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## The Problem of the Status of Harmony in Pythagorean Philosophy

*Abstract*

**RESEARCH OBJECTIVE:** The aim of this article is to analyze the ontic status of harmony in Pythagorean philosophy.

**THE RESEARCH PROBLEMS AND METHODS:** The main problem undertaken in the article is an analysis of the ontic status of harmony in Pythagorean philosophy, conducted within the context of the theory of principles. The research method is based on an analysis of source texts.

**THE PROCESS OF ARGUMENTATION:** The article begins with an analysis of passages from the works of Philolaus of Croton. Next, the treaty *Peri archan* attributed to Archytas of Tarentum is analyzed. The analysis of the source texts includes references to the main interpretative positions contained in the secondary literature.

**RESEARCH RESULTS:** The most important result of the scientific analysis conducted here is the organization of the possible interpretations of the ontic status of harmony and indication of the main difficulties associated with them.

**CONCLUSIONS, INNOVATIONS, AND RECOMMENDATIONS:** In his conclusions, the author indicates interpretative possibilities resulting from the perspective taken in the article, as well as areas that require further study, concerning such issues as the relationship between Pythagorean and Orphic thought.

**SŁOWA KLUCZOWE:**

Philolaus of Croton, Archytas of Tarentum, harmony,  
Pythagorean philosophy, peras and apeiron

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I would like to present the problem of the status of harmony in Pythagorean philosophy in the context of the views of Philolaus of Croton and Archytas of Tarentum (or, as the case may be, Pseudo-Archytas).

The fragments in Philolaus which concern the status of harmony are fr. B 1, B 2, B 6, B 6a, and B 10.

What seems to connect fragments B 1<sup>1</sup> and B 2<sup>2</sup> is that the terms which appear (ἀρμόχθη, συναρμόχθη) do not express a substantialization of harmony, but solely indicate a relationship between ἄπειρα and περαίνοντα.<sup>3</sup> Fragment B 10<sup>4</sup> introduces substantialization (ἡ ἀρμονία), with harmony not as the principle of that relationship, but as the relationship's product (ἐξ ἐναντίων γίνεται), identified (ἔστι γὰρ) with that, which is united (ἡ ἔνωσις); if, therefore, we were to recognize harmony as identical with what is united, then it would be subject to the same principles, or πέρας-ἔν and ἄπειρον-πλήθος, as a product of their relationship. Doubtlessly, fragment B 6<sup>5</sup> poses the most difficulty. This

- 1 Περὶ φύσεως ὧν ἀρχὴ ἦδε· ἅ φύσις δ' ἐν τῷ κόσμῳ ἀρμόχθη ἐξ ἀπειρῶν τε καὶ περαίνοντων, καὶ ὅλος <ὁ> κόσμος καὶ τὰ ἐν αὐτῷ πάντα.
- 2 Ἐκ τοῦ Φιλολάου περὶ κόσμου. ἀνάγκα τὰ ἐόντα εἶμεν πάντα ἢ περαίνοντα ἢ ἄπειρα ἢ περαίνοντά τε καὶ ἄπειρα· ἄπειρα δὲ μόνον <ἢ περαίνοντα μόνον> οὐ κα εἶη. ἐπεὶ τοῖνυν φαίνεται οὐτ' ἐκ περαίνοντων πάντων ἐόντα οὐτ' ἐξ ἀπειρῶν πάντων, δῆλον τᾶρα ὅτι ἐκ περαίνοντων τε καὶ ἀπειρῶν ὅ τε κόσμος καὶ τὰ ἐν αὐτῷ συναρμόχθη. δηλοὶ δὲ καὶ τὰ ἐν τοῖς ἔργοις. τὰ μὲν γὰρ αὐτῶν ἐκ περαίνοντων περαίνονται, τὰ δ' ἐκ περαίνοντων τε καὶ ἀπειρῶν περαίνονται τε καὶ οὐ περαίνονται, τὰ δ' ἐξ ἀπειρῶν ἄπειρα φανέονται.
- 3 The question of the use of the plural form in regards to the elements of the relationship is a separate matter. This is pointed out by (among others) Burkert and Huffman. For example, Huffman states: "the emphasis on the plurals and hence on classes of things (limiters and unlimiteds), as opposed to Aristotle's and Plato's tendency to use the singular and thus to indicate an abstract principle (limit and unlimited), is just what we would expect of Presocratic" (Huffman, 1993, p. 101). The Autor does not share this view, seeing in Philolaus' text the possibility of reference to "abstract principles." More on this topic in the further part of the analysis.
- 4 ἀρμονία δὲ πάντως ἐξ ἐναντίων γίνεται· ἔστι γὰρ ἀρμονία πολυμιγέων ἔνωσις καὶ δίχα φρονεόντων συμφρόνησις.
- 5 Περὶ δὲ φύσιος καὶ ἀρμονίας ὧδε ἔχει· Ἄ μὲν ἐστὼ τῶν πραγμάτων, αἰδῖος ἔσσα καὶ αὐτὰ μὰν ἅ φύσις, θεία ἐντὶ καὶ οὐκ ἀνθρωπίναν ἐνδέχεται γνῶσιν, πλάν γα ἢ ὅτι οὐχ οἷόν τ' ἦς οὐδὲν τῶν ἐόντων καὶ γιγνωσκόμενον ὑφ' ἀμῶν γενέσθαι, μὴ ὑπαρχοῖσας τὰς ἐστούς τῶν πραγμάτων ἐξ ὧν συνέστα ὁ κόσμος καὶ τῶν περαίνοντων καὶ τῶν ἀπειρῶν. Ἐπεὶ δὲ ται ἀρχαὶ ὑπάρχον οὐχ ὁμοίαι οὐδ' ὁμόφυλοι ἔσσαι, ἣδη ἀδύνατον ἦς κα αὐταῖς κοσμηθῆμεν, αἰ μὴ ἀρμονία ἐπεγένετο, ὠτινῶν

