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THE ATTITUDES OF MEDIEVAL ARABIC INTELLECTUALS TOWARDS PYTHAGOREAN PHILOSOPHY: DIFFERENT APPROACHES AND WAYS OF INFLUENCE

Introduction

It would be nothing new to write that Arabic translators selected texts which had been left to them by Late Antiquity, in particular by the intellectual circles of Alexandria.¹ The contents of this heritage determined both what the Arabic intellectuals knew about the lives and ideas of Greek philosophers. Importantly, it was not only the 'pure knowledge' that was translated; to a certain degree, the attitudes displayed by late antique authors towards earlier philosophers were transmitted as well. These attitudes, in turn, had a strong influence on the position and reputation of a given philosopher within Arabic philosophy and philosophical historiography; they could, for instance, determine whether a particular philosopher was to be marginalised or to receive extensive attention. For this reason, Arab attitudes towards Pythagorean philosophy are closely connected with the prominence of Aristotle and his commentators in Late Antiquity.

Aristotle himself was rather critical of Pythagoreanism, and his treatment of this philosophical current is always selective and sometimes dismissive. In general, this was his approach towards all of his predecessors.² He selected the elements he needed in order to present his own theories, but considered the earlier philosophers to be imperfect pioneers who anticipated only some elements of his own philosophy. Therefore, his aim was not to present the ideas of the Presocratic thinkers, nor to affiliate himself with any of the philosophers or philosophical currents he quoted. Moreover, some of

¹ For the importance of the late antique Alexandrian intellectual circles for the Arabs, see D. Gutas, 'Pre-Plotinian philosophy in Arabic (other than Platonism and Aristotelianism): A review of the sources', [in:] H. Temporini and W. Haase (eds.), *Philosophie. Wissenschaften, Technik. Systematische Themen; Indirekte Überlieferungen; Allgemeines; Nachträge* [= *Aufstieg und Niedergang der Römischen Welt* II 36.7], Berlin 1993, pp. 4939–4973; idem, 'Greek philosophical works translated into Arabic', [in:] R. Pasnau (ed.), *The Cambridge History of Medieval Philosophy*, Cambridge 2010, pp. 802–814; G. Endreß, 'Athen–Alexandria–Bagdad–Samarkand. Übersetzung, Überlieferung und Integration der griechischen Philosophie im Islam', [in:] P. Bruns (ed.), *Von Athen nach Bagdad: Zur Rezeption griechischer Philosophie von der Spätantike bis zum Islam* [= *Hereditas* 22], Bonn 2003, pp. 42–62.

² H. Cherniss, *Aristotle's Criticism of Presocratic Philosophy*, Baltimore 1935.

his predecessors – such as Plato or the Pythagoreans – became objects of his critique, since he developed his own reasoning in opposition to their arguments. In this respect, Aristotle differed substantially from Plato. Although the latter does not mention his predecessors as often as the former, he seems to be respectful towards them. In particular, he treats the Pythagoreans – either directly or through allusions – as important philosophical authorities, whose theories should always be taken seriously (as for example in *Phaedo* or *Timaeus*).

The late antique commentators on Aristotle and Plato merged these two attitudes and thus toned down Aristotle's own approach, attributing to Pythagoras much more importance than Aristotle did originally.³ Certainly, the background for this transformation was an increased interest in Pythagoreanism. Since the first century BC, this philosophical tradition secured its position as part of the Platonist-Pythagorean conglomerate, one of the leading philosophical currents of later Antiquity.⁴ One of the most famous and influential philosophers in this current – both in the late antique Greek and medieval Arabic worlds – was Nicomachus of Gerasa (d. AD 120). He was considered a Pythagorean and his work, *Introduction to Arithmetic*,⁵ was commented upon by many Greek and Arabic authors, and it was very often their main source of knowledge about Pythagoreanism.

Consequently, the attitudes of late antique authors toward Pythagoras and the philosophy he founded were not simple or homogeneous. One can distinguish at least three dominant motifs which shaped these attitudes: Aristotle's critical approach; Pythagoras seen as a pagan 'prophet', a religious-philosophical authority and the first philosopher; the popular interests in the Pythagoreanism and its development as a lively philosophical current in both the Roman Empire and in Late Antiquity. These motifs are also visible in later Arabic attitudes towards Pythagoras and his philosophy.

In this paper, I will present a survey of these attitudes as visible in the extant philosophical and historiographical literature of the Arabic Middle Ages. I will begin by reconstructing the general image of Pythagoras in Arabic histories of philosophy, in particular his reputation in comparison to other Greek philosophers. I will then proceed to an analysis of attitudes held by particular Arabic philosophers or philosophical groups in chronological order, starting with al-Kindī and Thābit ibn Qurra, both of whom appear to have had a favourable opinion of Pythagoras, although the sources are too scarce to allow certainty in this respect. These first Arabic philosophers will be followed by Ikhwān al-Ṣafā', Arabic alchemical writings, and Muḥammad ibn Zakariyā' al-Rāzī, all of whom shared a positive view of Pythagoras. In the subsequent section, I will present examples of critical or disrespectful attitudes, with al-Ghazālī as the most

³ For instance, Alexander of Aphrodisias or Syrianus in their commentaries on Aristotle's *Metaphysics*. Both commented extensively on very short passages of Aristotle, paying much more attention – and showing much more respect – to Pythagorean ideas.

⁴ D.J. O'Meara, *Pythagoras Revived: Mathematics and Philosophy in Late Antiquity*, Oxford 1989; G. Staab, *Pythagoras in der Spätantike: Studien zu 'De Vita Pythagorica' des Iamblichos von Chalkis [= Beiträge zur Altertumskunde 165]*, München 2002.

⁵ R. Hoche (ed.), *Nicomachi Geraseni Pythagorei introductionis arithmeticae libri ii*, Leipzig 1866; useful overviews of the research on Nicomachus: B. Centrone and G. Freudenthal, 'Nicomaque de Gerasa', [in:] R. Goulet (ed.), *Dictionnaire des philosophes antiques*, vol. 4, Paris 2005, pp. 686–694; regarding his reception in the Arabic world, see S. Brentjes, 'Untersuchungen zum Nicomachus Arabus', *Centaurus* 30 (1987), pp. 212–292; S. Diwald, *Arabische Philosophie und Wissenschaft in der Enzyklopädie*, vol. 3: *Die Lehre von Seele und Intellekte*, Wiesbaden 1975, p. 33.

prominent critic of Pythagoreanism. The present study will conclude with an analysis of the view of Pythagoras in the writings of al-Suhrawardī, who reworked several earlier elements of the Arabic authors' image and evaluation of Pythagoras to suit his own philosophical system. In the conclusion, I will try to explore and explain some more general mechanisms that seem to influence the approach of particular authors to the figure and philosophy of Pythagoras.

General image of Pythagoras in the Arabic histories of philosophy

Already in Late Antiquity, Pythagoras and Pythagoreanism were known primarily through various gnomologies (collections of sayings of philosophers, for instance Stobaeus's *Anthologium* and many other collections of *gnomai*), doxographies (like Pseudo-Plutarch's *Placita philosophorum*) and histories of philosophy (such as Diogenes Laertius's work or Porphyry's *History of philosophy*), as well as commentaries on classic philosophical texts. Some of these works, in turn, became a primary source for Arab knowledge of Presocratic philosophy, and they remain one of the principal sources for the study of Pythagoreanism and, in particular, the image of Pythagoras in the medieval Arabic world.⁶ There are some Arabic histories of philosophy, containing separate chapters on Pythagoras, his life, doctrine and sayings. Such chapters occur in works such as the *Ṣiwān al-ḥikma* circle of texts (which consists of its various abbreviated versions and an anonymous gnomologium edited by D. Gutas, called the *Philosophical Quartet*), as well as works by Ibn Durayd, Ibn Hindū, al-Mubashshir ibn-Fātik, Ibn Abī 'Uṣaybī'a, al-Shahrastānī, and al-Shahrazūrī. These authors situated Pythagoras and his philosophy within a larger context of Greek and Arabic philosophical schools and religious sects, and thus they did not show any special sympathy for this particular figure. It is difficult to claim that these authors had any specific attitude towards philosophers they presented. Neither did they disclose any inclinations towards particular thinkers, nor did they add any personal comments. In most cases their histories of philosophy are compilations of Greek gnomologies translated into Arabic, as well as doxographies (the doxography *Placita philosophorum* attributed to Plutarch, composed probably by Aetius,⁷ and *Book on the Opinions of the Philosophers* attributed to Ammonius, probably based on Hippolytus's *Refutatio omnium haeresium*⁸) and histories of philosophy (among which the chapter on Pythagoras from Porphyry's *History of philosophy* was the most influential). Due to their character, gnomologies often attribute the sayings or anecdotes to an incorrect philosopher, as compared to the earlier Greek tradition (which, of course, was not always entirely consistent).⁹

⁶ See classification and description of all the existing types of sources on this subject in D. Gutas, 'Pre-Plotinian philosophy in Arabic'.

⁷ See H. Daiber, *Aetius Arabus: die Vorsokratiker in arabischer Überlieferung* [= *Akademie der Wissenschaften und der Literatur Mainz. Veröffentlichungen der Orientalischen Kommission* 33], Wiesbaden 1980.

⁸ See U. Rudolph, *Die Doxographie des Pseudo-Ammonios: ein Beitrag zur Neuplatonischen Überlieferung im Islam*, Stuttgart 1989.

