

**SEXTUS ON TIME:
NOTES ON SCEPTICAL METHOD AND DOXOGRAPHICAL
TRANSMISSION***

Susanne Bobzien

For the most part, this paper is not a philosophical paper in any strict sense. Rather, it focuses on the numerous exegetical puzzles in Sextus Empiricus' two main passages on time (*M* X.169-247 and *PH* III.136-50), which, once sorted, help to explain how Sextus works and what the views are which he examines. Thus the paper provides an improved base from which to put more specifically philosophical questions to the text. The paper has two main sections, which can, by and large, be read independently. Each is about a topic which, to my knowledge, has so far not been treated in detail. The first section is concerned with the argument structures of the two main passages on time in Sextus, pointing out various irregularities in the overall argument in both passages, as well as parallels and differences, and asks the question what kinds of scepticism and sceptical methods we find in the various parts of each passage. The second section focuses on the doxographical accounts of time in the two passages: what they are, how they compare with surviving parallels, to what philosophers we can attribute those accounts for which Sextus himself provides either no, or more than one, possible ascriptions, and how Sextus treats the doxographical material. This discussion is inspired by the contributions Michael Frede offered on this topic the day before his untimely death.¹

* I am grateful for the useful and spirited discussion of a draft version of this paper by the participants of the *Symposium Hellenisticum*. Special thanks go to Keimpe Algra, Gabor Betegh, Richard Bett, Charles Brittain, and Brad Inwood for most helpful written comments, which made the paper better; to my colleagues Barbara Sattler and Verity Harte for sharing some of their expertise on Plato's philosophy of time; and to the anonymous referee from CUP for a set of very useful additional remarks. The paper is dedicated to the memory of Michael Frede, whose loss as a friend and as a colleague I deeply feel.

¹ This second section replaces another, which was to discuss the philosophical positions on time of Strato, Anesidemus and the Epicurean Demetrius, as presented in Sextus, and which will be the subject of a separate paper.

1. COMPARISON BETWEEN *M X.169-247* AND *PH III.136-50*: WHAT SCEPTICISM?

The long passage on time *M X.169-247* is not the only place where Sextus discusses philosophical issues regarding time. We have the arguments about present and past tense propositions by Diodorus Cronus in *M X.97-8*, remarks on Strato's theory of time at *M X.155*, a short version of Sextus' direct arguments against time at *SE M VI.62-7*, and, most importantly, the chapter on time in *PH III.136-50*. This chapter provides a parallel to our passage, and the best way to get a grip on the overarching structure of our passage and on the Sceptical tenets and methods used in it is by comparing the two passages of *M* and *PH*. (For a structural overview of both passages see the Appendices I and II.)

1.1 Relation between the two passages

The passages on time in *M* and *PH* are closely related. The *PH* passage is, as expected, much shorter; but there is ample overlap. Yet, neither is *PH* simply a summary of *M*, nor is *M* simply an expansion of *PH*. The overall structures of *PH* and *M* are different in a way that rules out complete direct dependence of one text on the other: *M* has a tripartite structure with doxographical material presented and refuted view by view at the beginning and end. Sandwiched in between it presents a barrage of direct arguments, that is arguments dealing with the subject time, directly, not via any philosopher's position on what time or its substance is.² In *PH*, the doxographical report comes first, all in one chunk, apparently taken from one source; the dogmatic views are then refuted summarily, in one complex argument, not individually; and the direct arguments conclude the passage. In addition to these considerable structural differences, *PH* is not a short version of *M*, since it contains information and details absent in *M*. These are most notably (i) various elements of post-Aenesideman Scepticism and implicit references to *PH II*; (ii) a more explicit presentation of the overall Sceptical argument; and (iii) some interesting remarks about the flux of time. *M* is not simply an expansion of *PH*, (i) since it lacks

² There is a comprehensive study of Sextus' direct arguments against time based on the tri-partition into past, present and future at *SE M X.197-202* by James Warren (Warren [2003]), which correctly concludes that these arguments are both weak and mostly not original to Sextus. The same can be said about most of the other direct arguments against time in *M X* and *PH III*. The present paper will not discuss their philosophical content and merit.

those elements of post-Aenesidemian argumentation and vocabulary, and (ii) since it seems to draw from additional independent sources that were not used by Sextus for PH.

1.2 M X.169-247 and Sceptical Method

Sextus' seems to have constructed this section from two different kinds of Sceptical building blocks. The discussions of the dogmatic views in parts I and III take each of the views presented and show that it leads to an impasse (deadlock, difficulty, being at a loss: ἀπορία). By contrast, in part II, each and every one of the direct arguments is an argument to the conclusion that time does not exist (or that time "is not"), and thus apparently to a positive stance rather than suspension of judgement. In three places, Sextus presents his goal for, or results from, parts I and III as if their purpose was to undermine the existence of time and to show its non-existence (M X.188, 215 and 229, details below). However, this was not how they were originally used for Sceptical purposes. I first consider the Sceptical method used in parts I and III, second, how Sextus interprets the goal and results from these parts, third the method used in part II, and finally I add some remarks about the whole passage.

The doxographical material presented in parts I and III follows a common pattern. Part I presents the concepts (notions, definitions, accounts: λόγος 170, ἔννοια 229, ἐπίνοια 188, etc.) of time put forward by various philosophers and philosophical schools. Part III claims to present what the philosophers and schools considered to be the substance (essence, nature: οὐσία) of time.³

The entire passage starts with an indication that the accounts (λόγοι, 170) of time of certain natural philosophers may be *aporetic*, i.e. leading to an impasse, and the first section indeed attempts to show that each account (all taken from a doxographical source) leads to inconsistency and hence impasse. Sextus never explicitly says that he aims at presenting inconsistencies (although this is clearly what he does), nor does he say

³ Cf. for this division e.g. the doxographical material in Stobaeus *Ecl.* I 5 (fate, *DD* 322-3), I 18 (time, *DD* 318), I 49 (soul, *DD* 386-7) and Plutarch *Epit.* 40-1 (necessity, *DD* 321).

in part I at the end of any individual argument that we reach an impasse. However, he does mention this as the overall result of part I at M X.188.

Part III (the last section), on the substance of time, is introduced by the sentence: “it will be possible to reach an impasse (ἀπορέϊν) regarding this (τοῦτο)⁴ also from the substance <of time>, as an impasse was reached previously (προαπορέω)⁵ from the concept of time.” (M X.215). This confirms that Sextus himself understands part I as resulting in an impasse. As in part I, the procedure in part III is to show that the various accounts, here of the substance of time, lead to inconsistencies. However, this time first all the views are presented one after the other, and then in a second step refuted – mostly – one by one. Impasse terminology is used both at the beginning and the end of the passage, as well as where the refutation starts (215, 229, 247). At the beginning of the refutation (M X.229), Sextus states that given the disagreement in views (divergence, difference: διάστασις) concerning the substance of time, the foregoing production of impasses allows us to infer that we can learn nothing firm from this disagreement.⁶ At the end of the refutation, Sextus begins the concluding sentence thus: “having reached an impasse regarding time also from its substance ...” (M X.247). This indicates that he believes he has achieved his goal.

De facto, the method used in parts I and III on time in M X is this: all accounts of time and its substance are individually shown to lead to inconsistency. Hence, overall, we reach an impasse with regard to time. However, there is a notable oddity in the way Sextus himself presents and interprets the results reached in parts I and III. What we would expect is that these parts lead to suspension of judgement (ἐποχή) as a direct consequence of the disagreement in philosophical views on time and the resulting impasse regarding any positive position about time. What we obtain instead is an attempt by Sextus to sell parts I and III to the reader as supporting the stance that time does not exist, which is a positive stance about non-existence. This becomes clear in at least three

⁴ I will get to the question of the referent of τοῦτο shortly.

⁵ For this use of προαπορέω see also M X.229.

⁶ The phrase βεβαίως μαθεῖν seems to pick up the Pyrrhonist terminology of διαβεβαιοῦσθαι, introduced in PH I.15, used e.g. at PH I.200, and also in the context of time at PH III.139.

places: At the end of part I, we have the following transition to part II: “Now, from the notion (ἔπινοια) <of time> the existence (reality: ὕπαρξις)⁷ of time has reached an impasse in this way. But one can also establish the thesis⁸ by means of direct (προηγούμενω) argument.” (M X.188-9). Here it is suddenly the existence of time about which an impasse is said to have been reached, despite the fact that the existence was never mentioned before in the relevant section on time. Similarly, at M X.229, at the beginning of the refutations of the views on the substance of time, Sextus describes what he did in part I as: “we inferred from the conception (ἔννοια) of time that time is nothing”. In contrast to what was actually argued in part I, Sextus here suggests that what was inferred in those arguments was that ‘time is nothing’, a phrase he seems to use interchangeably with ‘time does not exist’. Finally, at the transition from part II to III (M X.215), where we had “it will be possible to reach an impasse regarding this (τοῦτο) also from the substance <of time>, as previously an impasse was reached from the concept of time”, the referent of ‘this’ (τοῦτο) is crucial. As the text stands, ‘this’ can only refer to ‘time does not exist’ (literally ‘time is not’) from the end of part II (M X.214), just three words away. So here both part I and part III are intimated to deal with the issue of the existence of time and reaching an impasse with regard to it. Thus we have a clear discrepancy between the content of parts I and III and the description or interpretation of that content by whoever put them together with part II (probably Sextus). Note that the three passages are each at the transition from one topic to another, and therefore may easily be the editorial work of someone other than the original author of parts I and III.

In any event, the attempted argument from the refutations of individual positions on time and its substance in parts I and III to the non-existence of time is unsatisfactory in two respects: First, there is in fact a direct Sceptical route from an impasse or from ἴσοσθένεια

⁷ Sextus seems not to discriminate between forms of ὕπαρξις and of εἶναι: cf. his equation of ἀνυπάρκτων and οὐδέ ἐστὶ τι at end of PH III.146.

⁸ Richard Bett prefers “deliver on the task at hand” for τὸ προκείμενον κατασκευάζειν. This makes Sextus’ statement more non-committal. I have chosen “establish the thesis”, since the Greek phrase is standard logical terminology at Sextus’ time (deriving from Aristotle) for establishing, as opposed to refuting (ἀνασκευάζειν), a thesis.

to suspension of judgement and peace of mind (ἀταραξία).⁹ The arguments against the dogmatists' views, individually or summarily, will lead a Sceptic to suspend judgement about what time and its substance are, and thus prevent her from taking any stand on time at all. This does not entail explicit suspension of judgement regarding the existence of time: as long as the Sceptic is not bothered (has no *ταραχή*) about the question whether time exists, she is in no need of a specific remedy for this topic. Arguably it may lead to such suspension as soon as the issue is considered. But even in the weakest case, the aggregation of arguments does not entail an acceptance of, or even a leaning toward, the non-existence of time, just as it does not entail an acceptance of, or even a leaning toward, the existence of time.

Second, Sextus' argument is neither valid nor sound. By showing that a certain number of views about time lead to inconsistencies, he has not shown that time does not exist. To ensure validity, Sextus would have to add an argument that demonstrates that the views discussed form an exhaustive disjunction, for example¹⁰

- Premise 1: If time exists, time must be either this or that or that ...
- Premise 2: But time is neither this nor that nor that ...
- Conclusion: Hence time does not exist.

This is the kind of argument structure Sextus actually uses in part II of M X. But even if, with a generous portion of charity, we accept that Sextus took such an implicit argument as granted by his readers, and that validity would be thus preserved, the argument is not sound. For we have no reason to assume that its first premise is true, or more precisely, that its consequent expresses an exhaustive disjunction. Accordingly, Sextus' attempt in M X.189, 215 and 229 to turn the arguments from parts I and III into arguments against the existence of time is not successful.

Next part II. It contains the direct (προηγούμενος) arguments concerning the existence of time. Προηγούμενος (which is used in the same way at M IX.418)¹¹ has the meaning of

⁹ PH I.8; 10; 26-9; 31-2.

¹⁰ In the PH passage, the accounts of the substance of time form an exhaustive disjunction, and Sextus notes that much, but in the M X passage this is not so.

¹¹ It is used somewhat similarly at M IX.390 and X.326.

what comes first and is principal, and hence of what is directly concerned with the issue. Most probably, Sextus uses the expression to indicate that the arguments discuss the main properties of time directly, as opposed to via discussing the views of specific philosophers or philosophical schools.¹² This option is supported by the fact that *all* of parts I and III, but *none* of part II, are concerned with the positions of specific philosophers or philosophical schools. Alternatively, the function of ‘direct’ here may be to distinguish the arguments from those arguments that are not directly about the *existence* or *non-existence* of time, but support the non-existence of time in some less direct manner. This option would square with Sextus’ otherwise unexplained presentation of parts I and III as being in support of the non-existence of time. It would not, of course, provide any additional reason why they are considered to support this non-existence.

The direct arguments in part II all argue to the conclusion that time does not exist. The conclusion is presented in several variations, but Sextus’ treatment of these puts them all on a par.¹³ Most of the arguments follow the same general pattern. They use the dilemmatic argument scheme

If time exists, it is either F or not F.

But time is neither F nor not F.

Therefore time does not exist.¹⁴

As is standard in ancient logic, the disjunction would have been taken to be both exhaustive and exclusive.¹⁵ The argument scheme is thus valid. For F we get ‘limited’, ‘divisible’, ‘perishable’ and ‘generable’; the last two properties are discussed in combination. In addition there are a short argument from the non-existence of the parts of time to the non-existence of time as a whole, and an argument, or rather group of

¹² In Sextus’ discussion of place, we find a similar distinction between arguments dealing with particular concepts of place and ‘more general’ (κοινότερος) arguments, i.e. arguments independent of such particular concepts (PH III.134). On this point cf. also Section 2 of Keimpe Algra’s contribution to this volume.

¹³ The conclusions of the direct arguments in M X.189-214 are: ἀνύπαρκτος ἄρα ἐστὶν ὁ χρόνος (192), μηδὲν εἶναι τὸν χρόνον (196), οὐδέ ... εἶναι τινα χρόνον (202), οὐδὲν οὖν ἐστὶ χρόνος (205), μηδὲν ὑπάρχειν τὸν χρόνον (211), μὴ εἶναι χρόνον (214).

¹⁴ This is also the case for the ‘more general’ (κοινότερος) arguments in Sextus’ passage on place, see again Algra, this volume, Section 2.

¹⁵ See e.g. Bobzien [1999] 109-10.

arguments, from the tripartition of time. (The whole passage is not well organized. The parallel in PH III has a clearer and more concise structure.)

Given the slant Sextus puts on the arguments from parts I and III, the resulting overall picture of the M X passage on time is that we have a large number of arguments and argument clusters in support of the non-existence of time. What we are to do with this multiply obtained result we are not told. There is no direct route from this result to suspension of judgement. Rather, one should think, the reader would become inclined to adopt the belief that time does not exist. That would be not very Pyrrhonian.

Warren¹⁶ suggests that the direct arguments in the middle section are “against the common non-philosophical opinion that there is time” (314) and that a “suspension of opinion [is] generated in this section” which is “a suspension of belief between the two very general opinions that ‘there is time’ and ‘there is not time’” (315) and that “[h]ere as often elsewhere, Sextus feels no need to linger in offering arguments for a common or universally held belief” (i.e. that time exists). Yet, this is not so much a text-based observation as a conjecture. In the section at issue, no suspension of opinion is generated. Some of Sextus’ readers may suspend judgement regarding the question whether time exists, others may not, and they may do so for different reasons.¹⁷ Furthermore, there is no indication that Sextus carefully orchestrated the passage, deliberately leaving out arguments for universally held beliefs and anticipating his readers’ suspension of judgement on the question of whether time exists.

There are alternative interpretations that may harmonize better with the text. Thus, in the spirit of Warren’s suggestion, the apparent negative dogmatism in the passage could be explained (away) by the role the discussion of time is indicated to play in the larger context of M X, more precisely, by its relation to motion. At M X.169, which, harping back to M X.121, provides the transition from the passage on motion to the passage on time, time is introduced as a component of motion, and hence as a precondition for the

¹⁶ In Warren [2003].

