hippiasus, and Menestor. Among those born around 480–470, there are two other *physikoi*, Hippon and Philolaus.

The fifth category is *mathematikoi*, i.e., people concerned with any of four *mathemata* or with all of them. Strangely enough, from the first 100 years of the Pythagorean school we know only two mathematicians by name, Hippiasus and Theodorus.

There is no doubt that there were many more, because by the time when Oenopides and Hippocrates of Chios were active, i.e., about 450–430, the bulk of the first four books of the future *Elements* of Euclid was already written, which could not be done by one or two persons. Regrettably, their names are unknown to us or remain mere names. For example, Parmenides' teacher Ameinias could be a *physikos*, or a mathematician, or both. Alcmaeon was interested in astronomy, but certainly was not a *mathematikos*. Philolaus fits this term much better, especially as an astronomer and a specialist in harmonics.

So far we have identified 14 prominent Pythagoreans belonging to five overlapping categories. Now, let us imagine that we know nothing about Pythagoras. What we have is only a collective portrait of his students and followers and the students of these followers. What would an individual portrait of Pythagoras look like if we had to draw it solely on the basis of the available collective portrait? I believe it would be both natural and legitimate to assume that he had something to do with activities that, already in his lifetime, became so distinctive in the Pythagorean society. Surely, we should not expect a perfect match, because for all his *πολυτροπία* and *πολυμαθία*, Pythagoras could not be equally involved in all these activities. But he could certainly work in some of these fields and encourage the others.

Where then is the other side of Pythagoreanism: religion, magic, mysticism, shamanism, ritual taboos, and so on? If Pythagoras was a guru, as Riedweg suggests, where have all the other gurus gone? Did I miss someone from the list? No, I did not. Then, could it be that Aristoxenus' rationalistically-minded teachers have stricken all the gurus off the list? I do not think so. In fact, they put on the list two wonder-workers, but one of them, Aristaeas, lived a century before Pythagoras, while the second, Abaris, was imaginary. The only other guru on the list would be Empedocles, if we concede that he was a Pythagorean. There are also Brontinus and Cercops, who were regarded as the authors of several Orphic poems. The first to mention Cercops was Aristotle, if Cicero's quotation from Aristotle's unknown work is correct. A certain Epigenes, probably an author of the Hellenistic age, ascribes to Cercops two poems, *Hieros logos* and *Eis Haidou katabasis*, attributed to Pythagoras by the other authors, and to Brontinus two other poems, *Peplos* and *Physica*. All this does not look very reliable. Orphic poetry was pseudonymous from the very beginning, and there was no way to figure out the names of its real authors. In the mid-fifth century, Ion of Chios asserted that Pythagoras was the author of some Orphic poems, and his remark triggered all the further attributions. It is misleading to present the early Pythagorean society as a kind of workshop specialized in producing Orphic poems, as West did. The more we know about Orphism, the more visible is its profound difference from Pythagoreanism. But even granted that Brontinus and Cercops were the authors of some religious poems, this could not impede them from being doctors, or natural philosophers, or politicians, as Empedocles' case shows.

Speaking about Empedocles in more appropriate terms, he was not a guru, but a θεῖος ἄνθρωπος, exactly like Pythagoras was before him. But in contrast to Empedocles, of whose followers we know nothing, Pythagoras founded a society that outlived him for 50 years and a school that existed till the mid-fourth century. Both Pythagorean politicians and Pythagorean philosophers and scientists took from him what they were interested in and what they valued most. Incidentally, magic, mysticism, and dozens of ritual taboos did not seem to belong to these most interesting and valuable things. At least, they are not attested on the individual level, and very poorly on the collective level. Herodotus says that Orphics and Pythagoreans do not bury people in woolen clothes. There were some other attested taboos, for example, on certain kinds of meat and fish, or on beans, though really we do not know how rigorously they were observed. Anyway, there was nothing to fire the imagination in these regulations and nothing that would make a religious sect of the Pythagorean society.