fragment not only introduces the substantialization of harmony, but also constitutes the basis for discussions about its ontic status. One possible interpretation of B 6 views harmony as a metaprinciple<sup>6</sup> in the sense of a factor ordering the principles ἄπειρα and περαίνοντα. The difficulty with this translation results from the phrase: αἰ μὴ ἀρμονία ἐπεγένετο, ὥτινιῶν ἄδε τρόπῳ ἐγένετο. How are we to understand the word ἐπεγένετο used to describe harmony? It should be viewed in connection with the previously used words ὑπαρχούσας and ὑπᾶρχον. They would be opposites: ἐπεγένετο would refer to that, which “appears later” (literally: “is born later;” for example, LSJ cites such definitions as: *to be born after, come into being after, come at the end, come as fulfillment*), or to harmony; ὑπαρχούσας and ὑπᾶρχον, on the other hand, refer to that, which “is before.” And this is most controversial: what do these words really refer to? What “is before”? Both forms, namely ὑπαρχούσας and ὑπᾶρχον, are active participles of ὑπάρχω, ὑπάρχειν. C.A. Huffman’s reasoning is convincing. He translates them in the context of fragment B 6 as *preexist* (compare LSJ: “In Act. only, *to be the beginning, ... to be already in existence*”).<sup>7</sup> The form ὑπαρχούσας refers to τὰς ἐστώδεις τῶν πραγμάτων – thus, ἡ (ἡ) τῶν πραγμάτων ἐστώ is preexistent, or “the essence of things” (“essence of being”), both of τῶν περαινόντων, and τῶν ἀπείρων. What is ἡ (ἡ) τῶν περαινόντων καὶ τῶν ἀπείρων ἐστώ? Is it harmony? The next sentence unambiguously rules out such an interpretation: in light of that, which is preexistent (ὑπᾶρχον) are ταὶ ἀρχαί, about which we know that they are οὐχ ὁμοῖαι οὐδ’ ὁμόφυλοι. These words refer us back to τῶν περαινόντων and

τρόπῳ ἐγένετο. τὰ μὲν ὧν ὁμοῖα καὶ ὁμόφυλα ἀρμονίας οὐδὲν ἐπεδέοντο, τὰ δὲ ἀνόμοια μὴδὲ ὁμόφυλα μὴδὲ ἰσολαχῆ ἀνάγκα τὰ τοιαῦτα ἀρμονία συγκεκλεισθαι, αἰ μέλλοντι ἐν κόσμῳ κατέχεσθαι.

- 6 C.J. de Vogel ventures such a thesis, stating: “together with number, «harmony» is also mentioned by Aristotle as being a fundamental cosmic principle, a doctrine which we find clearly stated in the fragments of Philolaus” (Vogel, 1966, p. 4). In Polish secondary literature, a proponent of this thesis is Janina Gajda-Krynicka; see especially: Gajda, 2001.
- 7 See Huffman, 1993, pp. 136-137, where the author, among others, cites after *A Greek-English Lexicon*, 1996 (from here on: LSJ) the use of this word by Herodotus (*Dzieje*, 7.144): αὐται αἰ νέες τοῖσι Ἀθηναίοισι ὑπᾶρχον, in opposition to those ships which were about to be built. Similarly W. Burkert, who relays this by way of the *past* form: “were,” in opposition to the form “supervened” that refers to harmony. See Burkert, 1972, p. 252.