¹⁷ For instance, I’m not inclined to suspend judgement, since many of Sextus’ arguments are poor, and none conclusive.

existence of motion. In the preceding sentence at M X.168, suspension of judgement is declared to follow the equipollence resulting from (i) the *self-evidence* (ἐνάργεια) in favour of the existence of motion and (ii) the *arguments* that contradict this self-evidence.¹⁸ The whole passage on time can hence be understood as being part of a very long and complex argument against the existence of motion, undermining first the concepts, then the existence, and finally the substance of time.¹⁹ This interpretation would have a textual basis. Another possibility is that the lack of a clear structure and of any mention of, or allusion to, the thesis that time exists in the whole passage on time indicates that Sextus simply provides an inventory of arguments taken from several sources which can be employed for Pyrrhonist purposes. Either way, in the passage Sextus seems not to be supplying the reader with a fully worked-out example of the Sceptical program or a “case study in the Pyrrhonist procedure outlined first at PH 1.8”.²⁰

1.3 PH III.136-150 and Sceptical Method

For a “case study in the Pyrrhonist procedure” we need to look to the PH III passage on time – although even there what we get is anything but a show-piece of Pyrrhonism. At PH III.135, in the concluding sentence on the preceding section on place or space (τόπος), Sextus picks up on content and terminology of PH III.66 and III.81 (on motion),²¹ and juxtaposes self-evidence (ἐνάργεια) and argument (λόγος) regarding place and its existence: “... both the arguments ... and the self-evidence puts them <i.e. the Sceptics > to shame. This is why we do not attach ourselves to either side, as far as the things said by the dogmatists are concerned, but suspend judgement with respect to place.” As all the arguments produced are against (the existence of) place, it is *implied* that the self-evidence is in favour of (the existence of) place, and is as strong as the

¹⁸ “and upon these <i.e. arguments about the divisibility of motion that lead to the conclusion that motion is nothing> follows suspension of judgement because of the equipollence of the self-evidence and the arguments contradictory to it” (M X.168). For the sequence of equipollence and suspension of judgement see e.g. PH I.10.

¹⁹ One could go further and conjecture that the introduction of the arguments against number support the arguments against time and hence indirectly the arguments against motion. This suggestion is compatible with the beginning and end of the section on numbers, if perhaps a little far-fetched.

²⁰ Pace Warren 2003, 314.

²¹ Cf. PH III.81: ἐπὶ τῇ ἀντιθέσει τῶν τε φαινομένων καὶ τῶν λόγων, ἐπέχομεν περὶ τοῦ πότερον ἔστι κίνησις ἢ οὐκ ἔστιν, which picks up the contrast of argument and self-evidence from PH III.66.

arguments taken together, thus leading to suspension of judgement. This contrast of self-evidence and argument is a commonplace in Pyrrhonism (cf. e.g. PH I.33, φαινόμενα and νοούμενα).²² To be fully understood, the beginning of the passage on time must be read in conjunction with the concluding remarks on place: “In the same way we are affected (πάσχομεν) also in the investigation (ζήτησις) regarding time; for, as far as the appearances (φαινόμενα) go, time seems to be something, but as far as what is said (λεγόμενα) about it goes, it appears to be non-existent” (PH III.136). This sentence is a carefully constructed example of Pyrrhonist writing, brimming with Pyrrhonist terminology and “doctrine”.²³ The use of ‘being affected’ (by suspension of judgement, that is) and the epistemic modal weakeners ‘to seem’ and ‘to appear’ display the proper care of the Sceptic never to accept either argument or self-evidence downright and in an active manner. “In the same way” refers to PH III 135, quoted above. “The appearances” hence stands for what is self-evident, “what is said” for the arguments. Parallel to the concluding sentence on place, and in line with what follows about time, the self-evident appearances suggest that time exists, whereas the arguments suggest that it does not. So, unlike in M X, here we have the expected Pyrrhonist set-up: appearances and arguments lead to opposite results with respect to the existence of time. The arguments against the existence of time in PH III provide one of the two incompatible positions which, when taken jointly, are assumed to lead to suspension of judgement.

At this point we expect Sextus to continue by presenting a series of arguments against the existence of time. Yet, he doesn’t – at least not right away. We have to wait until PH III.140-50. In between, we get a list of five dogmatic accounts of what time is, and two of what its substance is, all taken from a doxographic source (PH III.136-8),²⁴ and followed by a rather different Sceptical argument (PH III.138-40). Sextus does not employ the doxographical accounts to show that time does not exist. There is no parallel move to the unsuccessful manouvre from M X. Rather, Sextus simply changes Sceptic track. He introduces an exclusive disjunction: either all the dogmatic accounts are true, or all are

²² Cf. also the remarks on self-evidence in PH III.266.

²³ For “investigation” see e.g. PH I.3, I.7; for “affected” see e.g. PH I.22,192 (πάθος).

²⁴ For a discussion of the doxographic accounts see Section 2 below.

false, or some are true, some false (PH III.138). He then argues, first, that since the dogmatic views are mutually inconsistent, they cannot all be true; and second, that at least from the perspective of the dogmatists, they also cannot all be false – presumably, since each dogmatic philosopher thinks their view is true, this being what makes them dogmatic. Of course, the dogmatists could all be wrong. Perhaps to cover this option, at PH III.139 Sextus introduces the possibility that all accounts of the substance of time are false; i.e. both the account that it is corporeal and the one that it is incorporeal. He indicates that they form an exhaustive disjunction, and that granting falsehood to both would force one to grant the non-existence of time. The underlying – valid – argument scheme seems to be “If x exists, it is either F or not F. But it is neither F nor not F. Hence x does not exist.”²⁵ In PH III, the falsehood of the two theses (that the substance of time is corporeal and that it is incorporeal) is introduced merely as an hypothesis, with no arguments backing up the falsehood of either. However, in M X.229-47 we find such arguments, and, if we feel bighearted, we may assume that Sextus takes it for granted that such arguments have been provided, if not in this place; or in any case that they could easily be provided.

Next we expect Sextus to move to the remaining option, that some views on time are true and some false. What we actually get is this: “Nor is it possible to apprehend which <positions> are true, which false ...” (οὔτε τίνες μὲν εἰσιν ἀληθεῖς, τίνες δὲ ψευδεῖς δυνατόν καταλαβεῖν ... PH III.139). In formulation, this clause almost mirrors the introduction of Sextus’ tripartition (ἦτοι οὖν πᾶσαι αἱ στάσεις αὐταῖ εἰσιν ἀληθεῖς, ἢ πᾶσαι ψευδεῖς, ἢ τινὲς μὲν ἀληθεῖς, τινὲς δὲ ψευδεῖς· PH III 138). The referent of τινὲς in 139 can only be “views” or “positions” (στάσεις) from 138. In addition, the ‘nor’ (οὔτε) in 139 seems to complement the “neither” and “nor” (οὔτε δὲ πᾶσαι ἀληθεῖς ... οὔτε πᾶσαι ψευδεῖς ..., PH III.138) with which Sextus introduced his treatment of the first two options. Thus there can be no doubt that the third option is now under discussion.

²⁵ The argument form is similar to the one used in most of the direct argument, both in PH III and in M X.

However, the issue is not entirely straightforward. In line with the presentation of the first two options (οὔτε δὲ πᾶσαι ἀληθεῖς ὑπάρχειν ... οὔτε πᾶσαι ψευδεῖς εἶναι ..., PH III.138) and with the “nor” (οὔτε) in PH III.139, we would expect the following: “nor is it possible to apprehend *that some* <positions> are true, *some* false ...” (οὔτε τινὰς μὲν εἶναι ἀληθεῖς, τινὰς δὲ ψευδεῖς δυνατὸν καταλαβεῖν). But this would require the text to have the infinite εἶναι instead of εἶσιν and, instead of the two τινες, two τινὰς, taken as indefinite pronouns, and thus as enclitic. But the text has the finite verb with two τινες as indirect interrogative pronouns. Still, neither the sentence as it stands, nor an emendation along the lines mentioned²⁶ allows for a philosophically straightforward interpretation of the passage. If we want to avoid the conclusion that Sextus has simply abandoned the three-pronged argument he started at PH III.138, our best shot is to assume that he presents a heavily abbreviated version of the third ‘prong’ – e.g. by amalgamating two argument steps into one in a somewhat sloppy way. This would be not uncommon for Sextus, and in fact the whole passage on time exhibits a certain carelessness. In full, the third part of the whole argument might have run along the following lines: “neither can we apprehend <that some positions are true, some false; for we cannot apprehend> which positions are true, which false, because of the equipollent dispute and the impasse with regard to the criterion and proof”.

Before reconstructing Sextus’ overall argument (PH III.136-40), let us zoom in on its third step (PH III.139, οὔτε ...) and conclusion (PH III.140). Sextus does not reject the possibility that some positions on time are true, others false. He only denies that we can apprehend this. Non-apprehension is one of the standard professions of a Pyrrhonist (cf. PH I.200-1). The reason given why we cannot apprehend that some views are true, some false – or which ones – is twofold: “because of the equipollent dispute (ἰσοσθενῆ διαφωνίαν) and <because of> the impasse with regard to the criterion and proof” (PH III.139). The idea of an equipollent dispute that leads to suspension of judgement and peace of mind is familiar from PH I.8 and I.10. But what does this equipollent dispute consist in here? In all likelihood, in the – presumed – fact that there are equally good

²⁶ Modern translators generally leave the text as it is and don’t comment on its difficulties, e.g. Annas/Barnes 1994, Bury 1933, Hossenfelder 1985.

arguments for – or against – all of the dogmatic theories of time.²⁷ No such arguments are presented in PH III. However, we find in M X.170-88 and 215-47 arguments *against* all the views reported in PH III.136-8. Moreover, we can assume that the dogmatists themselves provided arguments or evidence *in favour of* their own views. Thus Sextus may rely on the existence of such arguments.²⁸ The second reason why the apprehension is impossible is the impasse regarding criterion and proof, which are the two main epistemic methods used by the dogmatists. Sextus discussed these two methods at length in PH II and believes to have demonstrated there that both methods are entirely unreliable, since his Sceptical treatment lead to an impasse for both.²⁹ As a consequence, any dogmatic position that is established by either a criterion or a proof is equally unreliable. The whole-sale doubt shed on the epistemic methods thus *de facto* relieves the Pyrrhonist from having to produce any substantive arguments about individual dogmatic theories.

At the beginning of PH III.140, Sextus presents a conclusion of the foregoing argument: “Hence, for these reasons, there will be nothing we can state firmly (maintain strongly: διαβεβαιώσασθαι)³⁰ about time.” What reasons is Sextus referring to, or, put differently, what are the premises from which he draws this conclusion? There are two (reasonable) possibilities: either the reasons are the two provided as justification for why the third option (i.e. that some dogmatic accounts are true, some false) is unsuccessful; then the conclusion covers the third option only. Or they are the total of reasons given for why all three options are unsuccessful; the conclusion then covers all of PH III 136 (χρόνον γὰρ ...) to 139. The text itself seems neutral regarding an answer. Philosophically, the second possibility is preferable. It has Sextus present a sustained argument and endows the text with a better structure. I briefly explicate this possibility. In outline, Sextus’ argument would run like this:

²⁷ This is suggested by the τε after the διά together with the καὶ τὴν ἀπορίαν τῆν ... in the sentence, which suggest that only the impasse concerns the criterion and proof. Alternatively, the equipollent dispute, too, could be about the criterion and proof.

²⁸ Alternatively, Sextus could be referring to the – presumed – equally strong support for and against the existence of time by self-evidence and arguments respectively. But the context does not support this option.

²⁹ For the criterion see PH II 14-79, for proof PH II.144-92.

³⁰ For διαβεβαιόομαι as Pyrrhonist term cf. PH I.15, 200.

- Here are the dogmatic views on time (PH III.136-8).
- They are either (i) all true or (ii) all false, or (iii) some true, some false (138).
- Against (i): They are not all true, since incompatible (138).
- Against (ii): They are either not all false or time does not subsist (138-9).
- Against (iii): We cannot apprehend that some are true, some false, since the support for (or against) any of them is of equal strength, and *a fortiori* the epistemic methods one may use are unreliable (139).
- We are left with the options that either time does not subsist, or any dogmatic view about it, as far as we can tell, is as good (or rather as bad) as any other, or both.
- Hence there is nothing we can state firmly about time (140).

Is this argument valid and sound? If we are lenient regarding the informality of the presentation, at least the appearance of validity can be conceded. Soundness needs to be granted only if we accept (a) that the dogmatic accounts presented form an exhaustive class regarding what can be non-derivatively stated about time, and (b) a number of Pyrrhonist assumptions. (a) is required both since otherwise there may be things that can be stated firmly about time that are logically independent of the accounts given, and for the argument regarding the non-subsistence of time. In the Pyrrhonist spirit, we can say that the argument holds only as long as no further logically independent tenets about time are brought to our attention,³¹ and that, with this provision, (a) can be conceded. As to (b), the Pyrrhonist assumptions include that the arguments regarding the dogmatic positions on time are all of equal strength (or weakness) and that the arguments from PH II about the criterion and proof were successful. Hence anyone who accepts the Pyrrhonist method as it has been presented in PH I and II should be bound by the conclusion of the argument. An unstated consequence of one's reaching the conclusion is – presumably – that one suspends judgement about time. Sextus' argument is a self-contained Sceptical argument against time, based on elements of PH I and PH II. Thus, at the beginning of PH III 140, Sextus seems to have accomplished (at least temporarily) the general Sceptical goal about the issue of time. What is more, he has done so without

³¹ Cf. PH I 202-3, implied PH I.193, 199, 200, 201, 203.

presenting a single substantial argument about time. (By substantial arguments I here mean arguments that deal specifically with time.)

Even so, we did not get what we anticipated after the introductory sentence on time in PH III 136 (see above). That sentence, in conjunction with the concluding remarks on place, made us anticipate arguments that support the non-existence of time; arguments that would only in combination with the self-evidence of the existence of time lead us to suspend judgement; and that would lead us to suspend judgement about the existence of time. Instead, as in M X, we got an argument that is not explicitly about the existence of time and that leads to suspension of judgement directly – though the argumentation itself is noticeably different from that in M X. The non-existence (or non-subsistence) of time is thematic only in the sub-part of the argument that introduces the possibility that both the corporeality and the incorporeality thesis turn out false.³² Thus the non-existence of time provides only one disjunct of a disjunction that leads to suspension of judgement, and the other disjunct is not that time exists, but the result that all dogmatic arguments about time are of equal strength.

Arguments that are explicitly against the existence of time are only supplied in PH III.140-50. This notwithstanding, Sextus himself seems to continue as if he has argued against the existence of time all along. He introduces the first argument against the existence of time with ‘furthermore’ (εἰτα), which is often used to introduce an additional argument on a point. The argument itself is a conditional argument for the doing-away-with of time: “Furthermore, since it seems that time cannot subsist without motion or rest, if motion is done away with (ἀναιρεσυσμένης), and similarly rest, time is done away with.” It is based on the condition that motion and rest have been done away with already. We can remove the conditional element in the argument, since Sextus indeed ‘did away with’ motion and rest earlier in book III.³³ The simplified argument then becomes:

³² This sub-argument oddly interrupts the flow of the argumentation in 136-9; it is unnecessary if we accept the foregoing Sceptic *ad hominem* argument that rules out that *all* stances on time are false; it could be a later insertion into the argument by Sextus. There is no textual evidence for this, so I just mention it here.

³³ Cf. PH III.81 for motion, PH III.115-17 for rest.

If time subsists, then motion <subsists> and/or rest <subsists>.³⁴

But motion is done away with and rest is done away with.

Hence time is done away with.

