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**Time, Number, Order and the Flow of Becoming:  
Aristotle, Pseudo-Archytas and Iamblichus in Conversation**

by Sergey Trostyanskiy

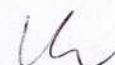
**Review of a PhD Thesis**

The dissertation by Sergey Trostyanskiy, titled '**Time, Number, Order and the Flow of Becoming: Aristotle, Pseudo-Archytas and Iamblichus in Conversation**', discusses three approaches to the elusive nature of time, taken by Aristotle, the so-called Pseudo-Archytas, and Iamblichus, as well as their mutual links. As the Author explains in the Introduction, in this way he aims to shed light on 'one of the most fascinating' philosophical debate in antiquity. [p. 11].

**Structure and Content**

Among many issues discussed in the dissertation, the following are worth mentioning: the relation of being to becoming, the problem of the instant moment (the 'now'), and the paradox of divisibility, infinity and the limits, motion, extension and many others which are like building blocks of a comprehensive picture of the theories of time represented by the above-mentioned philosophers.

The dissertation is divided into Introduction and four chapters followed by Epilogue. Each of the chapters consists of three main subsections, devoted to Aristotle, Pseudo-Archytas, and Iamblichus respectively. The subsections are further divided into a number of units, in which the detailed analyses and discussions on the various aspects of the problem of time are included. Each chapter ends with a summary.





The structure of the dissertation is very clear and cogent, which makes it particularly valuable. The content of the four main chapters is well designed and gives a full account for the most important issues.

In chapter 1 („Indivisibles, Limits, Limiters & the Infinite”), the Author ponders the fundamental problems of limits and quantities in relation to time and becoming; in chapter 2 („Time’s Generation and the Moving Instant”), he takes the aporia of the instant moment versus kinesis; chapter 3 („The Being of Time and the Paradox of Time’s Existence”) deals with the problem of the existence of time, and chapter 4 („The Ubiquity of Time and its Individuation”) – discusses the way time is present. The content of the chapters partially follows the paradoxes of time singled out by Aristotle in his *Physics*. The structure is thematic as well as diachronic. Summing up, the Author gives us an in-depth discussion on the most important issues regarding the philosophical concepts of time by the three thinkers mentioned above.

The elaborate Introduction to the dissertation was designed as a kind of guide for the reader to the main body of the work. It fulfills this function very well, providing a useful overview of the issues that are discussed in the next chapters. It also includes the state of scholarship regarding the problem of time, the Author's justification of the research, as well as the assessment of sources and their transmission.

In the Introduction, the Author explains that the central thesis of his dissertation focuses on one historical tradition, which starts with Aristotle, continues in the philosophy of Pseudo-Archytas who reverses Aristotle’s theoretical constructs, and finds its synthetic resolution in Iamblichus [16]. The Author outlines a broader context of his considerations, referring to thinkers such as Syrianus, Damascius, Simplicius and Philoponus.

As the Author underlines, the philosophers under consideration, despite their different premises and views, shared a similar perspective on the problem of time, namely they juxtaposed it with mathematical concepts, like number, quantity and so on. As the Author explains, 'To mathematize time is to study it as a limited quantity' [p. 14]. Aristotle in his *Physics* calls time ἀριθμὸς κινήσεως, or the number of change or motion. As he writes: 'time is a number of change with respect to the 'before' and 'after' (τοῦτο γὰρ ἐστὶν ὁ χρόνος, ἀριθμὸς κινήσεως κατὰ τὸ πρότερον καὶ ὕστερον [219b]). Pseudo-Archytas and Iamblichus use a similar approach, assuming that mathematization of the problem of time would pave the way to its conceptualization.

In the Introduction, the Author writes that the three views on time, i.e. by



Aristotle, Pseudo-Archytas, and Iamblichus, are intertwined to each other as 'thesis, antithesis and synthesis' respectively. [p. 11]. Subsequently, he describes his approach in a more detailed way. According to him, it is necessary to start with Aristotle 'who sets out the area of studies'.

Aristotle used to begin his investigations on various topics with delineating his research area. For this purpose, he singled out so called *endoxa*, or concepts shared by a group of people or particular thinkers. In his *Metaphysics*, when he discusses the problem of causes, he provides various opinions by Presocratics on causality, in the *Nicomachean Ethics*, while discussing happiness, he describes common opinions on it held by average people, and so on. The same procedure Aristotle applies to the problem of time in his *Physics*, where he enumerates various proposals, which eventually are grouped by him in the form of pairs of contradictory opinions, or paradoxes. These paradoxes were seminal for Aristotle as well as for his followers and opponents.