τῶν ἀπείρων. However, are τὰ περαίνοντα and τὰ ἄπειρα ταὶ ἀρχαί? It would be possible, if we accepted that τὰ περαίνοντα and τὰ ἄπειρα are synonymous of ἡ (ἅ) τῶν πραγμάτων ἐστῶ, but it seems that they are rather synonyms of τὰ πράγματα. One possibility remains: ταὶ ἀρχαί are the synonym of ἡ (ἅ) τῶν πραγμάτων ἐστῶ. But the following problem arises: the count doesn't agree. The aporia can be resolved thusly: ἡ (ἅ) τῶν πραγμάτων ἐστῶ is a mental shortcut, which should be expanded by seeking out ἡ (ἅ) τῶν περαινόντων ἐστῶ and ἡ (ἅ) τῶν ἀπείρων ἐστῶ. The only possible step would be to accept that ἡ (ἅ) τῶν περαινόντων ἐστῶ is πέρας, and ἡ (ἅ) τῶν ἀπείρων ἐστῶ is ἄπειρον. ταὶ ἀρχαί – identical to ἡ (ἅ) τῶν πραγμάτων ἐστῶ, or simply πέρας and ἄπειρον – are preexistent. The status of harmony is in contrast to the principles' preexistence. Philolaus uses the words ἐπεγένετο and ἐγένετο. Both forms are derived from γίγνομαι, the basic meaning of which is "to be begotten, to be created" (LSJ: LSJ „of persons, *to be born*, ... of things, *to be produced*"). It is worth noting that in the first part of B 6 we stumble upon a different form of γίγνομαι, namely γεγενῆσθαι: here it refers to οὐδὲν (Huffman: οὐθενί) τῶν ἐόντων καὶ γιγνωσκόμενον ὑφ' ἁμῶν, or to αὐτὰ ἅ φύσις. In other words: ἅ φύσις γεγενῆσθαι. Whereas in connection with B 1 (ἅ φύσις ἀρμόζθη), ἀρμόζω (dor. ἀρμόσδω) or συναρμόζω (dor. συναρμόσδω), as well as γίγνομαι would be synonymous. Thus, we have the following construction: Nature "is born," "is produced," or is "harmonized" from the delimiting and unlimited (their principles are πέρας and ἄπειρον). Philolaus uses the same construction in reference to harmony: it "is born," "is produced" (let us add: ἐπί – so „after," which contrasts with ὑπάρχω, ὑπάρχειν).<sup>8</sup> We know from fragment B 10 that ἀρμονία δὲ πάντως ἐξ ἐναντίων γίνεται, whereas the principles of the opposites are πέρας and ἄπειρον. The fact that harmony "is born," and not ὑπάρχει, follows

8 It's worth adding that the reading of ἐπί as "on" in the sense of "if a harmony had not come upon them" suggested by Huffman seems doubtful, as Philolaus does not add "upon them" (*scil.* the principles). *Supervened*, used by Burkert, seems more appropriate, though the ambiguity of this idea must be emphasized: it can be understood as *happen*, or as *come additionally* (this understanding would be close to Huffman's *come upon them*). J. Lang's rendition – "harmony appeared later" – seems most precise, though it's possible that the phrase "was begotten" would be even more faithful to Philolaus' original.