The argument form is valid. The argument is carefully presented with a Sceptical reserve (“it seems”: *δοκεῖ*) in the first premise. The term translated by ‘done away with’ (*ἀναρπείσθαι*) and its role in Scepticism has been subject to some debate.³⁵ In the present context, ‘is done away with’ is contrasted with ‘subsists’. This allows two readings of the second premise and conclusion. Either ‘is done away with’ is roughly synonymous with the object level predicate ‘is made non-existent’, and ‘*x* is done away with’ is short for ‘*x* is done away with by argument’; or ‘is done away with’ is roughly synonymous with the meta-language predicate ‘is refuted’ or ‘is denied’, and ‘*x* is done away with’ is short for ‘the existence of *x* is refuted’. Either way, the argument seems to contest the existence (or subsistence) of time, and is thus in line with the Sceptical endeavour introduced at the beginning of PH III.136. The argument is also implicitly a substantial argument regarding time, since in it a relation of dependency between time, motion and rest is assumed. The soundness of the argument depends on whether this relation holds and whether Sextus was successful in doing away with motion and rest. Sextus intimates that he believes he was, by starting the next sentences with ‘nonetheless’ (*οὐδὲν δὲ ἥττον*): “Nonetheless, some have said the following things against time” (PH III.140). The sentence introduces a sheaf of direct arguments against the existence of time which parallel those from M X and which conclude Sextus’ discussion of time in PH. The formulation “some have said” shows that he makes no secret of the fact that these arguments are not his own, but lifted from some source. The source is probably Sceptic, but not necessarily Pyrrhonist. It could have been a Sceptic philosopher whose goal was simply negatively dogmatic, i.e., to show that time does not exist. In any case, the similarity between these arguments and those in M X is sufficient to conclude that the latter were also not devised by Sextus, but taken, at least in large part, from the same source he uses for PH III.140-50. The

³⁴ I am not sure whether the text implies the logical connective ‘and’ or ‘or’ here. The argument is valid either way.

³⁵ See e.g. Bett, this volume, xxx, and Algra, this volume, xxx.

arguments, five in number, make up three quarters of the passage on time in PH. They all argue towards the same conclusion:

- “time is wholly non-existent” (οὐδὲ ἔστιν ὅλως χρόνος, 142)
- “<time> is non-existent” (οὐδὲ ἔστιν <χρόνος>, 143)
- “time is nothing” (οὐδέ ἐστὶ τι χρόνος, 146)
- “<time> is wholly non-existent” (οὐδὲ ἔστιν ὅλως <χρόνος>, 148)
- “<time> is wholly non-existent” (οὐδ’ ὅλως ἔστιν <χρόνος>, 150)

The formulaic uniformity of the conclusions of the first and last two arguments is notable. It has no parallel in the corresponding arguments in M X and points to a higher degree of adaptation of the arguments to the Sceptical goal.

As a Pyrrhonist, Sextus could easily justify the need for this multiplicity of arguments to the same conclusion in some general way: the self-evidence that time exists is very strong (as indeed it is); hence to reach true equipollence, we need to add a sufficient quantity of arguments against its existence. Or again, he could argue that there will be some argument for everyone, stronger and weaker ones, as needed for the individual in question that desires peace of mind.³⁶ He could point out that arguments that deal directly with time and its presumed properties are psychologically more likely to provide a counterweight to the self-evidence that time exists.³⁷ Sextus does none of the above. At the end of the passage on time, he does not so much as hint that he believes he has achieved his goal of inducing suspension of judgement by setting arguments against time alongside the self-evidence in favour of time. After the series of direct arguments, he simply produces a – somewhat lame – transition to the next topic, which is number: “since it seems that time cannot be observed (θεωρεῖσθαι) without number ...” (PH III.151).

In sum, we can say about the PH III passage on time that in it – as in M X – Sextus seems to follow two different tracks. This time (i) first the *self-evidence* of the existence of time

³⁶ Cf. PH III.280-1 for the general idea.

³⁷ Philosophically and historically, the arguments are of independent interest insofar as they introduce us to the main points of dispute in ancient discussions of time (see Section 2 below).

is said to be countered with *arguments* against the existence of time; (ii) then the plurality of dogmatic accounts of time together with some Sceptical tenets are used in one complex, three-pronged argument to establish that we can have no firm views about time. The complex argument (ii) follows the pronouncement of (i) and is followed by (iii) the partial realization of this pronouncement, i.e. by a list of arguments against the existence of time. Sextus gives no indication that he is aware of the two different paths provided by (i) and (iii) on the one hand, (ii) on the other. Rather, he appears to use (ii) – contrary to its original purpose – in a somewhat forced attempt to support the non-existence of time.

1.4 Comparison of the two passages

Comparing the M X and PH III passages, we note that in either one Sextus follows two different tracks: one grounded on the doxographical representation of dogmatic views on time, the other in the main consisting of a list of arguments each of which concludes the non-existence of time. Yet, the discrepancies are significant. In PH III, in the spirit of Pyrrhonism, the list of arguments functions explicitly (or close to explicitly) as part of an opposition of self-evident appearances (φαινόμενα) on the one hand and arguments for contradictory theses on the other. This opposition is meant to lead to suspension of judgement. In M X, the list is presented without being expressly embedded in a larger argument. Thus, on its own, it appears like a piece of negative dogmatism, although we cannot rule out that the list was intended to provide support for the non-existence of motion (see above).³⁸

As to the second track, both texts evidently draw from the same doxographical source.³⁹ But the use they make of this source is quite different. In parts I and III of the M X section, impasse language predominates (cf. M X.169, 188, 215, 229, 247). The impasse is reached as a result of the two passages (parts I and III) demonstrating individually of each dogmatic account of time, or its substance, that it leads to contradiction. Beyond the

³⁸ Something similar seems to be the case in Sextus' account of space in M X (see Algra, this volume, Section 6). Algra argues that Sextus' presentation is not dogmatic, since he uses ἀναίρειν in the 'weak' sense of 'to abolish in so far as the opponent's arguments are concerned'. I'm not entirely convinced by this move. In any case, no parallel argument can be made for the passage on time in M X.

³⁹ With some additions in M X, see Section 2.9 below.

attainment of impasse, little specifically Pyrrhonist language and method are applied. By contrast, in PH III, the list of dogmatic accounts is followed by a complex blanket argument given in one short paragraph (PH III.138-9), sodden with Pyrrhonist terminology and method (with impasse mentioned only once, in reference to the PH II discussion of criterion and proof).⁴⁰

In both M X and PH III Sextus blurs the line between the two tracks. Each time, there are clear indications that he *portrays* both tracks as supporting the non-existence of time, though his purpose in arguing for the non-existence of time may not be the same: in PH III, it is to balance the self-evidence of the existence of time; in M X, it may serve as part of the argument against the existence of motion and to balance the self-evidence of the existence of motion.

Can we draw any conclusions regarding (i) where Sextus, in the context of his Sceptical arguments(!), draws from Sceptical or non-Sceptical sources and (ii) where he produces his own arguments? We can, but they are conjectural only. We know that, at least since Aristotle, we find both detailed discussion and refutation of philosophical accounts of time, as well as arguments against the existence of time. Aristotle himself, in *Physics* IV.10, first discusses the question whether time exists, and produces several arguments against its existence (*Phys.* 217b33-218a31); second he asks the question what time is and what its nature is (*Phys.* 218a31); and third he presents two answers to that question and rejects one and refutes the other (*Phys.* 218a33-218b20, see also Section 2 below). Needless to say, Aristotle does none of this for purely Sceptical purposes. Still, in *Physics* IV.10 we find the foundations on which Sceptical philosophers could have built their own discussions of time. It has been noted that in Sextus there are clear parallels to most of Aristotle's arguments against the existence of time.⁴¹ This does not mean that Sextus drew directly from Aristotle's *Physics* for his passages on time. Most probably, over a

⁴⁰ The two passages on time are thus consistent with, and mildly supportive of, the Bett Hypothesis that M is earlier than PH (see e.g. Bett, this volume, xxx): M shows more signs of earlier varieties of Scepticism, PH more of later, possibly Sextan Scepticism. The argument structure of the PH passage is more explicit and better presented than that that in M.

⁴¹ E.g. Turetzky [1998] 30-34.

longer period of time, Peripatetic, Epicurean, Academic Sceptic and other authors added to Aristotle's list of arguments against the existence of time, provided further arguments against particular accounts of time, and also expanded and introduced further arguments concerning the questions whether time is limited, divisible, generable, perishable and tripartite. Strato, for one, wrote a book about time, and both the Stoics and Epicureans had detailed views on the topic. Moreover, we find arguments similar to some of Sextus' direct arguments aimed at the Stoics by Plutarch (*Comm. Not.*1081C-82D). As in the case of many other philosophical issues, Sextus would have been in the position to collect and adapt arguments from dogmatic and Sceptic philosophers for his own Pyrrhonist purposes, rather than having to come up with arguments on his own.⁴²

The bulk of the direct arguments for the non-existence of time may have been taken *en bloc* from a Sceptical source that was satisfied with undermining the view that time exists, or from a dogmatic, perhaps Peripatetic, source that used such arguments dialectically, as Aristotle had done. The discrepancies in the presentation of the direct arguments in M X and the better structured and more systematic version in PH III suggest that in the PH passage Sextus did some serious editorial work on his source.⁴³ The fact that both M X and PH III present almost identical formulations for much of the dogmatic accounts that originate in a doxographic source, but then develop entirely different Sceptic arguments in response, can best be explained as follows. Sextus drew directly from a Sceptic source which in turn used doxographic material. In M X he took over the Sceptic response as well, whereas in PH III he supplied his own. This assumption finds support in the fact that the two responses diverge significantly in both method and vocabulary, and that only the response in PH is clearly as a whole in line with Sextus' brand of Pyrrhonism.⁴⁴ Having said that, it is worth noting that in part III of M X there are two passages which have no parallel to PH III and for which Sextus may have

⁴² See also Warren [2003] on predecessor arguments to those of Sextus' direct arguments against time.

⁴³ The short version of the arguments against time in SE M VI.62-7 is much closer to M X than to PH III. It could be a short version from M X or been taken from the source for the M X passage. In the latter case, M X would likely be very close to its source.

⁴⁴ The alternative is that Sextus drew directly from the same doxographical source each time, but then produced entirely different responses, using different Sceptic methods and vocabulary. Somehow this appeals less.

consulted additional sources and then added his own refutations. These sources would have been Aenesidemus on Heraclitus and Demetrius Lakon on Epicurus. More on this last point in Section 2.8.

2. THE DOXOGRAPHICAL MATERIAL ON TIME AND ITS SUBSTANCE: WHO SAID WHAT?

As is the case with much of Sextus' oeuvre, the passages on time are of interest and value not just for the information they provide about Scepticism, but also for the 'dogmatic' theories preserved in them. Having said that, the 'dogmatic' segments on time *de facto* provide very little detailed philosophical material. Most of it does not go beyond commonplace doxography.⁴⁵ This, however, has its own attractions. The focus of this second section of the paper is on the doxographical accounts on time, what they are, how they compare with surviving parallels, and to what philosophers we can attribute those accounts for which Sextus himself provides either no, or more than one, possible ascriptions. First, the texts themselves. I quote passages from both M X and PH III. I leave out all Sceptical responses and all longer bits of theory, in particular those by Strato, Aenesidemus and Demetrius. The philosophical theories of the last three will be discussed in a separate paper.

The accounts of time (PH III.136-7) and its substance (PH III.138) in PH III:

- (a) Some say that time is the interval of the motion of the whole – by whole I mean universe (136).
- (b) Others <say that it is> the motion of the universe itself (136).
- (c) Aristotle, or as some say, Plato, <says that it is> the number of the earlier and later in motion (136).
- (d) Strato, or as some say, Aristotle <says that it is> the measure of motion and rest (137).
- (e) Epicurus, as Demetrius Lakon says, <says that it is> an accident of accidents, concomitant with days and nights, and seasons, and affections and absence of affections, and motions and rests (137).
- (f) With respect to substance, some have said that <time is> body, as Aenesidemus (138).
- (g) Others <that it is> incorporeal (138).

⁴⁵ A good introduction to doxography is Mansfeld [2008].

The accounts of time⁴⁶ and its substance in M X:

- (h) Some say that time is the interval of the motion of the universe (170).
- (i) Others <that it is> the motion of the universe itself (170).
- (j) Aristotle said that time is the number of the first and later in motion (176).
- (k) <that time is> some co-recollection of the first and later in motion (176, implied by context to be Aristotle's view).
- (l) Strato the natural philosopher ... <said that time is> the measure of all motion and rest (177).
- (m) Also, it seems that the following notion of time is ascribed to the natural philosophers Epicurus and Democritus: time is a day-like and night-like appearance (181).
- (n) Regarding substance, for example, some dogmatic philosophers say that time is a body ... (215). With respect to Heraclitus, Aenesidemus said that time is a body (216). ... those who hold that the substance of time is corporeal, I mean the Heracliteans (230).
- (o) Other <dogmatic philosophers say that time is> incorporeal (215).
- (p) Of those who say it is incorporeal, some <say> that it is a thing thought of as something in itself ... (215). The Stoic philosophers believed it (i.e. time) to be incorporeal ... and regard it as a thing thought of as something in itself (218).
- (q) ... others <say that it is> an accident of something else (215). Epicurus, as Demetrius Lakon interprets him, says that time is an accident of accidents, concomitant with days and nights, and seasons, and affections and absence of affections, and motions and rests (219).
- (r) Plato, or as⁴⁷ some say, Aristotle, said that time is the number of the earlier and later in motion (228).
- (s) Strato the natural philosopher, or as others say, Aristotle <said that it is> the measure of motion and rest (228).

The texts present five full accounts of time, to which, for convenience, I will refer as follows:

(1)	The Interval Account	<i>PH</i>	(a)	<i>M</i>	(h)
(2)	The Motion Account	<i>PH</i>	(b)	<i>M</i>	(i)
(3)	The Number Account	<i>PH</i>	(c)	<i>M</i>	(j), (r)
(4)	The Measure Account	<i>PH</i>	(d)	<i>M</i>	(l), (s)
(5)	The Accident Account	<i>PH</i>	(e)	<i>M</i>	(q)

In addition, there are alternative or supplemental accounts to the Motion Account for Aristotle (i.e. (k)) and to the Accident Account for Epicurus (i.e. (m)), and the distinction of the substance of time as being corporeal or incorporeal ((f),(g),(n)-(q)).

⁴⁶ Or rather the ἔννοια (215) or νοήσεις (181) or ἐπίνοια (188) of time, as Sextus refers to them.

⁴⁷ 'Or as' in (r) and (s) translates the Greek ὡς δέ (ὡς δ'). In (c) and (d) it translates the Greek ἢ ὡς. Each time the Greek word translated by 'or' indicates a contrast, setting some people's view about the authorship apart from the other view about the authorship reported by Sextus.

2.1 Comparing M X and PH III:

In PH III, we have five accounts of time and two – alleged – accounts of the substance of time, all seven neatly stacked together. Virtually every account in PH III, mostly down to the very wording, has a parallel in M X. However, the order in M X is somewhat messier. There, Sextus starts with a set of five accounts of time, interspersed with Sceptical counters. These five accounts correspond very roughly to the first five of PH III. Leaving aside small discrepancies in formulation, differences are, first, that in M X we get additional information connected with the Number and Measure Accounts; second, that the fifth account (i.e. *(m)*) is attributed to Epicurus and Democritus,⁴⁸ not to Epicurus through the lense of Demetrius, and differs from the account given in PH III (i.e. *(e)*); and third, that the Number Account is unambiguously attributed to Aristotle, the Measure Account unambiguously to Strato. When Sextus moves to the accounts of the substance of time at M X.215, we have the same division as in PH III: ‘some: corporeal (*f*), (*n*); others: incorporeal (*g*), (*o*)’. Additionally, we get a subdivision of the accounts of substance as incorporeal, together with attributions of the two views reported: for the Stoics, time is ‘a thing thought of as something in itself’ (*p*) whereas for Epicurus it is an accident (or property: *σύμπλωμα*) ((i.e. *(q)*). The account of the *substance* of time for Epicurus (*q*) is identical with the account of *time* attributed to Epicurus via Demetrius in PH III (i.e. *(e)*). It is also attributed in the same way. To complicate things further, next in M X we get a *repetition* of Number and Measure Accounts ((*r*) and (*s*)), this time implicitly presented as being about the substance of time, but with exactly the same uncertainty of attribution between Plato and Aristotle, and Aristotle and Strato, respectively, as in PH III.