As the Author aptly points out, the most important question connected to the problem of time is its relation to becoming, as becoming involves 'ontological instability', where the subject of change does not retain its characteristics [p. 13]. Due to its paradoxical nature becoming is incomprehensible. The Pythagorean solution to this problem was to impose numbers on becoming to make it limited, which approach is adopted by Aristotle, and further developed by Pseudo-Archytas and Iamblichus.

### Suggestions

As the Author announces, [the dissertation] „aims to contextualize the philosophies of time thus exhibited within their proper conceptual horizons” [p. 16]. However, it must be pointed out that there are some important omissions in this proclaimed contextualization.

In my opinion, the most notable absence is Plato's *Timaeus*, the dialogue in which the problem of time is discussed in connection with becoming, eternity and number, which issues are crucial to the dissertation. Meanwhile, when discussing the history of the problem in the Introduction, the Author moves from the Eleatics straight to Aristotle, omitting Plato [p. 12].

The dialogue *Timaeus* deserves much more attention in the dissertation than it was devoted to it. Unfortunately, it was mentioned just a few times and without due analyses. Generally, scholars stress the importance of the dialogue to the proper understanding of ancient concepts of time and their developments. E.g. as W. von Leyden indicates „Plato's definition of time appears to be the first in



Greek philosophy in which there is an explicit mention of number” [*Time, Number, and Eternity in Plato and Aristotle*, „The Philosophical Quarterly”, 1964, 54, p. 39].

In *Timaeus*, time is related to both the activity of the soul and the physical world, two aspects crucial in this dissertation. Moreover, in the dialogue, the problem of time occurs in connection with movement, becoming and number.

Referring to the connection of time and the world-soul, Plato writes: “And the soul, being everywhere inwoven from the centre to the outermost heaven and enveloping the heaven all round on the outside, revolving within its own limit, made a divine beginning of ceaseless and intelligent life for all time” [36e, tr. F. Cornford; θεῖαν ἀρχὴν ἤρξατο ἀπαύστου καὶ ἔμφορος βίου πρὸς τὸν σύμπαντα χρόνον]. Next, Plato refers to the physical world, writing that the Demiurge made time as the everlasting likeness of eternity, as well as it is 'an everlasting likeness moving according to number' [F. Cornford, *Plato's Cosmology*, p. 98; κατ' ἀριθμὸν ἰοῦσαν αἰώνιον εἰκόνα, 37d].

To sum up, these two aspects of time, one relating to the soul, the other to the physical world and becoming, are central to the dissertation. It seems *Timaeus* should be taken into consideration in order to provide a full presentation of the topic at hand.

Meanwhile the Author writes: “[...] some scholars noted that, at times, Aristotle’s thought clearly features his Pythagorean influences. Those, indeed, may not trace their origins to the early Pythagoreanism alone but may include also the members of the Early Academy” [p. 19]. I think that at this point, *Timaeus* should be mentioned first of all, as this is the text in which Pythagorean influences are evident.

Later in the work, *Timaeus* appears only in a footnote, treated quite briefly: „Plato, in turn, in the eyes of the Neopythagoreans, is allotted the role of a compiler who takes (the alleged “historical”) *Timaeus*’ accounts and merely reshapes them for the sake of offering his own educational curriculum at the Academy” [p. 30, note 9]. However, the Author does not mention any sources to confirm his claim that the Neopythagorean thinkers neglected Plato's *Timaeus*. Even so, discussing the issue of time in the *Timaeus* would be advisable in order to provide a full historical context in the dissertation.

Similarly, the omission of the dialogue *Parmenides*, in which Plato considers the question of the instant, may be pointed out. The instant, or “the now” (ἐξαιφνης) appears in several of Plato's dialogues in which he considers the relationship of



being and becoming in terms of knowledge of Forms or knowledge of the One (*Symp.* 210e, *Resp.* 516E, *Ep.* 7 341c).

In *Parmenides*, Plato discusses the paradoxes of time and motion, including the question of transition from *stasis* to *kinesis* and conversely. As he writes:

“The instant seems to signify the kind of thing from which there is changing in each of two directions. For something does not change from rest while it is still resting, or from motion while it is still moving. But the instant, that odd-natured thing, sits between motion and rest - being in no time at all (μεταξὺ τῆς κινήσεώς τε καὶ στάσεως, ἐν χρόνῳ οὐδενί) - and what moves into it and out of it changes to resting and what rests changes to moving.” [156de] [*Plato's Parmenides*. Text, Translation & Introductory Essay A. Hermann, tr. in collaboration with S. Chrysakopoulou (2010 )].