from the phrase: ὠτινιῶν ἄδε τρόπῳ ἐγένετο. In light of the fragments cited from Philolaus, nature and harmony are the same thing. Both “are born,” “are produced” from πέρασ and ἄπειρον. Has the controversy been resolved, then? One problem remains open. Philolaus emphasizes at the beginning of B 6 that knowledge on the essence of things and harmony is divine, not human. This suggests that man cannot exhaustively understand nature and harmony. We can only establish that harmony was born of πέρασ and ἄπειρον; establishing how this came to pass surpasses man’s cognitive abilities. C.A. Huffman emphasizes that in accordance with the content of B 2 “harmony doesn’t exist everywhere, but supervenes to create a certain combination of the delimiting and unlimited” (Huffman, 1993, p. 141). He also adds that its status remains unclear: and maybe that was Philolaus’ intent, since he ascribes a divine, not human character to knowledge about harmony.<sup>9</sup> While such a conclusion seems worthy of acceptance, the phrase “harmony ... supervenes to produce” raises the doubts mentioned earlier. The Author is convinced that the analyzed fragments from Philolaus’ works irrefutably confirm that harmony is born – furthermore, that it is born of πέρασ and ἄπειρον. If we were to translate ἐπεγένετο as *supervenes* (in the sense of *come additionally*, not *happen*), then we would need to accept that harmony “joins” πέρασ and ἄπειρον to beget harmony. This would mean that Philolaus uses the concept “harmony” in two different senses: once – as a meta-principle, the second time – as a product of πέρασ and ἄπειρον. Here, we come to a notion of harmony best illustrated by Janina Gajda-Krynicka’s interpretation. In her article *Filozofia pitagorejska w nurcie „fizyki” przedplatońskiej*, she concludes the following regarding the status of harmony:

In a Pythagorean’s cosmology ..., harmony plays the role of principle of principles, creator not only of order in the world, but even of the world itself ... The creator in Philolaus’ cosmology has matter at his disposition, but in some hypothetical time, before he had yet completed his work, when only he and pre-matter existed, there could be no

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9 “It remains unclear then whether *harmonia* belongs to «the eternal being of things» in the same sense as limiters and unlimiteds do, and indeed Philolaus seems to regard any further explanation of *harmonia* as beyond our knowledge” (Huffman, 1993).

speaking about a world. Thus, in Philolaus' cosmology Pythagorean harmony holds the rank of God (Gajda, 2001, p. 53).

Let's analyze the individual theses of this interpretation.

The first issue is the problem of the status of the passive principles *πέρας* and *ἄπειρον*. In light of the extant fragments of Philolaus' works, it is difficult to acknowledge as indisputable the thesis that *πέρας* and *ἄπειρον* are of a passive character. Nowhere does Philolaus explicitly state such a thought. In B 6, when explaining why the "appearance later" of harmony was necessary, he states: τὰ δὲ ἀνόμοια μηδὲ ὁμόφουλα μηδὲ ἰσολαχῆ ἀνάγκα τᾶ τοιαύτα ἁρμονίᾳ συγκεκλειῖσθαι. Translation of this fragment causes some difficulty. Above all, it is necessary to establish whether the formula τὰ δὲ ἀνόμοια μηδὲ ὁμόφουλα μηδὲ ἰσολαχῆ should be treated as though Philolaus lists three qualities of things,<sup>10</sup> or whether the last two simply describe the first.<sup>11</sup> The second difficulty we encounter concerns the word ἰσολαχῆ – Huffman carefully reviews various ways of reading this fragment and accepts (as does Burkert) ἰσοταχί as the basis for his own translation, remarking that it seems better to accent the doubtfulness of this word than to make a "largely arbitrary decision between unlikely forms."<sup>12</sup> The next problem concerns the words τᾶ τοιαύτα – in Huffman's opinion the correction made by H. Diels is unjustified, which is why he reads this fragment using the *accusativus pluralis neutrum* and refers it not to ἁρμονίᾳ, but to τὰ ἀνόμοια.<sup>13</sup> Regardless of all controversies, the necessity of harmony's "appearing later" is justified

10 In the translations of J. Gajda-Krynica, J. Lang, C.A. Huffman, W. Burkert.

11 In K.S. Guthrie's translation: "but the dissimilar things, which have neither a similar nature, nor an equivalent function" (Guthrie, 1987, p. 168).

12 "This is the reading of the manuscripts, but a reference to «equal speed» has no clear sense in context and the text is generally regarded as corrupt. A great variety of possible corrections have been proposed, but many of them are unattested or poorly attested forms and it seems better to print the manuscript text with an obelus than make what seems a largely arbitrary decision between unlikely forms" (Huffman, 1993, p. 143).

