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The Aristoxenian Theory of Soul as Harmony

ABSTRACT: Aristoxenus of Tarentum (c. 360 - 300) was one of the most talented Aristotle's students. He is known mainly as the greatest musicologist of Ancient Greece, author of *Elementa harmonica* and *Elementa rhythmica*, the oldest preserved treatises on music. The aim of this article is to reconstruct of his theory of the soul that survived to our times in the form of synoptic remarks of Cicero and Lactantius. In these fragments it is clearly stated that Aristoxenus considered soul as harmony. This vision seems to echo an old concept, mentioned already in Platonic dialogue *Phaedo* that soul is like harmony in the musical instrument and in consequence it is mortal. But it can be shown that the Aristoxenian theory of soul is different from the Platonic exposition. The misinterpretation of Aristoxenus' thought by Cicero and then by Lactantius is based on a sort of simplification or/and misunderstanding of the vocabulary used by Aristoxenus, especially of the term harmony. Aristoxenus in his theory of music is not using the term ἁρμονία in the sense of a perfect joining of the opposites as was Plato, but applies it only for denoting a type of musical scale (next to the diatonic and chromatic one). The word that corresponds to the idea of harmony in music was τὸ ἡρμωσμένον, (to hermosmenon), i.e. what is harmonized. By showing the significance of this term it can be demonstrated that Aristoxenus, against the opinion of Cicero and Lactantius, developed a doctrine of the soul different from Plato.

KEYWORDS: Aristoxenus • Cicero • Phaedo • soul • harmony • hermosmenon • form

We can identify two groups of Greek thinkers who are said to consider the soul as harmony. The first group is represented by Simmias and Echecrates from the Platonic *Phaedo*. It is the earliest remark about this theory and most likely Aristotle is referring to its concepts in his criticism in *De anima*. The second group contains the thought of Aristotle's colleagues – Aristoxenus and Dicaearchus – whose doctrine of the soul had a significant impact on later philosophers. Both groups are linked to Philolaus, the Pythagorean philosopher, who is credited with being a teacher of Simmias and indirectly, via Pythagorean Xenophilus of Chalkis, of Aristoxenus as well.¹

¹ The main detailed discussion on the topic: Gottschalk H.B., *Soul as Harmonia*, Phronesis, Vol. 16, No. 2 (1971), pp. 179–198.

The theory of the soul as harmony according to Aristoxenus

Everything that we know about the Aristoxenian theory of the soul as harmony comes from the testimony of Cicero and a Christian author, Lactantius.² These references amount to just a few sentences in total for which it cannot be ascertained if they come from a dedicated work of Aristoxenus about the soul or are part of another treatise.³ None of these authors mention any title. Since time is limited, in the presentation we will focus only on the testimony of Cicero. Lactantius basically says the same things.

The fragment in which Cicero makes a reference to the thought of Aristoxenus, comes from the *Tusculan Disputations* and reads as follows:

[...] there was Aristoxenus, musician as well as philosopher, who held the soul to be a special tension of the natural body analogous to that which is called harmony in vocal and instrumental music (*in cantu et fidibus*); answering to the nature and conformation of the whole body, vibrations of different kind are produced just as sounds are in vocal music: this thinker has not gone outside the limits of his own art, but all the same he has made a contribution of value, the proper meaning of which had long before been plainly stated by Plato.⁴

And a few lines later, with evident disapproval, he summarizes that Aristoxenus “is so pleased with his own tunes that he attempts to bring them into philosophy as well”⁵

According to Cicero, then, Aristoxenus does not say anything new, but repeats common views that had been already formulated by Plato. Of course, the conception of soul as harmony was created before by Pythagoreans and there are grounds for supposing that its originator was Philolaus of Croton.⁶ The harmony in this theory whose principle was number, was a sort of perfect joining of opposite elements. But we need to keep in mind that

² Lactantius (c. 250–325) – an early Christian author best known for his works *De Opificio Dei* and *Institutiones Divinae*, where we can find also the fragments about Aristoxenus.

³ Aristoxenus, fr. 118–121, Wehrli.

⁴ Cicero, *Tusculanae Disputationes*, I 10 (=fr. 120A Wehrli): Aristoxenus, musicus idemque philosophus, ipsius corporis intentionem quandam, velut in cantu et fidibus quae harmonia dicitur, sic ex corporis totius natura et figura varios motus cieri tamquam in cantu sonos. Hic ab artificio suo non recessit et tamen dixit aliquid, quod ipsum quale esset errat multo ante et dictum et explanatum a Platone.

⁵ *Ibidem*, 41: A. Ita delectatur suis cantibus ut eos etiam ad haec transferre conetur.

⁶ Philolaus of Croton (c. 470–385) – a Greek Pythagorean philosopher who wrote a treatise *On Nature*.

there is no direct testimony for Philolaus' views and the account of Plato in the *Phaedo* remains the oldest evidence.

