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Aristoxenus and the Pythagoreans

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There are two main problems in the study of ancient Pythagoreanism, first, the elusive and contradictory figure of Pythagoras himself, and second, our sources. Pythagoras pretended to possess supernatural qualities and was, therefore, 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 Olympians Milo and Iccus, the botanist Menestor, the philosophers Hippo and Philolaus, and the mathematicians Hippasus and Theodorus all appear in our sources to be as “normal” as they can possibly be. This discrepancy gave rise to a marked tendency in twentieth-century scholarship to isolate Pythagoras from the rest of the historically attested Pythagoreans, while encircling him with nameless devotees, who were strictly following what “he himself said” (αὐτὸς ἔφα). A now dominant two-stage model of the evolution of Pythagoreanism implies the transformation of a secret religious sect, founded by Pythagoras, into a scientific and philosophical school, of the Pythagorean “myth”

into the Pythagorean “*logos*.”¹ This brings the question of continuity and discontinuity in ancient Pythagoreanism into the foreground and makes Aristoxenus, its first historian and biographer, an indispensable witness for reconstructing its historical framework. Though not the first to write about Pythagoras and the Pythagoreans (*there was much written on this* subject in the Academy), and by no means an impartial and objective scholar, he was the first to give an overall historical picture of this movement from its birth to its death. Revealingly, he stressed continuity, not a radical shift, in the Pythagorean tradition, and thus stands against the now prevailing historiographical pattern. Aristoxenus’ works *On Pythagoras and His Associates* (Περὶ Πυθαγόρου καὶ τῶν γνωρίμων αὐτοῦ) and *On the Pythagorean Life* (Περὶ τοῦ Πυθαγορικοῦ βίου) portrayed the last Pythagoreans as Pythagoras’ students and followers, who led the way of life founded by him. Admittedly, his approach is often regarded as a *rationalistic construction, which it to a great extent was*. Still, there is much in favor of this particular *construction, especially if we compare it with other available ones, including the idea of a progression “from myth to logos.”*

In order to establish the historical links connecting Pythagoras with the Pythagoreans of the sixth to fourth centuries,² and through them with the larger phenomenon of ancient Greek Pythagoreanism, we have to know who these Pythagoreans were. This can be done only by relying on the early sources, i.e., those before 300, though they too are problematic and contradictory. In part this is due to their fragmentary nature, but the main difficulty is that they not only reveal *partial* aspects of ancient Pythagoreanism in its almost 200-year history — from the rise of the Pythagorean community in Croton in c. 530 to the disappearance of the school after 350 — but they also give conflicting interpretations of those aspects. Quite often we introduce additional contradictions into our sources by treating various isolated references to Pythagoras as if they were exhaustive historical judgments. In Plato’s only mention of Pythagoras (*Rep.* 600a-b), the latter appears as a mentor of youth, beloved of his pupils and followers, the founder of a particular way of life; there is no hint here either of natural philosophy and mathematics, or of political engagement.

¹ Burkert (1972).

² This and all further dates are BCE.

To suppose that he knew nothing of Democritus or Xenophon, whom he does not mention even once. Plato's students, Xenocrates, Heraclides Ponticus, and Aristotle did know Pythagoras as a scientist and natural philosopher, whereas Aristoxenus was the first to write in detail about his political activity.³ This does not necessarily mean that their views on Pythagoras were mutually exclusive. None of these traditions — Platonic, Aristotelian, or Aristoxenian — is entirely correct or entirely unreliable. Each piece of evidence from each author must be assessed individually and according to its value.

Indeed, as far as our specific question is concerned, it is impossible, based on the evidence of Plato and Aristotle, to establish who was a Pythagorean and who was not, 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 Pythagoreans. Was Plato's teacher in mathematics, Theodorus of Cyrene (43A2 DK), a Pythagorean or a friend of Protagoras? Of course, he could be both, but Plato testifies only to the second. Aristotle's treatises are quite densely populated with anonymous Pythagoreans (οἱ Πυθαγόρειοι, οἱ Ἰταλικοί) and to a lesser degree with individual Pythagoreans. He does mention by name Alcmaeon, Hippasus, Hippon, Philolaus, Eurytus, and Archytas, but he never tells us that they were Pythagoreans.⁴ It seems that Aristoxenus was the first, in the preserved part of the tradition, to call somebody a Pythagorean.⁵ To be sure, Aristotle also wrote works on individual Pythagoreans or against them (*On Archytas' Philosophy, Against Alcmaeon*); besides, he compiled two special monographs: *On the Pythagoreans* (fr. 191–6 Rose), containing a collection of mostly legendary material, and *Against the Pythagoreans* (fr. 198–205 Rose), in which he criticized their philosophical and scientific theories. It would appear that these two monographs, the material of which he used later, were written in the Academy, since he refers to

³ See Xenocr. fr. 87 Isnardi Parente; Her. Pont. fr. 88 Wehrli; Arist. fr. 191 Rose and *Protr.* fr. 18 and 20 Düring. Before Aristoxenus only the evidence of Antisthenes (fr. 51 Decleva Caizzi) and Aristotle (fr. 191 Rose) implies Pythagoras' participation in political life.

⁴ Alcmaeon (*Met.* 986a27), Hippasus (*Met.* 984a7), Hippon (*Met.* 984a3 and *De an.* 405b2), Philolaus (*EE* 1225a33), Eurytus (*Met.* 1092b10) and Archytas (*Met.* 1043a21, *Rhet.* 1412a12 and *Pol.* 1340b26).

them in the *Metaphysics* A (986a12), which is usually dated before 347. The overwhelming majority of Aristotle's references to Pythagoreans (Πυθαγόρειοι) are contained in the *Physics*, *On the Heavens*, and those parts of the *Metaphysics* (A, B, I, Λ, M, N) which are taken to belong to his early works.⁶ In the later treatises such references are sporadic and, with few exceptions, free from polemics. If to these are added the *Protrepticus* (fr. 18, 20 Düring), the early dialogue *On Poets* (fr. 75 Rose), and the treatise *On the Good* (fr. 2 Ross), which reviews the theories of Plato and the Pythagoreans, it turns out that almost all that Aristotle had to say about Pythagoras and the Pythagoreans in general was said during his stay at the Academy. Evidently the theories of Plato and the Platonists were the background against which he formulated his own approach to the Pythagorean School. Most of his evidence about Pythagorean number philosophy is related to his criticism of Plato's doctrine on first principles and of the Academic theories based on it.⁷

The background of Aristoxenus' interest in Pythagoreanism was quite different. He was closely linked with the Pythagoreans of Archytas' circle through his father Spintharus (fr. 30). In addition, he was acquainted with the pupils of Philolaus and Eurytus, and counted them among the last Pythagoreans: Echebrates, Phanton, Diocles, and Polymnastus of Phlius, as well as Xenophilus of Chalcidike in Thrace, who died in Athens at the age of 105.⁸

All the indications are that Aristoxenus lived at or visited Phlius in the Peloponnese before he went to Athens, where he studied first under Xenophilus, then under Aristotle. Having at hand fuller and more reliable information than other writers of his day (including documentary

⁵ In his book *On Pythagorean Numbers*, Speusippus probably mentioned Philolaus (fr. 28 Tarán).

⁶ Düring (1966) 49ff. All references to Pythagoras also relate to this period.

⁷ *Phys.* 203a3f.; *Cael.* 300a14f.; *Met.* 987a31, 987b10, b22, b29, 990a30–4, 996a6, 1001a9, 1002a11, 1028b16–9, 1036b15, 1053b10, 1078b30, 1080b15, b30, 1083b8–15, 1090a20–35 and 1091a12f.; cf. *MM* 1182a11: Pythagoras as predecessor of Plato. See also *On the Good* (test. and fr. 2 Ross) and *Against the Pythagoreans* (fr. 13 Ross). Speusippus and the Pythagoreans: *Met.* 1072b30 = fr. 42 Tarán and *EN* 1096b5–8 = fr. 47 Tarán. Independently number philosophy appears very rarely (*Cael.* 268a11).