Thus effectively, we have two sets of five accounts in M X, with the oddities that two accounts are used twice, and that in one case what counted as an account of time in PH III counts as an account of its substance in M X. In each of the three sets of five,

⁴⁸ I believe ‘Democritus’ may be a scribal error for ‘Demetrius’. Democritus and Epicurus were known to be fellow atomists, and are occasionally quoted together in doxographical sources; moreover, Democritus was eminently better known than Demetrius. It is Demetrius Lakon who is twice named by Sextus as the source for Epicurus’ account of time: PH III.137 and M X..219.

Aristotle, Strato and Epicurus are mentioned explicitly. Yet overall, there are four positions of uncertain or non-existent ascription: the Motion, Interval, Number and Measure Accounts. The similarities between the passages leave no doubt that Sextus uses the same source for PH III and M X, and apparently uses it twice over in M X, though there may be alternative explanations of the latter repetition.

2.2 General remarks on some other doxographical lists of accounts of time:

We can be certain that most of the accounts in Sextus come from a doxographical source, since we have various passages on the subject of time both in doxographical works and in other authors using such works, and since these texts show sufficient parallels.⁴⁹ The passages include

- Stobaeus *Ecl.* I.8.40-45 (Pythagoras, Eratosthenes, Stoics, Xenocrates, Hestiaios, Strato, Epicurus, Antiphon, Critolaos, Aristotle, Zeno, Apollodorus, Poseidonius, Chrysippus, Plato),
- [Plutarch] *Epit.* I.21-2 (Pythagoras, Plato, Eratosthenes, Stoics),
- [Galen] *Hist.Phil.* 37 (Pythagoras, Plato, Eratosthenes, Stoics),
- Plutarch *Plat. Quaest.* 1007a-b (Aristotle, Speusippus, some Stoics),
- Plotinus *Enn.* III.7.7 (six accounts of time, without ascriptions),
- *Platonis Def.* 411b (two Platonist accounts of time),
- Diogenes Laertius VII.141 (Stoics),
- Alexander of Aphrodisias *On Time* (tr. Sharples, 59-60 = 93.6-93.34, five accounts without ascriptions),
- Simplicius *Cat.* 346.14-18 (reporting Iamblichus: Strato, Theophrastus, Aristotle),
- Simplicius *Cat.* 350.13-17 (Archytas, Aristotle, Zeno, Chrysippus),
- Simplicius *Phys.* 700.16-23 (Plato according to Eudemos, Theophrastus and Alexander; Pythagoreans; Archytas; some Stoics).

⁴⁹ Other reasons for the assumptions of a doxographical source are the concept/substance distinction remarked on earlier, which is common in doxographical texts; and the fact that in his books *Against the Physicists* Sextus unquestionably uses doxographical material for several other topics, see e.g. Algra, Betegh, xxx, in this volume.

Thus we have all dogmatists that are mentioned by Sextus covered in doxographical sources, except Heraclitus.⁵⁰ We also have parallels to all but one of the accounts of time in Sextus, including parallels to the unattributed ones. The account lacking is, again, the one allegedly by Heraclitus. (Details on all the parallels below.)

Next, I discuss the accounts of time in Sextus one by one, pointing out parallels and considering questions of attribution; both should help improve our understanding of the accounts. I deal with the Motion Account before the Measure Account, since this facilitates the discussion of authorship for the latter.

2.3 The Motion Account

‘Time is the motion of the universe’.⁵¹ Bury and Annas/Barnes consider this account to be Platonic, each citing Aristotle *Phys.* 218a33-b1 and Plato *Timaeus* 47Dff as evidence.⁵² I do not disagree with this attribution, but want to draw the reader’s attention to the fact that it is in no way straightforward. First, the very formulation we find in Sextus M X appears to be unique. Second, Aristotle does not attribute the corresponding account to Plato. He provides no ascription. In fact, the only source that explicitly attributes a reasonably similar account to Plato is Simplicius, and even his is not a direct attribution to Plato. Third, the cited *Timaeus* passage needs to be stretched (and then condensed) a bit, before anything like Sextus’ Motion Account pops out.

⁵⁰ Something similar is true in the case of body, cf. Betegh, Appendix on the doxographical section, this volume. Heraclitus is not mentioned in the closest parallel to M 9.360-364, i.e. [Galen] *Hist.Phil.* 18, and Sextus appears to insert information about Heraclitus from a different source, probably Aenesidemus, given the parallel of M 9.360 with M 10.233. This fact might strengthen the case for the assumption that here and elsewhere Sextus drew directly from Aenesidemus’ writings on Heraclitus (see below Section 2.9). On Aenesidemus’ “appropriation” of Heraclitus see also Polito [2004].

⁵¹ οἱ δὲ αὐτὴν τὴν κίνησιν τοῦ κόσμου (PH III.136); οἱ δὲ αὐτὴν τὴν τοῦ κόσμου κίνησιν (M X.170). Both times, the ‘itself’ (αὐτὴν) is not part of the account. It has been inserted as a way of contrasting the Motion Account with the Interval Account, see below Section 2.4.

⁵² Bury, *Sextus Empiricus, Outlines of Pyrrhonism* 418, Annas/Barnes [1994] 180. I assume both actually mean *Tim.* 37Dff.

Aristotle, at *Physics* IV.10 218a33-b1, writes this: “Time ... For some say that it is the motion of the whole, others <that it is> the sphere itself.”⁵³ Aristotle’s verdict is that the first account gets things partially right whereas the second is too simple-minded even to be discussed (218b1-20).⁵⁴ Aristotle’s first account differs from Sextus’ in that it has ‘the whole’ (τὸ ὅλον) instead of ‘the universe’ (ὁ κόσμος), but ‘the whole’ seems to be used synonymously to ‘the universe’. There are a number of related reports:

- Alexander of Aphrodisias *On Time* (93.10): ‘the motion of the sphere’;
- Simplicius *Phys.* 700.16-18: ‘time is the motion, that is the revolution, of the whole, like Plato according to Eudemus, Theophrastus and Alexander.’ (τὴν τοῦ ὅλου κίνησιν καὶ περιφορὰν⁵⁵);
- *Platonis Definitiones*: ‘time: the motion of the sun’ (ἡλίου κινήσις);
- Plotinus, *Enn.* III.7.7: ‘the motion of the all’ (τὴν τοῦ παντός κίνησιν);
- Stobaeus *Ecl.* I.8.45 and [Plutarch] *Epit.* I.22: ‘[Plato]⁵⁶ <calls> the motion of the heaven the substance of time’ (Πλάτων οὐσίαν χρόνου τὴν τοῦ οὐρανοῦ κίνησιν).

The linguistic variety here is great, but perhaps not too surprising, if this family of accounts indeed is meant to give us Plato’s notion of time from the *Timaeus* in a nutshell. (Try it yourself, with a word limit of five.) The accounts are, of course, not all equivalent. The sun is only part of the heaven, or of the sphere. And whereas all three expressions, κόσμος, τὸ πᾶν, and τὸ ὅλον, can be used to refer to the universe including the sub-lunar part as a whole, κόσμος can also refer to the heaven alone, whereas this is a little less clear of τὸ πᾶν and τὸ ὅλον.⁵⁷ We may ask where exactly in the *Timaeus* we

⁵³ ὁ χρόνος ... οἱ μὲν γὰρ τὴν τοῦ ὅλου κίνησιν εἶναι φασιν, οἱ δὲ τὴν σφαῖραν αὐτὴν, Arist. *Phys.* IV.10 218a33-b1.

⁵⁴ This second view is attributed to Pythagoras in Stobaeus *Ecl.* and [Plutarch] *Epit.* (see Section 2.4). Cf. also: Simplicius *Phys.* 700.17-18 where he, in his comments on the Aristotle passage, attributes the view that time is the sphere of the heavens to some Pythagoreans.

⁵⁵ I read the καὶ as exegetic, since it seems to explain what motion Plato means rather than provide an alternative to that motion. This seems plausible in itself and provides a parallel account to Aristotle’s, which is fitting, since the three authors are Peripatetics and were familiar with Aristotle’s *Physics*. In fact, they all appear to have attributed the account to Plato in the context of their commentaries of Aristotle’s anonymous reference in the *Physics*. (Verity Harte suggests to me that perhaps the ascription was originally a genuinely open question of Aristotle exegesis, albeit resolved in the same way by the Peripatetics mentioned.)

⁵⁶ ‘Plato’ only in Plutarch; in Stobaeus it is clear from the context that this is Plato’s account.

⁵⁷ At *Timaeus* 37d2 and d6 Plato can be read as treating τὸ πᾶν and οὐρανός as interchangeable. As for Aristotle, Hussey ([1993] 141) understands him as using τὸ ὅλον for ‘the sphere of the fixed stars’, and

find anything similar to any of the above accounts.⁵⁸ Here are some passages that may be of relevance:

- *Tim.* 37D5-E4: ... he planned to make some moving copy/image of eternity, and at the same time when he structured the heaven, he made an eternal image/copy that moves in accordance with number of the eternity that remains in the unity, this <image/copy>⁵⁹ which we call time. For, together with the construction of the heaven he devised the production of days and nights and months and years, which did not exist before the heaven came into being. And these are all parts of time; and ‘was’ and ‘will be’ are generated forms of time ...⁶⁰
- *Tim.* 38A: the ‘was’ and ‘will be’ are appropriately said of the coming-to-be which proceeds in time; for they are both motions.⁶¹
- *Tim.* 38C: regarding the generation of time, the sun and the moon and five other stars, which are called the ‘planets’, came into being so that they determine and preserve the numbers of time.⁶²
- *Tim.* 39D: time being the wanderings of these (i.e. the planets).⁶³
- *Tim.* 42D: the moon and the remaining organs (planets, stars, cf. 38C) of time.⁶⁴

Taking these passages and their general context together, we can see how the doxographical accounts of time as motion of the heaven, the universe, the all, the whole and the sphere may have arisen. For they allow – among others – a reading that Timaeus has a view according to which time is the revolutions of these heavenly bodies, and,

thus for an *ordered* whole. In Greek τὸ πᾶν is also used as ‘das All’ is in German, i.e. to denote the universe. The Stoics used it to denote the universe (κόσμος) together with the void (e.g. SE M.IX332; Stob.Ecl.I 21.)

⁵⁸ This is not to deny that most accounts may *de facto* be several times removed from Plato’s original text.

⁵⁹ Grammatically, “this” could refer to “number” (see Section 2.6), though the context, e.g. 39D quoted below, suggests it refers to “image”.

⁶⁰ εἰκῶ δ’ ἐπενόει κινητόν τινα αἰῶνος ποιῆσαι, καὶ διακοσμῶν ἅμα οὐρανὸν ποιεῖ μένοντος αἰῶνος ἐν ἐνὶ κατ’ ἀριθμὸν ἰοῦσαν αἰώνιον εἰκόνα, τοῦτον ὄν δὴ χρόνον ὠνομάκαμεν. ἡμέρας γὰρ καὶ νύκτας καὶ μῆνας καὶ ἐνιαυτούς, οὐκ ὄντας πρὶν οὐρανὸν γενέσθαι, τότε ἅμα ἐκείνῳ συνισταμένῳ τὴν γένεσιν αὐτῶν μηχανᾶται· ταῦτα δὲ πάντα μέρη χρόνου, καὶ τὸ τ’ ἦν τὸ τ’ ἔσται χρόνου γεγονότα εἶδη ...

⁶¹ τὸ δὲ ἦν τὸ τ’ ἔσται περὶ τὴν ἐν χρόνῳ γένεσιν ἰοῦσαν πρέπει λέγεσθαι—κινήσεις γὰρ ἔστων.

⁶² Ἐξ οὖν λόγου καὶ διανοίας θεοῦ τοιαύτης πρὸς χρόνου γένεσιν, ἵνα γεννηθῆ χρόνος, ἥλιος καὶ σελήνη καὶ πέντε ἄλλα ἄστρα, ἐπίκλην ἔχοντα (5) πλανητά, εἰς διορισμὸν καὶ φυλακὴν ἀριθμῶν χρόνου γέγονεν.

The numbers are day, month, year and some others.

⁶³ χρόνον ὄντα τὰς τούτων πλάνας; i.e. the seven (eight?) planets, including sun and moon, see *Tim.* 38C.

⁶⁴ Ἔσπειρεν τοὺς μὲν εἰς γῆν, τοὺς δ’ εἰς σελήνην, τοὺς δ’ εἰς τᾶλλα ὅσα ὄργανα χρόνου.

taken as a whole, the motion of the heaven or the All. Moreover, although Sextus' account, with ὅλον, is unique, this should not worry us greatly. In PH III 136, in the very same sentence, with respect to account (1), Sextus says "I mean by the whole the universe" (ὅλον δὲ λέγω τὸν κόσμον). This makes it likely that *Sextus* uses 'the whole' and 'the universe' as equivalents in this context. The frequency with which this family of accounts occurs in doxographical lists without any ascriptions certainly suggests the position of a philosopher of rank. This, together with the fact that two members of the family are ascribed to Plato, and with the similarity to the *Timaeus*, seems sufficient evidence that we have an account that was generally considered an acceptable way of presenting Plato's view (δόξα) of time.⁶⁵ Whether Sextus was aware of this is a different question. Given the meticulous way in which he reports the authors of most of the other positions, he may not have been.

2.4 The Interval Account

'Time is the/an interval of the motion of the universe' (χρόνον ... διάστημα τῆς τοῦ κόσμου κινήσεως, M X.170); or 'the/an interval of the motion of the whole' (χρόνον γὰρ εἶναι φασι οἱ μὲν διάστημα τῆς τοῦ ὅλου κινήσεως, PH III.136). I start with a note on the various possible translations of the Greek διάστημα in the context at issue. This Greek word covers a range of related meanings, in dictionaries given e.g. as 'interval', 'extension' and 'dimension'. In the case of time, depending on context, any of these three can be an acceptable translation. I will list a number of different ways the phrase 'διάστημα of the motion of ...' can be understood when part of an account or definition of time. I will *not* make any final decision among them, *nor* give any philosophical interpretation of the phrase, since we need to know whose account we have here before we can provide an interpretation. (As I said in the introduction this paper is to provide the

⁶⁵ Here I do not discuss the (historical and philosophical) question whether the Motion Account was understood by those reporting it (i) as an account of motion as the essence (nature, substance) of time, or (ii) as an account of the motion of the heavens as carving out a regular period of time that provides a basis for measuring time (by dividing it into smaller periods of time). Of the seven counterarguments in Sextus M X.170-175, the first, second, fourth and sixth take the account along the lines of (i); the third, fifth seventh seem compatible with (i) and (ii).

basis for philosophical treatment of the Sextus passages, but is not itself a philosophical discussion.)

(i) The translation ‘interval’ makes sense for the following cases: Suppose the motion in the account is a particular motion of an object that starts at t_1 and ends at t_2 . For reasons of simplicity, also suppose that the sun moves around the earth in one day and that its motion is cyclical. Then time, as an interval of a motion, could be (a) e.g. the portion of the motion of the sun that started today at midnight and ends tomorrow at midnight. Or (b) the particular period from midnight today until midnight tomorrow in which this motion took place, and which we may call “this Tuesday”. Or (c) the length or duration of this particular period, which we may call a “day”, and which is obtained as the result of an abstraction from (a) or from (b). This duration could be used as a temporal unit or yardstick to measure the length of other motions (two days long, one quarter of a day long, etc. using division, addition, multiplication, as required). In the case of cyclical motion, abstraction would be aided by the fact that the next motion of the same kind, from t_2 to t_3 , say, would be of the same length. Thus time understood as (a), (b) or (c) would each provide a basis for our ability to measure periods of time, but manifesting different levels of abstraction.

(ii) The translation ‘extension’ makes sense for cases in which time is understood as the extension of *any* motion, without any specific period of time or duration being associated with it. Thus all particular motions would be alike in that they have an extension from some t_n to some t_m . The motions manifest an earlier and a later, or – alternatively – are manifested in something that has an earlier and a later. Either way, the specific duration of the extension of each motion may differ. The point of accounts of time along these lines would be to state that an object’s motion (or at least locomotion) has, in addition to the three spatial extensions length, width and height, an extension involving an earlier and a later, or a duration. In this understanding, time does not provide a unit and cannot serve as a yardstick.