Aristoxenus, being a student of Xenophilus of Chalkis whose teacher was Philolaus, could naturally be introduced to the pythagorean soul-doctrine and regard it as true. But if we check more carefully the words of Cicero, we see that Aristoxenus considered the soul in a slightly different way, not as a perfect blending of opposites, as in the case of Pythagoreans, but as a "tension of body" (*tensio corporis*), understood in a rather literal way. Moreover, what we can extract from this fragment, furthermore, is that, according to Aristoxenus, we move, as our bodies in general do move, as a result of the nature and the shape of the body. All these statements have musical analogies. So the soul is a tension like the harmony *in cantu et fidibus*; the body moves with different movements according to the very same pattern as sounds move *in cantu*.

Cicero however is not interested in deeper analysis. He automatically connects Aristoxenus' doctrine with the theory expounded in the Platonic *Phaedo* and rejects the theory as false since it denies the immortality of the soul. He expresses his astonishment by asking the rhetorical question how it is possible that the nature and shape of the body could create a soul? He is mocking Aristoxenus, who according to him "sees the *cantus* everywhere", and advises him:

to leave philosophy in the hands of his master Aristotle and for himself continue his singing lessons. For it is a good rule laid down in the well-known Greek saying: The art which each man knows, in this let him employ himself.⁷

In the *Phaedo* we encounter the views of the Pythagorean Simmias (also a student of Philolaus) who claims that soul is a harmony or it has the shape of harmony (ἐν ἁρμονίᾳ εἶδεται) and makes a comparison with the harmony of a musical instrument. The human body in this theory is viewed as a tension held together by the elements of hot and cold and dry and humid. In this vision, the soul appears as a blending and harmony of these elements, with the consequence that it is not more powerful or resistant than the body itself. Plato discredits this theory on the basis of the following arguments:

1) Harmony is the product of a properly tuned instrument, so in consequence it is subsequent and hence secondary to its body. Moreover, it is

⁷ Cicero, *Tusculanae Disputationes*, 41: Sed hic quidem, quamvis eruditus sit, sicut est, haec magistro concedat Aristoteli, canere ipse doceat. Bene enim illo Graecorum proverbio praecipitur: Quam quisque norit artem, in hac se exerceat.

possible that the instrument goes out of tune and harmony will disappear, in spite of the fact that the instrument still exists. On the other hand, according to Plato, the soul should be something better than the body.

2) Harmony cannot rule the instrument, it is passive, the soul on the other hand is able to rule the body. So the role of harmony in the instrument is the opposite of the role of the soul in the body.

3) Harmony in the instrument can be better or worse; the same cannot be said about the soul.

So the question arises: does Aristoxenus, according to Cicero, repeat only the well-known Pythagorean theory of the soul as harmony or is he proposing a different account? It seems that in the light of the Aristoxenian theory of music, the Pythagorean conception of harmony is impossible. Moreover, accepting the Pythagorean doctrine of the soul, Aristoxenus would be against not only Plato, but also against the opinion of his own teacher, Aristotle. In what follows I will present arguments suggesting how Aristoxenus' analogy of soul and harmony contrasts with the Pythagorean idea of soul. However, it must be said that the evidence for this hypothesis are not strong; I put it forward fully aware of its tentative character.

Reconstruction of Aristoxenian soul-doctrine

Given the fact that the evidences of Cicero and Lactantius are insufficient to reconstruct Aristoxenus' concept of the soul, it is necessary to refer to his surviving works, especially the *Elementa harmonica*.⁸ This step is a natural one since Cicero frequently mentions the word *cantus*, which is most likely a Latin equivalent of Greek word *melos*. This observation clearly recalls one of the main thoughts contained in the *Elementa harmonica* where *melos* is the main subject. For Aristoxenus harmonics is in the first place a science about *melos* and its principles.⁹ Hence we assume that Aristoxenus in his conception of soul as harmony refers, roughly, to the theory of music that we find in the *Elementa harmonica*.

The next important step in this reconstruction is the observation that in the *Elements* we do not find the Greek word ἁρμονία (*harmonia*) in the sense intended by the Pythagoreans or Plato, i.e., as a perfect blending of opposites. Aristoxenus uses this word, but only to denote one of the three genera of the tetrachord, a basic unit of the Greek musical system. For there

⁸ Page and line references to the *Elementa harmonica* follow the pagination of Meibom's 1652 edition.