13 Thus, he renders this fragment as "it is necessary that such things be"; similarly Burkert: "such things must be"; Gajda-Krynica upholds Diels' version: "they have to be by that harmony" ("muszą być przez ową harmonię"); Lang *de facto* does not translate this concept at all: "they necessarily had to be enjoined thanks to harmony."

not by the passivity of *πέρας* and *ἄπειρον*, but by their antitheticity. The role of harmony in this context can be compared at most to the role of a mediator, not to the role of an active principle acting on passive principles, especially in the context of Philolaus' thought which preceded the analyzed formula: *τὰ μὲν ὧν ὁμοῖα καὶ ὁμόφυλα ἄρμονίας οὐδὲν ἐπεδέοντο*; the formula which, especially in connection with fragment B 2 presents the principles *πέρας* and *ἄπειρον* as active and able to "beget" (respectively) *τὰ περαίνοντα* and *τὰ ἄπειρα*. Let me emphasize one detail: it is not by accident that Philolaus uses the word *ἐπεδέοντο*. If Philolaus only wanted to indicate need, he could have used *δέω* instead of the rarely used *ἐπιδέω*. Let us notice, however, that *ἐπεδέοντο* excellently corresponds with *ἐπεγένετο*: Philolaus is wonderfully precise – *ἐπεδέοντο* indicates a need later than *πέρας* and *ἄπειρον*, just as the "begetting" of harmony is later. Let's take a look at the forms Philolaus uses in regards to the principles and to harmony. In relation to the principles he uses active forms: *ὑπαρχούσας* and *ὑπάρχον*; in regards to harmony, medial-passive ones: *ἐπεγένετο* and *ἐγένετο*, which in this context seem to be decidedly passive (*γίγνομαι* is intransitive). How should *ἐπεδέοντο* be interpreted? The only possibility is to acknowledge it in this context as a medial form. Now, we come to the incredibly essential words *συγκεκλειῖσθαι* and *κατέχεσθαι*. Both forms pose the same problem: both are medial-passive infinitives: the first – *perfectum*, the second – *praesens*. The reason for using these two tenses is obvious: the "enjoinment" had to occur for it to be able to "last in a state of order." Two questions arise: first, whether we are dealing with passive or medial forms; second, what the infinitives refer to. It seems that their usual translation with the *passivum* tense is completely justified, especially since it corresponds with *κοσμηθῆναι*: *infinitivus futuri passivi*. The second question is more controversial: do all of these infinitives refer to *ταῖ ἀρχαί*, that is, *πέρας* and *ἄπειρον*? Another interpretation is also possible. The three infinitives may also refer to *τὰ περαίνοντα* and *τὰ ἄπειρα*. This would correspond wonderfully with B 2. The *kosmos* is made up of *τὰ περαίνοντα*, *τὰ ἄπειρα* and of their connection; they are elements of the "kosmos," whereas *πέρας* and *ἄπειρον* are their principles, not elements of the "kosmos" – it is not they who have to *κοσμηθῆναι*. The final interpretation would be the following: observation of the world leads to the conclusion that it is ordered – this is the

*kosmos*; this *kosmos* appears from the perspective of τὰ περαίνοντα, τὰ ἄπειρα and their connection; our mind leads us to the principles of τὰ περαίνοντα, τὰ ἄπειρα – namely πέρας and ἄπειρον, which constitute the “preexistent” essence of things. However, since these principles are different, while the perceived *kosmos* is a unity, not a divisible duality, ἁρμονία had to have been “begotten later” than the principles, with “later” understood in relation to τὰ ἀρχαί ὑπᾶρχον. The problem is establishing whether it should also be understood in relation to τὰ περαίνοντα and τὰ ἄπειρα (such an interpretation cannot be rejected, for harmony was necessary for their enjoinder, not their begetting, thus it does not have to precede them, just their enjoinder). The biggest problem with this interpretation, however, is the question of how harmony was “begotten.” This difficulty corresponds with Philolaus’ text – ὤτινιῶν ἄδε τρόπῳ ἐγένετο.

Another problematic issue is the question of whether harmony can be considered God. To uphold such an interpretation, it would be necessary to accept that „in some hypothetical time, before he had yet completed his work, when only he and pre-matter existed, there could be no speaking about a world.” We would have to assume that *harmonia* is also „preexistent.” Such a premise is incompatible with Philolaus’ own words: harmony, as “begotten later,” is – in this aspect – in clear opposition to πέρας and ἄπειρον. Let’s emphasize once again: πέρας and ἄπειρον beget τὰ περαίνοντα and τὰ ἄπειρα. Harmony was not necessary for this to occur. It only became necessary to enjoin τὰ περαίνοντα and τὰ ἄπειρα. This enjoinder (B 2, once again) doesn’t refer to the entire “kosmos,” since it also encompasses the unjoined τὰ περαίνοντα and τὰ ἄπειρα. An opposite reading of the relation between the principles and harmony is also possible. The principles independently of one another produce τὰ περαίνοντα and τὰ ἄπειρα. To enjoin them into a *kosmos*, the principles “produce” or “beget” harmony as a sort of “glue,” which then serves to *harmonize* what ought to be *harmonized*. Though such an interpretation may seem naïve or absurd, we will now take a look at some arguments that will present the issue in a somewhat different light.