(iii) The translation ‘dimension’ makes sense in cases in which either *all* motion or motion *in general* is at issue. Accounts of time as the dimension of all motion (or of motion in general) can be seen as contrasting time with the dimensions of space, which cover left-right, front-back and up-down (say). The dimension of time adds the directionality of the earlier-later to the three spacial dimensions. Again, motion can be seen as being a necessary condition for there to be such a dimension (relationalism with regard to time), or such a dimension can be seen as a necessary condition for motion (absolutism with regard to time).

Finally, ‘extension’ also lends itself as a generic term that covers the various possible uses διάστημα in the context of time, and it is my translation of choice where I find it impossible to decide which of the three terms, ‘interval’, ‘extension’ or ‘dimension’ would be best to use. Armed with these terminological specifications, I return to the accounts in Sextus. The use of two definite articles together with the specification that the motion is that of the universe (“διάστημα of *the* motion of *the* universe”) makes the translations ‘extension’ and ‘dimension’ unsuitable. Hence I use ‘interval’. The identification of the interval that is time with the portion of the motion itself, i.e. (i)(a) above, is unlikely, since it seems to cancel out the contrast with the Motion Account. However, from the context it is not fully clear whether we should read ‘the interval’ or ‘an interval’, and as a result we are still left with several possible readings. Time could be *an* interval of the motion of the universe in several ways. If the universe moves cyclically, it could be one cycle (i)(b) or the duration of one cycle (i)(c) of the cosmic motion. Or it could be simply any period of time that is part of the cosmic motion, whether the latter is taken as cyclical or in its entire (possibly infinite) extension. Time could be *the* interval of the motion of the universe in the sense that it is one cycle (or the duration of one cycle) of the cyclical motion of the universe. This reading would not differ substantially from the first with the indefinite article. Without knowing the philosophical authors of the accounts or the context in which they were introduced, further eliminations of readings seem inadvisable. Thus I move to the question of ascription of the account.

Although the Interval Account in Sextus has traditionally been ascribed to the Stoics,⁶⁶ this attribution is more problematic than that of the Motion Account to Plato. In this case, too, neither in PH III nor in M X is the account attributed to any philosopher or school. Still, this time we have too many rather than too few ascriptions of this exact account in other doxographical sources: the authors, where named, are Plato and the Stoics:

- In the list of accounts of time in Stobaeus *Ecl.* I.8.45 we read “Plato <says that time is> a moving image of eternity or the/an interval of the motion of the universe” (Πλάτων αἰῶνος εἰκόνα κινητήν, ἢ διάστημα τῆς τοῦ κόσμου κινήσεως). This has a literal parallel in [Plutarch] *Epit.* 21; and [Galen] *Hist.Philos.* 37 has “Plato <believed that time is> the/an interval of the motion of the universe”.⁶⁷
- In Stobaeus *Ecl.* I.8.40 and 42, as part of the report of Stoic theories of time, we find the following:⁶⁸
 - Zeno says that time is the/an interval of motion ... (Ζήνων ἔφησε χρόνον εἶναι κινήσεως διάστημα ... *Ecl.* I.8.40);
 - Apollodorus in his *Natural Philosophy* defines time as follows: time is the interval of the motion of the universe (Ἀπολλόδορος δ’ ἐν τῇ Φυσικῇ τέχνῃ οὕτως ὀρίζεται τὸν χρόνον· Χρόνος δ’ ἐστὶ τῆς τοῦ κόσμου κινήσεως διάστημα. *Ecl.* I.8.42);
 - Posidonius ... defines time thus: interval of motion or measure for fastness and slowness (Ποσειδωνίου ... τὸν δὲ χρόνον οὕτως ὀρίζεται· διάστημα κινήσεως ἢ μέτρον τάχους τε καὶ βραδύτητος, *Ecl.* I.8.42);
 - Chrysippus <says> that time is an interval of motion, in accordance with which it is sometimes called measure of fastness and slowness; or the interval that accompanies (is concomitant with) the motion of the universe. (Ὁ δὲ Χρύσιππος χρόνον εἶναι κινήσεως..διάστημα, καθ’ ὃ ποτὲ λέγεται μέτρον τάχους τε καὶ βραδύτητος· ἢ τὸ παρακολουθοῦν διάστημα τῆ τοῦ κόσμου κινήσει, *Ecl.* I.8.42).

⁶⁶ E.g. Bury [1933] PH p.418; Annas/Barnes [1994], 180; von Arnim, SVF II.513.

⁶⁷ The three passages have a common ultimate doxographical source, see below.

⁶⁸ This passage in Stobaeus is generally thought to come from (an) Arius Didymus. For this ascription cf. e.g. Mansfeld/Runia [1997] 238-265.

- Diogenes Laertius VII.141 writes about the Stoics: “time is incorporeal, being the/an interval of the motion of the universe” (τὸν χρόνον ἀσώματον, διάστημα ὄντα τῆς τοῦ κόσμου κινήσεως ...)
- Plutarch, in *Quaest. Plat.*, attributes to some Stoics: “interval of motion” (διάστημα κινήσεως, *Quaest. Plat.* 8.4 1007A-B).
- In his *Categories* commentary Simplicius writes: “Of the Stoics, Zeno says that time is the/an interval of motion without qualification, whereas Chrysippus <says that it is> the/an interval of the motion of the universe.” (τῶν δὲ Στωϊκῶν Ζήνων μὲν πᾶσης ἀπλῶς κινήσεως διάστημα τὸν χρόνον εἶπε· Χρύσιππος δὲ διάστημα τῆς τοῦ κόσμου κινήσεως. *Simpl. Cat.* 350.15-17 (Kalbfleisch), also SVF II 510).
- In the *Didascalicos* of the Middle-Platonist Alcinous, at Ch.14 Section 6, we find, without attribution but no doubt intended as an interpretation or summary of Plato’s view, “For he <i.e. god> created time as the/an interval of the motion of the universe” (Καὶ γὰρ τὸν χρόνον ἐποίησε τῆς κινήσεως τοῦ κόσμου διάστημα).
- Philo *De Aeternitate Mundi* 54 has: “Perhaps some Stoic ... interval of the motion of the universe” (τάχα τις ... Στωϊκὸς ... τὸν χρόνον ... διάστημα τῆς τοῦ κόσμου κινήσεως) and *ibid.* 52 and 53 without attribution “define time as the interval of the motion of the universe” and “time ... interval of the cosmic motion” (ὀρίζεσθαι χρόνον διάστημα τῆς τοῦ κόσμου κινήσεως and διάστημα δὲ κοσμικῆς κινήσεως ... ὁ χρόνος ...). Cf. also *De Aeternitate Mundi* 4 “as it seems to the Stoics, ... the/an interval of the motion of it (i.e. the universe) which they say is time” (ὡς δοκεῖ τοῖς Στωϊκοῖς, ... οἷ τοῦ κόσμου> τῆς κινήσεως φασιν εἶναι τὸν χρόνον διάστημα). In *De Opificio Mundi* 26, line 4, Philo presents the same account without attribution (διάστημα τῆς τοῦ κόσμου κινήσεως ἔστιν ὁ χρόνος).⁶⁹
- Finally, Plotinus, *Enn.* III.7 has “time ... interval of motion” (χρόνος ... διάστημα κινήσεως, III.7.7) in his attributionless classification of views on time; and, when refuting the various views, “but if <time is defined as> the/an interval <of the motion> of the whole ...” (Εἰ δὲ τῆς τοῦ παντὸς διάστημα <κινήσεως>... III.7.8).

⁶⁹ Further without attribution, in the *Suda*, entry χρόνος, and in *Commentaria in Dionysii Thracis Artem Grammaticam, Scholia Vaticana*, 249. 7, see below.

Thus we have virtually identical accounts reported three times for Plato, twice for Chrysippus, once for Apollodorus, three times for *the* or *some* Stoics, and in addition a number of very similar accounts attributed to individual Stoics and to the Stoics in general, plus an unattributed occurrence in Philo, an unattributed occurrence in Alcinous that is intended as Platonic and an unattributed mention in Plotinus.⁷⁰ No source attributes the Interval Account to anyone other than Plato or Stoics. So whose view is Sextus reporting? Sextus attributes no other account of the notion of time (exclusively) either to the Stoics or to Plato. In this respect, both are good candidates for being the author of the Interval Account. The question needs an answer based on more general considerations. To begin with, the question is ambiguous. For in the – not impossible – case that both parties actually used this definition, one correct answer would be ‘both Plato’s and the Stoic view’. However, in this case we could still ask: did the source Sextus drew from (or any earlier source in line) report this account *as* a Platonic or *as* a Stoic account? Of course, we may be getting ahead of ourselves here. First let us consider whether one of the attributions may be mistaken. In that case the refined question becomes obsolete. I argue that the attribution to Plato is an error based on a lacuna that occurred somewhere in the transmission process of the doxographical material on which Stobaeus, [Plutarch] and [Galen] draw.

First, let me try and make the case *for* Platonic authorship. Is there any evidence in Plato’s own works that Plato had a notion of time that fits the Interval Account? Or is there any evidence that some Platonists interpreted Plato’s theory of time in such a way that it would fit this account? The most promising approach is to start with Stobaeus. He reports about Plato’s view on time:

Plato <says that time is>⁷¹ the moving image/copy of eternity or the interval of the motion of the universe; it has come to be in accordance with a plan; and the

⁷⁰ All of Plotinus’ definitions are unattributed. He also has one that seems clearly Platonic, time as motion of the all, at *Enn.III.7.7*; and at *Enn.III.7.8*, towards the end, he mentions time as the sphere.

⁷¹ This is understood only, not an abbreviation. There is no sentence in the vicinity that starts ‘x says that time is ...’.

substance of time is the motion of the heaven; for in the *Timaeus* he says the following:⁷²

and then he quotes from the same *Timaeus* passage on time which we regarded as a plausible ancestor theory for the Motion Account. In that passage, there is no account of time, nor any other sentence, that suggests itself directly as the origin for the Interval Account. At most, we find some hints from which we could fabricate the account, if we don't mind bending Plato's words a little. Plato repeatedly talks about the numbers of time (e.g. *Tim.* 37D/E, 38C, 39D, see quotes above). Days, nights, months and years are portions of time (37D) that are the result of the movements of the planets, which by so moving both determine (in the sense of manifest, I take it) and preserve the numbers of time (38C). The complete number of time is that which results when the circuits of all eight planets finish together, thus determining the complete year (39D). Hence, the numbers of time correspond to (the length of) the portions of time. This allows us to think of those numbers as being represented by (or manifested as) *intervals in time*. If additionally, we think of the portions of time as being themselves periods of time, we can think of those (periods of) times as being intervals of the motion of the universe (in the sense of the heaven or heavenly sphere). Then we can say that *a* (period of) *time* is *an interval* of the motion of the universe. Perhaps we can go one step further and say that *the complete year* is *the* (period of) *time* which is *the interval of the motion of the universe*. We can venture still further: rather than thinking of the Motion Account as the Platonic account of time, we take it as the Platonic account of the substance of time. By contrast, the Interval Account would then define time qua period of time. Remember that Stobaeus, [Plutarch] and [Galen], that is the very doxographical tradition that attributes the Interval Account to Plato, attributes a variation of the Motion Account, i.e. "the motion of the heaven", to Plato as the account of the substance of time. Thus, we may conclude, we are vindicated in taking this doxographical tradition at its word for attributing the Interval Account to Plato. And if this is so, why couldn't it be that Sextus is following the same doxographical tradition?

⁷² Πλάτων αἰῶνος εἰκόνα κινήτην, ἢ διάστημα τῆς τοῦ κόσμου κινήσεως· γενητὸν δὲ κατ' ἐπίνοιαν· οὐσίαν δὲ χρόνου τὴν οὐρανοῦ κίνησιν· λέγει γὰρ ἐν τῷ Τιμαίῳ οὕτως·

My response to this line of reasoning from Plato's theory of time is that for various reasons the previous kind of argument does not have much plausibility. I do not question the possibility that Plato may have been interpreted by some later thinkers in this way. Rather, it is implausible that the doxographical tradition on which Sextus draws was among these, for reasons which in part concern the passages from Stobaeus, [Plutarch] and [Galen], and in part Sextus' presentation of the accounts in their linguistic context.

There can be little doubt that Stobaeus, [Plutarch] and [Galen] ultimately draw from the same doxographical source for the account of time at issue ([Galen] via [Plutarch]). This source had been named Aetius by Diels in his *Doxographi Graeci*. And although both his arguments for, and his reconstruction of, this common source has many defects, the underlying hypothesis of a common source has survived intact.⁷³ For our purposes it will be helpful to provide the entire passages from [Plutarch] and [Galen] as a basis for comparison. [Plutarch] has

(21) Περὶ χρόνου. Πυθαγόρας τὸν χρόνον τὴν σφαῖραν τοῦ περιέχοντος εἶναι. Πλάτων αἰῶνος εἰκόνα κινητὴν ἢ διάστημα τῆς τοῦ κόσμου κινήσεως. Ἐρατοσθένης τὴν τοῦ ἡλίου πορείαν. (22) Περὶ οὐσίας χρόνου. Πλάτων οὐσίαν χρόνου τὴν τοῦ οὐρανοῦ κίνησιν. Οἱ πλείους τῶν Στωικῶν αὐτὴν τὴν κίνησιν. καὶ οἱ μὲν πλείους ἀγένητον τὸν χρόνον, Πλάτων δὲ γενητὸν κατ'ἐπίνοιαν.

[Galen] has

(37) Περὶ χρόνου. Τὸν χρόνον εἶναι Πυθαγόρας ὑπέλιπε τὴν σφαῖραν τοῦ περιέχοντος. Πλάτων δὲ διάστημα τῆς τοῦ κόσμου κινήσεως. Ἐρατοσθένης δὲ τὴν τοῦ κόσμου πορείαν. (38) Περὶ οὐσίας χρόνου. Τοῦ δὲ χρόνου τὴν οὐσίαν οἱ Στωικοὶ ἡλίου τὴν κίνησιν νομίζουσιν. Πλάτων δὲ τὴν πορείαν τούτου. καὶ τινὲς μὲν ἀγένητον τὸν χρόνον εἶναι, Πλάτων δὲ γενητὸν.

⁷³ Cf. Mansfeld & Runia [1997], esp. chapters 3 and 4, and [2008]; see also Mejer [2006].

[Galen] differs substantially from [Plutarch] in four points: He has only the Interval Account attributed to Plato; he has κόσμου for ἡλίου in Eratosthenes' definition of time; ἡλίου for αὐτὴν for the Stoics; and τὴν πορείαν τούτου for τὴν τοῦ οὐρανοῦ κίνησιν for Plato on the substance of time. Stobaeus is with [Plutarch] on all four counts. As the account of the substance of time as motion of the sun is unmotivated and not elsewhere substantiated for the Stoics, I assume that it made its way there from the definition of Eratosthenes, where the resulting lacuna was plugged with κόσμου. The substance of time for Plato as 'wandering of the sun' is not well-motivated either, so again, [Plutarch]'s τὴν τοῦ οὐρανοῦ κίνησιν is preferable, since it has a better grounding in the *Timaeus*.⁷⁴ Stobaeus has the following text (in *Ecl.*I.8.40):

Πυθαγόρας τὴν σφαῖραν τοῦ περιέχοντος Ἐρατοσθένης τὴν τοῦ ἡλίου πορείαν. Οἱ Στωικοὶ χρόνου οὐσίαν αὐτὴν τὴν κίνησιν. Οἱ πλείους ἀγένητον τὸν χρόνον.