⁹ See G. Strohmaier, 'Ethical sentences and anecdotes of Greek philosophers in Arabic tradition', [in:] G. Strohmaier (ed.), *Von Demokrit bis Dante. Die Bewahrung antiken Erbes in der arabischen Kultur*, Hildesheim-Zürich-New York 1996, pp. 44-52; D. Gutas, *Greek Wisdom Literature in Arabic Translation: a Study of the Graeco-Arabic Gnomologia*, New Haven 1975.

In the case of Pythagoras, another key source of knowledge for the Arabs were the *Golden Verses*;¹⁰ the translation of this philosophical poem attributed to Pythagoras is part of chapters on Pythagoras in Arabic histories of philosophy, or sometimes even their only content (for instance, al-Anṣārī's extract of *Nawādir al-falāsifa* (*Sayings of Philosophers*) of Ḥunayn ibn Ishāq (d. 873) and *al-Ḥikma al-khālida* (*Book of Eternal Wisdom*) of Miskawayh (d. 1030)). These verses were also widely used in other literary contexts.¹¹ Their popularity certainly results from the character of the poem, its relatively easy and generally acceptable ethical content, as well as its gnomological form (a master giving advice to his student).

It is important to note that this entire group of sources, as well as several other related texts, present Pythagoras as the first Greek philosopher and, indeed, the first who used the word 'philosophy'. Moreover, some of these texts give a list of the most significant Greek thinkers. In one of its most popular versions, the list includes five figures: Empedocles, Pythagoras, Socrates, Plato and Aristotle. The philosopher Abū al-Ḥasan Muḥammad ibn Yūsuf al-ʿAmirī (d. 992) presents them in his treatise *Al-Amad 'alā 'l-abad* (*On the Afterlife*) as those who transmitted to each other the wisdom of the prophet Luqmān¹² and writes that they all 'were described as wise'.¹³ He ends his description of Pythagoras by saying: 'He claimed that he had acquired these sciences from the niche of prophecy';¹⁴ it is an Islamic expression coming from the Qur'an (XXIV 35), which certain later Arabic authors respectfully repeated in their descriptions of Pythagoras. It points at the exceptional, prophetic and quasi divine status of this philosopher in their eyes.¹⁵

In 'Amirī's view these five key Greek philosophers were essentially in agreement, passing the wisdom from master to student and continuing the predecessor's thoughts without entering in conflict with his views. Only these Greek philosophers could be called true sages, meaning only they possessed true wisdom – the real knowledge of everything, not merely one specific domain of the universe restricted to one scientific discipline. 'Amirī makes this point clear in the conclusion of the section which presents the five thinkers:

¹⁰ P.C. van der Horst (ed.), *Les vers d'or pythagoriciens*, Leyde 1932; J.C. Thom, *The Pythagorean Golden Verses: with Introduction and Commentary*, Leiden 1995.

¹¹ See M. Ullmann, *Griechische Spruchdichtung in Arabischen*, Tübingen 1959; F. Rosenthal, 'Some Pythagorean documents transmitted in Arabic', *Orientalia* 10 (1941), pp. 104–115; C. Baffioni, "'Detti aurei" di Pitagora in trasmissione araba', [in:] V. Placella and S. Martelli (eds.), *I moderni ausili all'ecdotica. Atti del Convegno Internazionale di Studi (Fisciano-Vietri sul Mare-Napoli, 27-31 ottobre 1990)* [= *Pubblicazioni dell'Università degli studi di Salerno. Sezione atti, convegni, miscellanea* 39], Napoli 1994, pp. 107–131; H. Daiber, *Neuplatonische Pythagorica in arabischem Gewande: der Kommentar des Iamblichus zu den Carmina aurea; ein verlorener griechischer Text in arabischer Überlieferung*, Amsterdam 1995; N. Linley (ed.), *Proclus' commentary on the Pythagorean Golden Verses*, Buffalo 1984; A. Izdebska, 'Spolia i zatarte ślady. Pisma przypisywane Pitagorasowi w tradycji arabskiej', *Studia Antyczne i Mediewistyczne* 10 (2012), pp. 139–156.

¹² He was a legendary hero and sage of pre-Islamic Arabia and also appeared in the Qur'an. See B. Heller and N.A. Stillmann, 'Luqmān', [in:] P. Bearman, Th. Bianquis, C.E. Bosworth, E. van Donzel, W.P. Heinrichs (eds.), *Encyclopaedia of Islam. Second Edition 2012*, Brill Online 2013, http://referenceworks.brillonline.com/entries/encyclopaedia-of-islam-2/lukman-COM_0586, accessed 8 August 2013.

¹³ E.K. Rowson, *Al-'Amirī on the Afterlife: a Translation with Commentary of His "Al-Amad 'alā al-abad"*, New Haven 1982, p. 88.

¹⁴ *Ibidem*.

¹⁵ See E.K. Rowson's commentary in *Al-'Amirī on the Afterlife*, p. 232.

These five were described as Sages. But none of the Greeks who came after them were called Sages. Rather, to every one of them was ascribed an art. Or a way of life – for example, Hippocrates the Physician, Homer the Poet, Archimedes the Geometer, Diogenes the Cynic, and Democritus the Physicist.¹⁶

The work of ‘Amirī served as a source for several later texts, including the popular history of Greek and Arabic philosophy *Šiwān al-ḥikma* (*The Depository of Wisdom*) attributed to philosopher Abū Sulaymān Muḥammad al-Sijistānī al-Manṭiqī (d. 985), which we know from later recensions¹⁷ as *Muntakhab Šiwān al-ḥikma* and *Mukhtaṣar Šiwān al-ḥikma*. According to D. Gutas, the fact that the anonymous gnomology which he called the *Philosophical Quartet* restricts itself to just four philosophers (Pythagoras, Socrates, Plato and Aristotle) is due to *Muntakhab*’s statement about ‘five true sages’. In his view, the *Philosophical Quartet* also represents some sort of selection from the original, no-longer-extant text of the *Šiwān al-ḥikma*; since the author of the *Quartet* did not in all probability find the chapter on Empedocles in the version which seems to have been at his disposal, he focused solely on the four sages¹⁸.

Finally, another author who is clearly dependent on the same original source is Sa‘id al-Andalusī (d. 1070) in his *Ṭabaqāt al-umām* (*Book of the categories of nations*):

The greatest of the Greek philosophers are five: historically the first one is Empedocles, then Pythagoras, Socrates, Plato and Aristotle, the son of Nicomachus. There is general agreement that those five are the ones who deserve to be called philosophers of Greece.¹⁹

Interestingly, al-Shahrastānī (d. 1153) in his heresiographical treatise *Kitāb al-milal wa-l-nihāl* (*Book of Religions and Sects*) gave a slightly different list of the key Greek philosophers. He mentions seven sages (*ḥukamā*) who were ‘pillars of wisdom’ (*asāṭin al-ḥikma*) in the introductory part of the section on Greek philosophy: Thales, Anaxagoras, Anaximenes, Empedocles, Pythagoras, Socrates and Plato.²⁰ Thus, this is a chronological list of the first Greek philosophers, rather than a selection of the most important ones among them (it does not contain Aristotle who should certainly be on such a list).

Neither on this list, nor within the tradition of the five key Greek philosophers which started with ‘Amirī is Pythagoras the first to be named; the philosophers are, instead, presented in chronological sequence. However, the primacy of Pythagoras is a very important motif in the testimony attributed to Plutarchus, cited by Ibn al-Nadīm in *Kitāb al-Fihrist* (*Index*)²¹ and Ibn Abī ‘Uṣaybī’a in ‘*Uyūn al-anbā’ fī-ṭabaqāt al-aṭibbā*’ (*Lives of the Physicians*).²² According to them it was Pythagoras who first called philosophy by this name. Also in the *Muntakhab* version of the *Šiwān al-ḥikma*, the story of the

¹⁶ Rowson, *Al-‘Amirī on the Afterlife*, p. 91.

¹⁷ See D. Gutas, ‘The Šiwān al-ḥikma cycle of texts’, *Journal of the American Oriental Society* 102 (1982), pp. 645–650; and also the introduction to *The Muntakhab Šiwān al-ḥikmah of Abū Sulaymān al-Sijistānī: Arabic Text, Introduction, and Indices*, D.M. Dunlop (ed.), Hague-New York 1979.

¹⁸ Gutas, *Greek Wisdom Literature in Arabic Translation*, pp. 434–435.

¹⁹ Šā‘id al-Andalusī, *Science in the Medieval World: ‘Book of the Categories of Nations*’, transl. S.I. Salem, Austin 1991, p. 21.

²⁰ Muḥammad al-Shahrastānī, *The Book of Religious and Philosophical Sects*, W. Cureton (ed.), London 1846, p. 253.

²¹ Ibn al-Nadīm, *Kitāb al-Fihrist*, G. Flügel (ed.), Beirut 1964 (1871), p. 245.