What is then the basis for the widespread idea of a Pythagorean sect? Putting aside Iamblichus' *akousmatikoi*, there are the Pythagorean *symbola*, attested first in Anaximander and

after him in Aristotle. If the *symbola* were strictly followed, if they constituted that very “Pythagorean way of life” that was approvingly mentioned by Plato (Res. 600a), then the Pythagoreans were indeed superstitious ritualists and their society was a sect. I think, however, that there are plenty of reasons why this can not be the case. It is anachronistic to speak of a ‘sect’ in archaic Greece. There were no sects at this time; there were other religious and cultic communities, like *thiasoi* or *orgeones*. Pythagorean society was neither *thiasos* nor *orgeon*, it was a political *hetairia*. At no time do we know of any specific Pythagorean cults or deities; their religion was the traditional polis religion. Pythagoras’ only known religious innovation was metempsychosis, but even this was borrowed from Orphism along with several prescriptions that follow from this doctrine. The so-called Pythagorean *symbola* contain almost a hundred prescriptions that are hard to understand and much harder to follow. If we compare them to the strictest charters of the real religious communities, like the Jewish Essenes or the early Christian monastery of St. Pachomius, we immediately see the difference between religious discipline and religious folklore. Neither Jewish nor Christian charter contains any nonsense: every rule is clear and quite logical in the given environment, all of them supported by various punishments for those who fail to follow them, so that we can see a real even though severe life behind them. What kind of life stands behind the *symbola*? I quote from Burkert:

“To take the *acusmata* seriously means an almost frightening constriction of one’s freedom in daily life. Whether a Pythagorean gets up or goes to bed, puts his shoes or cuts his nails, stirs the fire, puts on the pot, or eats, he always has a commandment to heed. He is always on trial and always in danger of doing something wrong.”

To appreciate properly this impressive but anachronistic picture, it is crucial to understand that none of its elements correspond to the stories told either about individual Pythagoreans or about Pythagoreans in general. This picture emerges only if we put together all the *sayings* contained in the *symbola* that were collected by Anaximander. But when interpreting sayings, we are dealing with folklore, not with reality.

There is no doubt that Anaximander dealt with folklore too, for he did not describe the *way of life* of any (named or anonymous) Pythagoreans. He collected what he took to be the ‘Pythagorean’ sayings and maxims and interpreted them *allegorically*, i.e., according to one of the methods of literary criticism available at that time. If he knew of a real Pythagorean who did not break bread or step on nail parings, why did he interpret these taboos allegorically? Aristotle believed that the taboos were originally literal, which seems very plausible, but he too had never heard of a Pythagorean really observing them. Except for a few dietary prescriptions and burial customs, all the other taboos appear only in the context of interpreting ‘Pythagorean’ *sayings*. Nobody would think that by interpreting sayings of Solon or any other of the Seven Sages one could get closer to them as historical figures. To discern between folklore and historical reality in Pythagorean studies is even more important.

Jurgen van den Hout

Van tetraktys tot toonklok. Een onderzoek naar de harmonie der sferen bij hedendaagse componisten.

Scriptie vrije masteropleiding algemene cultuurwetenschappen. Universiteit van Amsterdam. 2005.

Inhoudsopgave

1. Ontstaansgeschiedenis van de harmonie der sferen
2. Doorwerking
3. Feiten en fictie: een korte uitleg van een wiskundig en natuurkundig systeem
4. Nieuwe klassieke muziek: Peter Schat
5. Nieuwe spirituele muziek: Joep Franssens
6. Peter Schat vs Joep Franssens
- Bijlage 1 Verklarende woordenlijst
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- Bijlage 3 Mysterium Cosmographicum