(For the next two paragraphs, it may be helpful to compare Diels *Doxographi Graeci* p. 318.) Diels assumed that Stobaeus collected the passages about Plato on time from his source and put them together in front of his *Timaeus* quotation. This *general* hypothesis must be correct.⁷⁵ First, what Stobaeus reports about Plato has an exact correlation in the three bits on Plato in [Plutarch].⁷⁶ Second, the alternative would be that [Plutarch] cut up the doxographical passage on Plato on time from his source into three parts and interspersed these parts into his list of views of time, which hitherto would have contained only three views: those of Pythagoras and Eratosthenes on time and the one of the Stoics on the substance of time. This seems most implausible. Where I differ from Diels is in my reconstruction of where *in Stobaeus' source* the three clauses on Plato would have been (and with where Diels inserted the sub-titles "On time" and "On the substance of time").⁷⁷ Here is my suggestion:

⁷⁴ This result is in line with the conclusion of Mansfield and Runia [1997] 141-152 that [Galen] *Hist. Philos.*, being essentially an epitome of [Plutarch] *Epit.*, is often somewhat carelessly produced.

⁷⁵ Of course, there may have been an intermediate source who did this and who Stobaeus copied.

⁷⁶ The only differences are two missing 'Platos' in Stobaeus – which are not needed because the sentences occur in a direct sequence – plus a missing 'δέ'.

⁷⁷ Diels has: *On time*: Pythagoras, Plato's first two accounts, Eratosthenes; *On the substance of time*: Plato's third account, Xenocrates, Hestaios, Strato, Epicurus, Antiphon and Critolaos, the Stoics (*DD* 318).

Πυθαγόρας τὴν σφαῖραν τοῦ περιέχοντος. Πλάτων αἰῶνος εἰκόνα κινητὴν, ἢ διάστημα τῆς τοῦ κόσμου κινήσεως. Ἐρατοσθένης τὴν τοῦ ἡλίου πορείαν.
 [Πλάτων] οὐσίαν δὲ χρόνου τὴν οὐρανοῦ κίνησιν. Οἱ Στωικοὶ <χρόνου οὐσίαν> αὐτὴν τὴν κίνησιν. Οἱ πλείους ἀγένητον τὸν χρόνον. [Πλάτων] **γενητὸν δὲ κατ' ἐπίνοιαν.**⁷⁸

Assuming that two accounts of time attributed to Plato are thus sandwiched between those by Pythagoras and Eratosthenes, let us consider them more closely. First, the Platonic account, “a moving/movable copy/image of eternity” comes straight from *Tim.*37D, “he planned to make some moving copy/image of eternity, and ... he made an eternal copy/image, that moves in accordance with number ..., this < image/copy > which we call time.” (εἰκὼ δ' ἐπενόει κινητὸν τινα αἰῶνος ποιῆσαι, καὶ ... κατ' ἀριθμὸν ἰοῦσαν αἰώνιον εἰκόνα, τοῦτον ὄν δὴ χρόνον ὠνομάκαμεν). Thus, we have a good and well authenticated definition of time for Plato in the text before the Interval Account, and one that seems much closer to Plato's actual theory than the latter at that. Second, although we get an account of the Stoics for the substance of time, we have no Stoic account for time itself (but two for Plato!). Third, lacunae and attribution errors in doxographies are frequent. Fourth, we could adduce an argument from quantity: we have at least five attributions of an account of time that includes the phrase “interval of the motion of the universe” (διάστημα τῆς τοῦ κόσμου κινήσεως) to Stoics, but no such source for Plato beyond the three under discussion, which all originate from the same original source. What are the odds then, that the passage at issue is corrupt? Drawing together all the reasons given, an alternative explanation suggests itself for the section entitled *On Time*

⁷⁸ In more detail: I think Diels (*DD* 318) went wrong in inserting the accounts of Xenocrates, Hestaios, Strato, Epicurus, Antiphon and Critolaos after Plato on the substance of time and before the Stoics on the substance of time, and by putting the title ‘On the substance of time’ (Περὶ οὐσίας χρόνου) in front of Plato on the substance, thus governing seven accounts. It is preferable to assume that Plutarch and Stobaeus had the same whole passage in front of them that Plutarch reports, and that Stobaeus added the accounts of time by Xenocrates, Hestaios, Strato, Epicurus, Antiphon and Critolaos *after* that passage, excerpting them from one or more additional sources. In this way no long gap has to be postulated for Plutarch. The four following accounts, which grammatically are accounts of time and which don't mention substance, would be just accounts of time. Two of them are reported elsewhere as just that (Epicurus and Strato). And Stobaeus' entire (very long) passage on time is entitled Περὶ χρόνου οὐσίας καὶ μερῶν καὶ πόσων [ἀν] εἴη ἀίτιος, and thus allows for a transition from accounts of time to accounts of its substance and back. In any event, Stobaeus returns to accounts of time *simpliciter* after the Stoics, adding the accounts of Aristotle, Aristotelians, Zeno, Posidonius, Apollodorus and Chrysippus. Also, Diels ends up with a strangely long list of substance-of-time accounts after accounts of time of only three philosophers.

in Plutarch. This is that Stobaeus', [Plutarch]'s and [Galen]'s ultimate source contained a gap, and that swallowed up in that gap was the attribution of the Interval Account to the Stoics. Here is what I believe to be the most plausible way of refilling the lacuna:

Πλάτων αἰῶνος εἰκόνα κινητήν, ἢ <τὴν τοῦ κόσμου κίνησιν. Οἱ Στωικοὶ>
διάστημα τῆς τοῦ κόσμου κινήσεως.

A simple emendation like this one solves all problems in one go. We have for Plato two different accounts of time that are both otherwise attested and that both have a clear origin in the *Timaeus*. In particular, we have an account of the family of Motion Accounts for Plato, which is by a long distance the account most frequently provided for Plato in doxographical sources. For the Stoics, we have acquired an account of time that is many times attested elsewhere. We note further that the sequence of the Motion Account and the Interval Account is paralleled in Sextus; and that in Plot.*Enn.*III.7, Simpl.*Phys.*700.16-23 and Plut.*Quaest.Plat.*1007A-B, too, we have those two accounts reported together. Finally, we have an emendation which, though not based on haplography, can be easily explained along the lines of the psychological explanations of haplography: we have a lacuna where the scribe missed out a whole definition, jumping directly to the next one, since its last part was very similar to the missed definition: τῆς τοῦ κόσμου κινήσεως instead of τὴν τοῦ κόσμου κίνησιν.

What about the occurrence of the Interval Account in Alcinous' *Didaskalikos*, which is written by a Platonist and announces its content to be “a presentation of the principle doctrines of Plato” (Alcinous *Didasc.* Ch. 1.1)? The *Didaskalikos* draws from a number of different secondary sources on Plato.⁷⁹ Among these was, at least for much of the so-called *Timaeus* epitome (Chapters 12-23) the underlying source of Stobaeus, [Plutarch] and [Galen],⁸⁰ with some insertions added by Alcinous. These were either taken from other sources or additions of his own.⁸¹ This fact in itself makes it likely that Alcinous' accounts of time comes – ultimately – from that same source. This point finds support if we look at the context in which Alcinous introduces the Interval Account. Within his *Timaeus* epitome, Alcinous presents a combination of the same two accounts attributed to

⁷⁹ Cf. Göransson [1995], ch.6.

⁸⁰ Whether this source is taken to be Aetius or some Arius Didymus or neither is immaterial here.

⁸¹ Cf. again Göransson [1995], ch.6, also Dillon [1993], Introduction, Section 3.

Plato in Stobaeus and [Plutarch]. The passage differs in that god is explicitly mentioned as creator as time; that the accounts are reversed; that in the now second account the word ‘moving’ (κινήτην) is missing; and that the account is followed by an explanation of eternity: “For <god> created time as the interval of the motion of the universe, as an image/copy of eternity, which is a measure of the permanence of the eternal universe.”⁸² (*Didasc.* Ch. 14.6). This account of eternity is absent in the parallel sources, and it is plausible that Alcinous himself reversed the order of the accounts from his source, so that he could add the desired supplemental information about eternity. If this is right, the source of the accounts of time in the *Didaskalikos* is the same as that of Stobaeus and [Plutarch], and the *Didaskalikos* provides no independent evidence in favour of Plato as the – presumed – author of the Interval Account in Sextus.

What it shows, however, is how easily the Interval Account may have become a free-floating account, once the umbilical cord that connected it to Stoic physics is cut; and moreover, how easily it can be fitted into Platonic doctrine (along the lines explored earlier in this section), if certain liberties in Plato exegesis are tolerated. The same phenomenon can be observed when one looks at Jewish and Christian philosophers, at the *Suda* lexicon and at the grammarians. Philo, who in *De Aeternitate Mundi* preserved the Stoic origin of the account (see above), presents the same account without any attribution, but simply as true, in *De Opificio Mundi* 26: “For since time is the interval of the motion of the universe” (ἔπει γὰρ διάστημα τῆς τοῦ κόσμου κινήσεως ἔστιν ὁ χρόνος). This passage is also part of the excerpt from Philo’s *De Opificio Mundi* in Eusebius’ *Praeparatio Evangelica*, Book 11 Ch. 24, without Eusebius adding any author of the account. But even in the *De Aeternitate Mundi*, where Philo acknowledges that the Stoics accepted the Interval Account (Sections 4 and 54), his formulations in Sections 52, 53 and 54 would leave his readers guessing who originated the Interval Account, implying by context that it may have been Plato or Platonists, and in any case detaching it from its Stoic origin.⁸³ The *Suda* has “Time: the philosophers say that it is incorporeal,

⁸² Καὶ γὰρ τὸν χρόνον ἐποίησε (i.e. god) τῆς κινήσεως τοῦ κόσμου διάστημα, ὡς ἂν εἰκόνα τοῦ αἰῶνος, ὃς ἔστι μέτρον τοῦ αἰωνίου κόσμου τῆς μονῆς.

⁸³ “(52) ... as the great Plato says, it <i.e. time> is days, and nights, and months, and the periods of years which have shown time, and it is surely impossible that time can exist without the motion of the sun, and

being the interval of the motion of the universe”.⁸⁴ The mention of the incorporeality of time may be indicative of Stoic origin (see below), but the account is merely attributed to “the philosophers”. And in a Scholium to Dionysius Thrax, in a passage possibly taken from Stephanus, we find the Interval Account simply as a view one can take: “But if we define time as the interval of the motion of the universe ...”.⁸⁵

So, for the sake of argument, we may want to leave our considerations regarding Stobaeus, [Plutarch], [Galen] and Alcinous aside, and assume that some Platonist at some point attributed the Interval Account to Plato on the basis of a – somewhat warped – interpretation of the *Timaeus*. It would still not follow that *Sextus* reports from a source that treats the Interval Account as Platonic. To see this, we need to consider the *Sextus* passages in their own light. Both in M X and in PH III *Sextus* mentions the Interval Account paired with the Motion Account. Each time *Sextus*’ formulations make it very clear that the two accounts are proposed by different thinkers. Cf. some / the others (τινές / οἱ δὲ) and the first / the second (τοὺς πρώτους / τοὺς δευτέρους) at M X 170; and some / the others (οἱ μὲν / οἱ δὲ) at PH III 136. The fact that the accounts are contrasted with each other is moreover emphasized by the formulation “the motion *itself* of the universe” or “*just* the motion of the universe” (αὐτήν τὴν κίνησιν), that is, the motion *itself* as opposed to *an/the interval of* the motion. Now, if the Motion Account is Plato’s, and the other account is explicitly attributed to some other people, it is unlikely that this other one is Plato’s as well.⁸⁶ So we would have to give up the assumption that the Motion Account is Plato’s. But, as we have seen, there is positive evidence that it is pre-Stoic in

the rotary progress of the whole heaven. So that it has been defined very felicitously by those who are in the habit of giving definitions of things, that time is the interval of the motion of the world... (53) ... but it has been shown already that time is an interval of the motion of the world ... (54) ... Perhaps some quibbling Stoic will say that time is admitted to be (ἀποδεδοσθαι) an interval of the motion of the world, but not of that world ...”, tr. Yonge. The sequence of these sentences may give any reader the impression that the definition is not of Stoic, but rather of Platonic, origin. However, it is more likely that what Philo is doing here is distinguishing between the (later) Stoics that accept the eternity of the world (like Philo) and the (earlier) Stoics that may seem not to, and who are the ones who “quibble”, cf. *De Aeternitate Mundi* 76-8.

⁸⁴ Χρόνος· οἱ φιλόσοφοι ἄσώματον αὐτὸν εἶναι φασι, διάστημα ὄντα τῆς τοῦ κόσμου κινήσεως (Suda Lexicon 533).

⁸⁵ Εἰ δὲ χρόνον ὀρίζομεν διάστημα τῆς τοῦ κόσμου κινήσεως ... (*Commentaria in Dionysii Thracis Artem Grammaticam, Scholia Vaticana*, 249.7).

⁸⁶ It could be some Platonists’ interpretation of Plato’s notion of time, one might venture. But Platonists that interpret Plato are mentioned neither by *Sextus*, nor in Stobaeus, Plutarch or [Galen].

Aristotle's *Physics* passage, and that it was generally accepted as Platonic, plus we have a good possible source in the *Timaeus*. So that move is not advisable. To try and save Platonic authorship by arguing that the Motion Account is Plato's definition of the substance of time, whereas the Interval Account provides his *notion* of time, is ultimately not convincing either. For in M X, Sextus considers the accounts of time and the accounts of the substance of time separately, and would thus have had the perfect opportunity to put the Motion Account into his section on the substance of time *rather than* in his section on the notion of time. But he does no such thing. Moreover, the context in Sextus M X also points to a Stoic rather than Platonic authorship of the Interval Account. In M X.169, immediately before the definitions, we read "For perhaps, with respect to this <i.e. time>, too, both the account given by the natural philosophers who suppose that the universe is eternal, and <the account given> by those <natural philosophers> who say that it came into existence at some time, will perhaps appear to lead to an impasse."⁸⁷ Now, the Stoics take the universe to be ungenerated, and Plato takes it to be created. The directly following two accounts are the only ones in the group of five that do not include ascription to an author. What better way of explaining this than assuming that the two groups of natural philosophers mentioned were meant to *imply* the originators of these accounts of time, with the Stoics as major representatives of the first group, and Plato as major representative of the second.⁸⁸ And one last point: at the end of his presentation of the philosophical views regarding the substance of time, Sextus repeats accounts Number Account and the Measure Account from M X.176 and 177.⁸⁹ Moving to the refutation of the views on substance, and after saying that an impasse is to be expected here, too, he writes: "nonetheless, we must now state against Plato, Aristotle, and Strato the natural philosopher what we said against them at the beginning, when we inferred from the

⁸⁷ τάχα γὰρ καὶ περὶ τούτου (i.e. time) ὁ λόγος ἄπορος φανέται τοῖς τε αἰώνιον ὑποτιθεμένοις εἶναι τὸν κόσμον φυσικοῖς καὶ τοῖς ἀπὸ τινος χρόνου λέγουσιν αὐτὸν συνεστάσθαι.

⁸⁸ Philosophically, things are a little more complex: Plato's universe is "created in thought", and although the Stoics do hold that there is no beginning in time at which the world (qua the entirety of matter and cause/reason) is generated, they also have a theory according to which successive worlds come into being and are destroyed. But these details may not have worried the doxographers. In Stobaeus, [Plutarch] and [Galen], right after their list of accounts of the substance of time (which consists of the views of the Stoics and Plato only), we find the remark that the majority holds that time is ungenerated, but that Plato held that it was generated (Plut.I.21 end, Stob.Ecl.I.8.40, [Galen] *Hist.Phil.*38).

⁸⁹ For questions of ascription of these views see below.

notions of time that time is nothing.” Sextus does not actually repeat the arguments from the beginning at this point. Rather, the purpose of this sentence is to tell the reader where to find them. In the relevant passage, M X.170-80, we find arguments against the account attributed (there) to Aristotle; against the one attributed (there) to Strato; and seven arguments against the Motion Account.⁹⁰ Thus the only arguments that could have been against Plato’s notion of time are those against the Motion Account, which suggests that the Interval Account, which Sextus unambiguously attributes to different philosophers, would not be Plato’s.

I conclude that we do best in assuming that in Stobaeus, [Plutarch], [Galen] and Alcinous, as well as in Sextus, the Interval Account ultimately goes back to the Stoics, and that there was a lacuna in the source of Stobaeus, [Plutarch] and [Galen], as suggested above, or some other textual confusion. However, I do not want to preclude the possibility that Sextus himself may not have been certain to whom to attribute the Interval Account, either since by his time the account may also have had developed a “free-floating” authorless existence; or since by his time the accidental change of attribution had been transmitted sufficiently widely that Sextus had encountered it.

