Plotinus' Cosmology

A Study of *Ennead* II.1 (40)

Text, Translation, and Commentary

JAMES WILBERDING

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This book is a revised version of a University of Chicago doctoral dissertation submitted in 2002. I came to the topic through a reading group led by Ian Mueller which began as a reading group on Plato's *Timaeus* but then developed into a reading group on Aristotle's *De caelo* before we finally turned our sights on Simplicius' commentary on the *De caelo*. Perhaps unsurprisingly, I decided that I would understand Simplicius better by simultaneously studying what Plotinus had to say about cosmology, and although this started as a short excursion on a topic of interest, it quickly grew into a full-scale dissertation project. When I began this project there was no commentary devoted entirely to *Ennead* II.1, but that changed with the appearance of R. Durfour's French commentary in 2003. Yet, since the penultimate version of this study was complete by the time Dufour's book was available, it was only in the final revisions that I was able to take his work into account. (For a brief discussion of the differences between our approaches to *Ennead* II.1, see my review in *Archiv für Geschichte der Philosophie* 86 (2004), 322–9.)

While writing this book I accumulated a number of academic debts which I would like to acknowledge here. Liz Asmis, Rachel Barney, Christoph Horn, David Rehm, and Richard Sorabji all read the typescript either in part or in whole and provided valuable comments, advice, and support. I also profited from several conversations I had with Stephen Menn over the years. Wayne Hammond helped me find the images for the cover, and Jay Pasachoff kindly gave me permission to use those images. Special thanks should go, of course, to Ian Mueller whose reading group led me to this project and who oversaw it from its inception.

Contents

Abbreviations

AA	Philoponus, *Against Aristotle On the Everlastingness of the World*
Acad.	Cicero, *Academica*
Ad Gaurum	Porphyry, *Ad Gaurum quomodo animetur fetus*
Aet. mundi	Philo, *On the Imperishability of the World*
Against Phys.	Sextus Empiricus, *Against the Physicists*
Against Log.	Sextus Empiricus, *Against the Logicians*
Alm.	Ptolemy, *Almagest*
AP	Philoponus, *Against Proclus on the Everlastingness of the World*
APo	Aristotle, *Posterior Analytics*
AN	Porphyry, *De antro nympharum*
Cat.	Aristotle, *Categories*
Caus. plant.	Theophrastus, *De causis plantarum*
Chald. Orac.	*Chaldean Oracles*
Comm. math.	Iamblichus, *De communi mathematica scientia*
Crat.	Plato, *Cratylus*
DA (Arist.)	Aristotle, *De anima*
DA ([Alex.])	[Alexander], *De anima*
DC	Aristotle, *De caelo*
De fat.	Alexander, *De fato*
De Mel.	[Aristotle], *On Melissus, Xenophanes, and Gorgias*
De mix.	Alexander, *De mixtione*
De myst.	Iamblichus, *De mysteriis*
De Plat.	Apuleius, *De dogmate Platonis*
DI	Theophrastus, *De igne*
Didask.	Alcinous, *Didaskalikos*
DK	Herman Diels and Walther Kranz, *Die Fragmente der Vorsokratiker*
DM	[Aristotle], *De mundo*
DP	Aristotle, *De philosophia*
DS (Arist.)	Aristotle, *De sensu*
DS (Theoph.)	Theophrastus, *De sensu*
Elem.	Euclid, *Elements*
E–K	Edelstein and Kidd, *Poseidonius*
Epin.	[Plato], *Epinomis*
GA	Aristotle, *De generatione animalium*
GC	Aristotle, *De generatione et corruptione*

Gorg.	Plato, *Gorgias*
H–S	P. Henry and H.-R. Schwyzer's editions of Plotinus
Hist. plant.	Theophrastus, *Historia plantarum*
Hyp. astr.	Proclus, *Hypothesis astronomicarum positionum*
IA	Aristotle, *De incessu animalium*
In Alc.	Proclus, *Commentary on Plato's* Alcibiades
In Cat. (Phil.)	Philoponus, *Commentary on Aristotle's* Categories
In Cat. (Porph.)	Porphyry, *Commentary on Aristotle's* Categories
In Cat. (Simp.)	Simplicius, *Commentary on Aristotle's* Categories
In Crat.	Proclus, *Commentary on Plato's* Cratylus
In DA (Alex.)	Alexander, *Commentary on Aristotle's* De anima
In DA (Phil.)	Philoponus, *Commentary on Aristotle's* De anima
In DC	Simplicius, *Commentary on Aristotle's* De caelo
In DS	Alexander, *Commentary on Aristotle's* De sensu
In GA	Michael of Ephesus, *Commentary on Aristotle's* De generatione animalium
In GC	Philoponus, *Commentary on Aristotle's* De generatione et corruptione
In Gorg.	Olympiodorus, *Commentary on Plato's* Gorgias
In Meta. (Alex.)	Alexander, *Commentary on Aristotle's* Metaphysics
In Meta. (Syr.)	Syrianus, *Commentary on Aristotle's* Metaphysics
In Meteo. (Alex.)	Alexander, *Commentary on Aristotle's* Meteorology
In Meteo. (Olym.)	Olympiodorus, *Commentary on Aristotle's* Meteorology
In Meteo. (Phil.)	Philoponus, *Commentary on Aristotle's* Meteorology
In Parm. (Dam.)	Damascius, *Commentary on Plato's* Parmenides
In Phaed.	Damascius, *Commentary on Plato's* Phaedo
In Phaedr.	Hermias, *Commentary on Plato's* Phaedrus
In Phys. (Phil.)	Philoponus, *Commentary on Aristotle's* Physics
In Phys. (Simp.)	Simplicius, *Commentary on Aristotle's* Physics
In Remp.	Proclus, *Commentary on Plato's* Republic
In Tim. (Chalc.)	Chalcidius, *Commentary on Plato's* Timaeus
In Tim. (Porph.)	Porphyry, *Commentary on Plato's* Timaeus
In Tim. (Proc.)	Proclus, *Commentary on Plato's* Timaeus
In Top.	Alexander, *Commentary on Aristotle's* Topics
Incor. qual.	Galen, *Quod qualitates incorporeae sint*
K-G	Raphael Kühner and Berhard Gerth, *Ausführliche Grammatik der griechischen Sprache*
LSJ	H. G. Liddell, R. Scott, and H. Stuart Jones, *Greek–English Lexicon*
MA	Aristotle, *De motu animalium*
Mant.	[Alexander], *De anima libri mantissa* (= *De anima liber alter*)
Mem.	Xenophon, *Memorabilia*