Samenvatting

De mythe van de harmonie der sferen heeft een rijke geschiedenis waarvan de oorsprong niet te achterhalen valt. De meeste vroege bronnen wijzen de theorie toe aan Pythagoras. In de teksten wordt beschreven welke werking muziek op de mens heeft. De verschillende tonen in muziek zijn een afspiegeling van kosmische tonen. Een onhoorbare harmonie der sferen die door zijn verschillende verhoudingen invloed kan uitoefenen op de menselijke ziel. Pythagoras zou deze tonen wel hebben kunnen horen en gebruikte de wereldlijke muzikale afspiegeling daarvan om zijn leerlingen te bevrijden van negatieve emoties, zoals verdriet, woede, afgunst en angst. In deze scriptie is een antwoord gezocht op de vraag hoe deze mythe terug komt in de muziek en ideeën van de Nederlandse componisten Peter Schat en Joep Franssens. De mythe is echter gedurende vele eeuwen door tal van auteurs aangepast, mede door technisch inzicht, maar ook door veranderende filosofische en religieuze opvattingen. Om een goed beeld te krijgen van welke sferentheorie bij de genoemde componisten is terug te vinden, is eerst een doelgericht overzicht gegeven van de ontwikkeling van de mythe in de afgelopen eeuwen.

De muziek bestaat uit intervallen met wiskundige verhoudingen. Juist deze verhoudingen maken dat Pythagoras' ideeën door vele filosofen na hem worden gebruikt en aangevuld. De verhouding 1:2 is bijvoorbeeld terug te horen in het octaaf. Bij gelijke spanning, materiaal en dikte van snaren klinkt een snaar die precies de helft korter is dan een andere snaar, één octaaf hoger. De frequentie van de trilling is hierbij verdubbeld. Daardoor passen de golven van beide tonen mooi in elkaar wat voor het menselijk oor een consonante samenklank geeft. De belangrijkste verhoudingen zijn terug te vinden in de tetraktys: 1:2:3:4. Hierin zitten de getalsverhoudingen voor het octaaf, de kwint, kwart, duodecime en het dubbeloctaaf. Deze wiskundige onderbouwing is van groot belang bij onder andere Plato. In de Timaeus beschrijft hij hoe de wereldziel geschapen is. Hierbij staat de demiurg aan de basis van de schepping van alles; van de wereldziel en ook van het lichaam van de wereld. De ziel van de mens is uit hetzelfde vat geschapen alleen is het mengsel minder zuiver. Maar het is wel zo verwant aan de opbouw van het universum dat het reageert op de verhoudingen die hierboven beschreven staan.

De westerse muziektraditie is vrijwel geheel gebouwd op deze theorie. Deels door de status van Pythagoras, Plato en andere auteurs uit de Griekse oudheid, maar ook door de fysische eigenschap van natuurlijke trillingen zoals de boventonenreeks. De beschreven verhoudingen komen immers ook in de trilling van één snaar zelf voor, zij het in minder hoorbare mate. De hierboven beschreven heidense theorie vindt in de vierde eeuw na Christus zijn weg in het christendom. Eerst schrijft Boethius zijn *De institutione musica*, maar van Boethius is nog niet duidelijk in welke mate hij als christen gezien kan worden. Wel is duidelijk dat zijn werk van grote invloed is geweest op christenen. Het is Augustinus die in *De musica* de antieke theorie

heeft gekoppeld aan christelijke opvattingen.

De Demiurg van Plato is echter niet dezelfde 'persoon' als de God van Augustinus. Het belangrijkste verschil is dat de Demiurg de eerste veroorzaker is die alles in gang zet en daarna niet meer ingrijpt, terwijl de christelijke God dit wel veelvuldig doet. Maar over deze problemen stapt Augustinus moeiteloos heen en hij lijft de theorie van de harmonie der sferen in in het christendom.

Het is Johannes Kepler die de theorie op een natuurkundige wijze koppelt aan planeetbanen. In eerdere beschrijvingen werd altijd al wel gesproken over de planeten, maar nu wordt voor het eerst via berekeningen aangetoond dat de omwentelingen van planeten corresponderen met de verhoudingen uit het scheppingsverhaal.