⁸ Fr. 18–20 Wehrli. Diodorus Siculus (15.76) dates the “last of the Pythagoreans” to *Ol.* 103.3 (366/5). This date may have been deduced by Apollodorus of Athens, relying on Aristoxenus (see below n. 17). It does not necessarily indicate the year of death of the last Pythagorean known to Aristoxenus.

evidence), he devoted three biographical works to Pythagoras and the Pythagoreans and set forth their ethical and political doctrines in the *Pythagorean Precepts*.⁹ Without him we would have lost a very substantial part of the Pythagorean tradition, especially taking into account that he was one of the founders of biography, which lent a powerful stimulus to the systematization of the tradition on Pythagoras and the Pythagoreans.¹⁰

In his vast and varied writing Aristoxenus brought together the traditions of several schools without being truly committed to any of them. Determined to keep his distance from all authorities, he allied himself with Aristotle against the Pythagoreans and with the Pythagoreans against Aristotle. Thus, in musicology he breaks decisively with the mathematical harmonics of the Pythagoreans, accusing them of contradicting empirical facts (*Harm.* 2.32–3). Relying on Aristotle's qualitative approach to natural phenomena, and using his empirical descriptive method, he bases his analysis of music on the subjective perception of musical tones by the human ear. But contrary to Aristotle, he shared the Pythagorean theory that the soul is the "harmony" of corporeal elements, and therefore mortal.¹¹ Aristoxenus strove to present Pythagoras and the Pythagoreans in the most favorable possible light, often in defiance of established models, including those that appear in Aristotle's *On the Pythagoreans*. Although speaking against Plato and the Academy (fr. 62, 67 Wehrli), he at the same time attributed Plato's doctrines to the Pythagoreans.¹² In this respect his *Pythagorean Precepts* arouse perhaps the greatest doubts, because the Pythagorean stratum in this work cannot always be confidently

⁹ Περί Πυθαγόρου καὶ τῶν γνωρίμων αὐτοῦ (fr. 11–25), Περί τοῦ Πυθαγορικοῦ βίου (fr. 26–32), Πυθαγορικαὶ ἀποφάσεις (fr. 33–41), Ἀρχῦτα βίος (fr. 47–50). Wehrli's distribution of the fragments in different works is not always successful. Aristoxenus mentions the Pythagoreans in other writings: Παιδευτικοὶ νόμοι (fr. 43), Μουσικὴ ἀκρόασις (fr. 90) and Ἱστορικὰ ὑπομνήματα (fr. 131); see also fr. 123.

¹⁰ For a generally positive assessment of Aristoxenus as a historian, see Rohde (1901) 117; Delatte (1922) 207–13; von Fritz (1940) 27ff.; idem. (1963) 175 and Momigliano (1993) 74ff. Cf. Philip (1966) 13ff. (negative) and Burkert (1972) 106ff. (critical).

¹¹ Fr. 118–21. In Plato's *Phaedo* this theory is put forth by Philolaus' pupils Simmias of Thebes (86b 6–7) and Echecrates of Phlius (88d3–4).

¹² See further below.

separated from the theories of the Academy and the Lyceum.¹³ It is interesting that it was this work that exerted a strong influence on the pseudo-Pythagorean ethical treatises.¹⁴

Aristoxenus' rationalistic treatment of Pythagoreanism, which has decisively polemical overtones, rested on his acquaintance with the last Pythagoreans, and, for the most part, faithfully reflected the *realia* of the late fifth and fourth centuries. If one makes allowances for his tendentious and polemical bent, it is clearly preferable to the legendary tradition that he disputes. Yet it was not only this earlier tradition, as reflected in Aristotle, with which he was arguing. We have to bear in mind that he was writing his Pythagorean works when the last Pythagoreans had already died. But Pythagoreanism as a whole, as the totality of what was conveyed in antiquity by the name of Pythagoras, lived on after that, and with time assumed new forms. Among its filiations were "Pythagorizing" philosophers, for example, Diodorus of Aspendus (*acme*, c. 330s), who had nothing to do with the politics, philosophy or science of the Pythagoreans but merely led an ascetic way of life which had become popular.¹⁵ Their reflection in Middle Comedy, the so-called Pythagorists, often appeared on the Athenian stage in the second part of the fourth century as indigent preachers of metempsychosis and vegetarianism.¹⁶ The decline of the Pythagorean School after 350 coincides with a veritable boom in philosophical

¹³ Rohde (1901) 162ff.; Wehrli, comm. on fr. 33–41; de Vogel (1966) 174ff. and Burkert (1972) 107ff. cf. Huffman (2006a).

¹⁴ Centrone (1990) 38ff.

¹⁵ Timaeus: Diodorus led an eccentric life and *pretended* to be a pupil of the Pythagoreans (*FGrHist* 566F16); Sosicrates: to gratify his vanity, Diodorus began to wear a long beard, long hair, and put on a worn cloak, whereas before him the Pythagoreans always went about in white clothing, made use of baths and had customary hair-cuts (fr. 15 Giannattasio Andria = Athen. 4.163f).

¹⁶ *DK* 58 E. The Pythagorists come into being as rapidly as they vanish; they are absent both from Old and from New Comedy, though both were eager to portray philosophers. They do not appear on stage (they are merely talked about) and are, as a rule, anonymous. Those who are named, e.g., Epicharides, Melanippides, Phaon, Phromachus and Phanus from the *Tarentines* of Alexis (*DK* 58E1) turn out to be, not indigent followers of Archytas, but more or less well-known Athenians, whose way of life is played on through their illusory Pythagoreanism. See Arnott (1996) 635 and 639ff. My impression is that the character of the Pythagorist, cropping up in one comedy after another, is to be found only on the Athenian stage, to which in reality it owes its existence.

and historical literature about Pythagoras and the Pythagoreans, first in the Academy and the Lyceum, and later outside them. Even the Stoic Zeno wrote his Πυθαγορικά, *Pythagorean Questions* (D.L. 7.4). In the last third of the fourth century at least four biographies of Pythagoras were written, and with each century that passed their number increased, while pseudo-Pythagorean writings multiplied at an even greater rate. Aristoxenus' younger contemporary, the historian Neanthes of Cyzicus, was the first to refer to the pseudo-Pythagorean writings; he mentions a letter of Pythagoras' son Telauges to Philolaus (*FGrHist* 84F26).

It seems that Aristoxenus did not like this post-Pythagorean reality and decided to defend what he considered to be the historical reality, by refuting some old legends and ignoring some recent phenomena. If this was the case, we may sympathize with his goals, though, as is usual in such cases, the reality he described happened to be quite idealized. His Pythagoreans were ideal politicians, philosophers and scientists living in harmony with their ethical principles, ideal educators like Xenophilus (fr. 43 Wehrli) or ideal friends, like Damon and Phintias or Cleinias and Prorus. And yet, there are obvious differences between Aristoxenus' story about Damon and Phintias (fr. 31 Wehrli) and Neanthes' story about Myllias and Timycha, which depends on it. Myllias' and Timycha's Pythagorean friends perished, not daring to cross the bean field, whereas the courageous Timycha refused to divulge the ban on eating beans to the bloodthirsty tyrant Dionysius, biting off her tongue instead and spitting it out (*FGrHist* 84F31). Aristoxenus' Pythagoras was particularly fond of beans (fr. 25 Wehrli), and the Pythagoreans must have followed his predilections. Other points of divergence were metempsychosis and vegetarianism. Contrary to the Pythagorists of comedy, Aristoxenus' Pythagoreans (as, indeed, he himself) did not believe in metempsychosis and though they normally ate bread and honey, they did not abstain from meat (fr. 27–8 Wehrli). Aristoxenus is often criticized for ignoring the Pythagorists, but in this respect he was no different from his contemporaries; the historians and biographers of the late fourth century pay no attention to the Pythagorists of comedy. Aristoxenus ignored Diodorus of Aspendus as well, for though Diodorus called *himself* a Pythagorean, his extravagantly ascetic way of life had nothing to do with the Pythagorean way of life (*bios pythagorikos*) as known to Aristoxenus. There is no

sign that Aristoxenus mentioned any members of Pythagoras' family like Theano, Telauges or Arimnestus, whose biographies and pseudopigrapha began to be fabricated in the last third of the fourth century.¹⁷

Thus, we have two different versions of the Pythagorean way of life: one, mentioned by Plato and described by Aristoxenus in a special treatise, and another, based on a great number of prescriptions and taboos, contained in the Pythagorean *symbola*, among them abstinence from beans and meat. As I have said, Aristoxenus' version is often taken for a late rationalization of the "archaic" *bios pythagorikos* and is thus regarded as unreliable, but Plato is on his side. He refers to the Pythagorean way of life quite approvingly (*Rep.* 600a-b), and it was certainly not seen by him as an "alternative lifestyle," but merely as different from that of the majority, and moreover as *better*. Among its exponents, Plato was thinking first and foremost of Philolaus, Archytas, and their associates. There is no reason to project onto them the style of life of Diodorus of Aspendus or the Pythagorists of comedy. Aristoxenus' Pythagoreans "used medicine to purify the body and music to purify the soul,"¹⁸ and not ritual purifications, as prescribed by the *symbola*. In Aristotle's work *On Pythagoreans*, the ban on beans was accompanied by six different explanations, none of which was connected to metempsychosis (fr. 195 Rose = D.L. 8.34). Nothing implies that Aristotle intended to analyze the Pythagorean way of life on the basis of the sayings he collected. The case with vegetarianism, one of the main features of Pythagoreanism in popular tradition, is similar. From Heraclides Ponticus' work, *On the Pythagoreans*, we learn that Pythagoras introduced a meat diet for athletes (fr.