Meta.	Aristotle, *Metaphysics*
Meteo.	Aristotle, *Meteorology*
Mor.	Plutarch, *Moralia*
Nat. hom.	Nemesius, *De natura hominis*
Nat. mundi.	Timaeus Locrus, *On the Nature of the World and the Soul*
Nat. quaest.	Seneca, *Quaestiones naturales*
ND (Cic.)	Cicero, *De natura deorum*
ND (Corn.)	Cornutus, *De natura deorum*
Opif. mundi	Philo, *De opificio mundi*
Out. Pyrr.	Sextus Empiricus, *Outlines of Pyrrhonism*
PA	Aristotle, *De partibus animalium*
Para. DA (Them.)	Themistius, *Paraphrase of Aristotle's* De anima
Para. DA (Soph.)	Sophonias, *Paraphrase of Aristotle's* De anima
Phaed.	Plato, *Phaedo*
Phaedr.	Plato, *Phaedrus*
Phil.	Plato, *Philebus*
Phys.	Aristotle, *Physics*
PS	Alexander, *Problems and Solutions*
Refut.	Hippolytus, *Refutatio omnium haeresium*
Rep.	Plato, *Republic*
Sent. intell.	Porphyry, *Sententiae ad intelligibilia ducentes*
Soph.	Plato, *Sophist*
Stat.	Plato, *Statesman*
Strom.	Clement, *Stromateis*
Symp.	Plato, *Symposium*
SVF	*Stoicorum Veterum Fragmenta*
Th.	Theiler, *Poseidonius. Die Fragmente*
Theaet.	Plato, *Theaetetus*
Theol. arith.	Iamblichus, *Theologoumena arithmeticae*
Tim.	Plato, *Timaeus*
Top.	Aristotle, *Topics*
VP	Porphyry, *Life of Plotinus*

Deviations from H–S

The Greek text is reprinted from the most recently edited version of text, H–S[5], which is in effect H–S[2] revised according to the emendations suggested in H–S[3-5] (see bibliography). In II.1 H–S[5] differs from H–S[4] (the text contained on the TLG) in only two places: H–S[5] has *κατὰ* for *καὶ* at 1.36 and *σῶμα τε* for *σώματα* at 2.9. I deviate from H–S[5] in the following passages:

	H–S[5]	Here
2.9	*σῶμα τε*	*σώματα* (MSS, H–S[1-4])
2.11	*ἀεὶ καινὸν ἥλιον*	*ἀεὶ καὶ τὸν ἥλιον* (MSS, H–S[1-2])
3.20	[*ἐν τῇ ψυχῇ*]	*ἐν τῇ ψυχῇ* (MSS, H–S[1-3])
7.7	*πυρός, ἔχοι δὲ*	*πυρός· μετέχειν δὲ* (MSS, H–S[1-2])
7.7–8	*πρὸς τὸ μὴ αὐχμηρὸν* [*ἔχοι δὲ*] *καὶ*	*πρὸς τὸ ⟨τὸ⟩ μὴ αὐχμηρὸν ἔχειν τε καὶ* (*τὸ* et *τε* scripsi, *ἔχειν* H–S[2])

Introduction

CONTEXT OF THE TREATISE

Our concern here is with Plotinus' treatise *On the Universe* (*Ennead* II.1) in which he argues for the everlastingness of the universe, the heavens and the heavenly bodies. In his *Life of Plotinus* (*VP*), Porphyry furnishes an account of the originative sequence of Plotinus' writings according to which our treatise is the fortieth. He also divided them into three groups according to three stages of his own association with Plotinus. The first group of 21 treatises had already been written down prior to Porphyry's arrival in Rome, and is characterized by Porphyry as being 'of a lesser capacity, not yet attaining to the dimensions of his full vigour'.[1] The second group encompasses the 24 treatises that Plotinus composed during Porphyry's stay in Rome which 'display the pinnacle of his competence', being 'fully consummate'.[2] Finally, Porphyry thinks that the last group of nine, written after he had left Plotinus for Sicily, exhibit 'a dwindling ability' on Plotinus' part.[3] This means that, if Porphyry's assessment of the Plotinian corpus is accurate, we should expect our treatise *On the Universe* to be a careful and well examined account of the heavens. Indeed, Plotinus' approach to cosmology in *On the Universe* offers such a stark contrast to that of the much earlier *On the Motion of the Heavens* (chronologically 14) that these two treatises could at first glance serve as the paradigmatic examples of Porphyry's claim, even though on the whole Porphyry's evaluation misses the mark.[4] *On the Motion of the Heavens* is a very short treatise written in a dialectical style which many commentators have labelled obscure and provisional.[5] *On the Universe*,

[1] 6.30–2, Armstrong's translation.

[2] 6.32–4.

[3] 6.34–7.

[4] The inaccuracy of Porphyry's appraisal is widely recognized by scholars. See e.g. Schwyzer (1951: 484.14–44).

[5] Bréhier (1924–38: vol. 2, 17) remarks that 'La marche de sa pensée est assez compliquée et obscure.' Harder (1956–71: vol. 1b, 535) notes: 'Das Stückchen, in dem manches dunkel bleibt, [. . .] ist kaum zum Vortrag bestimmt gewesen. Die Problemata-Form beherrscht den ersten Teil und läßt allen möglichen Erwägungen Raum, ob sie nun plotinisch sind oder nicht.'

by contrast, is nearly three times as long and employs a much clearer argumentative method. Nevertheless, it would be wrong to attribute these stylistic differences to some dubious discrepancy in Plotinus' philosophical ability. While it is true that a good part of *On the Motions of the Heavens* is written in a dialectical style marked by an ambiguity in voice which gives rise to many uncertainties, not all of the treatise is written in this way; the third chapter presents a clear exposition of Plato's *Timaeus* 36e. And Plotinus regularly makes use of this same dialectical style in his 'middle' period as well.[6] At least some of the imprecision is due to the fact that at the time of its composition only a small group of students had access to the treatise, and they could be expected to make sense of it on their own, presumably either by recalling Plotinus' lectures on the material or by making informed exegetical decisions based on the knowledge of the rest of Plotinus' system.[7] Finally, as will become clear below, the views expounded in each of these treatises are largely compatible, and it is hard to believe that a Plotinus 'of a lesser capacity' could just happen to hit upon a celestial theory that he then later, having achieved his full philosophical acumen, discerned to be suitable. Thus, it is best to disregard Porphyry's biases and to understand the chronological difference simply as serving to affirm the persistence of Plotinus' interest in cosmology.