²² Ibn Abī ‘Uṣaybī’a, ‘*Uyūn al-anbā’ fī-ṭabaqāt al-aṭibbā*’, A. Müller (ed.), Cairo 1882, p. 70.

origins of Greek philosophy begins with Thales, but soon recognises the preeminence of Pythagoras:

It is also told that philosophy had a different beginning, namely from Pythagoras, son of Mnesarchos, who came from Samos, and he is said to have been the first who called philosophy by its name.²³

As one can see from this historiographical material, the figure of Pythagoras is undoubtedly eminent and respected, because of both his precedence and because of his inclusion in the group of the first and most important Greek philosophers or sages. Such an image may have had a positive influence on the attitudes of Arabic authors towards this figure; and it may also have encouraged interest in his life and philosophy, and rendered the task of continuing and assimilating his philosophical tradition genuinely attractive.

The earliest evaluation of Pythagoras by Arabic philosophers

Al-Kindī

Having completed our survey of Pythagoras as he appears within the Arabic histories of philosophy, it is now time to analyse the attitudes of particular Arabic thinkers. Of course, in dealing with the ‘first Greek philosopher’ one must begin with his Arab counterpart in ‘primacy’, al-Kindī (d. c. 873). Because of his important role in the transmission of Greek philosophy into Arabic, that his general attitude to this heritage was positive. Not only did al-Kindī take much from the Greek philosophical tradition, but he also felt responsible for establishing it within Arabic culture, as well as for persuading his contemporaries of its value.²⁴ However, it is not easy to reconstruct his particular attitude towards Pythagoreanism (if he had any at all). It is possible to identify certain elements of Pythagorean theories in his writings; yet al-Kindī himself may have not been aware of their Pythagorean origins. He made some use of Pythagorean mathematics²⁵ and music theory (which are closely interlinked)²⁶ in his writings, but these theories were most probably taken from Nicomachus of Gerasa’s *Introduction to Arithmetic*.²⁷ While we have evidence that al-Kindī was familiar with this work²⁸ – and it was generally treated as a source of knowledge about Pythagorean philosophy, both in Late Antiquity and the Arabic Middle Ages – it is difficult to ascertain whether al-Kindī himself treated doctrines taken from Nicomachus as Pythagorean. However, the Pythagorean notion of

²³ Al-Sijistānī, *The Muntakhab Siwān al-ḥikmah of Abū Sulaimān al-Sijistānī*, p. 4.

²⁴ P. Adamson, *Al-Kindī*, New York 2007, p. 29.

²⁵ See for example C. Baffioni, ‘Platone, Aristotele e il pitagorismo kindiano’, *Annali dell’Istituto Universitario Orientale di Napoli. Pubblicazioni* 45 (1985), pp. 135–144.

²⁶ See F. Shehadi, *Philosophies of Music in Medieval Islam*, Leiden 1995; and C. Baffioni, ‘La scala pitagorica in al-Kindī’, [in:] R. Traini (ed.), *Studi in onore di Francesco Gabrieli nel suo ottantesimo compleanno*, Roma 1984, pp. 35–42.

²⁷ Adamson, *Al-Kindī*, p. 173.

²⁸ Adamson, *Al-Kindī*, pp. 27–28; G. Freudenthal and T. Levy, ‘De Gérase à Bagdad: Ibn Bahrīz, al-Kindī, et leur recension arabe de l’*Introduction Arithmétique* de Nicomaque, d’après la version hébraïque de Qalonymos ben Qalonymos d’Arles’, [in:] R. Morelon and A. Hasnawi (eds.), *De Zénon d’Élée à Poincaré. Recueil d’études en hommage à Roshdi Rashed*, Louvain 2004, pp. 479–544.

the One as the highest principle and the first cause of everything is also strongly present in al-Kindī's writings.²⁹ At the very beginning of the treatise *Fī al-falsafa al-ūlā* (*On First Philosophy*), he wrote that 'The cause of the existence and continuance of everything is the True One',³⁰ which sounds very Pythagorean. However, due to the lack of direct references to the Pythagorean tradition, the idea alone cannot serve as proof of al-Kindī's direct knowledge of Pythagorean doctrine, nor of his attitude towards it. Thus, while several of his statements are undoubtedly very close to the Pythagorean theories – in particular to their late antique versions – it is impossible to determine whether al-Kindī himself associated these views with the Pythagorean tradition as such.

In addition, the existence of direct mentions of the name of Pythagoras in al-Kindī's writings is problematic. There is one passage which might suggest that Pythagoras was a philosophical authority for al-Kindī: it is in his *Al-qawl fī 'l-nafs* (*Discourse on the Soul*), where he discusses the opinions of the main Greek philosophers in order to show that they were in agreement concerning immateriality and immortality of the soul.³¹ These are mainly quotations from Plato and Aristotle, but there is also one long quotation attributed to a Greek philosopher whose name, mentioned at the beginning and the end of the quotation, is difficult to read in the manuscripts.³² According to G. Furlani – who translated and wrote a brief commentary on this text – the name can be read as Epicurus, although he admits that al-Kindī appeared to know nothing about Epicurus but, for some reason, put in this philosopher's mouth a discourse about the purification of the soul from bodily desires through philosophical knowledge, and about its return to the light of God to which it really belongs; moreover, this discourse also includes statements that the soul lives its worldly life as in illusion, because its true life is its immortality with God in heaven. All of this is, in fact, quite distant from the philosophy of Epicurus, yet it is very close to Pythagoreanism, especially in its late antique version. It also accords with the philosophical vision of the *Golden Verses*, which use the same images and draw upon the same general philosophical understanding of the world. Furthermore, P. Adamson, in his monograph about al-Kindī, interpreted this name not as 'Epicurus', but as 'Pythagoras'.³³ If he is right (and the content of the quotation would confirm this interpretation), one may draw the conclusion that Pythagoras was, just after Plato and Aristotle, one of the most important Greek philosophical authorities, at least with regard to psychology and eschatology. Indeed, these were precisely the parts of Pythagoreanism that would later become most influential among the Arabs.

Given the scarcity of the sources that would allow us to reconstruct al-Kindī's attitudes towards Pythagoras with any certainty, it is worth analysing the information we have about one of his students, Aḥmad ibn al-Ṭayyib al-Sarakhsī (d. 899).³⁴ Although his

²⁹ See introduction in A.L. Ivry, *Al-Kindī's Metaphysics: A Translation of Ya'qub Ibn Ishāq Al-Kindī's Treatise 'On First Philosophy' (Fī al-falsafah al-ūlā)*, Albany 1974, pp. 20–21.

³⁰ Ivry, *Al-Kindī's Metaphysics*, p. 55.

³¹ See G. Furlani, 'Una risala di al-Kindī sull'anima', *Rivista Trimestrale di Studi Filosofici e Religiosi* 3 (1922), pp. 50–63; Adamson, *Al-Kindī*, pp. 29 and 113.

³² Furlani, 'Una risala di al-Kindī sull'anima', pp. 54–56 and 60–61; Adamson, *Al-Kindī*, p. 113.

³³ Adamson, *Al-Kindī*, p. 113.

³⁴ About him, see: F. Rosenthal, *Aḥmad b. al-Ṭayyib as-Sarakhsī*, New Haven 1943, and P. Adamson, 'Al-Sarakhsī, Aḥmad ibn al-Ṭayyib', [in:] H. Lagerlund (ed.), *Encyclopedia of Medieval Philosophy: Philosophy between 500 and 1500*, Dordrecht–New York 2011, pp. 1174–1176.

writings are almost entirely lost (only some fragments have been preserved), lists of his works were transmitted by later authors. These lists may serve as a source of information about attitudes towards Pythagoras in al-Kindī's circle. While it is impossible to determine the degree to which their contents resembled al-Kindī's views, al-Sarakhsī was, in the opinion of F. Rosenthal, not a very original author and depended strongly on his master. In his monograph about al-Sarakhsī he wrote that he would rather present himself as a 'transmitter on the authority of al-Kindī, and only later did he acquire the honor of being considered the author'.³⁵ This observation can be helpful in arguing for a connection between al-Kindī and one of al-Sarakhsī's writings, mentioned by Ibn Abī 'Uṣaybī'a³⁶ and Ḥājī Khalīfa (Kâtip Çelebi)³⁷, entitled *Kitāb fī waṣāyā Fīṭāghūras* (*Book on the Exhortations of Pythagoras*), a commentary to the Pythagorean *Golden Verses*. If these two authors are not mistaken,³⁸ the attribution of such a commentary to al-Kindī's student can indicate that the philosopher himself knew the *Golden Verses* and showed genuine interest in their philosophical content. This seems highly probable, if we take into account the widespread popularity of this Pythagorean text in the Medieval Arabic world, as well as the fact that it was known to the Arabs since the very beginnings of the translation movement, in which al-Kindī was also involved.

Thābit ibn Qurra

Another author closely connected with the translation movement – and probably also interested in Pythagoreanism – was Thābit ibn Qurra (d. 901). He was first of all a translator (from Greek and Syriac) and a mathematician-astronomer, thus his philosophical interests were of secondary importance. He dealt primarily with the philosophy of mathematics, and his attitude to the Greek heritage was in general very positive. Importantly, he was a translator of Greek texts from Ḥarrān, and was thus a member of the Sabeen community in which some form of Hellenic religion had survived into the eighth century, and which may have considered Pythagoras to be one of its prophets.³⁹ When one combines this background with his scientific interests in mathematics, the Pythagorean tradition must have been equally as interesting for him as the writings of Euclid, Archimedes or Apollonius of Perge. Thābit ibn Qurra produced the translation of Nicomachus of Gerasa's *Introduction to Arithmetic*,⁴⁰ which was probably the most important text about the Pythagorean philosophy of mathematics and metaphysics of numbers known to the Arabs. Although, once again, it is difficult to identify direct

³⁵ Rosenthal, *Aḥmad b. aṭ-Ṭayyib as-Sarakhsī*, p. 18.