¹⁷ An anonymous biography of Pythagoras, which has come down to us in excerpts from Diodorus Siculus (last third of first century), is based chiefly on Aristoxenus and is, therefore, for the most part free from the anecdotal and pseudo-Pythagorean material that characterizes the other biographies of that time (Diod. 10.3–11 = Thesleff [1965] 229ff.) The influence of Aristoxenus is noted by Delatte (1922) 225; von Fritz (1940) 22ff. and Burkert (1972) 104 n. 36. In a number of cases Diodorus differs from Aristoxenus; see, e.g., 10.3.4 on Pythagoras travelling from Italy to visit Pherecydes or 10.6.1 on metempsychosis and abstaining from meat. Since Diodorus dates by the Olympiads, his direct source is later than Apollodorus of Athens (second century).

¹⁸ Fr. 26 Wehrli. According to Theophrastus, Aristoxenus used music to treat mental illness (Aristox. fr. 6 Wehrli with comm.) and his Pythagorean teachers, such as Xenophilus, may also have applied musical psychotherapy. Theophrastus himself believed that music could heal both mental and physical ailments: fr. 716 FHS&G (end), 726 a-c and Barker (2007) 433.

40 Wehrli). Milo, in whose house the Crotonian Pythagoreans met and whom Aristotle called “an excessive eater” (πολυφάγος, fr. 520 Rose), is said to eat nine kilograms of meat and the same amount of bread every day (Phylarch. *FGrHist* 81F3; Athen. 10.412e–413a). Even the *symbola*, as recorded by Aristotle (fr. 194 Rose; Iamb. *VP* 85), demanded, not entire rejection of animal foods, but only abstinence from certain organs (e.g., the uterus and the heart) or certain kinds of meat (e.g., from non-sacrificial animals) and fish. So, Aristoxenus, who staunchly maintained that Pythagoras abstained only from plough oxen and rams, while using other animal flesh as food and being especially partial to sucking pigs and tender kids (fr. 25 Wehrli), was in perfect accord with this part of the tradition.

We cannot use the “Pythagorean way of life” as a criterion in identifying someone as a Pythagorean, since we do not know, in fact, what exactly it comprised. In particular, we do not know whether any of the Pythagoreans known to us by name shared even Pythagoras’ best-known and reliably attested religious doctrine, metempsychosis, and practiced the vegetarianism that was associated with it. The way of life of the Pythagorean aristocracy as a whole, to the extent that we can reconstruct it, was in many aspects close to the way of life of the Greek aristocracy of the sixth and fifth centuries. Pythagoras merely modified it, taking account of new ideas, some of which were held, not only by him, but also, for example, by Xenophanes: a reflective attitude to religion, rejection of luxury, an increased role for wisdom (σοφία), etc.¹⁹ A prominent feature in Aristoxenus’ account of the Pythagorean way of life was “friendship” (φιλία).²⁰ Φιλία is broader than the relations between two close friends; it links even Pythagoreans who are unacquainted one with another, obliging each of them to employ all means to aid their “friends” where their lives or welfare are threatened. Friendship of this kind, going beyond personal relationship, has a quite distinct socio-political meaning: Pythagoreans from

¹⁹ The struggle with luxury (τρυφή) and immoderation as a whole is one of many elements that unite Pythagoras with the ideology represented by the first lawgivers, the Seven Sages, and the Delphic oracle. Xenophanes spoke out against the luxury (ἄβροσύνη) of the Colophonians (DK 21B3), seeing it as the influence of the Lydians. See Bernhard (2003) 51ff.

²⁰ Aristox. fr. 31 and 43 Wehrli; Iamb. *VP* 230–9 = DK 58D7&9 (from Aristoxenus); see also Neanth. *FGrHist* 84F31 and Tim. *FGrHist* 566F13.

different cities were linked by the bonds of mutual aid even before they became personally acquainted.²¹ This circumstance greatly facilitated the spread of the Pythagoreans' political influence and also its stability. Nevertheless, "friendship" (φιλία) could not prevent the split in the Pythagorean society at Croton at the end of the sixth century and Pythagoras' subsequent flight to Metapontum.

In Aristoxenus' account of the political struggle in Croton during Pythagoras' lifetime there are no fundamental departures from what Aristotle, Dicaearchus (fr. 34 Wehrli) and Timaeus report, though his treatment is more apologetic. Aristotle says that "Pythagoras foretold to the Pythagoreans the coming political strife (στάσις); that is why he departed to Metapontum unobserved by anyone" (fr. 191). According to Aristoxenus, "for this reason Pythagoras went away to Metapontum, where, it is said, he ended his days" (fr. 18 Wehrli); this accords with Timaeus' account (*apud* Iust. 20.4.17). By "this reason" the so-called Cylonian conspiracy is meant, which Aristoxenus describes as follows:

Cylon, a Crotoniate, by birth, reputation and wealth was one of the first citizens, but in other respects he was ill-tempered, violent, disruptive and tyrannical in character. Being eager to share the Pythagorean way of life, he approached Pythagoras, by then an old man, but was turned down for the reasons stated. After this happened, he and his friends began a violent struggle against Pythagoras and his companions. (fr. 18 Wehrli)

Aristotle also wrote of personal rivalry between Cylon and Pythagoras (DK 14A15, see fr. 21.1 Gigon) and named another rival of Pythagoras, Onatas, whose name appears in the list of Crotonian Pythagoreans drawn up by Aristoxenus (DK 1.446.13). The presence of members of the Pythagorean *hetairia* among Pythagoras' political opponents suggests that Aristoxenus' account of events was intended to draw a veil over the fact that Cylon too might have had links to the Pythagorean society.²² In Apollonius' account of the Cylonian conspiracy, Hippasus

²¹ See, e.g., the stories of Cleinias of Tarentum and Prorus of Cyrene, and Damon and Phintias (DK 54A3 and 55, from Aristoxenus).

²² Iamblichus calls Cylon "the exarch of the Sybarites" (VP 74). Given the decisive role of the Pythagoreans in the victory over Sybaris and their increased influence after the war, it is natural to suppose that the office of "exarch of the Sybarites" could

also turns out to be an adversary of Pythagoras, while, moreover, being a member of the ruling Crotonian “thousand” (*FGrHist* 1064F2 = Iamb. *VP* 257). Thus, several independent sources (among them Timaeus) point to the existence of a version of Cylon’s conspiracy which is different from that of Aristoxenus and treats the events not simply as a conflict between Pythagoreans and supporters of Cylon, but as, among other things, a rift within the Pythagorean society.²³ It is reasonable to suppose that Aristoxenus’ version reflected the tendency of the Pythagorean tradition to avoid the topic of internal political strife in the society.

When Aristoxenus says about the last Pythagoreans, that they “maintained their original customs and disciplines” (ἐφύλαξαν μὲν οὖν τὰ ἐξ ἀρχῆς ἦθη καὶ τὰ μαθήματα, fr. 18 Wehrli), this must also reflect, to some extent, their self-identification as the true heirs of the early school. Customs (τὰ ἦθη) and (to a lesser extent) disciplines (τὰ μαθήματα) were usual topics of Aristoxenus’ Pythagorean writings. His portrait of Pythagoras the mathematician (fr. 23–4 Wehrli) is supported by Aristotle, Eudemus and other writers of the second half of the fourth century.²⁴ According to Aristoxenus (fr. 90 Wehrli), **Hippasus conducted an experiment with bronze discs, confirming the numerical expressions of the principal concords discovered by Pythagoras, 2:1 for the octave, 3:2 for the fifth, and 4:3 for the fourth.**²⁵ Aristoxenus was not interested in theoretical philosophy, and,

hardly be open to someone unconnected to the Pythagorean *hetairia*. Minar (1942) 69ff. suggested that Cylon was a governor of Sybaris as a Pythagorean and was only expelled from the society later.