The designation *II. 1* is due to Porphyry's own classification of Plotinus' writings into six *Enneads*, that is, six sets of nine treatises. By placing this treatise in the second *Ennead*, Porphyry categorizes it as 'natural philosophy',[8] but while as far as classifications go this is the most reasonable category for the treatise, it is not completely satisfactory. As Plotinus did not write systematically, his expositions cannot be neatly divided into distinct branches of philosophy. Thus, here as elsewhere in the second *Ennead*, theories on natural philosophy are interwoven with meditations on ethics, metaphysics, and psychology. This being said, the centrality of natural philosophy to our treatise is unmistakable; it examines natural motion and is engaged in squaring the apparent rectilinear motions of the elements with the circular motions of the heavens. For this reason, we shall follow Porphyry in calling this a treatise on natural philosophy, but we should remain wary of Porphyry's evaluative assessment of it. By ordering natural philosophy into the second *Ennead*, Porphyry is pronouncing his opinion that this treatise deals with relatively 'less difficult questions'.[9]

[6] See Hadot (1987: 15–20).
[7] Porphyry *VP* 4.13–14.
[8] *VP* 24.37–8.
[9] *VP* 24.14–16. Porphyry is referring to the order of the *Enneads* themselves and not to

Perhaps Porphyry envisioned natural philosophy as preliminary to the true metaphysics of the hypostases. If so, he could appeal to some texts in Plato and Aristotle for support. Plato clearly pedagogically subordinated astronomy to higher pursuits in the *Republic*,[10] and Aristotle also ordered natural philosophy beneath first philosophy.[11] However, even Plato and Aristotle would stop short of saying that the value of studying cosmology is purely instrumental. If one takes Aristotle's *Metaphysics* Λ as his treatment of first philosophy,[12] then there will be a great overlap between first philosophy and the study of celestial motion.[13] Likewise, even in Plato's *Republic*, where there is a clear subordination of astronomy, astronomy is no lowly science concerned with the physical world; its subject is the intelligible world, and its truths are unchanging.[14] Elsewhere in the Platonic corpus the study of the heavens is accorded even greater prestige. In the *Epinomis*,[15] for example, astronomy seems to have usurped dialectic which is only briefly mentioned after a lengthy account of the mathematical sciences.[16] Furthermore, in the *Timaeus* the study of cosmology is said to have a therapeutic effect on our souls, conforming the motions of our minds to those of the World-Soul.[17] In Plotinus we should expect the study of cosmology to retain much of this prominence and purpose.

Modern readers should, of course, count on other dividends. Surely, we should not look to Neoplatonic natural philosophy to replace our existing scientific theories, but it is nevertheless possible to learn from an investigation of Plotinus' cosmology. Plotinus scholars have much to gain from a careful study of this treatise which has been consistently

the order of the treatises within an *Ennead*, cf. Harder Vc, 122 and the note by Luc Brisson and Alain-Philippe Segonds in Brisson, *et al.* (1992).

[10] 521cff.

[11] *Meta.* 982b24ff. and 1026a18–23.

[12] As opposed to taking *Meta.* Z-H as such.

[13] Cf. P. Merlan's remark: 'Aristotle's sole innovation consisted in turning philosophy into astronomy, instead of mathematics' (1946: 9).

[14] *Rep.* 529a9–530c3. Cf. Mueller (1992*a*: 192–4).

[15] The *Epin.* is probably spurious (see Tarán 1975), but it does contain some solid Platonic doctrine and was taken by Plotinus to be genuine. See below, pp. 14–15.

[16] *Epin.* 989e1–991d1. Cf. Festugière (1950–4): 'Et comme l'auteur s'est efforcé surtout, dans le dialogue, de nous montrer que le Dieu Ciel et les astres ont droit à notre principale adoration, on peut penser que le Ciel et les astres constituent à ses yeux l'objet premier de la contemplation. Il est sûr, en tout cas, que la philosophie hellénistique s'est arrêtée à ce terme' (2.215), and 'Dès lors, la vue du Ciel est réellement très propre à unifier l'esprit qui le contemple' (2.217); and Des Places: 'Arithmétique, géométrie, stéréométrie, harmonique ne sont que des préparations à l'astronomie, laquelle s'identifie avec la sagesse et la piété' (1956: 123).

[17] *Tim.* 47b6–c4.

neglected in the Plotinus scholarship of the past two centuries.[18] Scientific theory presents a setting where metaphysical speculations become concrete, where visible roles are conferred on ontological entities, where philosophical traditions and assumptions must, at least in some measure, bow to empirical observation. Here it is possible to see a philosophical system in action. Thus, the substances that form the core of Plotinus' metaphysics, like the World-Soul and Intellect, are found here as well, in roles that serve to illuminate both their own natures and their relation to us.

PLOTINUS' BACKGROUND IN COSMOLOGY

The prominent position that the study of heavenly motion has received in the Platonic-Aristotelian tradition and the fact that Plotinus' own interest in cosmology seems to have spanned many years prompt one to ask how much background Plotinus actually had in the subject. Porphyry tells us only this:

> Plotinus devoted himself both to the tables (*κανόνες*) concerning the stars (*ἀστέρες*), although not particularly *μαθηματικῶς*, and more painstakingly to the astrological works of those who cast horoscopes. And once he discovered that this pursuit is without foundation, he did not hesitate to refute their writings on many grounds. (15.21–6)

κανῶν clearly has the technical meaning of 'table' in astronomy and astrology, as Ptolemy's *Handy Tables* (*προχείρων κανόνων διάταξις καὶ ψηφοφορία*) attests.[19] This work consists of a series of tables on several subjects: chronology (lists of kings, etc.), geography (distances between cities, etc.), and celestial phenomena. This last group contains tables concerning the sun, the moon, the planets, the (fixed) stars, and eclipses.

[18] Zeller's attitude seems representative: 'Auf diesem Standpunkt mußte ihm notwendig für eine Erforschung der physikalischen Gesetze ebenso der Sinn wie die Fähigkeit abgehen. Seine Schriften bieten daher nur weniges . . .' (1855–65: 3.2, 619). While some general overviews on Plotinus make some small mention of II.1, most completely ignore this part of his philosophy. The former includes Schwyzer (1951), Zeller, Beutler–Teiler's overview (1956–71: vol. vi). The latter includes Bréhier (1968), Gerson (1994) and (1996), Rist (1967). Inge (1923) devotes a little over a page to cosmology but complains that 'on the whole the chapters that deal with cosmology are among the least valuable in the *Enneads*' (i. 188). The Penguin edition of the *Enneads* (trans. MacKenna; ed. and abr. Dillon) does not include II.1. For an example of how the study of Plotinus' cosmology can help us to understand his metaphysics, see Wilberding (2005).