As D. Bostock comments on “when a thing changes from motion to rest or rest to motion it does not do so 'in any one time'. The reason is that the thing can neither be at rest nor in motion at the time when it is changing from one to the other, but 'there is no time' in which a thing is neither at rest nor in motion [...] The sudden is somehow intermediate between the motion and the rest.” [D. Bostock, *Plato on Change and Time in the "Parmenides"*, *Phronesis* , 1978, 23, pp. 229-242].

Summing up, if the context is to be shown, I would suggest including Plato's dialogues in the discussion.

Similar remarks can be made regarding the possible Stoic inspirations. Especially, I mean the Stoic concept of time as extension (*diastema*). There is even a subsection in the thesis titled “Number, Extension and the Unity of Time”, and the notion of the extension in the context of time is used many times in the dissertation, but references to Chrysippus are limited to just two footnotes. Perhaps more attention should also be paid to Zeno of Elea and his paradoxes, which could have been an inspiring source of reflection for Aristotle in the context of the problem of time.

Another issue is methodological in nature and I am only pointing it out. The Author writes: „We know that some late antique scholars (e.g., Themistius) denied the historical Archytas the authorship of the treatises (edited by H. Thesleff's) attributed to him by the later tradition; and some commentators identified them (e.g., Simplicius) as the oeuvre of historical Archytas. This issue, however, is totally insignificant for this study” [p. 20].



On the other hand, in the Introduction it is suggested that the three philosophers, Aristotle, Pseudo-Archytas and Iamblichus, are related to each other as thesis, antithesis and synthesis. It seems that this arrangement should reflect the chronological order.

The Author is well-acquainted with the recent, most relevant publications on the topics discussed. It enables him to identify a gap in the state of research. As he points out, there is still no monograph on the topic of time in Pseudo-Archytas and Iamblichus [p. 18]. Referring to the opinion by John Dillon, the Autor claims that modern research in this area 'is still in emerging stage'.

The Author has good knowledge of ancient Greek, which is indispensable for research work in the field of ancient philosophy. The dissertation is based largely on primary texts, which are also quoted in English as well as in Greek.

### Editorial remarks

The book by Thomas Alexander Szlezak, titled 'Pseudo-Archytas über die Kategorien-Texte zur griechischen Aristotelesexegese' (Berlin, de Gruyter, 1972) is mentioned only as a 'Szlezak's edition' in the main text with one Greek passus quoted (page 296), but has not been included in the bibliography.

There are some typos in the text, especially in the Introduction. I include some of them (p. 13 The greatest issues [...] was; p. 14 a different rout; p. 15 study this it exists; p. 16 and of its; p. 17 eights decade; p. 24 Iamlbichus'; p. 24 Iamblichus', Pseudo-Archytas and Iamblichus'; p. 25 the this philosophical tradition; p. 26 to the fiend of studies; p. 35 I the; p. 81 the ladder of assent; p. 104 In general, he we see; p. 108 He then apples the principle; p. 124 architype; p. 313 resent).

There are some repetitions in the work. It seems to me that the same issues could be covered in a shorter way and explained more clearly. I would suggest to the Author to 'translate' his somewhat technical way of writing into a simpler and more communicative style. Then the book would be very useful not only for a narrow group of specialists, but also for a wider audience of researchers as well as for students. The dissertation is certainly worth publishing, but before doing so it might be best to have it proofread by a native speaker.

### Conclusion

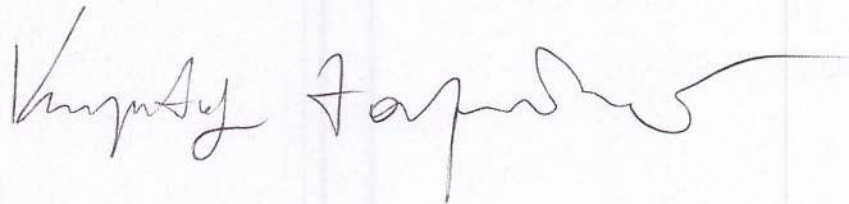
In conclusion, the dissertation by Sergey Trostyanskiy is rich in content, well-structured and provides an updated, interesting and important contribution to the



subject-matter of time in ancient thought. The Author correctly identifies the gaps in the current scholarship and demonstrates his ability to significantly enrich our knowledge in the area of ancient Greek philosophy.

Therefore, I declare that Sergey Trostyanskiy's PhD thesis meets all formal requirements for the doctoral dissertations according to The Law on Higher Education and Science (art. 13 Ustawy z dn. 14.03.2003 r. o stopniach naukowych i tytule naukowym oraz o stopniach i tytule w zakresie sztuki (Dz.U. 2017 r. poz. 1789)).

I hereby apply to admit Sergey Trostyanskiy to further stages of the doctoral procedure.

A handwritten signature in black ink, appearing to read 'Krzysztof Japich', with a long horizontal flourish extending to the right.