Om de doorwerking van deze mythe in het hedendaagse muziekleven te bekijken, is nader ingegaan op twee Nederlandse componisten: Peter Schat en Joep Franssens. Beiden tonen nauwe verwantschap met de sferentheorie. Bij Schat is deze aangetoond door bestudering van zijn toonklok en de (begeleidende) geschriften, terwijl bij Franssens aan de hand van een interview het verband is aangetoond. Voor zowel Franssens als Schat zijn verhoudingen een essentieel onderdeel van muziek. Beiden vinden het belang van verhoudingen al terug in de harmonie der sferen. Dit gemeenschappelijke uitgangspunt is in hun muziek echter niet terug te horen. Een belangrijke reden hiervoor is de grote variatie aan herinterpretaties van de sferentheorie en de persoonlijke invulling die beide componisten er aan geven. Schat benadert de theorie bijna Kepleriaans, maar zonder Keplers natuurkundige en geometrische bewijsvoering. Op een poëtische manier toont hij het belang van verhoudingen aan. Dit bewijs bestaat vaak meer uit handige zinsconstructies dan falsifieerbare stellingen. Schats zienswijze is holistisch genoemd. De zon, de Platoonse figuren, de wolkenluchten en muziek zijn geen losse elementen van de wereld maar staan in nauw contact met elkaar. Ook bij Franssens is deze holistische visie sterk aanwezig. Het grote verschil met Schat is dat Franssens blijft werken binnen de westerse tonaliteit terwijl Schat zijn eigen tonaliteiten heeft ontworpen. Voor Franssens is dat geen optie, want ook de natuurdrieklank is onderdeel van het geheel. Franssens muziekopvatting ligt dan ook meer in de lijn van Boethius, die drie 'muzieken' onderscheidde waarvan de klinkende muziek, de musica instrumentalis, een rechtstreekse afspiegeling is van de verhoudingen waarmee de kosmos is opgebouwd.

New Film

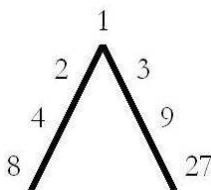
DVD, "Star Cycles - The Timeless Wisdom of Pythagoras,"?

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Most of us only know about Pythagoras through the Pythagorean Theorem we learned in our middle school geometry class. "Star Cycles - the Timeless Wisdom of Pythagoras" provides a wealth of knowledge across many academic disciplines that Pythagoras introduced over 2,500 years ago. The great Greek philosophers, Socrates, Plato, and Aristotle, were all deeply influenced by Pythagoras and his teachings, as were the great scientists and artists of the Renaissance, such as, Galileo, Kepler, Copernicus, DaVinci, and Michelangelo. Einstein used the Pythagorean Theorem to develop his theory of Special Relativity. String theory in Quantum mechanics is right in line with the Pythagorean idea of strings vibrating in harmony to create unity at all levels of life. Perhaps the greatest contribution from Pythagoras was in his discovery of the musical octave via mathematical ratios that is the basis for all Western music.

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FORMATION OF THE EARLY CHRISTIAN THEOLOGY OF ARITHMETIC

NUMBER SYMBOLISM IN THE LATE SECOND AND EARLY THIRD CENTURY

A DISSERTATION

Submitted to the Faculty of the Department of Early Christian Studies
School of Arts and Sciences of the Catholic University of America
in Partial Fulfillment of the Requirements for the Degree Doctor of Philosophy
By Joel Kalvesmaki
Washington, D.C.
2006

Director: William McCarthy, Ph.D.

Abstract

Numbers were widely used in antiquity to symbolize reality and to structure theological and philosophical systems. Early Christian authors embraced this practice, but not without controversy. In the late second century there emerged distinct Christian movements that used Pythagorean number symbolism to structure their ideas about the godhead. Notable were the various Valentinian schools (including Marcus “Magus” and Colarbasus), Monoïmus, and later followers of Simon “Magus.” Contemporary orthodox authors, such as Irenaeus and Clement of Alexandria, opposed them, particularly for undermining the Trinitarian doctrine received in the churches. But Irenaeus and Clement do not approach the matter identically. Irenaeus criticizes the Valentinians directly, and without squaring everything in his critique with his own number symbolism. Clement criticizes such groups indirectly, and uses his own well-developed number symbolism to illustrate the proper way to approach the subject.

The Christian debates have striking parallels in roughly contemporary non-Christian texts. Marsanes, Plutarch, and Theodore of Asine show that non-Christians too debated these matters. All of these figures—Christian and non-Christian—illustrate the tensions that existed between those who used number symbolism to shape theological and philosophical traditions and those who used their traditions to shape their number symbolism. The orthodox theology of arithmetic formed not a single position but rather a defense against arbitrary number symbolism that justified departures from the received tradition.