²³ Traces of the tradition of the schism among the Pythagoreans were noted by Corssen (1912) 339ff., who pointed to the passage on Cylon being expelled from the Pythagorean society and setting fire to the school (*Olymp. In Phaed.* 1.13.18). Delatte (1922) 244ff. raised objections but his arguments are debatable. Von Fritz (1940) 59ff. followed Delatte in maintaining that the schism could not have been the *main* reason for Cylon’s revolt, although he did not reject the account of the schism itself. See also Bugno (1999) 39ff.

²⁴ Arist. fr. 191 Rose; Eud. fr. 133 Wehrli; Apollodorus *Logistikos* (D.L. 8.12, cf. 1.25); Neanthes (*FGrHist* 84F29); Hecataeus of Abdera (*FGrHist* 264F25.98) and Anticleides (*FGrHist* 140F1).

²⁵ If Aristoxenus had projected fourth-century Pythagorean science onto Pythagoras, far more achievements would be linked with the name of Pythagoras than we find in the fragments of the Peripatetic.

conspicuously, philosophy does not figure among the things that later Pythagoreans inherited from Pythagoras. The only “philosophical” doctrine he connects with Pythagoras concerns “likening all things to numbers” (fr. 23 Wehrli), and even this is mentioned in passing. In the *Pythagorean Precepts* Aristoxenus described ethico-political doctrines of the school by referring to his anonymous informants (in other writings he mentions Spintharus and Xenophilus by name: fr. 25, 30 and 43 Wehrli) and not to Pythagoras himself.²⁶ Iamblichus repeatedly felt compelled to append the note “all of this comes from Pythagoras” to the stories from Aristoxenus’ *Pythagorean Precepts* (VP 102, 174 = fr. 33 Wehrli, 183, 198, 213 and 230). This is the surest indication that his source said nothing of the kind.²⁷ Even if we suppose that Aristoxenus’ Pythagorean informants implied that their doctrines came directly from the founder of the school, the fact is that the most visible figure behind the precepts is Plato, not Pythagoras. When we read, e.g., that education in arts and sciences has to be voluntary and only in this case reaches its goals (fr. 36 Wehrli),²⁸ this unmistakably draws on Plato’s socio-pedagogical principles,²⁹ just as when we read that true love of what is fine (φιλοκαλία) concerns customs (ἦθη) and branches of knowledge (ἐπιστήμαι), and not what most people think, namely, things necessary and useful for life (τὰ ἀναγκαῖα καὶ χρήσιμα πρὸς τὸν βίον, fr. 40 Wehrli). The necessary and the useful hold the lowest grade in Plato’s hierarchy of activities, whereas Archytas praised exactly the practical utility of mathematics (47B3).

²⁶ Cf. Aristox. fr. 40 Wehrli, with comm., and Huffman (2006a) 106 n. 2.

²⁷ Rohde (1901) 141ff., 158, 160 and 163.

²⁸ As Carl Huffman has reminded me, in another passage of this work, the willingness of the teacher and student is compared to the willingness of the ruler and ruled: “For supervision should arise when both desire it, both the ruler and the ruled alike, just as they also said it was necessary that learning that arises correctly come to be willingly, when both wish it, the teacher and the learner” (Iamb. VP 183 = fr. 41d Huffman).

²⁹ “Nothing that is learned under compulsion stays with the mind” (*Rep.* 536d-e). In the *Laws*, Plato says that education that includes various playful activities (819b-c) makes the future citizens obey the laws voluntarily; see, e.g., Heitsch and Schöpsdau (2003) 219ff. In the *Laws* (832c-d) Plato criticizes democracy, oligarchy and tyranny, “for none of them constitutes a *voluntary rule over voluntary subjects*, but instead a *voluntary rule*, always with some violence, *over involuntary subjects*,” and contrasts them to the present regime. Cf. *Plt.* 276d-e: the true king and politician rules with the *voluntary assent of all his subjects*.

Thus, we cannot use doctrines recorded in the *Pythagorean Precepts* as a criterion in identifying someone as a Pythagorean, since we cannot be sure that these are Pythagorean doctrines. Besides, anonymous Pythagoreans as standardized bearers of a generalized “school doctrine” are suspicious in themselves. Unlike the Academy, Garden, and Stoa, which were institutionalized philosophical schools with a range of well-defined doctrines, varied though these were at different times, the Pythagorean school arose not as a philosophical school, but as a political society, a *hetairia*. The teachings of its founder were not set down in writing, and the school itself, widely scattered in many cities, evolved in the course of almost two centuries. It is no surprise that in reliable sources we can find nothing resembling a Pythagorean orthodoxy. All Pythagoreans were different, although all shared common features with other Pythagoreans. This means that certain Pythagoreans had characteristics in common with some Pythagoreans, but not with others. For example, mathematics is the common characteristic for Hippasus, Theodorus, Philolaus, and Archytas; natural philosophy for Alcmaeon, Hippasus, Menestor, Hippo, and Philolaus; medicine for Democedes, Alcmaeon, Iccus, and Hippo; and athletics for Milo, Astylus, and Iccus. However, not one common characteristic can be found for Hippasus and Iccus, Milo and Theodorus, or Menestor and Eurytus, except, of course, that they were Pythagoreans. For the period up to the middle of the fifth century, a common characteristic *might be* belonging to Pythagorean *hetairiai*, but we do not, unfortunately, know what belonging to a *hetairia* meant in each individual case and, therefore, cannot make use of it for our purpose. In particular it is not known whether it assumed active participation by every Pythagorean in politics. In any case, political activity ceases to be one of the constituent features of Pythagorean communities after the middle of the fifth century. It is, for example, quite unclear whether we may count Philolaus’ school at Thebes a *hetairia*.

It does not follow from Aristoxenus’ historical and biographical writings that he thought the Pythagoreans to be a philosophical school *par excellence*; he rather focused on political events and on the way of life. His individual Pythagoreans, like individual Pythagoreans of Aristotle, constitute a quite tangible group, as distinct from their anonymous Pythagoreans. It is this group that interests us most of all, because these people were regarded as Pythagoreans by their

contemporaries and in the first place by the Pythagoreans themselves. Although this criterion, as will be made clear by what follows, is not absolutely reliable, I treat it as fundamental. The most important source for determining who was a Pythagorean is the catalogue of 218 Pythagoreans passed down by Iamblichus, which, since the time of Erwin Rohde, has been taken to be connected with Aristoxenus.³⁰ When determining who should go into the Pythagorean sections of the *Fragmente der Vorsokratiker*, Diels relied on this catalogue, though he was not always consistent. Aristoxenus' authorship was subsequently supported by Timpanaro Cardini and Burkert adduced further considerations in his favor.³¹ Recently Carl Huffman stressed the importance of the catalogue, although he expressed some doubts regarding it,³² which I shall try to dispel. All those in the catalogue whose chronology can be established are from the time before Aristoxenus, that is, the sixth to the first half of the fourth century. The catalogue is independent of pseudo-Pythagorean literature (the names of some 18 writers from Thesleff's collection are absent) and could not have been compiled by Iamblichus, who has 18 more names of Pythagoreans not found in the catalogue. For example, Iamblichus reports that Diodorus of Aspendus was received into the Pythagorean school by Aresas of Lucania, the last scholarch of the school, since by then there was a shortage of Pythagoreans (*VP* 266, from Apollonius). Neither Diodorus nor Aresas figure in the catalogue. Iamblichus gives the names of several other scholarchs, Aristetas of Croton, Pythagoras' son Mnesarchus, Bulagoras and Gartydas of Croton (*VP* 265–6), none of whom are mentioned in Aristoxenus' catalogue. Further, the origin of a number of Pythagoreans listed in the catalogue differs from the data in other sources but coincides with that given by Aristoxenus.³³ Their distribution by cities is also instructive: the greatest number of names (43) is from Tarentum, the birthplace of Aristoxenus, and 29 and 38 respectively are from the other two centers of Pythagoreanism, Croton and Metapontum.

The total number of names as well as their classification by 27 different *poleis* and peoples indicate that Aristoxenus, apart from oral

³⁰ Iamb. *VP* 267 = *DK* 58A and Rohde (1901) 171.

³¹ Timpanaro Cardini (1964) 3.38ff.; Burkert (1972) 105 n. 40.

³² Huffman (2008a) 292ff.