³⁶ Ibn Abī 'Uṣaybī'a, 'Uyūn al-anbā' fī-ṭabaqāt al-aṭibbā', p. 294.

³⁷ Ḥājī Khalīfa, *Kashf al-zunūn an asāmī al-kutub wa-al-funūn. Lexicon bibliographicum et encyclopaedicum ad codicum Vindobonensium, Parisiensium et Berolinensium*, G. Flügel (ed.) 5, Leipzig-London 1850, p. 169.

³⁸ See F. Rosenthal, 'Fīṭāghūras', [in:] P. Bearman, Th. Bianquis, C.E. Bosworth, E. van Donzel, W.P. Heinrichs (eds.), *Encyclopaedia of Islam. Second Edition*, Brill Online 2013, http://referenceworks.brillonline.com/entries/encyclopaedia-of-islam-2/fithaghuras-SIM_2388, accessed 8 August 2013. F. Rosenthal wrote that the attribution of this text to al-Sarakhsī can result from mistaking him with 'Abdallah ibn al-Ṭayyib – the translator of the commentary to the Pythagorean *Golden Verses* attributed to Proclus.

³⁹ Muḥammad ibn Aḥmad al-Bīrūnī, *The Chronology of Ancient Nations: an English Version of the Arabic Text of the Athār-ul-bākiya of Albīrūnī, or 'Vestiges of the Past'*, (trans.) E. Sachau, Frankfurt 1969 (1879), p. 187; Mas'ūdī, *al-Tanbīh wa-al-ishrāf*, M.J. de Goeje (ed.) [= *Bibliotheca Geographorum Arabicorum* 8], Leiden 1894, pp. 161–162.

⁴⁰ W. Kutsch (ed.), *Tābit b. Qurra's arabische Übersetzung der Arithmetike eisagoge des Nikomachos von Gerasa*, Beirut 1959.

references to Pythagoras in Thābit ibn Qurra's writings, the facts mentioned above – together with the presence of the elements from Pythagorean mathematics in his own theories (for instance, the famous Pythagorean theorem⁴¹) – clearly indicate his appreciation of this philosophical tradition. It is further confirmed by the *Šiwān al-ḥikma* (in the *Muntakhab* version) which contains the following anecdote in the chapter on Thābit ibn Qurra: in a conversation which took place in his presence, someone presented in relative detail the Pythagorean philosophy of numbers and asked Thābit ibn Qurra for his opinion on these theories. He is said to have started his answer by paying homage to Pythagoras's wisdom and spiritual superiority. He continued by saying that, in terms of the theory of numbers, Pythagoras surpassed those who followed him, including Thābit ibn Qurra's contemporaries, but that, since his writings had been lost, it was no longer possible to learn his theories. In his final statement, he makes clear that he agrees with the Pythagorean idea that numbers and figures are embedded in the reality which we perceive.⁴²

Of course, it is impossible to establish whether this anecdote has anything to do with Thābit's actual words, or whether it is just an invention of his biographers. However, even if the story was invented, it remains a testament to the respect Thābit was later believed to have shown towards the philosophy of Pythagoras and his successors. Moreover, the passage displays not merely a general esteem for Pythagoras, but rather for a very specific and important element of Pythagorean philosophy, namely the theory of numbers as the principle of the world, to which Thābit is able to refer in quite a detailed way. The very fact that there is a direct question to Thābit, asking for his opinion about the Pythagoreanism, makes this passage a distinctive testament to the attitudes of Arabic intellectuals towards this philosophical tradition.

The Arabic 'followers' of Pythagoras

Ikhwān al-Ṣafā'

Thābit's particularly respectful attitude, combined with the interests in Pythagorean mathematics, philosophy of mathematics and metaphysics of numbers, was also shared by the group of anonymous authors who called themselves Ikhwān al-Ṣafā' (Brethren of Purity). They created a collection of fifty two philosophical treatises entitled *Rasā'il (Epistles)*, which constitute a sort of encyclopaedia of philosophical knowledge.⁴³ Despite the lack of consensus among modern scholars regarding the precise dating of this collection, one can safely treat them as texts produced in the ninth-tenth centuries. The *Epistles* of Ikhwān al-Ṣafā' have been connected explicitly with Pythagoreanism, especially since the publication of the monograph of Y. Marquet.⁴⁴ His main idea was that Pythagoreanism, made available to the Ikhwān by the Sabeans from Harran,

⁴¹ A. Sayili, 'Thabit ibn Qurra's generalization of the Pythagorean Theorem', *Isis* 51 (1960), pp. 35–37.

⁴² Al-Sijistānī, *The Muntakhab Šiwān al-ḥikmah of Abū Sulaimān as-Sijistānī*, p. 124; see also R. Rashed, *Thabit Ibn Qurra. Science and Philosophy in Ninth-Century Baghdad*, Berlin–New York 2009, p. 703.

⁴³ *Rasā'il Ikhwān al-Ṣafā' wa-khillān al-wafā'*, B. Bustānī (ed.), vols. 1–4, Beirut 1957.

⁴⁴ Y. Marquet, *Les 'Frères de la pureté' pythagoriciens de l'islam: la marque du pythagorisme dans la rédaction des épîtres des Iḥwan aṣ-Ṣafā'*, Paris 2006.

played a very important role in their philosophical system. Marquet even claims that, in the chronological order of the treatises (as he reconstructs it), one may recognise how the Sabeian masters gradually initiated the Ikhwān al-Safā' to Pythagorean doctrines. However, D. de Smet has demonstrated the many problems raised by such an interpretation, as well as the vague source base on which it is grounded.⁴⁵ In his opinion, almost everything that Marquet considers Pythagorean was, in fact, part of the Neoplatonic syncretic system common to both Late Antique and Medieval Arabic philosophy. According to him, it is impossible to distinguish any specifically Pythagorean ideas within this conglomerate. De Smet, in his review of Marquet's book, also observes that the Ikhwān never presented themselves explicitly as Pythagoreans and that, throughout the entire two thousand pages of the Beirut edition of the *Epistles*, Pythagoras or Pythagoreans are mentioned by name only fourteen times.⁴⁶

However, according to C. Baffioni who studied all the Greek quotations in the *Epistles*, Pythagoras is mentioned fifteen times and Pythagoreans ten times.⁴⁷ It is worth noting that these are rather high numbers compared with the mentions of other Greek authors; Plato and Aristotle, for instance, appear less frequently than Pythagoras (respectively ten and eight times), while many important Greek philosophers are not mentioned at all.⁴⁸ Moreover, the number of mentions of Pythagoras or Pythagoreans in the *Epistles* is also relatively high compared to the frequency with which other Arabic philosophers (or historians of philosophy) mention the names of Greek philosophers, in particular such popular figures as Aristotle or Plato. However, it is not the number of mentions which allow us to determine the attitude of the Ikhwān al-Safā' towards Pythagoras, but rather the context and the ways in which these names appear in the text.

In at least a few places where the Ikhwān mention the name of Pythagoras they clearly treat him in a special way. In the fifth *Epistle*, entitled *On Music*, there appears an element of Pythagoras's legend that was characteristic of the Greek tradition. Pythagoras is said to have been given a special nature, different to the one shared by other people, that allowed him to hear the music made by the movements of spheres⁴⁹:

It is said that because of the purity of the substance of his soul and the intelligence of his heart, Pythagoras the sage was able to hear the tones of the movements of the celestial spheres and the heavenly bodies, and through the outstanding quality of his thought was able to derive the basic principles of music and the tones of melodies. He is the first of the sages to have spoken about this science and to have given instruction concerning this secret.⁵⁰

⁴⁵ D. de Smet, 'Yves Marquet, les Iḥwan al-Ṣafā' et le pythagorisme', *Journal asiatique* 295 (2007), pp. 491–500.

⁴⁶ De Smet, 'Yves Marquet, les Iḥwan al-Ṣafā' et le pythagorisme', p. 498.

⁴⁷ C. Baffioni, 'Fragments et témoignages d'auteurs anciens dans les Rasā'il des Ikhwān al-Safā'', [in:] A. Hasnawi, A. Elamrani-Jamal and M. Aouad (eds.), *Perspectives arabes et médiévales sur la tradition scientifique et philosophique grecque* [= *Orientalia Lovaniensia Analecta* 79], Louvain–Paris 1997, pp. 319–329, especially p. 322.

⁴⁸ These numbers occur in the article by C. Baffioni ('Fragments et témoignages d'auteurs anciens dans les Rasā'il des Ikhwān al-Safā'', on p. 322). Whereas they are a little bit different in her book printed three years earlier (Pythagoras 14, Pythagoreans 14, Aristotle 6, Plato 10), still the proportion is roughly the same (C. Baffioni, *Frammenti e testimonianze di autori antichi nelle Epistole degli Iḥwān al-Safā'* [= *Studi pubblicati dall'Istituto Italiano per la Storia Antica* 57], Rome 1994, p. 37).

⁴⁹ This legend is rooted in Greek biographies of Pythagoras by Porphyry (*Vita Pythagorae* 30) and Iamblichus (*De vita pythagorica*, ch. 15).