2.5 Archytas and the two Stoic Διάστημα Accounts of time

There is one oddity left regarding the attribution of an Interval Account to the Stoics. Its resolution may further advance our understanding of the ancient doxography on time. Simplicius, in his *Physics* commentary, reports the following in a list of accounts of time. (Archytas is a NeoPythagorean of the 1st century BCE or somewhat later.)

Others <say time is> the sphere itself of the heaven, as those report the Pythagoreans to say who perhaps misheard Archytas saying that time is the general extension (διάστημα) of the nature of the all, or as some of the Stoics

⁹⁰ Sextus mentions διάστημα in the first argument, alongside κίνησις. However, this is diffused immediately by his reducing the διάστημα of the motion to the motion itself: “the interval of the cosmic motion ... or more precisely the cosmic motion ...” (τῆς κοσμικῆς κινήσεως διάστημα ... ἢ ἰδιαιτερον κοσμικῆ κίνησις ..., M X.170). The subsequent argument, if it is to make any sense, can only be directed against time as the motion of the universe, not its interval. And if it has any force at all, again, it has this only against the account of time as the motion of the universe, not as its interval. Cf. also above, note 64.

said; the others <said time was> motion without qualification.⁹¹ (Simpl. *Phys.* 700.19-22).

The structure of this sentence is grammatically unsatisfactory. In particular, there is something peculiar with the phrase “or as some of the Stoics said”. As to its content, the sentence is equally unsatisfactory: in the text as it stands (i) the account of time attributed to both Archytas and to some of the Stoics is nowhere else attributed to the Stoics and (ii) the account of time attributed to the other Stoics, i.e. that time is motion without qualification, in addition to being rather odd, is also nowhere else attributed to the Stoics, or to any philosopher, and the expression “without qualification” (ἀπλῶς) in it makes little sense. By contrast, for Archytas, Simplicius repeatedly reports the same account of time as διάστημα of the nature of the All (e.g. *Phys.* 786.13, 23, 788.8, 16-7) and how the Platonists interpreted it.⁹²

Archytas’ account of time differs from the Stoic Interval Account mainly in that it has ‘nature’ instead of ‘motion’ and ‘of the All’ instead of ‘of the universe’ and has ‘general’ before ‘extension’. The second and third disparities are less important, even though for the Stoics the All includes the void, whereas the universe does not. (We find the second also in Plotinus.) However, the use of ‘nature’ instead of ‘motion’ makes philosophically a great difference. Time as extension of the nature of the All need to have nothing to do with the extension of the motion of the universe. In the first case, we can think of extension (διάστημα) as a – fourth, say – dimension, that determines or manifests the before and after, or earlier and later. (This reading as a dimension may be supported by Archytas’ specification of the extension as general (καθόλου)). In the second case, we can think of extension (διάστημα) as an interval, where the interval may be (the basis for) a yardstick for measuring the length of periods of time. Thus we have two metaphysically very dissimilar conceptions of time.

⁹¹ ...οἱ δὲ τὴν σφαῖραν αὐτὴν τοῦ οὐρανοῦ, ὡς τοὺς Πυθαγορείους ἱστοροῦσι λέγειν οἱ παρακούσαντες ἴσως τοῦ Ἀρχύτου λέγοντος καθόλου τὸν χρόνον διάστημα τῆς τοῦ παντὸς φύσεως, ἢ ὡς τινες τῶν Στωικῶν ἔλεγον· οἱ δὲ τὴν κίνησιν ἀπλῶς.

⁹² In all passages Simplicius expressly draws from Iamblicus and Damascius. For Archytas’ view on time see also the whole passage Simpl. *Corollary on Time* 785.13-788.32 and Simpl. *Cat.* 348.20-8, 356.28-36.

All difficulties of the passage can be cleared up with a very straightforward emendation: assume that there is a lacuna after ‘or’ where originally the expression “of the motion” (τῆς κινήσεως) had its place. Then we get for the first group of Stoics the account “time is the interval of the *motion* of the All”; this is fine as long as we suppose that the Stoic distinction between the All and the universe was lost on the later thinkers. Basically, we have a version of the Stoic Interval Account. The suggested emendation gains plausibility also from Simplicius, *Cat.* 351.18-21. There he writes (taking some historical liberties): “The Stoics, adopting <from Archytas> the account <of time> that says it is the general extension (διάστημα) of the nature of the universe changed the account to ‘the extension/interval (διάστημα) of the movement <i.e. of the universe>’.”

The emendation also removes the second oddity, in providing for the other Stoics the account “<the extension (διάστημα)> of motion without qualification”; here “without qualification” (ἄπλῶς) indicates that for these Stoics time was the extension (διάστημα) just of motion, as opposed to of the motion *of the universe*. I will call this account the Extension Account. The distinction between the two kinds of Stoic accounts that we thus obtain is substantiated by several other texts (all quoted above in Section 2.4). In particular, Stobaeus attributes the Interval Account to Apollodorus and Chrysippus and the Extension Account to Zeno and Posidonius; and Simplicius *Cat.* 350.15-17 writes that Zeno says that time is an extension of motion without qualification (ἄπλῶς), whereas to Chrysippus he ascribes the Interval Account. Thus the emendation also allows us to put names to the two groups of Stoics in Simplicius’ *Physics* passage. I have chosen the translation ‘extension’ and the name Extension Account, since at least for Zeno, for whom the account of time is reported without any further detail (Stob. *Ecl.* I.8.40 Simp. *Cat.* 350.15-17), we cannot preclude that what he had in mind is extension of motions in the general sense of a (fourth) dimension. In the case of Posidonius, where we get the additional qualification of time as “measure of fastness and slowness” (Stob. *Ecl.* I.8.42), extension qua temporal interval may be more probable. But here is not the place to discuss the complexity of the Stoic theories of time. I just note that the Motion Account and the Interval account are closely connected in that they both link time with the motion

of the entire cosmos; by contrast the Extension Account shows some similarity to the Measure Account, in that they both may be concerned with individual motions.

2.6 The Number Account

‘Time is the number of the earlier and later in motion’ (ἀριθμὸν τοῦ ἐν κινήσει προτέρου καὶ ὑστέρου, PH III.136).⁹³ Is this account Aristotle’s or Plato’s? At M X.176, Sextus’ reports it as Aristotle’s. At M X.228 he reports it as by “Plato, or as some <say> Aristotle” and in PH III.136 as by “Aristotle, or as some <say>, Plato”. What are we to make of this?⁹⁴ First, what evidence do we have for either attribution?

For Aristotle we have an almost identical definition of time at *Phys.* IV.11 219b1-2: “For time is this: (the) number of motion with regard to the earlier and later” (τοῦτο γὰρ ἐστὶν ὁ χρόνος, ἀριθμὸς κινήσεως κατὰ τὸ πρότερον καὶ ὕστερον).⁹⁵ This account by Aristotle, with ‘with regard to’ (κατὰ) instead of the simple genitive, and the simple genitive ‘of motion’ instead of ‘in motion’ in Sextus, is also reported by Stobaeus (*Ecl.* I.8) as Aristotle’s, and by Plutarch (*Quaest. Plat.* 1007A-B), who, too, clearly attributes it to Aristotle. Simplicius, in his *Categories* commentary, reports Aristotle as saying that time is a number of motion (ὁ μὲν Ἀριστοτέλης ἀριθμὸν κινήσεως εἶναι φησι τὸν χρόνον, *Cat.* 350.14-150; Ἀριστοτέλης ἀριθμὸν εἰπὼν <i.e. κινήσεως>, *Cat.* 346.15-16), and that, among other things, number of motion is the substance of time (Ὁ δὲ Ἀριστοτέλης ... τὴν οὐσίαν αὐτοῦ ... ὡς ἐπ’ ἀριθμὸν κινήσεως ..., *Cat.* 344.12-15).⁹⁶ There is no direct parallel to the Number Account in Plato’s work, nor is it ever attributed to him in the lists of the doxographers. The odds thus seem to be in favour of Aristotle as the author of this account. Should we assume an error in the source from which Sextus draws? Such an assumption may seem reasonable.

⁹³ Ἀριστοτέλης δὲ χρόνον ἔφασκεν εἶναι ἀριθμὸν τοῦ ἐν κινήσει πρώτου καὶ ὑστέρου (M X.176).

⁹⁴ The report at M X.176 also differs from the other two in that it has ‘first’ (πρώτου) instead of ‘earlier’ (προτέρου). Aristotle and all other doxographical sources have πρότερον, so if anything, the reports that introduce Plato as a possible alternative author seem more accurate.

⁹⁵ For Aristotle on time as number see Coope (2005) III.5.

⁹⁶ For an attribution to Aristotle speaks further the fact that Strato is reported to criticize this account, *qua* being Aristotle’s account, in Simplicius’ *Corollary on Time* 788-9, and, it seems, in Sextus M X.176-7, too.

However, a look at Simplicius *Physics* 702.25-34 provides a better explanation. There we learn that Alexander of Aphrodisias “refuses to accept the view of those who say that Plato, in agreement with Aristotle, holds that time is a/the number of motion, when he calls it ‘an eternal image proceeding numerically’.” The reference to Plato is *Timaeus* 37D: “and at the same time when he structured the heaven, he made an eternal image/copy that moves in accordance with number of the eternity that remains in the unity, *this* which we call time.” (καὶ διακοσμῶν ἅμα οὐρανὸν ποιεῖ μένοντος αἰῶνος ἐν ἐνὶ κατ’ ἀριθμὸν ἰοῦσαν αἰώνιον εἰκόνα, τοῦτον ὃν δὴ χρόνον ὠνομάκαμεν). Those thinkers, we can surmise, may have based their view on the grammatical ambiguity of what ‘this’ anaphorically denotes (‘image’ or ‘number’), choosing ‘number’ rather than ‘image’, even though the latter is what the context dictates (see Section 2.3). Thus Alexander seems to have rightly pointed out that Plato “doesn’t say that time is a/the number of motion, but a numbered, i.e. ordered, motion”. Still, for our purposes, the passage is valuable. It provides us with the information that there were, before Alexander, some people who interpreted *Tim* 37D as providing a Platonic definition of time according to which time is the number of motion.⁹⁷ It makes hence sense to conclude that when Sextus writes “or as some <say>, Plato” he takes from his source a reference to those people Alexander reports about. No need to assume a textual error.

2.7 Explication of the Number Account

“Time is some co-recollection of the first and later in motion” (συμνημόνευσις τις τοῦ ἐν κινήσει πρώτου καὶ ὑστέρου, M X.176): strangely, Sextus seems to offer this as a paraphrase of the Number Account where he attributes it to Aristotle alone (M X.176). There is no way that ‘co-recollection’ is even faintly a synonym for ‘number’. A different explanation is required. We find the expression *συμνημόνευσις* in Sextus also at *PH* III.108 in the context of the discussion of change (μεταβολή), where the co-

⁹⁷ This view may have still been held by some at Sextus’ time. For we find Simplicius, in *Physics* 703.21-3, defending the view that Plato called time “the measure of motion” (which Simplicius here seems to take to pick up the ascription to Plato of the “number of motion” account from the passage quoted in the main text), referring to Plato *Tim*.39D.

recollection is also of the earlier and later stage of a change.⁹⁸ The origin for this alternative account is most probably to be found in Aristotle *Phys.* IV.11, 219a22-219b2, where Aristotle writes that we say that time has passed when we have a perception of the before and after in change. Where in the transmission and discussion of Aristotle's theory of time we find the shift from the formulation in terms of perception to that in terms of co-recollection, I don't know. It is certainly in line with Aristotle's own theory of recollection, as set out in his *On Memory and Recollection*, that we need to recollect at least the earlier state of the changing thing.

2.8 The Measure Account

Time is "a/the measure of all motion and rest" (μέτρον πάσης κινήσεως καὶ μονῆς, PH III.137, M X.177). Is this account Aristotle's or Strato's? At PH III.137 and at M X.228 Sextus reports the account as being "Strato's, or as some (others) say, Aristotle's". In M X.177 it is attributed only and unambiguously to Strato, reported after a definition attributed to Aristotle, and what is more, presented as the result of some specific criticism by Strato of Aristotle's number account (*ibid.*). What is our external evidence for this case?

(i) There is some doxographical evidence for both Strato and Aristotle: Stobaeus *Ecl.* I.8.40 reports an almost identical definition as Strato's: time as "the quantity in motion and rest" (Στράτων τῶν ἐν κινήσει καὶ ἡρεμίᾳ ποσόν). Similarly Iamblichus, as reported in *Simpl.Cat.*346.14-15, has: "Strato, saying that time is the quantity of motion, suggested that it is something inseparable from motion"⁹⁹ On the other hand Plutarch, at *Quaest.Plat.* 8.4 1007A-B, reports for Aristotle that time is the "measure and number of motion with respect to earlier and later": (μέτρον ... καὶ ἀριθμὸν ...), and Simplicius reports 'measure of motion' (μέτρον <i.e. κινήσεως>) as one of the options for Aristotle's view of the substance of time (*Simpl.Cat.*344.12-14). Thus the term 'measure' is part of

⁹⁸ ἡ δὲ μεταβολὴ συμνημόνευσιν ἔχειν δοκεῖ τοῦ τε ἐξ οὗ μεταβάλλει καὶ εἰς ὃ μεταβάλλειν λέγεται. PH III.108; cf. M X.64. (The term is also used in *M* I.129, VII.279, and multiple times in *M* IX.353-6.)

⁹⁹ Στράτων μὲν γὰρ τὸ ποσὸν τῆς κινήσεως εἰπὼν τὸν χρόνον ἀχώριστόν τι αὐτὸν ὑπέθετο τῆς κινήσεως. The inseparability is contrasted with Aristotle's number account, which according to Simplicius suggests separability from motion (*Simpl.Cat.*346.14-17). Whether 'measure' indicates inseparability or not, we are not told.

the doxography for Aristotle’s account of time, whereas a variation of the Measure Account which has ‘quantity’ instead of ‘measure’ is doxographically confirmed for Strato.¹⁰⁰

(ii) There also is some more direct evidence for both Strato and Aristotle: Strato is Strato of Lampsacus, also known as Strato the natural philosopher (φυσικός), on account of his works on physics and cosmology. This is how Sextus refers to him. Strato was head of the Peripatetic school after Theophrastus until his death (c. 269 BCE). He is known for having been an original thinker and respected philosopher who was not afraid of introducing improvements to Aristotle’s theories where he thought Aristotle had gone wrong. The most famous example is his rejection of Aristotle’s theory of place, and subsequent positing of an alternative that included the existence of void.¹⁰¹ Thus the report in M X.177 that Strato’s account is the result of his criticising Aristotle’s definition of time is plausible. Moreover, we know that Strato wrote a book on time, of which several fragments have survived in Simplicius and Sextus. So we have no reason to doubt that Sextus’ attribution of the account to Strato is accurate, and that the argument(s) against Aristotle’s definition go back to Strato, perhaps via a doxographical source. In fact, we have in Simplicius’ *Corollaries on Time* confirmation that Strato argued against Aristotle, saying: “why should time be the number of the earlier and later in motion rather than in rest? For there is equally an earlier and later in rest.” (Simpl. *Coroll.* 789.16-18). What about Aristotle? Did he ever explain time in the terms of the Measure Account? In fact, he did. At *Phys* IV.12 221b7 Aristotle writes: “But since time is the measure of motion, it will also be the measure of rest” (Ἐπεὶ δ’ ἔστιν ὁ χρόνος μέτρον κινήσεως, ἔσται καὶ ἡρεμίας μέτρον), and, after arguing why this is so, he ends the section with

¹⁰⁰ I have not found μέτρον reported for Strato instead of ποσόν in sources other than Sextus. But Plotinus utilizes Strato’s argument against Aristotle’s number account “Let us inquire in what way <time> is the number of motion, or measure – for it is better thus <i.e. measure rather than number>, since <motion> is continuous” (Ἀριθμὸς δὲ κινήσεως ἢ μέτρον—βέλτιον γὰρ οὕτω συνεχοῦς οὕσης—πῶς, σκεπτέον. Plot.*Enn.*7.9), and in that context Plotinus uses μέτρον.