As Huffman emphasizes, *fitting together* doesn’t have to be good or harmonious. Things can be fit together badly, inharmoniously. The Pythagorean ἁρμονία would be a certain “fitting together – the proper one” (Huffman, 1993, p. 139). According to Huffman’s reasoning,

harmony is the “proper fitting,” not any old fitting. The subjection of harmony to the “rule” of the principles *πέρας* and *ἄπειρον* is clearly visible: the infinite multiplicity of possible “fittings together” is subject to the action of a limit, thanks to which the proper, certain “fitting together” is “produced.”

These reflections lead us to the next problem. As Gajda-Krynicka notes, “harmony ... is not only proportion and measure, symmetry, the proper ratio of opposites, though it appears as such in things” (Gajda, 2001, p. 124). If harmony is „proportion and measure,” what is *πέρας*? The theses of fragment B 6 are continued in B 6a. In this fragment *πέρας* can be identified precisely with proper proportions, which imposed on the *ἄπειρον* of sound produce harmony. According to this interpretation, harmony is not a “proportion and measure,” but rather a symptom of the action of the “proportion and measure” that is *πέρας*. Assuming that harmony is “proportion and measure,” it is impossible to indicate what *πέρας* could be. That’s why the Author leans towards that interpretation which understands harmony as simply the product of *πέρας* and *ἄπειρον* (or the same as *φύσις*), possibly as the “glue” necessary to enjoin *τὰ περαίνοντα* and *τὰ ἄπειρα*, not possessing the status of metaprinciple.<sup>14</sup>

As Gajda-Krynicka writes, “Philolaus’ teaching on number and harmony received a fuller description in the teaching of Archytas of Tarentum. Archytas, after accepting what his teacher Philolaus established regarding the role and function of harmony in the cosmos, acknowledged this harmony’s status as primary and self-existent being” (Gajda, 2001, p. 56). The most important work of Archytas which undertakes the subject of principles is the treatise *Περὶ ἀρχῶν* (Thesleff, 1965, pp. 19-20). In fact, the authorship of this treatise is questionable (Huffman, 2005, p. 597), and it is disputable whether its content can be used as an argument in discussions on Pythagorean philosophy. Nevertheless, let us take a look at the main theses of this treatise, leaving the problem of its authenticity aside.

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14 Analyzing *κατέχεσθαι* Huffman states: “for Philolaus the idea seems to be that the limiters and unlimiteds are »mastered« by the *harmonia* so as to be «restrained» in an order which they would not otherwise form because of their dissimilar natures” (Huffman, 1993, p. 145). The Author would like to emphasize that harmony, on the other hand, is “mastered” by *πέρας* and *ἄπειρον*.

The author (Pseudo-Archytas) of the treatise introduces two principles of being: first – “contains the series of beings organized and finished”<sup>15</sup>; the second – “contains unordered and unfinished beings.”<sup>16</sup> The first is described as “good-doing,” the second – as “evil-doing.”<sup>17</sup> The first is “form,” “the cause of something concrete”<sup>18</sup>; the second – “the essence of things,” or the “basis,” “subject to governance by form.”<sup>19</sup> According to Pseudo-Archytas, since “neither can essence alone participate in form, by itself”<sup>20</sup> nor can “form by itself apply itself to essence,”<sup>21</sup> another principle was necessary that would move “the essence of things in the direction of form.”<sup>22</sup> He describes it as “the first power and one which is higher than others: it is called, which we must agree with, god.”<sup>23</sup> Next, he declares: “there must therefore be three principles: god, the essence of things, and form. God is a master craftsman (artist) and mover, whereas the essence is matter and is moved, while the form is an art and is where the essence may be moved by the mover.”<sup>24</sup> God is called the “prime mover” (τὸ πρῶτως κινέον), who “not only must be an intelligence, it must be above intelligence: [that] thus he is more powerful than reason, he, whom we call god, is obvious.”<sup>25</sup>

The following question arises: in what is the action of the highest principle, god, expressed? Does it lie in the harmonization of the