⁵⁰ *Rasā'il Ikhwān al-Safā'*, vol. 1, p. 208 (*Risāla V*); translation: O. Wright, *On Music, An Arabic Critical Edition and English Translation of Epistle 5 [Epistles of the Brethren of Purity]*, Oxford 2010, p. 121.

In the same treatise, referring to the same issue, the Ikhwān write that Pythagoras heard the sounds of the harmony of heavens ‘after [the soul of Pythagoras] had been purified of its base physical desires and refined by spiritual thought and arithmetical, geometrical, and musical mathematics’.⁵¹ These two quotations alone are enough to demonstrate that Pythagoras was held in high esteem by the Ikhwān; it is further confirmed by the fact that they often added *ḥakīm* (sage) to his name. In the treatise from which both these quotations are taken, Pythagoras is presented as one of the *ḥukamā’* (which is used to refer to ancient sages, but also imams and prophets⁵²). These sages were believed to have been able to see the supernatural world (through physical perception) and to have possessed superhuman knowledge, through which they acquired their prophet-like status.⁵³ Right after the description of the celestial visions of Hermes Trismegistus (who was also presented as one who physically ascended to heaven) and Pythagoras, there is an apostrophe to the ‘brother’ – that is the reader of the *Epistles* – encouraging him to free his soul from the ocean of matter and the slavery of his nature, following the way described in the books of the sages. This apostrophe is, without doubt, an encouragement to read carefully the writings of Pythagoras, and to follow his example.

The motif of celestial harmony, and of music in general, provides just one of the many contexts in which Pythagoras appears in the *Epistles*. He is also considered an authority on matters of astrology, magic, and alchemy; the author of the *Golden Verses*; and, most prominently, an authority on arithmetic, and the ‘first who talked about science of number and its nature’.⁵⁴ This last context, the famous Pythagorean metaphysics of numbers, is beyond doubt the one in which the name of Pythagoras appears most frequently. The metaphysics of numbers, as attributed to Pythagoras, is laid out in the thirty-second epistle, entitled *On the intellectual principles according to the Pythagoreans*. This treatise directly precedes the epistle *On the intellectual principles according to the Ikhwān al-Safā’*. The mere fact that the authors of the *Epistles* devoted a separate treatise to Pythagorean metaphysics – and that this treatise precedes the one in which the *Ikhwān’s* own metaphysical principles are presented – clearly indicates that, among the many Greek philosophers, Pythagoras was for them a figure of special importance. At the beginning of the epistle on their own metaphysics, they write openly that the Pythagorean teaching that ‘beings exist according to the nature of the numbers’, which they have just discussed, is also ‘the doctrine of our brothers’ (*madhhab ikhwāninā*).⁵⁵ The system they present may, of course, be qualified as a Neoplatonist system featuring emanations of subsequent hypostases from the One; this, in itself, is nothing original

⁵¹ *Rasā’il Ikhwān al-Ṣafā’*, vol. 1, p. 226 (*Risāla V*); translation: Wright, *On Music*, p. 148.

⁵² Y. Marquet showed that the Ikhwān al-Safā’ used the term ‘sage’ (*ḥakīm*) for ancient philosophers and Muslim prophets and Shī’ite imams as well. See the chapter ‘Sages et philosophes’ in his *La philosophie des Iḥwān al-ṣafā’* [= *Etudes musulmanes* 19], Alger 1975, pp. 461–476, and *Les ‘Frères de la pureté’ pythagoriciens de l’islam*, p. 261.

⁵³ See C. Baffioni, ‘Greek ideas and vocabulary in Arabic philosophy: the Rasā’il by Ikhwān al-Ṣafā’’, [in:] A. Harrak (ed.), *Contacts between Cultures. Selected Papers from the 33rd International Congress of Asian and North African Studies (Toronto, August 15–25, 1990)*, Lewiston 1992, pp. 391–398, especially p. 394, where she wrote that ‘when Ikhwān al-Ṣafā’ allude to Pythagoras’ perception of celestial sounds, they represent him as a ‘saint’ more explicitly than many other Muslim thinkers’.

⁵⁴ *Rasā’il Ikhwān al-Ṣafā’*, vol. 3, p. 178 (*Risāla XXXII*).

⁵⁵ *Rasā’il Ikhwān al-Ṣafā’*, vol. 3, p. 200 (*Risāla XXXIII*).

within Arabic philosophy. Although there are several Pythagorean elements in this system, its widespread popularity in both Late Antiquity and the Arabic Middle Ages makes it difficult to ascertain whether the Ikhwān used any specifically Pythagorean sources in creating their own metaphysics. Nevertheless, what matters is that they considered their system to be Pythagorean, and presented themselves as following and continuing a Pythagorean metaphysics. Thus, while the philosophical knowledge of the Ikhwān – and the corpus of Greek philosophical writings that they used (for instance the *Introduction to Arithmetic* of Nicomachus of Gerasa, which they quote quite frequently⁵⁶) – did not in all probability differ substantially from what other Arabic intellectuals of that time had at their disposal, their attitude to Pythagoras was particularly positive, and they clearly attached special importance both to his person and his philosophy.

Alchemical writings and Muhammad ibn Zakariyā' al-Rāzī

Another group of Arabic texts which shared a positive attitude towards this Greek philosopher, and which attributed to him a very important place within their own thought-world, is the corpus of Arabic alchemical writings. Its principal components are Jābir ibn Ḥayyān's (d. c. 815) corpus⁵⁷ and the *Turba philosophorum* (composed c. 900).⁵⁸ In these texts, Pythagoras is shown as an ancient sage, not only the first philosopher, but also the first alchemist.⁵⁹ The *Turba philosophorum* (preserved only in a Latin translation), has the form of a philosophical dialogue, in which Pythagoras is the central figure, the chair of the discussion who introduces other speakers and sometimes also speaks on alchemical matters, making reference to his own philosophical doctrine. In addition, the entire dialogue takes place during a Pythagorean meeting. At the very beginning, in an introduction which precedes the dialogue, the narrator (Archelaus) says:

I testify that my master, Pythagoras, the Italian, master of the wise and chief of the Prophets, had a greater gift of God and of Wisdom than was granted to any one after Hermes. Therefore he had a mind to assemble his disciples, who were now greatly increased, and had been constituted the chief persons throughout all regions for the discussion of this most precious Art, that their words might be a foundation for posterity.⁶⁰

Within the dialogue itself, one can find both various elements of Pythagorean philosophy and purely alchemical theories told by Pythagoras or his students. This image of Pythagoras as an authority on alchemical matters was nothing new: the philosopher

⁵⁶ See C. Baffioni, 'Citazioni di autori antichi nelle Rasā'il degli Ikhwān al-Safā': il caso di Nicomaco di Gerasa', [in:] G. Endress and R. Kruk (eds.), *The Ancient Tradition in Christian and Islamic Hellenism* [= CNWS publications 50], Leiden 1997, pp. 3–27.

⁵⁷ About this corpus of texts and the reception of the Greek philosophical and scientific literature in it, see: P. Kraus, *Jābir ibn Ḥayyān: contribution à l'histoire des idées scientifiques dans l'islam: Jābir et la science grecque*, Paris 1986 (1942).

⁵⁸ M. Plessner, 'The place of the *Turba Philosophorum* in the development of alchemy', *Isis* 45 (1954), pp. 331–338.

⁵⁹ M. Plessner, *Vorsokratische Philosophie und griechische Alchemie in arabisch-lateinischer Überlieferung: Studien zu Text und Inhalt der Turba philosophorum*, Wiesbaden 1975; U. Rudolph, 'Christliche Theologie und vorsokratische Lehren in der "Turba Philosophorum"', *Oriens* 32 (1990), pp. 97–123.

⁶⁰ A.E. Waite, *The Turba Philosophorum: Or, Assembly of the Sages, Called also the Book of Truth in the Art and the Third Pythagorical Synod*, London 1896, pp. 1–2; J. Ruska (ed.), *Turba philosophorum: ein Beitrag zur Geschichte der Alchemie*, Berlin 1931, p. 109, lines 10–15.

appears in this role in the writings of both Jābir ibn Ḥayyān and the Ikhwān. However, the very fact that the entire dialogue – which was later to enjoy great popularity – was conceived in a Pythagorean setting may reflect the great respect Pythagoras must have enjoyed among Arabic intellectuals interested in alchemy.⁶¹

Another author who was linked to alchemical circles and who also appreciated the Pythagorean tradition was Muhammad ibn Zakariyā' al-Rāzī (d. 932), a philosopher, but more importantly a physician and an alchemist. According to the later tradition, he showed considerable respect for, and made frequent use of the Greek heritage. In his writings, he often refers to Galen or Plato and, in ethical matters, to Socrates. He composed a commentary on Plato's *Timaeus* and was responsible for numerous *epitomai* (abbreviated versions), including ones of Aristotle's logical writings, and of the medical treatises attributed to Galen, Hippocrates and Plutarchus.⁶² As for Pythagoras, it is 'Alī ibn al-Ḥusain al-Mas'ūdī (d. 956) who makes a connection between the two. According to his *Kitāb al-tanbīh wa-l-īshrāf* (*The Book of Notification and Verification*), al-Rāzī wrote about Pythagoras in a lost treatise *Kitāb Manṣūrī fī ṭibb* (*The book of Medicine for Mansur*).⁶³ More informative, however, is the testimony of Ṣā'id al-Andalusī, in the *Ṭabaqāt al-umām* (*Book of the Categories of Nations*):