⁹ *Harmonica*, 1.11–21.

were three kinds of tetrachords – diatonic, chromatic and enharmonic – the last frequently referred to by Aristoxenus simply as “harmony”, ἁρμονία.¹⁰

The word used by Aristoxenus to express the notion of a perfect blending that is undoubtedly a category present in music, and which could be considered as a term similar to the Pythagorean harmony, is τὸ ἤρμωσμένον (hereafter *hermosmenon*). Both terms, *harmonia* and *hermosmenon*, have the same derivation from the verb “*harmodzein*” (fit together, join) and practically mean the same – harmony. However, the definition and whole theory that stands behind the word *hermosmenon* is completely different from the Pythagorean word *harmonia*, as we will explain below. Moreover, it seems most likely that Aristoxenus deliberately introduced a new term with the aim of avoiding any allusion to the Pythagorean doctrine and to communicate that his theory is something new.

As for Cicero and his Aristoxenian fragments, there is no mistake in translating the Aristoxenian term *hermosmenon* as *harmonia* in Latin, for there is no better Latin word, but it is a great misconception to identify then the Aristoxenian term with the Pythagorean doctrine of the soul as set out in the *Phaedo*. It is probable that Cicero uses a Latin compendium that already contained the error, but we can be sure that Cicero is not familiar with the musical theory of Aristoxenus.

On the other hand, we should bear in mind that the Greek science of harmonics and especially the translation of its terms, is not only a difficult task for scholars today, but was so also for the ancient Romans.

Vitruvius, slightly older than Cicero, already complained:

Harmonics is an obscure and difficult branch of musical literature especially for persons unacquainted with Greek. If we wish to explain it we must use Greek words because some of these have no Latin renderings.¹¹

The notion of *hermosmenon* in the Aristoxenian science of harmonics

Elementa harmonica is a deeply Aristotelian work. We can find numerous references to many works of Aristotle, like the *Physics*, *Metaphysics*, *Analyt-ics* and even the *Ethics*. The aim of Aristoxenus is to create a new independent

¹⁰ See, e.g., *Harmonica*, 2.9, 23.21, 35.8, 48.19.

¹¹ *De architectura*, V, 4: Harmonica autem est musica literatura obscura et difficilis, maxime quidem quibus Graecae litterae non sunt notae; quam si volumus explicare, necesse est etiam graecis verbis uti, quod nonnulla eorum latinas non habent appellationes.

science, a *pragmateia* that would have as its subject (*genos hypokeimenon*) music or, in other words, some organized sound. Aristoxenus calls music in general a *melos* and defines it as a group of at least three sounds. This term came to be translated by the Latin world as *cantus* and was understood incorrectly in a very narrow sense as “melody” or “song”. But *melos* in the theory of Aristoxenus possesses a much wider range of meaning. The term is frequently used to denote any sound, both musical and not musical. Of course, it is the musical *melos* that is the main subject of interest, i.e. the *melos* that can be applied in music. And, what is important for us in our present context, it is repeatedly called by Aristoxenus *hermosmenon*, harmony. Moreover, he considers the whole of his musical science as *περὶ τὸ ἡρμωσμένον πραγματεία*, i.e. the study of harmony or more accurately “a study of a being that is harmonized”. And there is nothing original in this statement, until we again pose the question: what precisely does Aristoxenus mean by the term *hermosmenon*?

Thus, the *hermosmenon* is defined first in a very general way, as a synthesis of intervals and sounds. However, as Aristoxenus further explains, we need to narrow this general definition. In its present form it can apply also to unmusical *melos*, not the subject of the study. The musical *melos* is a specified combination of intervals and sounds.¹² According to Aristoxenus, music is distinguished by one principal feature – “an amazing order” that is impossible to find in any other subject of perception.¹³ The analysis of this order is the essence of understanding every musical phenomenon. Aristoxenian harmony, therefore, is not a Pythagorean “perfect blending of the opposites”, but an order of sounds and intervals that is providing each piece of music with its structure. In other words, this order provides music with a form.

Hermosmenon as the Aristotelian form

Since the Aristoxenian harmony is an ordered combination of sounds, it means we are dealing with a sort of distribution of the elements of *melos*. However, the question arises: how it is possible, in general, to distribute the incorporeal elements of music? The answer of Aristoxenus is that you may do this, provided you accord these incorporeal elements magnitudes, *μεγέθη*, and thereby treat them as physical bodies. Aristoxenus thus imagines all the cases of musical *melos*, generally speaking, as sequences of sounds, considered as physical points, and of musical intervals, considered as distances between them. Moreover, he distinguishes a basic unit of four

¹² *Harmonica*, 18. 5–29.

¹³ *Ibidem*, 5. 23–24.

sounds, a tetrachord, that consists of two borderline sounds considered as points and two inner sounds considered as objects occupying a space. In short, Aristoxenus visualizes the musical *melos* (or the harmony in music) as a sequence of shapes (εἴδη) whose sizes are determined, in musical terms, by tones, fourths, fifths and so on, and whose boundaries are the sounds of the musical system. Interestingly, when Aristoxenus in the first book of *Elementa harmonica* is defining his research method, he writes among other things that it is important to show differences between *melos* due to its size, shape, combination and position.¹⁴ Music thus has not only a shape, but is also located in the space. Thus we have sufficient evidence for the claim that Aristoxenus considers music in terms of a physical body.