[19] Thus, Armstrong's 'the rules of astronomy' seems infelicitous.

Thus, since the Greek word ἀστήρ refers not only to what we call stars but also to the sun, the moon, and the planets (the 'wandering' stars) it is reasonable to take Porphyry to be referring to tables of the movements of all the heavenly bodies.[20] The sense of Porphyry's qualification 'but not particularly μαθηματικῶς' is captured well by the gloss suggested by Alain-Philippe Segonds—'but not like an astronomer', since the Greek word μαθηματικός often has the meaning 'astronomical'.[21] This suggests that Plotinus did not really look at the figures or calculations involved in the tables and probably did not try to comprehend all aspects of the theory behind the tables.

To this extent, Plotinus' approach is not all that different from Aristotle's, who also theorized about the heavens while leaving certain technical questions to the 'mathematicians'.[22] As Porphyry would have it, this lax approach to his study of the tables is not due to a lack of mathematical ability but seemingly to a lack of interest. For as Porphyry (rather hagiographically) recounts, 'neither the so-called geometrical theory nor the arithmetical, nor mechanics, optics or music escaped his attention.'[23] We can be certain that Plotinus was very well-versed in both Plato's and Aristotle's cosmological accounts. Further, we are told[24] that Plotinus was familiar with the works of many post-Aristotelian thinkers including Severus, Cronius, Numenius, Gaius, Atticus, Aspasius, Alexander and Adrastus, as well as with Stoic doctrine,[25] and so it is probable that Plotinus was acquainted with at least some of the cosmological theories of these thinkers. Some evidence also suggests that he was familiar with Ptolemy's work.[26] But clearly it was Platonic, Aristotelian, and Stoic

[20] This is in agreement with A-P Segonds' interpretation of the passage in Brisson *et al.* (1992). Segonds is right to point out that Harder's 'Gestirnkatalog' inaccurately limits the contents of the tables to the fixed stars. Ptolemy's *Handy Tables* makes clear that the scope of these tables is probably much wider, although it certainly does include the fixed stars, as Plutarch's *Mor.* 974f shows.

[21] See LSJ μαθηματικός II.2. The sense of μαθηματικῶς here might also be close to that at *Meta.* 995a6 where speaking μαθηματικῶς is contrasted with giving examples and citing poets; it seems to mean a rigorous argumentative method of elucidating on *any* topic (not just mathematics and astronomy). This, too, would suggest a lack of scientific rigour on Plotinus' part.

[22] *DC* 291^{b}8–10; *Meta.* 1073^{b}10–13, 1074^{a}16–17.

[23] *VP* 14.7–9.

[24] *VP* 14.10–14.

[25] *VP* 14.5.

[26] At III.1.5–6 Plotinus is clearly discussing a particular astrologer's work (cf. οὗτος at III.1.5.16). This might be Ptolemy, as Boll suggests (*Jahrbuch für classische Philologie*, Suppl. 21 (1894), 234 n. 2). In any case, Plotinus seems to be familiar with some astronomical vocabulary, e.g. ἀπορροή at II.3.2.7 (cf. Ptolemy, *Tetrabiblos* 4.19) and Ptolemy's distinction between δηλουτικόν and ποιητικόν (cf. II.3.14.4 and *Tetrabiblos* 108.21).

cosmology that most strongly influenced Plotinus' own cosmological theory. Indeed, their influence is so strong that it is difficult to understand Plotinus' cosmology without first looking into these theories. For this reason I shall go through some of the more important features of these schools' cosmological theories before advancing to a discussion of Plotinus.

Plato's Cosmological Theory

An understanding of Plato's cosmology is essential to an appreciation of Plotinus' contribution to the subject. The bulk of Plato's natural philosophy is to be found in the *Timaeus*, which furnishes us with a structured basis from which we can survey Plato's natural philosophy in its entirety, bringing in other dialogues as necessary to unfold certain heterogeneous features of his thought, as well as to corroborate the findings from the *Timaeus.*

The Generation and Structure of the Universe

At the roots of Timaeus' account is the distinction between what comes to be and what always is. The former includes the sensible things (these are grasped by perception and are the object of opinion) and the latter includes the intelligible things (grasped by intellect and the object of knowledge). Thus, since the cosmos is perceptible, it belongs to the former group and must be begotten, and the *Timaeus* offers an account of its creation. Despite this avowal that the cosmos must be generated and despite the fact that we are presented with an account of its generation, Plato does not in my view and in that of many ancient commentators really endorse a temporal beginning to the orderly universe.[27] This is controversial but can be inferred from the text. For this inference, it is *not* sufficient to appeal to 37d3–7. Here we are told that 'the nature of the living thing [*viz*. the intelligible universe] happens to be eternal', and that since the sensible universe is begotten and accordingly cannot be eternal,

[27] Almost all ancient readers understood the *Tim.* in this way, including Plotinus (cf. note to II.1.1.1) and Xenocrates, the second head of the Academy after Plato and Speusippus. Proclus only names Atticus and Plutarch as reading the *Tim.* as a temporal creationist account of the cosmos (*In Tim.* 1.276.30f), but Aristotle's name should also be added to that list. Baltes discusses Atticus and Plutarch as well as some of their followers who also held that the world came to be in time in (1976: 38–69). Later Christian thinkers like Philoponus were, of course, also likely to read it this way (*AP*, *passim*). Cf. Taylor (1928: 66 ff.).

it must settle for the image of eternity—everlastingness in time. This passage at most establishes that there was never a *time* when the universe did not exist, but we are told that time began with the universe. Rather, the beginninglessness of the universe is to be inferred from the conceptual difficulties that arise when one tries to understand the account temporally. In the precosmic state of disorder, for example, matter is said to be visible,[28] but this should be impossible since Timaeus insists that nothing is visible without fire[29] and fire does not yet exist in the precosmic state. Likewise, there is motion in the precosmic state,[30] even though the principle of motion, soul, has yet to be created.[31] Moreover, the atemporal order of the account itself points in this direction. The Demiurge first makes the body and then the soul,[32] but we are told that the body was not in fact created prior to the soul.[33] For all of these reasons it is best to take the genetic character of this account to be διδασκαλίας χάριν—for didactic purposes—just as one must draw one part of a diagram after another even though no part of the real mathematical figure has any temporal priority over any other part.[34]