³³ Burkert (1972) 105 n. 40.

tradition, relied on some documentary sources. This is confirmed by the fact that some two thirds of the names in the catalogue occur only there. Of the 56 names mentioned outside the catalogue, more than half remain simply names: either we know almost nothing of these people, or we know of some insignificant episodes. Since most of the individuals named have nothing to do with philosophy or science, Aristoxenus' catalogue cannot be regarded as a list of members of the Pythagorean School. Sources link some Pythagoreans with politics and legislation, others with athletics, and still others appear as heroes of oral tradition, like Damon and Phintias or Cleinias and Prorus.³⁴ It is difficult to say whether those who only adhered to the religious teaching of Pythagoras and led a life of abstinence are included, since practically nothing is known about these people. Most likely they were of no interest to Aristoxenus and the group of the last Pythagoreans from which his information derives.

Although Aristoxenus used documentary sources and Pythagorean oral tradition, he hardly had exhaustive and accurate information on the ancient Pythagoreans. Hence it should not be presumed that *all* Pythagoreans who were at all well known are included in the catalogue, or, on the other hand, that *only these* 218 persons are "genuine" Pythagoreans. Apart from all else, in the time which passed between Aristoxenus and Iamblichus, some names could have been left out of the catalogue or been displaced through a copyist's error, while others might have been distorted in the copying process, and still others added to the catalogue. Thus, Hippasus of Metapontum appears among the Sybarites (*DK* 1.446.30), Ecphantus of Syracuse among the Crotoniates (446.11), Philolaus of Croton among the Tarentines (446.22), Astylus of Croton and Eurytus of Tarentum (Aristox. fr. 19) among the Metapontines (446.20, 22), Xenophilus of Thracian Chalcidice among the Cyzicenes (448.4). Alcimachus, Deinarchus, and Meton, defenders of the Crotonian constitution (Iamb. *VP* 257), are called natives of Paros (447.2–3); it is no less strange that Paros appears in the catalogue among the Italian *poleis*, after Sybaris and before Locri. Another Pythagorean from Paros, Thymarides, figures in Iamblichus as a Parosian (*VP* 239) and as a Tarentine (*VP* 145); the latter is much more plausible. Four Pythagoreans from Carthage

³⁴ See Aristox. fr. 31, 131 Wehrli and Diod. 10.4.1 = *DK* 54A3 (from Aristoxenus).

with typical Greek names (447.1) also give rise to serious doubt. O. Masson supposed that they were Chalcedonians (Καλχηδόνιοι), not Carthaginians (Καρχηδόνιοι),³⁵ but how did Pythagoreans come to be at Chalcedon in Asia Minor? Moreover, one of the Carthaginians, Miltiades, figures in the story of mutual aid among Pythagoreans of different peoples (Iamb. *VP* 128), which according to Diels is from Aristoxenus (DK 58D7). The hero of another such story, the Tyrrhenian Nausithous (*VP* 127), is also mentioned in the catalogue (448.5). K. Geus considered Miltiades and the three other Pythagoreans from Carthage to be historical figures,³⁶ although in the classical period they turn out to be the only Greeks, who are said to be from Carthage. I would not exclude the possibility that the Carthaginian Pythagoreans owe their existence to Aristoxenus.

Democedes of Croton (*DK* 19), who married the daughter of the Pythagorean athlete and military leader Milo (Hdt. 3.137), is missing from the catalogue.³⁷ Amyclas is absent, but his friend Cleinias of Tarentum is there, though Aristoxenus mentions them both as Pythagoreans and friends of Plato (fr. 131 Wehrli). Strangely, Aristoxenus' father Spintharus, who belonged to the circle of Archytas, is missing. Absent are the pupils of Philolaus, Simmias and Cebes of Thebes (44A1a, B15), who appear in Plato's *Phaedo*, although another character in the dialogue, Echeocrates of Phlius, is present.³⁸ Thebes, one of the centers of Pythagoreanism in the fifth century, is not mentioned in the catalogue. Ecphantus of Syracuse appears in the catalogue among the Pythagoreans of Croton (*DK* 1.446.11), yet his fellow-countryman and contemporary Hicetas, mentioned by Theophrastus (*DK* 50A1), does not. Parmenides' teacher, Ameinias, as recorded by Sotion, is not named.³⁹ These are additions to the catalogue that deserve serious examination.

These seven "additions" to the catalogue balance an equal number of "excisions": those whom Aristoxenus' sources regarded as

³⁵ Masson (1995) 229ff.

³⁶ Geus (1994) 198ff.

³⁷ Hermippus (fr. 22 Wehrli = *FGrHist* 1026F21 = *DK* 19A2) named his father Caliphon as a pupil of Pythagoras and, although this biographer's evidence on Pythagoras is normally unreliable, in this case he could have made use of a sound tradition.

³⁸ Echeocrates of Phlius is not identical with Echeocrates of Locri, with whom Timaeus communicated (*FGrHist* 566F12), *pace* Jacoby (1954) 552.

³⁹ D.L. 9.21 = *DK* 27. His source could be Timaeus: Jacoby (1954) 326 n. 200.

Pythagoreans, but modern scholarship for various reasons excludes. This applies, for example, to the renowned lawgivers Zaleucus of Locri and Charondas of Catana, who figure as Pythagoreans, not only in the catalogue, but also in Aristoxenus' fragments (fr. 17 and 43 Wehrli). To all appearances Zaleucus and Charondas, who lived long before Pythagoras, were associated with him by the Pythagorean lawgivers of the second half of the fifth century from Locri and Rhegium.⁴⁰ Thus, in this instance Aristoxenus recorded a venerable, though unreliable, Pythagorean tradition, which aimed at conferring retrospectively on Pythagoras the reputation for being a lawgiver, by making Zaleucus and Charondas his followers. Another such "pair" are the well-known wonder-workers Aristeas and Abaris. Aristeas of Proconessus (turn of sixth century) was the author of the poem *Arimaspea*, which described his journeyings in search of the Hyperboreans. In the course of his life Aristeas twice disappeared, and, 240 years later, as Herodotus records (4.13–5), he reappeared at Metapontum and commanded the citizens to set up an altar to Apollo and a statue to himself. The catalogue duly lists him among the Pythagoreans of Metapontum. Abaris, a mythical priest of Apollo and expert on the Hyperboreans, is the only representative of this legendary people in the catalogue. As Bolton demonstrated, Aristeas and Abaris were associated with Pythagoras in the legendary tradition of the fifth century, which was subsequently used and embellished by Heraclides of Pontus.⁴¹ In this instance the legendary, the literary, and the historical traditions are partly superimposed on one another.

Parmenides and Empedocles are also the sole representatives of their *poleis* in the catalogue. There would appear to have been no Pythagorean societies in Elea and Acragas; hence, in the cases of

⁴⁰ In Iamblichus (*VP* 130 and 172) Zaleucus is mentioned together with another lawgiver from Locri, the Pythagorean Timares, who probably lived in the middle or second half of the fifth century: Delatte (1922) 182ff. and Ciaceri (1927) 47ff. In the same chapters Iamblichus names the Pythagorean lawgivers from Rhegium: Phytius, Helicaon, Aristocrates, and Theocles, who, like Timares, figure in the catalogue (to be sure, Theocles is named there as Euthycles, and in *VP* 172 as Theatetus). On Rhegium as a center of Pythagoreanism after the middle of the fifth century, see Aristox. fr. 18 Wehrli and von Fritz (1940) 77. Rhegium's legislation was based on the laws of Charondas (Arist. *Pol.* 1274a23 and fr. 611.55 Rose, from excerpts from the *Constitution of Rhegium*).

⁴¹ Bolton (1962) 151ff., particularly 174ff.

Parmenides and Empedocles, one can only speak of their Pythagorean teachers. In the biographical tradition of the fifth and fourth centuries, Empedocles is often portrayed as the pupil of Pythagoreans (and even of Pythagoras himself);⁴² mention of Parmenides' teacher Ameinias also does not give the impression of being someone's invention. This could be the reason for their inclusion in the catalogue, although we do not know precisely whether this occurred before or after Aristoxenus. The influence of Pythagorean ideas on Parmenides and Empedocles is incontestable, yet both are philosophers too independent and important to be fully integrated into the Pythagorean tradition. Rather, they should be left among the "sympathizers" with Pythagoreanism. The next and last "excision" is Melissus, who is named with five other Pythagoreans from Samos. If there was a Pythagorean society on Samos, then in principle Melissus could have been a member, even if in philosophy he followed Parmenides and Zeno, just as the Pythagorean Ecphantus later followed Democritus and Anaxagoras. At the same time, unlike Zeno (who is not in the catalogue),⁴³ Melissus does not figure as a Pythagorean in other sources; we have no grounds other than the catalogue to regard him as one.