Moreover, Aristoxenus says that there is one principle which decides the harmony of every musical *melos*, it reads as follows:

Nevertheless there is a feature which we shall assert to be one and the same in every harmony [*hermosmenon*], whose power is such that its removal removes [ἀναιρουμένην ἀναρπεῖν] with it the harmony [*hermosmenon*].¹⁵

It is worth noticing that Aristotle describes the notion of the substance in similar terms:

The causes of substances may be treated as causes of all things in this sense, that when substances are removed all things are removed [ἀναιρεῖται ἀναιρουμένων].¹⁶

So, the Aristoxenian form of harmony is a structural principle that organizes the musical entity and keeps all the parts in a whole. And since it exhibits an essential feature of music, we may repeat with Aristotle that this structural principle, the form of the *melos*, is the cause of the *ousia* of the *melos*, or simply – its very *ousia*.

Polemic with Plato

We can also assume that in the *Elementa harmonica* there is a kind of critique of Plato's views on harmony. It refers principally to the Platonic argument that the soul cannot be a harmony because harmony is a secondary thing to the instrument. Aristoxenus emphasizes that precisely the opposite is the case:

¹⁴ *Ibidem*, 5.32 – 6.10.

¹⁵ *Ibidem*, 19.6–10. Transl. A. Barker.

¹⁶ Aristotle, *Metaphysics*, Α 1071a34–35. Transl. W.D. Ross

The greatest and most preposterous of errors is to make the nature of harmony depend on an instrument. It is not because of any of the properties of instruments that harmony has the character and arrangement which it does. It is not because the aulos has finger-holes, bores, and other such things, nor because it admits operations of the hands, and of other parts naturally adapted to raising and lowering its pitch, that the fourth, the fifth and the octave are concords, or that each of other intervals has its own appropriate magnitude. For even though all these factors are present, auletes for the most part fail to attain the proper order of harmony, and for all these efforts produce the proper results only rarely, despite employing such techniques as separating and bringing together, increasing and decreasing tension with the breadth, and all the other casual expedients. It is clear, then, that it is no more correct to say that excellence is inherent in auloi than to say that what is bad is so. But this ought not to have been so, if there were any value in basing harmony on an instrument, since one would only have to submit a melody to the aulos for it to be at once immutable, infallible and correct. But in fact neither auloi nor any other instruments will ever provide the foundation for the nature of harmony.¹⁷

So for Aristoxenus, the view that musical harmony depends on the instrument is a completely wrong notion. The instrument can be perfectly in tune and still it can happen that the musician will not be able to play the melody correctly. The result will not be harmonious. For Aristoxenus harmony, *hermosmenon*, is always a harmony that can be heard. It has to be an entity perceived by our senses. Therefore, it is not important whether the harmony is better or worse in the instrument (a reference to the *Phaedo* of Plato?), because in the hands of a bad musician it is without any significance. The musical instrument, according to Aristoxenus, only takes part in the order of harmony and harmony itself is certainly not a secondary thing to the instrument, as was the case in the *Phaedo*.


The Aristoxenian idea was very simple: the human being ultimately decides about musical harmony. The *hermosmenon* is a form that depends first of all on the human and his or her perception.¹⁸ Human being is the main principle, the *arche*, of harmony. It seems that also in this respect Aristoxenus opposes the views of Plato, who considered harmony as totally passive to the instrument, while the soul can rule the body. In the musical theory of Aristoxenus the musician composes music thanks to the form of

¹⁷ *Harmonica*, 41.26–42.24. Transl. A. Barker.

¹⁸ *Ibidem*, 42.27–28.

harmony instilled in the intellect and music as such is the actualization of this form.

Conclusion

The above arguments suggest that it is doubtful that Aristoxenus followed the Pythagorean doctrine of the soul, as Cicero thought. He did something more interesting – he adapted the pythagorean conception to Aristotelian doctrine. He developed the Pythagorean notion of harmony that pointed at a general kind of perfect blending by adding the Aristotelian notion of the form, i.e. a structural principle organizing every musical being. Furthermore, he insisted that its main and necessary (i.e. essential, *ousiodes*) feature is its audibility, a “physical” feature, what for Pythagoreans had been less important. Then he created a new name, τὸ ἡρμουςμένον (*hermosmenon*), probably wanting to make a clear separation from the Pythagorean conception. And Cicero, identifying the Aristoxenian analogy of soul and harmony as a Pythagorean thought, which had already been expounded by Plato, misinterpreted the theory. 

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