I argue for several important ancillary points. Pythagoreanism was reinvented during the late Roman Republic, and the number symbolism that emerged in the following centuries had a traceable history. The distinction between hen and monad, the popular formulation of the quadrivium, and numerology and the use of psephry (gematria) all have their genesis in this period. Older traditions of number symbolism, such as the distinction between male and female numbers and the importance of the tetraktys, all received new life. I outline the historical development of each of these trends and classify and describe the major types of Greek numerological prognostication. Furthermore, I argue for a new sequence to Irenaeus’s *Against Heresies*, and I challenge scholars’ dependence upon the dichotomies eastern versus western, and monadic versus dyadic Valentinianism.

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Allen, R. H. The classical origins of modern homophobia

Jefferson, N.C. McFarland. 2006. 384 p. ISBN 0-7864-2349-8

Abstract: This book takes an in-depth look at the ancient roots of homophobia, including its Pythagorean origins and its eventual spread throughout the Roman Empire and, consequently, the rest of the world.

Anthon, C. The De senectute, De amicitia, Paradoxa, and Somnium Scipionis of Cicero, and the life of Atticus by Cornelius Nepos

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Das «Pythagoras-Orakel», das wir dem antiken Magier Astrampsychos verdanken, stammt aus dem 1. oder 2. Jh. n.Chr. und erfreute sich durch die gesamte Spätantike bis ins Mittelalter großer Beliebtheit. Es gibt klare Antworten auf Fragen wie : „Werde ich wohlhabend sein?“, „Werde ich das Verlorene finden?“ oder „Kann ich bei dem Geschäft Schaden erleiden?“ Der Text wird hier erstmals zweisprachig präsentiert und eröffnet einen ungewöhnlichen Blick auf einen kaum bekannten Aspekt der Antike.

Author's note: The "Pythagoras oracle" (its scholarly "name", which is a modern invention, is "Sortes Astrampsychi") of which we have many papyrus and manuscript evidence, and which dates to the 1st or 2nd century AD, is one which antiquity described as "invented" by Pythagoras. This is probably so because you arrive at the answers to your questions by a complicated use of numbers - and since numbers were what Pythagoras was associated with, it seems to have made sense to refer to him as the authoritative source of the oracle.

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counselors, therapists, and healthcare workers looking for broader, deeper foundations in the struggle
to help and make sense of others. While examining the best among 20th century philosophy it shows
the wealth of inspiration of earlier centuries, and demonstrates with remarkable clarity the way in
which the ideas of, and the relations between, these philosophers can inspire, inform, and underpin
much of counseling and psychotherapy.

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the real environment. The explanation and application of quantum mechanics on atomic and cosmic
scales is suggested by the Pythagorean tradition

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legends about this famous sage and his followers, whose reputations throughout Antiquity and the
Middle Ages have never before been studied systematically. This book is the first to examine the
unified concepts of harmony, proportion, form, and order that were attributed to Pythagoras in the
millennium after his death and the important developments to which they led in art, architecture,
mathematics, astronomy, music, medicine, morals, religion, law, alchemy, and the occult sciences.
In this profusely illustrated book, Christiane L. Joost-Gaugier sets out the panorama of Pythagoras's
influence and that of Christian and Jewish thinkers who followed his ideas in the Greek, Roman, early
Christian, and medieval worlds. In illuminating this tradition of thought, Joost-Gaugier shows how the
influence of Pythagoreanism was far broader than is usually realized, and that it affected the
development of ancient and medieval art and architecture from Greek and Roman temples to Gothic
cathedrals. Joost-Gaugier demonstrates that Pythagoreanism-centered on the dim memory of a single
person that endured for centuries and grew ever-greater-inspired a new language for artists and
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Padova: Il poligrafo. 2006. 304 p. ISBN: 8871153960. Series Mnemosine 17.

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Megino Rodríguez, C. Orfeo y el orfismo en la poesía de Empédocles : influencias y paralelismos Cantoblanco, Madrid: Universidad Autónoma de Madrid Ediciones. 2005. 104 p. ISBN 8474779669 Series: Colección de Estudios 98.