¹⁰¹ More precisely, of something like micro-voids within substances, cf. Algra [1995], ch. 2. Whether in all such cases Strato actually thought of himself as providing alternative theories, or rather as supplementing Aristotle’s theories is a question that cannot be discussed at this point. (For the surviving evidence see Gottschalk [1964].) Here it must suffice that in antiquity he was repeatedly interpreted as providing alternatives to Aristotle.

“time is the measure of motion and rest” (ὁ δὲ χρόνος κινήσεως καὶ ἡρεμίας μέτρον, *Phys* 221b22-3).¹⁰² This account is discussed by Simplicius in his *Physics* commentary (*Simpl.Phys.*742-46),¹⁰³ where we also learn that Alexander and Themistius discussed it. The fact that Aristotle has ἡρεμία instead of μονή would have been a negligible point for ancient interpreters and doxographers.¹⁰⁴ And although Aristotle does not present this account as a definition, the phrasing at *Phys.*221b22-3 lends itself to being added to a doxographical list of accounts. One possible scenario that would explain how we got to the double attribution in Sextus is that a Peripatetic contemporary with, or younger than, Strato (or indeed Strato himself) pointed out that Aristotle supported the definition defended by Strato, and that this philosopher adduced the *Physics* passage mentioned. In any event, Sextus’ doxographical source is vindicated once more.

As the previous paragraphs have repeatedly hinted at, the Number Account (“the number of the earlier and later in motion”) and the Measure Account (“the measure of motion and rest”) seem closely related. They both state a relation between time and motion as such – as opposed to the motion of the universe of the first two of Sextus’ accounts.¹⁰⁵ And they both connect the motion with a broadly mathematical term. The facts (i) that ‘measure’ (μέτρον) is used twice as precisification of ‘number’ in a report of the Number Account’, and (ii) that ‘quantity’ (ποσόν), which is arguably closer to ‘number’ than ‘measure’, occurs instead of ‘measure’ in several reports of the Measure Account only underlines this – apparent – close relation. Either account lends itself to more than one interpretation, but I will refrain from following up the philosophical ramifications they open up. Still, it is worth pointing out that, from a philosophical perspective, the accounts can lead to diametrically opposed theories of time. Thus, the Measure Account, *as explicated by Strato according to Sextus M X.178*, implies that time can exist independently of motion, and thus absolutism with respect to time. By contrast, the Number Account, as introduced by Aristotle, makes time dependent on the existence of

¹⁰² For Aristotle on time as measure see Coope (2005) III.6.

¹⁰³ Cf. also *Simpl.Cat.*344.12-15.

¹⁰⁴ Aristotle himself contrasts μονή and κίνησις e.g. at *Phys.*205a17.

¹⁰⁵ They share this feature with the second Stoic account (the Extension Account), which defined time as interval of motion (unqualified).

motion and implies reductionism or relationism with respect to time. And in his explanation of time as measure of motion Aristotle also seems to base the existence of time on that of motion rather than vice versa.¹⁰⁶

2.9 The substance of time: corporeal vs incorporeal

In doxographical texts, the sequence of a list of definitions of a philosophical item followed by a list of accounts of its substance (οὐσία) is a commonplace (see Section 1.2 above), and Sextus himself makes use of this distinction elsewhere.¹⁰⁷ There is, however, an air of oddity to the particular way in which Sextus introduces the substance of time at M X.215-47 and PH III.138. Both times, he announces a division of the substance of time as being either corporeal or incorporeal.¹⁰⁸ This distinction appears to be unique to Sextus, just as the presentation of Heraclitus, or Aenesidemus, as a philosopher for whom time is corporeal. And in PH III this distinction, and an assumption about its exhaustiveness (PH III.140) is all we get about the substance of time. For details we need to consult the M X passage.

Sadly, the M X passage is a mess. We obtain five alleged accounts of the substance of time, followed by their criticism, which consists in a referral to earlier passages for the last two, and new criticism of the first three. Of the five accounts, the first (Heraclitus, the substance of time is body) and second (Stoics, incorporeal and thought of as something in itself) are new. The third (Epicurus) is identical with the account of time given for Epicurus in PH III. The fourth and fifth are identical with the accounts given for Aristotle and Strato earlier in M X, and also with the accounts given for Aristotle or Plato and Strato or Aristotle in PH III. The Stoic account does not match the Stoic account of the substance of time as motion from the doxographical tradition.¹⁰⁹ The only other explicit

¹⁰⁶ Cf. e.g. Coope (2005) 104-9.

¹⁰⁷ PH III.2-3 (god); PH II.58 (intellect); PH II.81, M VII.38 (truth).

¹⁰⁸ κατ' οὐσίαν τε οἱ μὲν σῶμα αὐτὸν ἔφασαν εἶναι, ὡς οἱ περὶ τὸν Αἰνησιδήμιον ... , οἱ δὲ ἄσώματον. (PH III.138). We find elsewhere in Sextus classifications of the dogmatists' views on a subject based on whether they regarded it as corporeal or incorporeal; e.g. at M IX.359 for the first principles.

¹⁰⁹ Stobaeus: Οἱ Στωικοὶ χρόνου οὐσίαν αὐτὴν τὴν κίνησιν. [Plutarch]: Οἱ πλείους τῶν Στωικῶν αὐτὴν τὴν κίνησιν. (The next clause in both authors is οἱ <μὲν> πλείους ἀγένητον τὸν χρόνον (No μὲν in Stobaeus). The οἱ πλείους may have interfered with the previous sentence, and explain the discrepancy; though whether it crept into [Plutarch] or dropped out of Stobaeus, I can't say.)

account of the substance of time in Stobaeus and Plutarch, i.e. the one for Plato (motion of the heaven),¹¹⁰ has no parallel in Sextus. Sextus' accounts for Epicurus, Aristotle and Strato are reported as accounts of time itself in the doxographical tradition.¹¹¹ Rather than attempting a detailed discussion of all the many possibilities how this muddle could have been brought about, I offer one general explanation of how and how much Sextus may be indebted to doxographical material. Other explanations are possible.

- Sextus' distinction of views of the substance of time as corporeal and incorporeal is his own. It is found nowhere else.
- Sextus may have had doxographical material like that in D.L. VII.141: “moreover, time, too, is incorporeal, being the interval of the motion of the universe” (ἔτι δὲ καὶ τὸν χρόνον ἀσώματον, διάστημα ὄντα τῆς τοῦ κόσμου κινήσεως), together with doxographical material that lists the Stoic incorporeals.¹¹²
- He took from Aenesidemus his report about Heraclitus.
- He took from Demetrius the distinction between two ways in which time can be incorporeal (thought of as some thing in itself or as a property of something else) as well as the exposition of Epicurus' position on time. Demetrius explained the Epicurean position by contrasting it with the Stoic one, and this is where Sextus got his formulations.¹¹³
- Becoming aware that there were still three positions on the substance of time missing, if these were to match those on time *simpliciter*, Sextus recycled two of the latter, which among them use attributions to Plato, Aristotle and Strato, and then refers back to his refutations of Plato's, Aristotle's and Strato's accounts of time, to serve as refutations of their (identical) accounts of the *substance* of time, too.
- Sextus then adds arguments against the view of the Heracliteans, providing more information on their view in the course of doing so. This argumentation may at least

¹¹⁰ [Πλάτων] οὐσίαν χρόνου τῆν τοῦ οὐρανοῦ κίνησιν. (Stob.Ecl.I.8.45, [Plut.]Epit.I.22, DD 318).

¹¹¹ E.g. SE PH III.137, Simpl.Cat.346.14-15, Stobaeus, Ecl. I.8.40 (DD 318, 449) together with Section 2.4 above.

¹¹² Such as he seems to use at SE M X.218; cf. also Plut.Comm.Not.1074d.

¹¹³ In his discussion of space, too, Sextus seems to use in M X a passage which he didn't use in the parallel PH III passage, and which presents a more elaborate view. See Algra, this volume. {{ms pp.10-11.}}

in part stem from Aenesidemus, i.e. the very text wherefrom Sextus took the account of Heraclitus.

- Finally, he adds arguments against the Stoic and the Epicurean views. Both arguments have nothing specifically to do with time, follow Pyrrhonian formulae, and are not very sophisticated. Thus they square well with the way Sextus argues.

To sum up Section 2, we can say that there survived parallel doxographical sources for all the accounts in Sextus' passages on time, with the exception of the corporeal/incorporeal distinction, which appears to be Sextus' own; that for all unattributed accounts in Sextus a convincing attribution is possible; and that for all accounts where Sextus mentions two possible authors, doxographical evidence for the authorship of either author exists. The fact that, as a result, for the same philosopher more than one possible view is reported does not seem to phase Sextus. Accuracy in reporting, including reporting uncertainties, has precedence over stating one view per author.¹¹⁴ Such uncertainties in ascription themselves seem never to come under Sceptical fire: Sextus' Scepticism is concerned with views (δόγματα), not ascription of views. Through the transmission process as well as by Sextus' attempt to force his own structural scheme on the doxographical material, some of the material reported in the sections on time is somewhat jumbled. But once allowances are made for both factors, Sextus emerges as a reliable source for the doxographical tradition.

¹¹⁴ Similarly in M IX.360, where Sextus seems to have two conflicting sources about Heraclitus' view on the first principles (fire or air): he simply reports that some say the one, some the other.

APPENDICES

Appendix I: Structural Overview of *M X.169-247*:

169: Motion presupposes time (transition from section on motion to section on time)

170-88: Definitions (from the conception, ἐπινοία (188) ἐννοία (215)) of time and their criticism:

- 170: The Interval and Motion Accounts of time (no ascription)
- 170-75: Arguments against these accounts
- 176: Aristotle, definition of time; argument against the definition
- 177: Strato, definition of time
- 178-80: Arguments against Strato's definition
- 181: Democritus' and Epicurus' definition of time
- 182-88: Criticism of this definition

188-214: Direct arguments against time:

- 189-91: Neither limited nor unlimited
- 192: Composed of non-existents, hence non-existent
- 193-97: Neither divisible nor indivisible
- 197-202: Arguments from the tripartition of time: past, present, future
- 203-14: Neither imperishable and ingenerable nor perishable and generable, nor partly one or the other.

215-47: Arguments against time, with respect to the substance (οὐσία) of time: corporeal vs incorporeal; self-existent incorporeal vs incorporeal property:

- 216-17: Aenesidemus/Heraclitus: time as corporeal
- 218: Stoics: time as incorporeal and self-existent
- 219-227: Epicurus (acc. to Demetrius): time as incorporeal property
- 228-9: Aristotle, Plato, Strato
- 230-33: Criticism of the Heracleiteans
- 234-7: Criticism of the Stoic position
- 238-47: Criticism of the Epicurean position

247: Concluding sentence and transition to section on numbers

Appendix II: Structural Overview of *PH III.135-151*:

135: Concluding section on place: juxtaposition of self-evidence and argument, leading to suspension of judgement

136: Juxtaposition of the appearances (φαινόμενα) (pro existence of time) and what is said (λεγόμενα) (against existence of time)

136-8: List of positions on time by the dogmatists from a doxographic source:

- 136: The Interval Account of time (no ascription)
- 136: The Motion Account of time (no ascription)
- 136: The Number/Magnitude Account of time (ascribed to Aristotle or Plato)
- 137: The Measure Account of time (ascribed to Strato or Aristotle)
- 137: The Accident Account of time (ascribed to Epicurus)
- 138: Corporeal substance of time (ascribed to Aenesidemus)
- 138: Incorporeal substance of time (no ascription)

138-40: Wholesale argument against time:

- 138: Dogmatic views conflict, hence can't all be true.

138: The dogmatists don't allow that they are all false.

139: If both corporeality and incorporeality of time are false, non-existence of time follows.

139-140: Because of the equipollent dispute plus the impasse regarding the criterion and proof we cannot say which views are true, which false. Hence nothing can be stated firmly about time.

140: Argument from motion and rest: if time cannot subsist without motion or rest, and motion and rest are done away with, then so is time.

140-50: Arguments against the existence of time (propounded by 'some')

141: Time is neither limited nor unlimited, hence non-existent.

143: Time is neither divisible nor indivisible, hence non-existent.

144: Time is tripartite, consisting of past, present, future; past and future don't exist, the present is neither divisible nor indivisible, hence doesn't exist either. Hence time as a whole does not exist.

147: Time is neither both generable and perishable nor neither, hence non-existent.

151: Transition to section on numbers: time presupposes number.

REFERENCES

- Algra [this volume]
- Algra, K. [1995], *Concepts of Space in Greek Thought*, Leiden: Brill.
- Annas, J., and Barnes, J. [1994] *Sextus Empiricus: Outlines of Scepticism*, Cambridge: CUP.
- Betegh [this volume]
- Bett [this volume]
- Bobzien, S. [1999], ‘Stoic Logic’, in K. Algra / J. Barnes / J. Mansfeld / M.Schofield (eds), *The Cambridge History of Hellenistic Philosophy*, Cambridge 1999, 92-157.
- Bury J.B. [1933] *Sextus Empiricus Vol I: Outlines of Pyrrhonism* Loeb Classical Library (London/Harvard).
- ----- [1935] *Sextus Empiricus Vol II: Against the Logicians* Loeb Classical Library (London/Harvard).
- ----- [1936] *Sextus Empiricus Vol III: Against the Physicists, Against the Ethicists* Loeb Classical Library (London/Harvard).
- Coope, U. [2005] *Aristotle on Time*, Oxford: OUP.
- Diels, H. [1879] *Doxographi Graeci*, Berlin: de Gruyter, 1965⁴ [DD].
- Dillon, J. [1993] *Alcinous, The Handbook of Platonism*, Oxford: OUP.
- Frede, M. [1999] ‘Aëtiana’, *Phronesis* 44, 135–149.
- Göransson, T. [1995] *Albinus, Alcinous, Arius Didymus*, Göteborg: Acta Universitatis Gothoburgensis.
- Gottschalk, H. B. [1964] ‘Strato of Lampsakos: Some Texts’, *Proceedings of the Leeds Philos. And Literary Society* 11, 97-182.
- Hossenfelder, M. [1985] *Sextus Empirikus: Grundriß der pyrrhonischen Skepsis*, Frankfurt a.M.: Suhrkamp.
- Hussey [1993] *Aristotle Physics books III and IV*, Oxford: OUP.
- Mansfeld, J. [2008], ‘Doxography of Ancient Philosophy’, *The Stanford Encyclopedia of Philosophy (Fall 2008 Edition)*, Edward N. Zalta (ed.), URL = <<http://plato.stanford.edu/archives/fall2008/entries/doxography-ancient/>>.
- Mansfeld, J., & Runia, D.T. [1997] *Aëtiana: The Method and Intellectual Context of a Doxographer, I: The Sources*, *Philosophia Antiqua* 73, Leiden: E. J. Brill.
- Mates, B. [1996] *The Skeptic Way: Sextus Empiricus's Outlines of Pyrrhonism*, Oxford: Oxford University Press.
- Mejer, J. [2006] ‘Ancient Philosophy and the Doxographic Tradition’, in Gill/Pellegrin, *A Companion to Ancient Philosophy*, Oxford: Blackwell, 20-33.
- Mutschmann, H. [1914] *Sextus Empiricus, Vol. II* (Leipzig: Teubner).
- Mutschmann, H., and Mau, J. (1958) *Sextus Empiricus, Vol. I* (Leipzig: Teubner).
- Polito, R [2004] *The sceptical road : Aenesidemus' appropriation of Heraclitus* Leiden: Brill (*Philosophia Antiqua* 96).
- Sorabji, R.R.K. [1982] *Time, Creation and the Continuum*, London.
- Turetzky, P. [1998] *Time*, Oxford: OUP.
- Von Arnim, I. [1903-5] *Stoicorum veterum fragmenta*, vol. I-III (Leipzig: Teubner) [SVF].
- Warren, J. [2003], “Sextus Empiricus and the Tripartition of Time”, *Phronesis* 48, 313-43.