In the *Timaeus* we are presented with a cast of roughly four: the things that always are and never come to be (the Forms), space[35] (a receptacle for the Forms), the things that come to be and never are (the sensible things which result when the Forms are received by space), and the Demiurge. The description of the precosmic state is somewhat peculiar. One would expect a state in which space stands bare of any contact with the Forms and is thus utterly blank; a state in which space, the Demiurge, and the Forms exist in indifferent isolation from one another. What one gets is quite different. A sort of chaos is described, a disorderly state containing traces of the four elements. These traces are moved by a discordant shaking which causes the large and dense traces (presumably the earth and water traces) to separate from the rare and light traces (the air and fire traces), allotting to each kind its own place.[36] Since we are also told that this same chaotic shaking is responsible for the present cosmic arrangement of the

[28] 30a3–5. [29] 31b. [30] 30a3–5.

[31] This led some commentators including Plutarch to posit a disorderly or irrational soul governing over the precosmic state.

[32] 31b ff.

[33] 34b10–35a1.

[34] Cf. Aristotle, *DC* 280ª1. Plotinus also reads the *Timaeus* in this manner, cf. IV.8.4.40–2.

[35] 52a8 ff. See Taylor (1928: 312).

[36] 30a3–5, 53a2–b5. Cf. Solmsen (1960: 267).

elements,[37] we can gather that the precosmic arrangement of element-traces is similar to the cosmic arrangement: four concentric strata[38] with earth at the centre,[39] followed by water and air,[40] with the final stratum being filled by fire.[41] Thus, the precosmic universe would seem already to have the approximate shape of a sphere. So, when the Demiurge is said to give it a spherical shape,[42] he must only be perfecting the irregular precosmic sphere, just as he perfects the element-traces by giving them the perfect geometrical shapes.[43] In short, the receptacle in this precosmic state is already informed by qualities and motion, and sensible things already exist; but it is left unclear whether the Forms play any causal role here or whether space is charged in some other way.

The Demiurge is dissatisfied by this precosmic state since by virtue of his own goodness he wants everything to be as good as possible, but the precosmic state falls short of being good both because it is discordant and because it is inanimate and unintelligent.[44] For this reason, the Demiurge resolves to make the contents of the precosmic state into an intelligent living thing, and he does so by modelling it after the Form of Living Thing.[45] Since a living thing that comes to be (unlike the Form of Living Thing which always is) must have a body and a soul,[46] the Demiurge begins to produce each of these. And in both processes of fabrication an attention to what has been called 'mathematical chemistry'[47] emerges, a feature which reveals the importance for Plato of fastening the sensible world into an intelligible framework; mathematics seems to function here, as it perhaps also does in the *Republic*,[48] as a mediator between the sensible and intelligible worlds.[49]

In a passage which is extremely difficult to interpret, Timaeus describes

[37] 57c2–6.

[38] As Cornford remarks, this arrangement 'is no doubt assumed as an obvious fact' (1937: 246). And cf. Taylor's description of the precosmic state as 'four great layers, in distinct regions of space' (1928: 390).

[39] 62d12–63a1.

[40] 60b8–c1, 63b6.

[41] 63b2 ff.

[42] 33b1–c1.

[43] *Tim.* 53a ff. See below (p. 10 ff.).

[44] 30a2–c1.

[45] 28a6–b2, 29a4–b1, 30c4–31a1. Cf. *Phil.* 28d ff.

[46] 31b4 and 34b10–35a1.

[47] Ian Mueller (1996), but note I am widening the scope of the term here to include not just the triangles but also the harmonic divisions of the World-Soul.

[48] If mathematicals are indeed meant to be the sole objects of *dianoia* at 510c–511a.

[49] In Plotinus' account this mathematical aspect is in part criticized, in part simply absent (see note on 6.12 (b)(i)).

the beginning of the creation process. The Demiurge starts by creating the soul[50] which he prepares from a uniform mixture of three components: Being, Same, and Different. Each of these components is intermediate in the sense that it is itself a mixture of that Being (or Same or Different) which is located among the intelligibles and that which is found among the sensibles.[51] This mixture is forged into a long strip which is then marked off at harmonic intervals[52] and divided in two lengthwise. These two strips are, in turn, made into rings and attached to one another at two opposite points along a diameter. The Demiurge then makes each of them revolve, but in opposite directions. This skeletal orb is the basis of the World-Soul and has two primary functions, one physical and the other epistemological. Physically, it is responsible for the motion of the celestial bodies. The outer ring revolves around the axis perpendicular to the plane containing the equator, carrying the fixed stars westwards, and this movement is called the movement of the Same, presumably because the fixed stars all move at the same pace. The inner ring takes on the motion of the Different, revolving eastwards around the axis perpendicular to the plane of the ecliptic, and, having been divided again into seven circles, it is responsible for the different motions of the seven wandering stars, i.e. the moon, the sun, and the five known planets.[53] Epistemologically, each of these rings is also responsible for a certain class of objects. The circle of the Same generates knowledge and understanding concerning the Forms, and the circle of the Different occupies itself with the perceptible things, forming true opinions about them.[54]

It is not clear whether Plato envisaged a void outside of the cosmos.[55] What he says is that outside of the cosmos there is nothing, no elements,[56] nothing visible or audible,[57] and no air to breathe,[58] so that nothing can enter the cosmos.[59] This, however, would seem to leave room for void,

[50] In Timaeus' account, however, the creation of the body is explained before that of the soul, but Timaeus amends the story by explicitly stating that the soul was created first (34c4–5).

[51] 35a1–b1.

[52] Cf. the cosmic harmony described at *Rep.* 617b4–c5.

[53] 36b6–d7.

[54] 37a2–c5; 40a7–b2.

[55] *Within* the cosmos Plato insists that there is no void (58a7, 79b1–2), although he does allow small 'gaps' (58b2–4, 60e5).

[56] 32c5–6.

[57] 33c2–3.

[58] 33c3–4.