Seven questionable names out of 218 is a very good indicator of the reliability of the catalogue as a historical document. We may observe that all these instances involve famous people, three of whom (Aristeas, Zaleucus, and Charondas) lived before Pythagoras, while a fourth (Abaris) was a wholly legendary figure. The basis for their inclusion in the catalogue is understandable in each case (except that of Melissus), even though it appears unconvincing to us. The catalogue does not, however, show signs that the Pythagoreans strove to make "their own" all those famous individuals who in one way or another had contact with them. We do not find, for example, Democritus, Theaetetus, Epaminondas, and Eudoxus,⁴⁴ who had Pythagorean

⁴² Alcidas *ap.* D.L. 8.56; Theophr. fr. 227A FHS&G; Neanth. *FGrHist* 84F26 and Tim. *FGrHist* 566F14.

⁴³ Parmenides and Zeno as Pythagoreans: Callim. *ap.* Procl. *In Parm.*, 619.5–10; Strab. 6.1.1; Anon. Phot. 439a37 = Thesleff (1965) 238.20 and *schol. Iamb. VP* 267, p. 150.7ff. Deubner and Klein.

⁴⁴ Democritus (DK 14A6), Theaetetus (DK 43A4), Epaminondas (Aristox. fr. 18 Wehrli and Diod. 10.11, from Aristoxenus), Eudoxus (D.L. 8.86 = T7 Lasserre). According to Aristoxenus, Epaminondas called his teacher, Lysis of Tarentum, "father."

teachers, or Epicharmus, whom ancient tradition often associated with the Pythagoreans.⁴⁵ Since the catalogue is organized by *poleis* where there were Pythagorean societies, and since the majority of the names in it are unknown to us, it cannot be regarded as a list of famous figures, like that compiled by Hecataeus of Abdera, supposedly on the basis of “Egyptian sacred books.”⁴⁶ Hippasus, Menestor, or Hippo are mentioned in the catalogue, not because they were particularly famous, but because they were Pythagoreans. The catalogue contains the names of four Pythagorean Olympic victors⁴⁷ but not all the Olympic victors from Croton, Tarentum, Locri and other cities in Magna Graecia, where there were Pythagorean communities.⁴⁸ Alcmaeon of Croton is named, but not Acron of Acragas⁴⁹ or the renowned physician Philistion of Locri. Though there is a theoretical possibility that some names were added to the catalogue, no one has yet succeeded in proving this. If we disregard Charondas, Zaleucus, and Aristeas, the catalogue is free from anachronisms, which would inevitably occur, if somebody tried to “amplify” its data.

Most probably, the list of the Pythagoreans comes from Aristoxenus’ work *On Pythagoras and his Associates* (Περὶ Πυθαγόρου καὶ τῶν γνωρίμων αὐτοῦ), where we find many close parallels to this document, beginning with Italian lawgivers Zaleucus and Charondas and ending with the last Pythagoreans (fr. 17–8). It was not Greeks alone who came to Pythagoras, says Aristoxenus, but also Italians, including Lucanians (fr. 17); this agrees with the catalogue, where four Lucanians figure. Although “associate” (γνωρίμιος), like “companion” (ἑταίριος) and “friend” (φίλος) by no means always has a political coloration, Aristoxenus applies it several times to the

⁴⁵ Epicharmus as Pythagorean: Plut. *Numa* 8; D.L. 8.7, 8.78; Clem. *Strom.* 5.14.100; Iamb. *VP* 241, 266 and Anon. in Plat. *Theaet.* 71.12.

⁴⁶ Hecataeus of Abdera wrote that Orpheus, Musaeus, Melampus, Daedalus, Homer, Lycurgus, Solon, Pythagoras, Oenopides, Democritus, Plato and Eudoxus all visited Egypt (*FGrHist* 264F25.96).

⁴⁷ Milo and Astylus of Croton, Iccus of Tarentum, Dicon of Caulonia (*DK* 1.446.14, 20, and 28 and *DK* 1.447.14). See Kirchner (1903) 582; cf. Oldfather (1921) 74 and Burkert (1972) 403 n. 12.

⁴⁸ Note, e.g., the absence of the victor of 520, Philip of Croton, who was exiled for his connection with the tyrant of Sybaris, Telys (Hdt. 5.47).

⁴⁹ Acron, a contemporary of Empedocles, wrote *On the Food of Healthy People* (*DK* 1.283.5). Cf. Thesleff (1965) 1ff. and Burkert (1972) 223 n. 25.

political followers of Pythagoras.⁵⁰ What is no less important, is that besides “associates” (γνώριμοι) he mentioned their distant descendants (ἀπόγονοι αὐτῶν ἄχρη πολλῶν γενεῶν, fr. 17), which gives a very suitable context for appending to this work the list of the Pythagoreans, compiled on the basis of written and oral tradition. I would like to repeat that this was not a list of Pythagorean philosophers and scientists, although it embraces them too, but a list of the members of the Pythagorean *hetairiai* and their direct descendants. Indeed, Philolaus fled from Croton to Thebes, because he belonged to the ruling Pythagorean aristocracy, which was overthrown by the anti-Pythagorean outbreaks of the mid-fifth century, when “the best men in each city perished” (Polyb. 2.39.1, from Timaeus). Philolaus’ direct students were Aristoxenus’ teachers, the last Pythagoreans.

So, comparing the criteria used by Aristoxenus in compiling his list of Pythagoreans with those applied in modern works, I conclude that, beyond a critical approach to the sources, we enjoy no special advantages over the first historian of Pythagoreanism. The catalogue remains the primary source in determining who belonged to Pythagorean societies, and its data can be revised only if there is to hand *more* reliable evidence than it. In all other cases the person named in the catalogue should be accounted a Pythagorean, and *vice versa*. For example, Alcmaeon is on the list, which agrees with the fact that his book opened with an address to three Pythagoreans (24B1), one of whom, Brontinus, is known as Pythagoras’ contemporary and relative. Apart from Aristoxenus, a number of later authors also vouch for Alcmaeon’s Pythagoreanism.⁵¹ The tradition preserved by Diogenes Laertius affirms that he heard Pythagoras himself (8.83). Nevertheless, Alcmaeon’s belonging to the Pythagorean school has been more than once contested, one of the main arguments being that Aristotle did not call him a Pythagorean and made a distinction between his dualism and the dualism of the Pythagorean table of opposites.⁵² As I have

⁵⁰ Aristox. fr. 17 Wehrli and Neanth. *FGrHist* 84F30 = Porph. *VP* 55. See Minar (1942) 21 n. 25 and Burkert (1982) 14. In Aristox. fr. 50 Wehrli, γνώριμος, on the other hand, is simply an “acquaintance” of Archytas; see Huffman (2005) 318.

⁵¹ Iamb. *VP* 104, 267; Simpl. *In de An.* 32.3; Phlp. *In de An.* 88.11 and *schol. Plat. Alc.* 1 121e.

⁵² See, e.g., Zeller (1919) 601; Wachtler (1896) 88ff.; Ciaceri (1927) 73ff.; Heidel (1940) 3ff.; Guthrie (1962) 341ff. and Lloyd (1975) 125ff. (with a summary of previous opinions).

pointed out, Aristotle names no one as a Pythagorean, and it would have been strange if he had made an exception for Alcmaeon. Aristotle certainly drew a distinction between Alcmaeon's views and those of a particular group of Pythagoreans (ἕτεροι δὲ τῶν αὐτῶν τούτων, *Met.* 986a22f.). This group proposed as principles, not numbers, as the rest of the Pythagoreans did (985b23ff.), but ten pairs of opposing principles: limit — unlimited, odd — even, etc. Aristotle says “In this way Alcmaeon of Croton seems also to have conceived the matter, and either he got this view from them or they got it from him.” If the words which follow, “for Alcmaeon was young in the old age of Pythagoras” (καὶ γὰρ ἐγένετο τὴν ἡλικίαν Ἀλκμαίων <νέος> ἐπὶ γέροντι Πυθαγόρῳ, 986a29-30), belong to Aristotle,⁵³ then he was inclined to believe, perhaps not without hesitation, that Alcmaeon lived before these Pythagoreans; hence he influenced them, not the reverse. Even if that text is not accepted, the conclusion that Alcmaeon lived before these Pythagoreans follows from the fact that he expressed himself “indefinitely” (ἄδιορίστως), whereas they indicated how many and what the opposites were (986b-3). Whatever the case, it is obvious, that the table of opposites comes not from Pythagorean, but from Academic sources.⁵⁴ Thus, paradoxically, Aristotle compares a theory of

⁵³ νέος is Diels's conjecture (*DK* 1.211.17). This phrase is absent from one of the manuscript traditions (Ab) and the commentary of Alexander of Aphrodisias, but has been preserved in a more reliable tradition (EJ) and in Asclepius' commentary (*In Met.* 39.21). Ross, who normally prefers EJ (Ross [1958] clxv), regarded these words as a late insertion. Wachtler (1896) 3ff. analysing this passage in detail, showed convincingly that the mention of Pythagoras is Aristotle's; he is followed by *DK* 1.211.17; Ciaceri (1927) 70; Timpanaro Cardini (1958) 1.125; Guthrie (1962) 342ff. and Dörrie (1970) 23. For Aristotle's chronology of Pythagoras, see fr. 75 and 191.