Several thinkers who came later on wrote books about the doctrines of Pythagoras and his followers in which they defended the old natural philosophy. Among those who wrote on this subject, we have Abū Bakr Muhammad ibn Zakariyā' al-Rāzī, who had a great deal of distaste for Aristotle, blaming him for his deviation from the teachings of Plato and other early philosophers. He claimed that Aristotle had corrupted the philosophy and changed many of its basic principles. I believe that al-Rāzī's distaste for and his criticism of Aristotle are the result of their opposite views, as stated by al-Rāzī in his book *Fī al-'ilm al-ilāhī* (*On the Science of Theology*) and in his book *Fī al-ṭibb al-rūḥānī* (*On Spiritual Medicine*) as well as his other works where he demonstrated his preference for the doctrine of dualism in polytheism and for the doctrines of the Brahmans in the repeal of prophecy and the beliefs of the common Sabians in reincarnation.⁶⁴

In the following part of his argument Ṣā'id defends Aristotle against al-Rāzī's critiques and praises him, finishing the entire section with the words: 'Thus Aristotle became the leader of the philosophers and one who united all the virtues of the scholars'. Ṣā'id's testimony to al-Rāzī's views is particularly important because it points to the fact that some Arabic philosophers were eager to oppose Aristotle and Pythagoras. The former is seen by al-Rāzī (at least according to Ṣā'id) as the one who contaminated or distorted the philosophy of Plato and his predecessors. On the other hand, in Ṣā'id's eyes, Aristotle is undeniably connected with the Muslim orthodoxy. Consequently, he can attribute al-Rāzī's critique to his heterodox views, including polytheism and reincarnation, which may have had some connection with Pythagoreanism itself.

⁶¹ Some more references to Arabic authors mentioning Pythagoreans as alchemical authorities can be found in Diwald, *Arabische Philosophie und Wissenschaft*, p. 33, and F. Sezgin, *Geschichte des arabischen Schrifttums*, vol. 4: *Alchimie-Chemie, Botanik-Agrikultur*, Frankfurt 1971, p. 45–46.

⁶² J. Ruska, 'Al-Biruni als Quelle für das Leben und die Schriften al-Razi's', *Isis* 5 (1923), pp. 26–50 (p. 43).

⁶³ 'Alī ibn al-Ḥusain al-Mas'ūdī, *Kitāb at-Tanbīh wa-l-īshrāf*, Beirut 1965, p. 162.

⁶⁴ Ṣā'id al-Andalusī, *Science in the Medieval World*, p. 30.

The critics of Pythagoras and the Arabic Aristotelian tradition

This philosophical *topos* of opposing Pythagoras with Aristotle leads us to those Arabic philosophers who ignored or disregarded Pythagoras exactly because Aristotle's own attitude towards him was so unfavourable. These were the intellectuals who identified themselves primarily with the naturalistic, logical Aristotelian tradition. Such an attitude was clearly expressed by Maimonides (d. 1204); although classified today as a Jewish philosopher, he wrote in Arabic and participated in the same philosophical current as many other Medieval Arabic thinkers. Therefore, he can certainly serve as a paradigmatic example of an Arabic naturalistic philosopher's attitude toward Pythagoras. In a letter to his Hebrew translator Samuel ibn Tibbon he called Pythagoras – as well as other Greek authors such as Empedocles, Hermes and Porphyry – 'old philosophy', and wrote that there is no point wasting time reading their books.⁶⁵ A similar viewpoint is expressed by Ibn Bājja (d. 1138), an Andalusian philosopher and physician, and a commentator of Aristotle. In his paraphrase of the *Physics* of Aristotle he justifies his omission of the opinions of the Presocratics on the grounds that they were not scientific enough, and that they had already been refuted by Aristotle:

The older philosophers held opinions which contradicted observation because of their little experience in logic. (...) Aristotle discussed the opinions of these philosophers and refuted them. (...) He had to do this because in his time these wrong opinions were still held. But for us it is not necessary to discuss these opinions because they are not found any more in our time.⁶⁶

Another example of how Aristotle's attitudes were inherited by later authors can be found in the *Kitāb al-Shifā'* (*Book of Healing*) by Ibn Sīnā (d. 1037), in the section entitled *Al-Ilahiyāt* (*Metaphysics*). In book VII (chapters 2–3) of this treatise, he criticises both Pythagorean and Platonic views of quantities as substances, as well as the understanding held by these ancient philosophers on the nature of numbers and universals.⁶⁷ His words are clearly inspired by the *Metaphysics* of Aristotle, and this applies both to the general content of his discussion and to the structure of the argument, as well as to the fact that he criticises Pythagoreans and Platonists, whom Aristotle himself treated as identical in this context.⁶⁸ In all probability, Ibn Sīnā took his critique from this philosopher, without reflecting on the fact that, in this particular context, Platonists are accompanied by Pythagoreans, whom he does not criticise separately in his other writings. Consequently, one cannot use these two chapters of the *Metaphysics* as evidence of Ibn Sīnā's negative attitude towards Pythagoreanism; rather, they are merely an example of how Aristotle's own attitudes were copied uncritically by his later followers.

⁶⁵ A quotation from this text can be found in M. Steinschneider, *Die hebraeischen Übersetzungen des Mittelalters und die Juden als Dolmetscher*, Berlin 1893, p. 42. I owe this example to Gotthard Strohmaier who used it in his article 'Doxographies, Graeco-Arabic', [in:] H. Lagerlund (ed.), *Encyclopedia of Medieval Philosophy: Philosophy between 500 and 1500*, Dordrecht–New York 2011, pp. 276–279.

⁶⁶ See P. Lettinck, *Aristotle's Physics and Its Reception in the Arabic World: With an Edition of the Unpublished Parts of Ibn Bājja's Commentary on the Physics*, Leiden 1994, p. 71.

⁶⁷ See M. Marmura, 'Avicenna's critique of Platonists in Book VII, Chapter 2 of the *Metaphysics* of his *Healing*', [in:] J.E. Montgomery (ed.), *Arabic Theology, Arabic Philosophy: From the Many to the One: Essays in Celebration of Richard M. Frank*, Leuven 2006, pp. 355–369.

⁶⁸ See A. Bertolacci, *The Reception of Aristotle's Metaphysics in Avicenna's Kitāb al-Šifā': A Milestone of Western Metaphysical Thought*, Leiden 2006.

Al-Ghazālī

Even more directly critical than the attitudes of Maimonides and Ibn Bājja was al-Ghazālī's (d. 1111) opinion about Pythagoras. He presents his views on Pythagoras in his philosophical autobiography *Al-Munqidh min al-Ḍalāl* (*Deliverance from Error*), a part of which is devoted to a critique of the *Baṭīniyya* (i.e., the Ismailis), in particular of their doctrine of the *ta'lim* (which says that Shī'ite imams are endowed by God with special knowledge (*ilm*) that is not accessible to the rest of the faithful; this knowledge is the source of the imams' authority). However, this is not the only place where al-Ghazālī is critical of Ismailism and its principles. Several of his polemical writings are focused on this very issue, and it appears to have been a very important problem for him.⁶⁹ In his autobiography, the *Ikhwān al-Safā'* provide him with an example of the philosophers he wants to criticize. He warns his readers that, as a result of referring to such a wide array of authorities, they mixed their orthodox sources – such as the Qur'an, the hadiths, and the sayings of the mystics – with 'false statements pronounced by philosophers'; in this clever way, he says, they make the faithful believe in what is false. Later on, his critique centres on Pythagoras himself:

A certain number of them claim to know a little of the teaching, which amounts to a few insipid crumbs of Pythagoras's philosophy. He was one of the early ancient thinkers, and his doctrine is even more weak than that of the philosophers. Aristotle refuted it and revealed the weakness and error of its theories, yet this can be found once again in the book of the Brothers of Purity; it is the refusal of philosophy. It is strange to see these people struggling all their lives in search of knowledge, only to be content with worthless banalities while believing they have reached the highest point of knowledge.⁷⁰

This passage contains many elements which may have shaped the attitudes of Arabic intellectuals toward Pythagoreanism. In the preceding chapter of the same text, before al-Ghazālī presents his critique of the *Baṭīniyya*, his argument is focused on proving the errors of the philosophers. In this context it is easy to understand his statement that Pythagoras's doctrine is even worse than the philosophers' teaching, which – as he has already proven – is in itself weak and erroneous. Aristotle remains the only (still not entirely) positive figure of a philosopher⁷¹ and he is the one who criticises Pythagoreanism. One may wonder, if Aristotle proved the erroneousness of the Pythagorean philosophy so long ago, why the Arabic authors bothered to refer to this philosophy and criticized it several centuries later. In order to answer this question, one has to remember that wherever there is an explicit critique of Pythagoreanism (or the Presocratics in general), the philosophy of Aristotle is often given as the context for the cri-

⁶⁹ See F. Mitha, *Al-Ghazali and the Ismailis: A Debate on Reason and Authority in Medieval Islam* [= *Ismaili heritage series 5*], London 2001.

⁷⁰ Muḥammad ibn Muḥammad al-Ghazālī, *Deliverance from Error and Mystical Union with the Almighty*, N. Abdul-Rahim Rifat (ed.), M. Abūlaylah (trans.) [= *Cultural heritage and contemporary change 2A: Islam 2*], Washington 2001, pp. 88–89.