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Univ-Notre-Dame-Pr : Notre Dame, 2005. 240 p. ISBN 0268034877

Abstract: Morgan investigates Weil's earliest texts on science, in which she lays the foundation for a conception of science rooted in basic human concerns and activities. He then tracks Weil's analysis of the development of science, particularly of the mathematics and science of the ancient Greeks. He especially explores Weil's interpretation of the Pythagoreans and their mathematical discoveries, giving special attention to the mathematical foundations of musical harmonies. Morgan pays particular attention to Weil's analysis of Greek geometry, which she believed reveals the importance of mediation between incommensurates in both geometry and the larger scope of human existence. Morgan's study not only challenges the metaphysical and spiritual poverty of contemporary scientific paradigms, but also sketches an outline of an alternative metaphysical foundation for mathematics and science that, according to Weil, opens the door to a reinvigorated dialogue between science, philosophy, art, and religion. (publisher, edited)

Morilla, B. Pitagoras, el hijo el silencio

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Más allá de ser el autor del más famoso teorema matemático, Pitágoras fue un místico que buscó el conocimiento a través de muchas materias. Viajó por todo el mundo conocido, llegando probablemente hasta la India en su persecución de una respuesta espiritual a la existencia, y estableció una colonia de seguidores en el sur de Italia para poner en práctica sus ideas sobre la sociedad y el espíritu. Su biografía, no obstante, descansa más en la leyenda que en la historia.

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His devotion to the austere and abstract philosophy of Parmenides, its passivity or indifference, could not repress the opulent genius of Plato, or transform him into a cynic. Another ancient philosopher, Pythagoras, set the frozen waves in motion again, brought back to Plato's recognition all that multiplicity in men's experience to which Heraclitus had borne such emphatic witness; but as rhythm or melody now--in movement truly, but moving as disciplined sound and with the reasonable soul of music in it.

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Identifiers: Cicero, Marcus Tullius. Somnium Scipionis.; Neoplatonismo; Obras anteriores a 1800.

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Rosenfeld-Löffler, A. La poétique d'Empédocle : cosmologie et métaphore

Bern: P. Lang. 2006. 200 p. ISBN 3039106597. Serie: Echo 5.

Cet ouvrage propose une lecture novatrice des fragments d'Empédocle, le poète-philosophe d'Agrigente. Grâce à l'attention portée à l'expression poétique, l'auteur fait apparaître - à travers la dimension énonciative de ces textes - leur fonction pragmatique. L'unité et la nature de l'oeuvre d'Empédocle demeurent au centre de la discussion scientifique ; l'auteur cherche à comprendre pourquoi ces questions n'ont pas encore trouvé de réponses satisfaisantes.

En montrant que la diction poétique des textes d'Empédocle donne sens à leur message philosophique, l'auteur remet en cause la distinction traditionnellement opérée entre philosophie et poésie. Cette distinction anachronique obscurcit inutilement la lecture de ces fragments et - sans doute - aussi celle d'autres « philosophes présocratiques » contemporains.

Redécouvrir une poésie philosophique que les siècles avaient quelque peu oubliée constitue l'un des objectifs majeurs de cet ouvrage.

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University of Southern California; 2005. 64 p. ISBN: 0542205963.
Abstract: This dissertation is a sixteen minute work for large orchestra. The instrumentation is as follows: Piccolo, 2 Flutes, 2 Oboes, English Horn, 2 Clarinets in B[musical flat], Bass Clarinet, 2 Bassoons, Contrabassoon, 4 Horns in F, 3 Trumpets in C, 2 Tenor Trombones, 1 Bass Trombone, Tuba, Timpani, 3 Percussion, Piano, Harp, Violins I, Violins II, Violas, Cellos, Bases. The structure of the work is an arch-form, with consecutive sections having golden ratio (ϕ) relationships. Melodic materials are derived from a pitch set determined by the Fibonacci series (1, 1, 2, 3, 5, 8, etc.), while the harmonic language is primarily diatonic.