⁵⁴ “A continuous transition between Pythagorean and Platonic,” Burkert (1972) 51. Aristotle twice connects the table with Speusippus (see above n. 7); after the first two pairs (πέρας-ἄπειρον, περιττόν-ἄρτιον), **which are important both for the Pythagoreans and for Plato** (cf. *Met.* 1004b33, where these two pairs are ascribed to different thinkers, according to most commentators, the Pythagoreans and Plato; see Alex. *In Met.*, 262.7), **the third place is occupied by the pair ἔν-πλήθος, which is a cornerstone of Speusippus' philosophy** (Arist. *Met.* 1092a35, 1087b4, b25 and 1085b5; see Tarán (1981) 33ff.) and the fifth by ἄρσεν-θῆλυ, **which is attested among Xenocrates' principles** (fr. 213 Isnardi Parente). The sixth and ninth pairs (rest and movement, good and bad) are, according to Aristotle, typically Platonic (*Met.* 1084a32ff.), whereas such opposites as cold-hot and moist-dry, which were really important for the Pythagorean thinkers (cf. Alcmaeon *DK* 24BB4, Menestor *DK* 32A3-5 and 7, Hippon *DK* 38A11 and Philolaus *DK* 44A27), are conspicuously absent in the table.

a real Pythagorean, without calling him a Pythagorean, with an Academic theory, calling its authors Pythagoreans! Who these “Academic Pythagoreans” were remains a mystery. If one desperately needs to see real figures behind Aristotelian Pythagoreans, one could think, for example, of Plato’s friends Amyclas and Cleinias.⁵⁵ But this is pure conjecture. More often than not I do not see real figures behind “the Pythagoreans” (Πυθαγόρειοι) of Aristotle.

Generally, we have to be very cautious concerning Pythagoreans unattested in Aristoxenus.⁵⁶ Diels basing the Pythagorean chapters of *Fragmente der Vorsokratiker* on the catalogue, extended the list of Pythagoreans to include some of those not in the catalogue. Hence in his collection the early Pythagoreans include Cercops (*DK* 15), Petron (*DK* 16), Paron (*DK* 26), and Xuthus (*DK* 33). However, according to Aristotle (fr. 75), the poet Cercops lived at the time of Hesiod and could not have been a Pythagorean.⁵⁷ As a Pythagorean he first appears in the book of the Hellenistic grammarian Epigenes (early 3rd cent.?), *On Works attributed to Orpheus*,⁵⁸ who ascribed to Cercops two Orphic poems, *Sacred Discourse* (Ἱερὸς λόγος) and *Descent into Hades* (Εἰς Ἅϊδου κατάβασις). Epigenes’ evidence is clearly based on conjecture, as are all other similar indications. In Cicero a reference to Cercops is attached to a quotation from Aristotle, who believed that the poet Orpheus had never existed: “Aristotle tells us that the poet Orpheus never existed and the Pythagoreans report that this Orphic poem was the work of a certain Cercops” (*Orpheum poetam docet Aristoteles numquam fuisse et hoc Orphicum carmen Pythagorei ferunt cuiusdam fuisse Cercopis*, *ND* 1.107 = Arist. fr. 7). Only the first part of this

⁵⁵ When Plato wanted to collect all Democritus’ books and burn them, they persuaded him not to do so, explaining that too many people had copies of them (Aristox. fr. 131 Wehrli).

⁵⁶ According to the Peripatetic Clearchus, a younger contemporary of Aristoxenus, a certain Pythagorean named Euxitheus maintained that the soul was bound to the body as a punishment and resided in it until a god set it free (fr. 38 Wehrli). This fragment aside, we know nothing of the existence of the Pythagorean Euxitheus; he is clearly a fictitious figure (Burkert [1972] 124 n. 21), into whose mouth Clearchus placed a popular doctrine.

⁵⁷ Burkert (1972) 114 and 130 n. 60; cf. *DK* 1.106.6ff.

⁵⁸ Clem. *Strom.* 1.21.131 = test. 222 Kern. On Epigenes see Susemihl (1892) 1.344ff. Linforth (1941) 110ff. and 114ff. dated Epigenes to the fourth century, which is clearly too early. Cf. Nilsson (1955) 1.682.

evidence belongs to Aristotle, as is confirmed by a quotation in Philoponus, the second part deriving from Epigenes.⁵⁹ Aristotle could not have named as a Pythagorean a contemporary of Hesiod; it is no less material that no one at all was named by him as a Pythagorean.

We know of Petron only from a single quotation from Hippys of Rhegium transmitted by Phantias of Eresus. It is not known when Hippys lived (Phantias was Aristotle's pupil), and it is very probable that this evidence is spurious.⁶⁰ Paron, as Burkert has shown, appeared wholly as the result of an error by Aristotle, who mistook the participle ΠΑΡΩΝ for a proper noun.⁶¹ Xuthus is known only from a single mention by Aristotle (*Phys.* 216b22); in his commentary on this passage Simplicius calls Xuthus a Pythagorean, but this point cannot be checked. Since all three are absent from Aristoxenus' catalogue and nothing more is known of them, there are no grounds for regarding them as Pythagoreans.

In Diels' collection there are among the Pythagoreans of the fourth century six more names that must be erased from the Presocratics. Ocellus of Lucania (*DK* 48) is mentioned in the catalogue, which means that Aristoxenus accounted him a historical figure (cf. fr. 17), yet all the doctrines attributed to him are pseudo-Pythagorean. Thus the philosopher Ocellus is a fiction, as distinct from the Pythagorean Ocellus.⁶² Timaeus of Locri (*DK* 49) owes his existence to the Platonic dialogue and, later, to a pseudo-Pythagorean treatise.⁶³ Simus of Poseidonia (*DK* 1.447.6), mentioned in the catalogue, can hardly be identified with the harmonic theorist Simus (*DK* 56), the central figure in the story of the dedicatory gift of Arimnestus, the son of Pythagoras, related by Duris.⁶⁴ Myonides and Euphranor, who appear in the same section of Diels (*DK* 56), are also pseudo-Pythagorean fictions.⁶⁵ In the case of the last Pythagorean in Diels' collection, Lycon

⁵⁹ Kroll (1921) 314; Phlp. *In de An.* 186.21ff. = Arist. fr. 7 Rose.

⁶⁰ *FGrHist* 554F5 with comm. and Burkert (1972) 114 n. 35; Cf. however: Guthrie (1962) 322ff.

⁶¹ Burkert (1972) 170 and Martano (1980).

⁶² Thesleff (1965) 124ff. On the Italic Pythagoreans see Mele (1981).

⁶³ Thesleff (1965) 202ff.

⁶⁴ *FGrHist* 76F23 = *DK* 14A6 = 56A2. Arimnestus is clearly invented, as probably is Simus, who was supposed to have stolen the Pythagorean κανόν.

⁶⁵ In Atheneus (4.182c, 184e; 14.634d = *DK* 44A7 and 47B6) Euphranor, along with Philolaus and Archytas, is called the author of *On Auloi* (Περὶ αὐλῶν), which

(*DK* 57), we are evidently dealing with four different people. Since Lycon of Tarentum, named in the catalogue (*DK* 1.446.23), cannot be identified with the other three,⁶⁶ only his name remains. Other scholars have gone further than Diels. The editions by Maddalena and Timpanaro Cardini list as Pythagoreans Epicharmus, Ion of Chios, Damon of Athens, Hippodamus of Miletus, the sculptor Polyclitus, and also Oenopides and Hippocrates of Chios.⁶⁷ Not only are these not named in the catalogue, but also not a single source of the classical period calls them Pythagoreans or pupils of Pythagoreans.