⁷¹ Or, just a 'rather' positive figure, since earlier in the same book – despite noting the truthfulness of some elements of his philosophy as well as his merits in criticizing his predecessors – al-Ghazālī attacks him for several other elements of his theories. In the eyes of al-Ghazālī, Aristotle's philosophy (in the version transmitted by Ibn Ṣīnā and al-Fārābī) can be divided into three parts: 'the first two would be condemned, one for disbelief, the other for innovation or heresy; the third would not be condemned without appeal' (al-Ghazālī, *Deliverance from Error*, p. 75).

tique. However, while Aristotle was viewed as a critic of Pythagoras, it was the Ikhwān al-Safā' who became known to the later Arabic philosophers as followers and continuators of Pythagoras, and they were thus criticized accordingly. Al-Ghazālī's attacks against the Ikhwān al-Safā' are more frequent than those against their hero; he even goes so far as to call them the 'dregs of philosophy' (in an older English translation by W.M. Watt).⁷² This comment, in addition to many other mockeries, reveal that al-Ghazālī regarded the Pythagorean-Isma'ili conglomerate of the Ikhwān al-Safā' as a complete antithesis to what he considered orthodox philosophy and theology.

The Arabic mystic and the Greek sage: al-Suhrawardī and Pythagoras

There remains one final philosopher who belongs to the group of Arabic intellectuals who held Pythagoras in high esteem – al-Suhrawardī (d. c. 1191). In the introduction to his magisterial treatise *Ḥikmat al-Ishrāq* (*The Philosophy of Illumination*) he presents his own vision of the history of philosophy, in particular from the point of view of 'intuitive philosophy' and 'discursive philosophy'. In al-Suhrawardī's eyes, an ideal philosopher has to harmonise these two philosophies, although historically they had actually competed with each other and were expressed in a variety of versions. As regards the ancient roots of his own philosophy, al-Suhrawardī states that:

In all that I have said about the science of lights and that which is and is not based upon it, I have been assisted by those who have traveled the path of God. This science is the very intuition of the inspired and illuminated Plato (...) and of those who came before him from the time of Hermes (...) including such mighty pillars of philosophy as Empedocles, Pythagoras, and others. The words of the Ancients are symbolic and not open to refutation. The criticisms made of the literal sense of their words fail to address their real intentions, for a symbol cannot be refuted.⁷³

For al-Suhrawardī Aristotle is not opposed to these philosophers; in the preceding paragraph he is presented as a representative of a different method of philosophy, which al-Suhrawardī would later call 'discursive'. Al-Suhrawardī explains that, although he has previously written treatises which continue this peripatetic mode of philosophising, he now presents 'a shorter path to knowledge' and writes about himself: 'I did not first arrive at it through cogitation; rather, it was acquired through something else'.⁷⁴ What follows is the paragraph quoted above, which presents the pre-Aristotelian philosophers – with Pythagoras among them – as al-Suhrawardī's predecessors in approaching philosophy in an 'intuitive' way. This type of philosophy cannot be subject to critique, because it is written in symbols; and symbols cannot be criticized by attacking particular words or phrases, because they have their own, secret, deeper meaning.⁷⁵ It is closely connected with the 'intuitive', non-dialectic form of this philosophical method.

⁷² W.M. Watt, *The Faith and Practice of al-Ghazālī*, London 1953, p. 53.

⁷³ Yaḥyā ibn Ḥabash al-Suhrawardī, *The Philosophy of Illumination: A New Critical Edition of the Text of Ḥikmat al-ishraq*, J. Walbridge and H. Ziai (ed.), Provo (Utah) 1999, p. 2.

⁷⁴ *Ibidem*.

⁷⁵ It is worth remembering that *symbola* were a special literary genre in which early Pythagoreans wrote down their doctrine [see Diogenes Laertius VIII 1, 17–18; Porphyry, *Vita Pythagorae* 41, 7–43, 10; Iamblichus, *De vita pythagorica* XVIII 82–86; *Protrepticus* 21, 106–126; and also W. Burkert, *Lore and Science in Ancient*

The reception of Greek philosophers, including Pythagoras, in al-Suhrawardī's philosophy has been studied in detail by J. Walbridge, who has argued that al-Suhrawardī was under their influence, and used several elements of their theories in his own philosophy.⁷⁶ His conclusions were criticised by D. Gutas, who asserted that al-Suhrawardī was not following Plato or 'Pythagoreanizing Neoplatonism', since – as Walbridge himself observes – the philosopher did not know much about any of them; anything that one could attribute to him in this respect is too general. In Gutas's opinion, what al-Suhrawardī actually does is 'pretend to follow' his Greek masters.⁷⁷ However, it is worth noting that al-Suhrawardī probably knew at least the Arabic version of Aetius' *Placita philosophorum*, as it was known by his follower al-Shahrazūrī.⁷⁸ Consequently, al-Suhrawardī's knowledge of Pythagorean philosophy may not have been so insignificant.

Still, from the perspective of this paper, the extent of al-Suhrawardī's actual knowledge of Greek philosophy is largely unimportant. He is treated here as a representative of a specific attitude toward the Pythagorean tradition. Compared with the authors I have discussed above, al-Suhrawardī is a relatively late philosopher, who could draw on the experience of more than three centuries of Muslim philosophy, as well as the reception of Greek philosophy by Arabic intellectuals. As a result, his philosophy provides strong evidence for identifying certain recurring patterns and divisions which the Arabic authors tended to apply to Greek philosophy. One of these is the juxtaposition of Pythagoras and Aristotle as two antithetical ways of approaching philosophy. Of course, al-Suhrawardī does not simply follow Aristotle's critique of Pythagoras, Plato and the Presocratics, rather he understands this traditional opposition as a specific case of the general division of philosophy into illuminative and discursive. He needs this division not because of his interests in the history of philosophy, but in order to present his own philosophical system, which shares certain methods and tendencies with the philosophers to whom he refers. Indeed, instead of assembling elements from various philosophers' doctrines with the view of creating a syncretistic philosophy, his goal is to develop a philosophy of his own. Consequently, he needs Pythagoras and Plato as authorities who can justify his decision to make mysticism the foundation of philosophy.

Furthermore, al-Suhrawardī understood himself to be one of the elements within the chain of divine-mystical philosophical knowledge, whose links were not only Pythagoras, Hermes, Empedocles and Plato, but also those Arabic intellectuals whom al-Suhrawardī considered to be Muslim Pythagoreans, namely the Sufis Dhū al-Nūn al-Miṣrī and Sahl al-Tūstarī. It is clear, therefore, that all these authorities were for him representatives of one philosophical tradition which placed an emphasis on mysticism and asceticism. This tradition was also linked to Egypt, gnosis and alchemy through the

Pythagoreanism, Cambridge 1972 (1962), pp. 166–192]. They were also, to a certain degree, known to the Arabs (for instance, Ibn Abī Uṣaybī'a, 'Uyūn al-anbā' fi-ṭabaqāt al-aṭibbā', p. 63).

⁷⁶ J. Walbridge, *The Leaven of the Ancients: Suhrawardi and the Heritage of the Greeks*, Albany 2000.

⁷⁷ D. Gutas, 'Essay-review: Suhrawardi and Greek philosophy', *Arabic Sciences and Philosophy* 13 (2003), pp. 303–309.

⁷⁸ I owe this argument to Emily Cottrell who worked on al-Shahrazūrī's knowledge of Greek philosophy. See her works: *Les Philosophes grecs dans le Kitāb Nuzhat al-arwāh' wa Rawḍat al-Afrāḥ fi Ta'rīkh al-ḥukamā'*, École Pratique des Hautes Études (5^e section), Paris 1999; 'Kitāb Nuzhat al-arwāh' wa Rawḍat al-Afrāḥ de Shams al-Dīn al-Shahrazūrī: composition et sources. Position de thèse', *Annuaire de l'École Pratique des Hautes Études. Section des Sciences Religieuses* 113 (2004–2005), pp. 383–387.

figure of Graeco-Egyptian Hermes Trismegistus as well as Muslim Dhū al-Nūn al-Miṣrī and Sahl al-Tūstarī.⁷⁹

Al-Suhrawardī's followers continued his approach to philosophy, and they also inherited his positive attitude toward Pythagoras. A good example is provided by al-Shahrazūrī's (d. between 1288 and 1304) *Kitāb nuzhat al-arwāḥ wa rawḍat al-afrāḥ fī ta'rikh al-ḥukamā'* (*Promenade of Souls and Garden of Rejoicings in the History of the Philosophers*), a three-part work on the history of philosophy from Adam to his own times.⁸⁰ Its second part is devoted to the ancients and contains a longer chapter on Pythagoras, which is a collection of excerpts from various earlier Arabic histories of Greek philosophy and translations from Greek.

Conclusions

A few observations can be made on the basis of this survey of Arabic intellectuals' attitudes towards Pythagoras. First, the positive attitude is often held by members of various heterodox groups, or at least by authors who were on the fringes of orthodoxy; the most obvious example would be the Ikhwān al-Safā'. Despite some heterogenic elements, the religious affiliation of the authors of *Rasā'il* seems to be one of the branches of Shī'ism, most probably Ismā'īlism;⁸¹ for al-Ghazālī, the Ismā'īlī heterodoxy is strongly connected to Pythagoras. Similarly, Muhammad ibn Zakariyā' al-Rāzī, whom Ṣā'id al-Andalusī links with Pythagoreanism, was considered by Ṣā'id to be far from orthodox. His views are said to include dualism, polytheism, reincarnation and disbelief in prophecy. Another 'follower' of Pythagoras, Thābit ibn Qurra, was a Sabean from Ḥarrān.