[59] 33c6–7. *ἀπήει τε γὰρ οὐδὲν οὐδὲ προσήειν αὐτῷ ποθεν—οὐδὲ γὰρ ἦν*. This line is in fact ambiguous. On one reading, the final *οὐδὲ γὰρ ἦν* explains why nothing exits or enters the cosmos, and on the other it explains only why nothing enters the cosmos. On

and several considerations might even suggest an external void. One might think, for example, that the cosmos' rotary motion must be relative to some external space or that its being smooth *on the outside*[60] or its being covered with soul *from the outside*[61] means that there *is* some outside.[62] Be that as it may, Proclus does not think that there is any void outside of Plato's cosmos,[63] and most modern scholars agree.[64]

The Elements and the Constitution of the Heavens

The universe of the *Timaeus* is made up of four elements. These four elements form the obligatory starting point for anything that comes to be. This is because anything that comes to be must be visible and tangible, and these features require fire and earth respectively. Moreover, fire and earth, on mathematical grounds that are examined in my commentary on II.1.6.12, require two intermediates if they are to be united, and thus water and air are also necessary constituents of the body of the universe.[65]

There are at least three features of Plato's elemental theory that deserve mention. First, the Demiurge assigns a regular mathematical solid to each of the elements, and constructs each regular mathematical solid out of triangles. Fire receives the shape of a pyramid (the lightest, most mobile, sharpest, and tiniest body), air the shape of an octahedron (slightly heavier and less mobile, duller and bigger than the pyramid), and water the shape of the icosahedron (still heavier and duller, less mobile and larger),[66] and

the latter reading the point would simply be that there is no *thing* outside of the cosmos that could enter it, and this would still allow for an external void. On the former reading, however, the sense of *οὐδὲ γὰρ ἦν* would have to be something like 'for there is no *whence*', i.e. because there is no *space* outside of the cosmos nothing can enter or leave it. This would thus eliminate any external void. But since the meaning is uncertain, the question of an external void must remain open. *Tim.* 79b1 ff. only rules out void *within* the universe.

[60] 33b7–c1.

[61] 34b4.

[62] Cf. *Phys.* 203[a]8 where Aristotle only claims that according to Plato neither body nor the Forms are outside of the cosmos.

[63] e.g. *In Tim.* 2.73.26 ff.

[64] Cf. Cornford (1937: 57); Solmsen (1960: 169); Taylor (1928: 99–100). Also cf. Cherniss (1944: 105–6). The best textual argument for excluding an external void from Plato's cosmology seems to me to be his remark that 'there is no breath (*πνεῦμα*) enveloping it' (33c3). It is possible to view this remark as an allusion to Anaximenes who posited a boundless air (*ἀήρ*) or breath (*πνεῦμα*) outside of and encompassing the cosmos (DK 13A6 and B2), and to the Pythagoreans 'who adopted this same doctrine, identifying *ἀήρ* at once with darkness and with what we should call "empty" space' (Taylor 1928: 102). Cf. *Phys.* 213[b]22–9.

[65] 31b4–32b8.

[66] 54d5–c4, 56a3–b3.

earth the shape of a cube which is the most immobile and has the greatest stability of the geometrical bodies.[67] We are also told that the elementary triangles that make up water, air, and fire are acute whereas those that make up earth are isosceles, with the surprising consequence that the former three can transform into each other but not into earth, nor can earth transform into any of the other three. Moreover, to each element there corresponds a class of living things: to fire the heavenly bodies, to air birds, and to water and earth aquatic and terrestrial creatures respectively.[68]

Second, the elements have, as it were, a prehistory. In the precosmic state there were already traces of the elements. The Demiurge simply completed these traces by giving them geometrical shapes appropriate to their functions.[69] Since traces of earth, for example, are presumably already the densest and heaviest of the element-traces in the precosmic state,[70] the Demiurge reinforces these features by giving the earth-traces the shape of a cube.

Third, and most importantly for our examination of Plotinus, from the argument of 31b4–32c4 we can infer that all four elements must be present in each of the heavenly bodies. That fire predominates is drawn from 39e10–40b8:

> And there are four [different forms of life]: one, the heavenly race of gods; second, winged things whose path is in the air; third, all that dwells in the water; and fourth, all that goes on foot on the dry land.
> The form of the divine kind he made for the most part of fire, that it might be most bright and fair to see; and after the likeness of the universe he gave them well-rounded shape, and set them in the intelligence of the supreme to keep company with it, distributing them all round the heaven, to be in very truth an adornment (*cosmos*) for it, embroidered over the whole. And he assigned to each two motions: one uniform in the same place, as each always thinks the same thoughts about the same things; the other a forward motion, as each is subjected to the revolution of the Same and uniform. But in respect of the other five motions he made each motionless and still, in order that each might be as perfect as possible.
> For this reason came into being all the unwandering stars, living beings divine and everlasting, which abide forever revolving uniformly upon themselves; while those stars that have turnings and in that sense 'wander' come to be in the manner already described.[71]

[67] 55d8–56a1.
[68] *Tim*. 39e7–40a2. Aristotle opposed this correspondence theory (*Meteo*. 382[a]6–9). See note on 6.54.
[69] 53b4 ff.
[70] 53a2–b5.
[71] Cornford's translation.

When it is said that 'the form of the divine kind he made for the most part of fire' it is tempting to take 'the form of the divine kind' to have the same extension as 'the heavenly race of gods'. And since the heavenly race of gods presumably includes the wandering stars, the fixed stars, and earth,[72] one would conclude that *all* the visible gods are made mostly of fire. However, in the immediate continuation of the passage it is only the fixed stars that are under discussion (the wandering stars are explicitly excluded), which is good reason for taking 'the form of the divine kind' to refer only to the fixed stars. Moreover, if, as on the standard line, 'the form of the divine kind' refers to all the visible gods, then we end up with the poorly digestible conclusion that the earth is made up mostly of fire.

Thus, from this passage we can only conclude that the *fixed stars* are mostly of fire. We can, however, draw the same conclusion about the other heavenly bodies if we allow the *Epinomis* to fill in the negative space of the *Timaeus*. For at *Epinomis* 981d5–982a3 we find the same account of their constitution but clearly extended to include *all* the celestial bodies.[73] This extension fits well with the *Timaeus*'s account of the sun, whose generation is described as the Demiurge's 'kindl[ing] a light'.[74] Moreover, it would account for the brightness of the wandering stars.[75] Yet, it does raise questions about the moon's constitution. In the *Republic* the moon seems to be singled out as the only body that 'receives its complexion from the seventh which shines upon it'.[76] Does this force upon us the inference that the moon is not intrinsically bright? Not necessarily. There were many theories in antiquity that made the moon both self-illuminated and brightened by the sun,[77] and so there is still room to say that the moon is mostly of fire.