I think that Diels was also somewhat too generous regarding Aristoxenian material in Iamblichus.⁶⁸ Several items in section 58D, entitled “From Aristoxenus’ *Pythagorean Precepts* and *Pythagorean Life*” certainly do not go back to Aristoxenus, e.g., the greater part of 58D1 = Iamb. *VP* 164–6 (only *VP* 163 contains authentic material), and the whole of 58D2 = *VP* 137. At the same time, *VP* 163 = 58D1.4 has a splendid parallel, which apparently stems from Aristoxenus, to the ironic words of Isocrates about Pythagoras and his pupils. Isocrates notes:

He so exceeded others in fame that all the young desired to become his students, and older people were more pleased to see their children conversing with him than attending to their own affairs. We must believe this. Even now people admire those who claim to be his students more even when they are silent than those men who have the greatest reputation for speaking.⁶⁹

seems to be a pseudo-Pythagorean work; see Thesleff (1965) 85. Iamblichus (*In Nic.* 116.4ff.) attributes to Myonides and Euphranor the discovery of the four means, which in reality were discovered by Eratosthenes; see Zhmud (2006) 174; cf. Burkert (1972) 455 n. 40 and 442 n. 92.

⁶⁶ See Susemihl (1892) 330ff. and 691ff.; Thesleff (1965) 109ff.; Burkert (1972) 204 and *FGrHist* 1110 with comm.

⁶⁷ Maddalena (1954). Timpanaro Cardini (1964) 3.334ff. places Epicharmus, Damon, and Hippodamus in the section “Risonanze Pitagoriche”; cf. Zeller (1919) 607ff. See also Huffman (2002).

⁶⁸ Iamblichus made extensive use of Aristoxenus’ *Pythagorean Precepts*; see Rohde (1901) 141ff., who argues that Nicomachus was the intermediary, and Burkert (1972) 101, who suggests that Iamblichus used Aristoxenus directly. Burkert attributes Iamb. *VP* 101–2, 174–6, 180–2, 200–13 and 230–3 to the *Precepts*.

⁶⁹ ἔτι γὰρ καὶ νῦν τοὺς προσποιουμένους ἐκείνου μαθητὰς εἶναι μᾶλλον σιγῶντας θαυμάζουσιν ἢ τοὺς ἐπὶ τῷ λέγειν μεγίστην δόξαν ἔχοντας (*Bus.* 29).

What is meant by “when they are silent” (σιγῶντας) in this context? Is the silence the legendary Pythagorean vow of silence, secrecy in teaching, or taciturnity and restraint in speech⁷⁰ set against the art of the best orators (among whom Isocrates probably counted himself)? Secret doctrines generate suspicion, rather than admiration; pedagogical silence, if practiced without moderation, would also produce perplexity and taunts,⁷¹ whereas restraint in speech was something the Greeks really did admire. What would the Pythagoreans have had to hide in the 390s (ἔτι γὰρ καὶ νῦν plainly refers to the contemporaries of Isocrates), when Philolaus, who had supposedly made public the school’s secrets, had died, and Archytas was publishing one treatise after another? A parallel from Aristoxenus points in a more promising direction: “The Pythagoreans were much given to silence and ready to listen, and the one who was able to listen was praised by them.”⁷² Moreover, it was Aristoxenus who held Archytas’ self-control and restraint to be among his most important qualities: in situations in which others would deliver fiery perorations, he remained calm and said nothing.⁷³ It is highly probable that when Isocrates wrote of Pythagorean restraint he was thinking of Archytas, since his polemics with Archytas are reflected in the same speech.⁷⁴

Another alleged piece of evidence for Pythagorean secrecy are the following words of Aristoxenus: “And the rest of the Pythagoreans said that not all things were to be spoken to all people.” (ἔλεγόν τε καὶ οἱ ἄλλοι Πυθαγόρειοι μὴ εἶναι πρὸς πάντας πάντα ῥητά, fr. 43 Wehrli). What this sentence meant is clear, first, from the title of the work in which it appeared, *Laws of Pedagogy* (Παιδευτικοὶ

⁷⁰ Timpanaro Cardini (1958) 1.27: “contegno riservato”; Philip (1966) 146: “taciturnity.”

⁷¹ Xenocrates devoted one hour a day to silence (D.L. 4.11, see also Val. Max. 7.2 ext. 6 and Stob. 3.33.11 = fr. 61–2 Isnardi Parente), which was evidently considered a worthy activity (whether or not this story is true; Valerius Maximus speaks of restraint in speech). The Pythagoreans were supposed to maintain silence for five successive years!

⁷² σιωπηλοὺς δὲ εἶναι καὶ ἀκουστικούς καὶ ἐπαινεῖσθαι παρ’ αὐτοῖς τὸν δυνάμενον ἀκοῦσαι (Iamb. VP 163 = DK 58D1.4)

⁷³ Fr. 30 Wehrli: when angry the Pythagoreans did not punish their slaves or admonish freemen; instead they waited quietly and silently (σιωπῇ χρώμενοι καὶ ἡσυχίᾳ) until able to think rationally.

⁷⁴ Bus. 23, on the value of a mathematical education. See Zhmud (2006) 74.

νόμοι), and second, from the reference to Xenophilus which follows it. Xenophilus was Aristoxenus' mentor, and another pedagogical maxim is placed in his mouth. In this context, the advice "not to tell everybody everything" may mean: "one should not say the same things to children (or adolescents) as to adults."⁷⁵ Even if we understand these words in a broader sense, "one should not blurt out all one's secrets too freely," this sensible advice, which Aristoxenus takes from the mid-fourth-century Pythagoreans, still need not imply secrecy in Pythagoras' teaching. The precepts of the Seven Sages, whom nobody seems to have suspected of secret teaching, are full of such advice.⁷⁶ Since Aristoxenus consistently avoided reporting anything about the Pythagoreans that went beyond the accepted norms of his day, he could hardly have meant anything other than the folk wisdom enshrined in the pronouncements of the sages. In general Aristoxenus' writings, especially the *Pythagorean Precepts*, have much in common with traditional wisdom.⁷⁷ It seems that quite often he felt free to claim it for the wisdom of the Pythagoreans.

To Aristoxenus' fr. 43 about Pythagorean education, discussed above, Wehrli attached the preceding words of Diogenes Laertius on the secrecy of the teaching until the time of Philolaus (8.15).⁷⁸ This is

⁷⁵ In the light of the tradition on Pythagoras' speeches addressed to groups of differing age and sex (Antisthenes fr. 51 Decleva Caizzi; Dicaearchus fr. 33 Wehrli and Timaeus *ap.* Justin 20.4), this interpretation seems highly likely. Aristoxenus also mentions the different responsibilities of the four age groups: children, adolescents, adults, and old people (fr. 35 Wehrli).

⁷⁶ Stob. 3.1.172 = DK 10A3, from the collection of the Peripatetic Demetrius of Phaleron. Cleobulus: "Listen much and say little" (4, cf. 6: "Keep your tongue in check"); Solon: "Seal your words with silence, and silence with the seal of the fitting moment" (5); "If you know, keep silent!" (18); Chilon: "When drinking, do not talk too much; you will regret it" (2); "Do not let your tongue overtake your mind" (14); cf. D.L. 1.69: "What is hard? To keep a secret"; Bias: "Listen much, and speak at the right moment" (10–11, cf. 4 and 17), Periander: "Betray no secret speeches" (14).

⁷⁷ Cf., e.g., respect for one's parents: Cleobulus (2), Thales (6), Periander (10) and Aristox. fr. 34 Wehrli, cf. also Xen. *Mem.* 4.4.19; controlling one's anger: Chilon (15) and Aristox. fr. 30 Wehrli; the primacy of old laws over new ones: Periander (16) and Aristox. fr. 33–4 Wehrli; criticism of lack of moderation: Cleobulus (10 and 17), Thales (12) and Aristox. fr. 17 Wehrli.

⁷⁸ "Until the time of Philolaus, it was not possible at all to learn the Pythagorean teaching. But he alone brought fourth the famous three books which Plato asked in a letter to be bought for 100 minae" (tr. Huffman).

clearly wrong: the quotation from Aristoxenus begins with “and the rest of the Pythagoreans said” (ἔλεγόν τε καὶ οἱ ἄλλοι Πυθαγόρειοι; fr. 36–8 and 41 also begin with “they said” [ἔλεγον, ἔφασκον, ἔφασσαν]). What we have in Diogenes is his yet another clumsy attempt to meld together two different sources and thus confirm the secrecy of Pythagorean teaching. Apart from anything else, Aristoxenus could not have written of “three books” (τρία βιβλία) published by Philolaus, because the pseudo-Pythagorean tripartitum appeared at the end of the third century.⁷⁹ In the fifth- and fourth-century sources we find not one word about the oral nature of Pythagoreanism before Philolaus.

⁷⁹ See Burkert (1972) 226 n. 40.