Second, there is the issue of Pythagoras's authority in alchemical writings – including Jābir ibn Ḥayyān's corpus, the *Turba philosophorum*, and parts of the *Rasā'il* of the Ikhwān al-Safā' – which is also connected with the image of Pythagoras in Shī'ite circles. Since Pythagoras was seen as an alchemist, he became an important figure for the early Shī'ite and Ismā'īlī groups, who displayed a strong interest in alchemy. One can observe this alchemical aspect of Pythagoras's image in the works of the Ikhwān al-Safā'. Of course, Pythagoras was not the only Greek philosopher to appear in these texts; because these texts attempted to persuade their audience of the antiquity and prestige of alchemical theories, Socrates, Plato, Aristotle, Galen and many other Greeks esteemed by the Arabs are mentioned as well.⁸² Also of primary importance to these texts was Hermes Trismegistus, the Graeco-Egyptian god central to the so-called hermetic tradition, who produced a huge corpus of philosophical, alchemical, and magical

⁷⁹ J. Walbridge, *The Wisdom of the Mystic East: Suhrawardī and Platonic Orientalism*, Albany 2001, pp. 44–46.

⁸⁰ About the life and the work of al-Shahrazūrī, see: E. Cottrell, 'al-Shahrazūrī, Muḥammad ibn Maḥmūd Shams al-Dīn', [in:] H. Lagerlund (ed.), *Encyclopedia of Medieval Philosophy: Philosophy between 500 and 1500*, Dordrecht-New York 2011, pp. 1190–1194.

⁸¹ Which was proved by many scholars working in this field, for instance H. Corbin, Y. Marquet, C. Baffioni, G. de Callatay. For a short description and bibliography of the problem, see: C. Baffioni, 'Ikhwān al-Safā', *Encyclopedia of*, [in:] H. Lagerlund (ed.), *Encyclopedia of Medieval Philosophy: Philosophy between 500 and 1500*, Dordrecht-New York 2011, pp. 536–540.

⁸² M. Ullmann, 'al-Kīmiyā', [in:] P. Bearman, Th. Bianquis, C.E. Bosworth, E. van Donzel, W.P. Heinrichs (eds.), *Encyclopaedia of Islam*, second edition 2012, Brill Online 2013, http://referenceworks.brillonline.com/entries/encyclopaedia-of-islam-2/al-kimiya-SIM_4374, accessed 8 August 2013.

writings.⁸³ This tradition was also transmitted and continued within Arabic Medieval culture.⁸⁴ Interestingly, the name of Hermes quite often appears – together with that of Pythagoras – in contexts other than alchemy, for example in passages from the *Rasā'il* of the Ikhwān al-Safā' concerning ascension of Hermes and Pythagoras into heaven.

Yet, the most important element connecting the Greek Pythagorean tradition with alchemy was esotericism. This fact is attested in an unedited work of Miskawayh, entitled *The great treasure (al-Kanz al-kabīr)*.⁸⁵ He was one of the philosophers who took part in a debate about the validity of alchemy and argued for its positive valuation. In this work he explains the esoteric nature of alchemy by saying that it 'must be taught by philosophical symbolism (*al-ramz al-falsafī*), by which only those experienced in logic, especially in natural science, are guided'⁸⁶. Afterwards, he writes that it was Pythagoras and his sect (*shī'a*) who first used this method, which they called 'the divine secrets'.⁸⁷ This Pythagorean esoteric approach to philosophy was already famous in Classical Antiquity, and was certainly one of the reasons that the figure of Pythagoras was important not only to alchemists, but also to any other group committed to esotericism, as for example the Ikhwān al-Safā'.

However this was not the only aspect of the Pythagorean tradition of interest to these groups of Arabic intellectuals. Certain other features of Greek Pythagoreanism (as viewed through the lens of Late Antiquity) constituted another fertile background for the later reception of this philosophical tradition in the Medieval Arabic world. In addition to the esotericism and elitism mentioned above, there were several other attractive elements, including the transmission of the Pythagorean doctrines through enigmatic *symbola*, the specifically Pythagorean mysticism and asceticism, the theory of metempsychosis, the famous Pythagorean friendship, the role of arithmetic, astronomy and music, all connected with the theory of harmony, and the very peculiar metaphysics of numbers. Pythagoreanism was also exceptional as compared to other ancient Greek doctrines, in that it outlived its founder and then continued (to varying degrees of intensity) for several centuries. During certain periods it was very popular, and produced a great variety of texts; at other times it was almost invisible. Nonetheless, Pythagorean doctrines continued to evolve, and remained a presence throughout the Mediterranean world, eventually even capturing the interest of Arab intellectuals.⁸⁸ They were interested in this philosophical current, because they were interested in Greek philosophy in general, and Pythagoreanism was one of the important elements of the Greek tradition. However, there were also certain individuals and groups who showed special respect for Pythagoras and his followers. They considered his teachings to be one of the elements

⁸³ See the introduction in B.P. Copenhaver, *Hermetica: the Greek Corpus Hermeticum and the Latin Asclepius in a New English Translation, with Notes and Introduction*, Cambridge 1992.

⁸⁴ See K.T. Van Bladel, *The Arabic Hermes: from Pagan Sage to Prophet of Science*, Oxford 2009.

⁸⁵ See in J.L. Kraemer, *Philosophy in the Renaissance of Islam: Abū Sulaymān Al-Sijistānī and His Circle*, Leiden 1986, p. 209, and Sezgin, *Geschichte des arabischen Schrifttums*, vol. 4, p. 291.

⁸⁶ Kraemer, *Philosophy in the Renaissance of Islam*, p. 209.

⁸⁷ *Ibidem*.

⁸⁸ Between the founding period of the sixth–fifth c. BC and the flourishing of Pythagoreanism in Late Antiquity, there was enough interest in this philosophical tradition to produce a large body of texts, often misleadingly called Pseudo-Pythagorean, which most probably date to the Hellenistic period (H. Thesleff, *An Introduction to the Pythagorean Writings of the Hellenistic Period*, Åbo 1961).

in the golden chain of ancient divine wisdom, and they saw themselves as successors and continuators of this tradition which, in their eyes, had never died.

Given these observations, it is easy to conclude that negative attitudes towards Pythagoras and his philosophy were closely associated with the peripatetic tradition, which sought to distance itself from the Pythagorean (meaning, in this case, pre-Aristotelian) 'naïve' thought. The representatives of this current regarded Aristotle as the climax of Greek thought; everything that preceded him was merely preparation, and constituted little more than immature attempts at true philosophy on a grand scale. Consequently, among everything that followed Aristotle, only the commentaries on the philosopher's ideas were worthy of genuine interest. In the case of al-Ghazālī it was even not Aristotle who really mattered, but the fact that he put himself in the position of defender of the orthodox Sunni theology and connected Pythagoreanism with a complex of heterodox doctrines he opposed. These Aristotelian and anti-heterodox positions may have also been responsible for Pythagoras being largely ignored in the works of many important Arabic intellectuals.

Apart from the intellectuals who clearly expressed their attitude toward Pythagoras, or whose attitudes were recorded by other authors, there are also those whose attitudes are impossible to classify as positive or negative. Among them are such famous Arabic philosophers as al-Fārābī (d. 950/51) or Ibn Rushd (d. 1198), but also Ibn Šinā, whose critique of the Pythagorean doctrine of numbers has been mentioned above – it is not enough to classify him as negatively disposed towards Pythagoras and his philosophical tradition. We know that these Arabic philosophers were under the strong influence of Aristotle, and one might, therefore, expect that they considered Pythagoreanism unimportant. This would explain the scarcity or the lack of mentions of this tradition in their extant writings. However, this *argumentum ex silentio* may not be completely true. Al-Fārābī makes frequent references to Plato – in particular to his philosophy of politics – in which Pythagorean doctrines play a very significant role. It is simply possible that he did not know the Pythagorean ideas well enough to make use of them in his own philosophy.

Finally, while interpreting the results of the survey presented in this paper, one should bear in mind that the Pythagorean tradition cannot be just compared to those of Plato or Aristotle. First of all, the Pythagorean tradition was much more dispersed. The Arabic intellectuals' knowledge of this tradition, its reception, and, finally, their attitude towards this philosophy were always determined by what they were able to know about it, in particular by the actual set of texts that were translated and available to them at a given moment. Secondly, a substantial difference between the reception of the philosophies of Plato or Aristotle and that of Pythagoras already existed in Late Antiquity: the first two philosophers were central figures within philosophical education and key philosophical controversies; their disagreement or convergence, both in general and on particular issues, were hotly debated, and accepting the authority of one of them determined one's philosophical views and allegiances. All these debates and intellectual dependencies continued into the Arabic Middle Ages. On the contrary, the figure of Pythagoras was not so central and did not require every Arabic philosopher with an interest in Greek heritage to take a stand. Thus, we are actually quite fortunate that, among the extant writings of the medieval Arabic authors, there is enough evidence to draw the conclusions presented in this paper.