It would appear, then, that *all* the heavenly bodies are made up of all

[72] As Cornford elucidates (1937: 118). One might object to the Earth being included among the *heavenly* race of gods, but since the Earth is clearly a god (40c2–3) and surely does not belong in any of the other three categories (which appear to be exhaustive), it seems likely that it is meant to be included here.

[73] Cf. *τὰ φερόμενα ἄστρα* at 983a6.

[74] 39b4.

[75] There does not appear to be any historical evidence that anyone in antiquity doubted that the planets possess their own light. See Gundel (1950: 2109.65–8 and 2110.3–5).

[76] 617a1.

[77] See Gundel (1933: 87–9). This class of thinkers includes Antiphon, Anaxagoras, Empedocles, and Poseidonius. Gundel describes Poseidonius' theory: 'das Sonnenlicht prallt nicht an dem Mond wie an einem festen glänzenden Körper ab, der das Sonnenlicht zurückwirft von seiner festen Oberfläche, sondern dringt infolge der lockeren tiefen Substanz des Mondes in ihn tief ein, wie ein Schwamm das Wasser aufsaugt, wird hier modifiziert und vermengt mit dem Eigenlicht des Mondes auf die Erde weitergegeben' (88.22–9).

four elements. We are explicitly told that the fixed stars are mostly of fire, and this also seems to be the case with the sun and the planets. There is no pressing reason to say that the moon is mostly of fire, but this is certainly compatible with the text.

One of the significant implications of this account of the material constitution of the heavens is its rejection of a distinct celestial element of the sort which Aristotle introduces in the *De caelo*. There is no room for a fifth element in the *Timaeus*: the universe is solid and requires exactly two intermediates.[78] There is, however, a curious feature of the *Timaeus* which led some of Plato's followers to believe that the Timaean cosmology did include a fifth element. When the Demiurge begins to give the element-traces their distinctive shapes, five geometrical bodies are described: the regular pyramid, tetrahedron, octahedron, icosahedron, and the dodecahedron.[79] As we saw above, the first four figures are assigned to the four elements. Concerning the fifth figure, we are told this: 'There still remained one construction, the fifth; and the god used it for the whole, broidering figures on it.'[80] Rather than assigning the last regular stereometric body to some distinct, fifth element, Plato commissions it to serve as the shape of the universe since the universe is sphere-shaped[81] and the dodecahedron approximates the shape of a sphere.[82] Some ancient readers, however, understood this to say that the Demiurge used a fifth element for the heavens,[83] and there are other passages in the Platonic corpus that could be taken to corroborate this exegesis.

[78] 32b1–3.

[79] 53c4 ff.

[80] 55c4–6, Cornford's translation slightly revised by substituting Taylor's translation of διαζωγραφῶν.

[81] *Tim.* 33b4–5, 62c8–d5.

[82] This parallel is also drawn in the *Phaed.* where the earth is compared to a ball stitched out of 12 pieces of leather (110b5–7). Among modern scholars there is a general consensus that this is the meaning of this passage, cf. Cornford (1937: 219); Taylor (1928: 377). Moraux (1963) insists '[d]ie Verwendung des Dodekaeders in der Weltbildung bleibt ziemlich unklar' (1186.24–5), but settles for this explanation (1186.52–61). Only Vlastos seems to be truly unsatisfied: 'The hasty reference to [the dodecahedron] (55c) suggests embarrassed uncertainty. What could he mean by saying that "the god used it for the whole"? The commentators have taken him to mean that the Demiurge made the shape of the universe a dodecahedron; this unhappily contradicts the firm and unambiguous doctrine of 33b (reaffirmed in 43d [*sic*—44d?] and 62d) that the shape of the universe is *spherical*' (1975: 94 n. 43). Some ancient readers also suggested this interpretation of the dodecahedron as the shape of the universe. It forms part of the account by Timaeus Locrus (*Nat. mundi* 216.20–1), and Plutarch, while himself understanding Plato to have introduced a fifth element (*Mor.* 389f–390a and cf. Cornford (1937: 220), mentions that 'some others' have suggested this (*Mor.* 1003c).

[83] Simplicius, *In DC* 12.16–27 and 85.31–86.7, and Proclus, *In Tim.* 2.49.25–50.12,

In Socrates' physical account of the world in the *Phaedo*,[84] a 'pure' and 'true' heaven is described[85] which lies above the region of air and contains the stars, and this region is referred to as 'aether' three times.[86] The region has a special status; everything there is purer, brighter, and far superior to the things here.[87] Moreover, it is there that both 'true light' and the gods are said to reside.[88] This might suggest that aether is meant to play the role of a distinct, superlunar element, but this distinguished status is not bestowed exclusively on the aether. 'True' and 'pure' earth also exists in this upper region;[89] there are animals, plants and minerals there that are more beautiful than those down here (on account of their purity),[90] and there are humans with superior perception and intelligence.[91] Still, aether *is* accorded some superiority over the other elements,[92] and it seems at least possible that Plato has something like a five element system in mind here—earth, water, mist, air, aether. But even on this interpretation, Plato's theory is only infelicitously likened to Aristotle's as it falls quite short of matching Aristotle's exaltation of the fifth substance. In the *Phaedo*, the aether occupies a region shared by celestial and terrestrial alike, and it follows that there is generation and destruction there. Moreover, the other 'elements' (water, mist, air) are said to be sediments of aether which suggests that there is some sort of elemental exchange between the two regions.

The *Epinomis* also offers an explicit theory of five elements. And although this work is by virtually all accounts spurious, it still could have exercised some influence over some ancient readers who took it to be, if not genuine, at least an accurate account of Plato's thought. [93]

and *apud* Damascius, *In Phaed.* 2, §132. Even Xenocrates attributes a fifth element to Plato (fr. 53 Heinze). This has led some scholars to suggest that Plato changed his mind after having written the *Tim.*, but Moraux's counsel seems more reasonable: 'Die Platonschüler weichen in der Fünfelementenlehre stark voneinander ab, so daß es kaum möglich ist, eine mündliche Lehre Platons als Ausgangspunkt zu setzen. Andrerseits scheinen alle Zeugnisse der Späteren für die Vier- oder Fünfelementenlehre Platons lediglich aus der Interpretation des Timaios hervorgewachsen zu sein. Xenokrates' Bericht ist sehr wahrscheinlich nichts anderes als eine ergänzende Konstruktion auf Grund der dunklen Bemerkung von Tim. 55c' (1963: 1187.38–47).