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- 15 μίαν μὲν τὰν συστοιχίαν ἔχοισαν τῶν τεταγμένων καὶ ὀριστῶν  
 16 ἑτέραν δὲ τὰν συστοιχίαν ἔχοισαν τῶν ἀτάκτων καὶ ἀοριστῶν  
 17 τὰν μὲν εἶμεν ἀγαθοποιόν, τὰν δ' εἶμεν κακοποιόν  
 18 ἃ μὲν μορφῶ ἐντι ἃ αἰτία τῷ τόδε τι εἶμεν  
 19 ἃ δὲ ὡσία τὸ ὑποκείμενον, παραδεχόμενον τὰν μορφῶ  
 20 οὔτε δὲ τᾶ ὡσία οἷόν τε ἐντι μορφῶς μετεἶμεν αὐτᾶ ἔξ αὐτᾶς  
 21 οὔτε μὰν τὰν μορφῶ γενέσθαι περὶ τὰν ὡσίαν  
 22 ἀλλ' ἀνάγκα ἀτέραν τινὰ εἶμεν αἰτίαν, τὰν κινάσοισαν τὰν ἐστῶ τῶν πραγμάτων ἐπὶ τὰν μορφῶ  
 23 ταύταν δὲ τὰν πρῶταν τᾶ δυνάμι καὶ καθυπερτάταν εἶμεν τᾶν ἀλλᾶν ὀνομάζεσθαι δ' αὐτὰν ποθάκει θεόν  
 24 ὥστε τρεῖς ἀρχὰς εἶμεν ἤδη, τὸν τε θεὸν καὶ τὰν ἐστῶ τῶν πραγμάτων καὶ τὰν μορφῶ. Καὶ τὸν μὲν θεὸν <τὸν> τεχνίταν καὶ τὸν κινέοντα, τὰν δ' ἐστῶ τὰν ὕλαν καὶ τὸ κινεόμενον, τὰν δὲ μορφῶ τὰν τέχνην καὶ ποθ' ἂν κινέεται ὑπὸ τῷ κινέοντος ἃ ἐστῶ  
 25 Τὸ δὲ τοιοῦτον οὐ νόον μόνον εἶμεν δεῖ, ἀλλὰ καὶ νόω τι κρέσσον· νόω δὲ κρέσσον ἐντί, ὅπερ ὀνομάζομεν θεόν, φανερόν

two passive principles: “form” and “the essence of things”? Pseudo-Archytas expresses it differently: “the contraries are in need of a principle harmonizing (ἁ συναρμογᾶ) and unifying them,” not the composition of “form” and “essence,” but rather their “self-contrary [forces], those of simple bodies,” which the “mover,” or “essence of things” has.<sup>26</sup> The “essence of things” necessarily receives “virtues and proportions and all that is manifested in numbers and geometric forms” from numbers,<sup>27</sup> which (*scil.* ἁ συναρμογᾶ?) are “capable of binding and uniting into form the contraries that exist in the essence of things.”<sup>28</sup> A difficulty appears: is harmonization to be understood as a process which takes place under the influence of “form,” or does the “essence of things” first require harmonization in order to become “form,” or to be enjoined to “form”? Above all, we must decide if the harmonized “essence of things” is “form,” or whether it is something different from “form.” It clearly follows from the text that “form” differs from harmonized essence, which can be seen in the following line-up of ideas: “for, by itself, essence is formless (ἄμορφός), only after having been moved towards form (μορφᾶ) does it become formed (ἔμμορφος) and receive the rational relations of order,”<sup>29</sup> thus μορφᾶ, acting on ἄμορφος, changes it into ἔμμορφος (“form” is the principle of “forming,” or the changing of the “formless” into the “formed”). We see that Pseudo-Archytas ascribes to “form” the role of that element which gives proper proportions. The role of god boils down to “moving the essence of things to form,” while harmonization, on the other hand, belongs more to “form.” It can be formulated thusly: we will understand harmonization as two-stage: the first stage will be the “moving to form” (the role of god); the second – the giving of proper proportions to the “essence of things” (the role of “form”). Though even with such reasoning

26 Ἄλλ' ἐπεὶ τὸ κινεόμενον ἐναντίας ἑαυτῷ δυνάμιας ἴσχει τὰς τῶν ἀπλόων σωμάτων, τὰ δ' ἐναντία συναρμογᾶς τινος δεῖται καὶ ἐνώσιος

27 ἀνάγκα ἀριθμῶν δυνάμιας καὶ ἀναλογίας καὶ τὰ ἐν ἀριθμοῖς καὶ γαμετρικοῖς δεικνύμενα παραλαμβάνειν