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Dorset : The Prometheus Trust. 2006. Series Thomas Taylor 30
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Abstract: The individual soul is an ageless idea, attested in prehistoric times by the oral traditions of all cultures. But as far as we know, it enters history in ancient Egypt. I will begin with the individual soul in ancient Egypt, then recount the birth of the world soul in the Pythagorean community of ancient Greece, and trace it through the Western Esoteric Tradition until its demise in Kepler's writings, along with the rise of modern science, around 1600 CE. Then I tell of the rebirth of the world soul recently, in new branches of mathematics.

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Anonymus Fellowship of sacrilege. Pythagoreans in Rome in the time of republic: facts and myths Atene e Roma. 2004, 49, 2-3, p 131.

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Paideia. 2003, 58, p 10-25.

Le figure relative alla conoscenza, per lo più metafore e similitudini, presenti nel commentario (in particolare in 1, 2), non hanno solo rilevanza stilistica, ma possiedono una pregnanza simbolica con implicazioni filosofiche di impostazione tipicamente neoplatonica. Si nota la simbologia eleusina e la rappresentazione della conoscenza come disvelamento che avviene attraverso l'iniziazione nel tempio della filosofia.

Azevedo, M. Harmonia entre saber e prazer ou A conciliação entre Aspásia e Sócrates: comentário em torno do Dion 58d-59a, de Sinésio de Cirene).

Euphrosyne 2003, 31, p 253-270.

Proposant dans le « Dion » une conception de la culture opposée à celle des chrétiens d'Alexandrie et de quelques néoplatoniciens de l'époque, Synésios engage une polémique dirigée principalement contre les théurgistes athéniens, spécialement Plutarque d'Athènes et Syrianus ou certains de leurs disciples alexandrins. Son propos est de défendre la rhétorique et la poésie entendues comme une propédeutique susceptible de donner du plaisir. L'apologie du plaisir fait appel aux figures de Socrate et d'Aspasie à travers le « Phèdre » et le « Ménexène » de Platon, qui constituent un « exemplum » dissimulant la défense de celle dont Synésios avait suivi l'enseignement, Hypatie. [74-06089]

Bellieu, M. La prueba del nueve - Los pitagóricos y los alumnos de primaria, los matemáticos árabes y los algebristas del Renacimiento han aplicado la prueba del nueve. ¿Se trata de una receta mágica? Investigación y ciencia. 2004, 334, p 16-21.

Boyle, A. The music of the spheres - Space is alive with the "sound" of solar flares, black holes, and even the Big Bang.

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Cave, T. Harmony, anamorphosis and the "conceptual scheme"

Romanic Review. 2005, 96, 2, p 127-153.

Summary: This article presents information on harmony, anamorphosis and the conceptual scheme in literature. In the broader critical discourse, anamorphosis has recently been very much the province of readings informed by psychoanalytic theory. Sixteenth-century iconography and writing often reproduces, in more or less distorted versions, a familiar topos: the commonplace of the harmony of the spheres and the notion, omnipresent in the sixteenth century, that good behavior and beautiful art are both imitations of celestial music. The defining characteristic of this celestial music is of course harmony. Harmony, harmonia, is etymologically a joining of diverse elements. It was not at first a musical term. Harmonia is used to indicate a relation between elements of a system and is thus at the

same time an ontological, a political-ethical and an epistemological concept

Celenza, S. Lorenzo Valla and the Traditions and Transmissions of Philosophy.

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Abstract: The article examines the idea presented by author Lorenzo Valla regarding the history of terms and concepts. Valla was able to write about philosopher Pythagoras' view on wise and wisdom. It also explains the differences between understanding of philosophy, philology, and rhetoric in recent period that in Renaissance period.

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Pythagoras 'theorem is not simply a way of computing hypotenuses, but an emblem of the discovery process itself.

Delattre-Biencourt, J. La théorie de la musique et de l'astronomie d'après Théon de Smyrne.

p 243-258

In : « Ars et ratio » : sciences, art et métiers dans la philosophie hellénistique et romaine : actes du colloque international organisé à Créteil, Fontenay et Paris du 16 au 18 octobre 1997 / éd. par C.