28 ἁ καὶ συναρμόξει καὶ ἐνώσει τὰν ἐναντιότατα δυνασεῖται ἐν τᾷ ἐστοῖ τῶν πραγμάτων ποττὰν μορφῷ

29 καθ' αὐτὰν μὲν γὰρ ἔσσα ἁ ἐστὼ ἄμορφός ἐντι, κιναιθεῖσα δὲ ποττὰν μορφᾶ ἔμμορφος γίνεται καὶ λόγον ἔχοισα τὸν τᾶς συντάξιος

as allows us to recognize god as “co-harmonizer,” his role doesn’t consist in harmonizing “form” and “essence,” but on participating in the harmonization of contraries in the “essence of things.” Making use of the comparison that Pseudo-Archytas uses, we can express it as follows: an artist (god) uses art (form) to shape matter (the essence of things), i.e. an artist harmonizes the contraries in matter with the help of art. Accepting, on the other hand, that god harmonizes art and matter, it should be understood thusly: god forms “form” and “the essence of things” into the “formed.” This gives rise to difficulty in establishing what constitutes the essence of this forming. Is this “form”? If so, then the formulation „harmonizes form and the essence of things” turns out to be no more than a colorful metaphor (just like if we said that “an artist harmonizes art and matter” – a beautiful metaphor, but the formulation “an artist harmonizes matter with the help of art” would be more precise). If, on the other hand, the essence of that forming would differ from “form,” this would mean that the artist gained the art of making use of art (after all, the concept of art includes the fact that one is able to make use of it: it would be difficult to understand the difference between the art of musical composition and the art of making use of this art). In the Author’s conviction, the version according to which the artist harmonizes opposites in matter with the help of art is the most grounded. Referring to Gajda-Krynicka’s opinion that

in nature ... two forms of being can be taken: primary and secondary, active and passive, forming and formed. The primary form is harmony, which unites two pre-forms of being (*ta protista idea tou ontos*): number and magnitude as such. Archytas’ number as such is Philolaus’ *arche*-principle *peras*, while *apeiron*, further defined by the philosopher from Tarentum, took on a somewhat spatial form (Gajda, 2001, p. 56),

the Author agrees with the thesis that these pre-forms are of a passive character, while god is an active principle. He is also in agreement with the identification of *peras* with number, and with the description of *apeiron* as something “somewhat spatial.” He does not agree with the identification of god with harmony, above all because the latter concept does not appear in Pseudo-Archytas’ treatise, while the similar idea of ἄ συναρμογᾶ seems to be connected with “form,” not

with god; he would also not agree that god “unites two pre-forms of being,” since this unification refers to “contraries in the essence of things.”

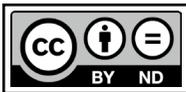
Two more interpretative possibilities for the status of harmony appear. The first very interesting interpretation was proposed by Irini-Fotini Viltanioti (Viltanioti, 2012). She conducted an analysis of Philolaus’ ontology from the perspective of the powers, viewed as the main elements of this ontology. In the light of this interpretation, *ta perainonta*, *ta apeira*, and *harmonia* are all considered powers, respectively – “the power to limit,” “the power to be limited,” and “the power to fit together,” with *physis* understood as “the outcome of the working of the three other powers.” From the perspective of these reflections, an important question is what the relationship between “power” and “principle” is in the Viltanioti interpretation. In fact, they are the same – “the principles, which I propose to understand as the fundamental powers.” Viltanioti thus indicates three principles-powers of Philolaus’ ontology, unambiguously rejecting the possibility of perceiving *harmonia* as a product of the unity of *ta perainonta*, *ta apeira*. Though she does not explicitly state that *harmonia* is a meta-principle, her interpretation seems similar to such an understanding of the relationship of the three ἀρχαί in Philolaus’ philosophy.

The second interpretation is a bit speculative. Constructing an analogy between Empedocles’ reflection and Pythagorean concepts in which Love is identified with *peras* and Strife-Hate with *apeiron*, harmony is viewed as analogous with the Vortex. It is not simply a product or “metaprinciple.” Πέρασ καὶ ἄπειρον and ἀρμονία would be connected in a permanent cycle of mutual interdependence, and as such would wonderfully “describe” the indivisibility of unity-multiplicity. Perhaps precisely such an understanding of the Pythagorean concept of ἀρχαί would be closest to the Orphic “intuition” of the unity of opposites, so clearly interpreted in the commentary to the Orphic cosmogonic-theogonic myth present in the Derveni Papyrus.

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