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Abstract: The article presents the side of the play "Hamlet," by William Shakespeare, that shows parody of Pythagoras' metempsychosis. According to the author, Hamlet's graveyard reflection offers a parody of metempsychosis in its image of the transmigration of matter from the glorified bodies of great men to the baser forms of barrel bung and insulation caulk.

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Étude examinant la partie du texte qui traite des nombres-plans (Pistelli, p. 53-93).

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Abstract: Geometer Rachel Fletcher explores the $1 : \sqrt{2}$ ratio associated with the regular quadrilateral figure known as the square, looking at the square's inherent symbolism and the four-ness of the cross and the tetractys, as she constructs ad quadratum and other geometric techniques.

Francis, J.A. Living icons : tracing a motif in verbal and visual representation from the second to fourth centuries C.E.

American Journal of Philology. 2003, 124, 4, p 575-600.

An emphasis on visuality in literary representation of the 2nd through 4th cents. A.D. resulted in a new cultural phenomenon : attributing the characteristics and functions of images to living persons (Ammianus 16, 10, 10). Consideration of a range of sources including Lucian's « Eikones » ; Philostratus' « Life of Apollonius of Tyana » ; the « Life of St. Daniel the Stylite » ; and recent scholarship in art history (J. Elsner => 67-12583) and critical theory leads to analysis of a series of interfaces between verbal and visual representation in terms of an active transaction between viewer and viewed to construct meaning and establish and communicate social power. [74-14968

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Khan, I.A. Evolution of the theory of circulation

International Journal of Cardiology. 2005, 98, 3, p 519-521.

Summary: The first known descriptions regarding the basic aspects of circulation was probably in 500 B.C., by the Greek thinker Alcmaeon of Croton who observed arteries and veins to be dissimilar in animal dissection, and this was followed by the description of the human heart as a three chambered organ by Aristotle in 350 B.C. Herophilus of Chalcedon, a Greek anatomist, confirmed the findings of dissimilarity between arteries and veins in human cadaver dissections in 300 B.C., and determines that arteries were thicker than veins and contained blood. The advancement by far in the learning of human circulation was made possible first by significant contribution of Galen followed by observations of Ibn al-Nafis, Servetus, Colombo, Cesalpino, Vesalius and Fabricius. In 17th century William Harvey, an English physician, made important advancements into the understanding of this important area of medicine, advancements that continued with the observations of Malpighi.

Kouremenos, T. Aristotle's argument in Cael. I.3-4 for the indestructibility of aether and Eudoxus' theory of homocentric spheres.

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At Cael. 2, 12 Aristotle explains tentatively why the apparent motion of the sun and the moon is produced by fewer spheres (and is thus less complex) than the apparent motions of the planets. The question he attempts to answer suggests that he operates with a cosmological model based on Eudoxus' theory of homocentric spheres which explains the apparent motion of the sun, the moon and each planet as the result of uniform and circular motions. However, his argument for the indestructibility of the ether in Cael. 1, 3-4 conflicts with fundamental assumptions in this model which thus cannot have been developed at the time he put forth the argument in Cael. 1, 3-4.

Macauley, D. The flowering of environmental roots and the four elements in presocratic philosophy: from Empedocles to Deleuze and Guattari

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Mallan, C. Il était une fois la philosophie

Archives-de-Philosophie. 2005, 68, 1, p 107-126

Abstract: In Heraclides' narrative known as "the festival allegory" Pythagoras ironically answers to tyrant Leon he has no skill (sophia), he is content only to love (philein) knowledge (sophia), thus defining philo-sophia as a yearning after sophia, understood as superior and disinterested knowledge. The hypothesis according to which this allegory had been created from Plato's mature works is unlikely as the motif sophia/philosophia can be traced already in the latter's first dialogues. Further, the comparison developed by Pythagoras to define philo-sophia refers to the "three lives" motif by far anterior to Plato himself. At least, the importance given to philia and sophia among early Pythagoreans is an other ground for ascribing the origin of this allegory to ancient Pythagorism.

Mariani, L. Poesia Il sandalo di Empedocle

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