[84] 108c5–113c8.
[85] 109b7–8, 109e7.
[86] 109b8, 111b1, 111b5.
[87] 110a8–b1.
[88] 109e7, 111b7.
[89] 109b7, 110a1.
[90] 110d3–111a3.
[91] 111a3–c3.
[92] 111b5–6.
[93] Its authenticity was doubted even in antiquity. Diogenes Laertius reports that it was produced by Philip of Opus who was responsible for transcribing the *Laws* from wax tablets (DL 3.37, cf. *Suda*, 'philosopher'). Proclus explicitly denied for a variety of reasons that Plato was the author (see Taylor (1921) and Westerink (1976–7: 2.270–1).

Plotinus in any case seems to have accepted the *Epinomis* as genuine.[94] In the Epinomean world-picture, there are five concentric strata of elements—earth, water, air, aether, fire. The fifth element, aether, is not the substance of the heavens. The celestial bodies, despite being called 'the finest and most divine sort of visible things God has permitted humans to observe',[95] are composed, as in the *Timaeus*, of all four elements but mostly of fire.[96] The aether is located in the fourth stratum, above air and beneath fire,[97] yet the aether is no longer just a type of air as it was in the *Timaeus*. It is awarded two features that demonstrate its status as an independent element alongside of the four others—it is accorded its own polyhedron (presumably the dodecahedron)[98] and its own kind of living thing (the daimons)[99]—features which even in the *Timaeus* were collectively indicative of the elements.[100] Finally, certain other shorter passages might have provided some exegetical impetus. In the *Cratylus* 410a–c, Plato offers etymologies of these same five bodies. Here, too, aether is more closely connected to air than to the heaven. And in the myth of Er, a light is described as stretching over the heaven and earth, 'more like a rainbow than anything else, but brighter and more pure'.[101]

The *Timaeus* surely offers Plato's considered theory of the elements, but this is not to say that it is the only theory. It is indisputable that there are only four elements in that account, but it is important to see that other remarks throughout the corpus as well as external *testimonia* suggest that there are five.[102] We shall see that the Neoplatonists including Plotinus were not content with a heaven constituted out of the four ordinary sublunar elements. Thus, Proclus teaches that the heavens are composed of the 'pinnacles' of the elements; each of the four elements are present, but in a special state. Each sheds its respective stereometric form and adopts that of the dodecahedron.[103] This notion of 'purer' and 'better' forms of the elements finds some validation in the *Phaedo* where we saw that the

[94] VI.7.11.44–5, which apparently refers to *Epin.* 981b–c and/or 984b–c (but see Schwyzer (1951: 551.31–4), and note on 4.8); also cf. V.9.5.28 with Harder's note and IV.3.32.17 with Beutler–Theiler's note.

[95] 991b6–8.

[96] 981d7–e6, 984d5–8.

[97] 984d8–e4.

[98] 981c5–6, cf. Moraux (1963: 1187.68–1188.34).

[99] 984d8–e1, 985c1.

[100] 39e7–40a2, 54d3 ff.

[101] *Rep.* 616b4–6, Grube and Reeve translation. This light is also said to act as a bond (616c1–4). For Proclus this becomes an all permeating light that he identifies with space (*In Rep*. 2.196.22 ff. and 3.197.16–198.29).

[102] I take it that it is partly on account of this that Friedländer (who does not consider the *Epin.* to be genuine) comments 'Übrigens hatte [Platon] nicht einmal über ihre [*viz.* der Elemente] Zahl ein feststehendes Dogma' (1954–64: 1.265).

[103] Cf. Damascius, *In Phaed.* 2, §132.

aetherial region contains all four elements in a 'true' and 'pure' form.[104] Plotinus' solution is somewhat different from Proclus',[105] but both solutions were certainly motivated by passages like this one where different and purer forms of the four elements are distinguished.

Elemental and Celestial Motion

Generally, discussions about elemental motion centre upon the question of which motions are natural for the elements and consequently concern the places in which the elements naturally reside, but this question seems almost inappropriate to the *Timaeus*. As we saw above, the Timaean universe is arranged in four concentric spheres with earth at the centre followed by water, air, and fire. So it is possible to say that for each of the four elements, there is a place to which it moves. Importantly, this arrangement and hence these elemental motions are the product of the precosmic chaotic shaking.[106] Since the precosmic state is one in which reason is absent and all events including this shaking are due to necessity,[107] one can say that even in the ordered cosmos an element's motion to its allotted place is necessary.[108] Yet to say that the motions are necessary is not to say that

[104] The *Philebus* also suggests a two-tiered account of the elements of the universe. There, Socrates mentions that all living things including the universe itself are comprised of the same four elements—not earth, water, air, and fire, but Limit, the Unlimited, the Common, and Cause—but then goes on to contrast these elements 'in us' with those elements 'in the universe'. The former are said to be small, insignificant, feeble, and poor, whereas the latter possess purity and power worthy of their nature and are marvellous in size, beauty, and power. (*Phil.* 29b6–c3, 29d1–5). Moreover, the former are said to be 'generated, nourished and ruled' by the latter (29c5–d5).

[105] See the introductory note on II.1.7 in the commentary.

[106] *Tim*. 57c2–6.

[107] 47e3–48a5. Cf. Taylor (1928: 301) and Skemp (1967: 82).

[108] Cornford incorrectly attributes these motions to reason: 'The order of the layers could be explained as due to the rotatory movement (a work of Reason), sifting the more mobile particles towards the circumference, the less mobile towards the centre' (1937: 246). But the sifting is not ascribed to a circular motion, but to 'the motion of the receptacle' (57c3) which is the shaking motion of necessity (cf. Zeyl's translation 'the Receptacle's agitation'). Taylor agrees (1928: 390–2): Without reason there would only be the precosmic motion (which Taylor calls 'drifting') with the consequence that all four element-traces would be separated into four layers and motion would come to an end. What reason provides is not this layering, but 'numerous differential movements' which keep things in perpetual motion. For prior to the Demiurge's intervention none of the element-traces were capable of undergoing substantial change; this was possible only once they had received their geometrical figures. By changing substance they also changed direction which preserves (together with the cosmic constriction of 58a2–c4) their motion. One might object on Cornford's behalf that the natural layering of the elements cannot be due simply to the precosmic shaking since the latter is said to be disorderly (30a4–5) whereas the motion of the elements in the cosmos should be orderly (30a5). In fact, the motion of the element(-trace)s both in the precosmic state and in the cosmos is rather disorderly; this

they are natural. Indeed, there are a handful of reasons to conclude that Plato did *not* think of them as natural: (i) Plato does not define the elements by their natural motions as Aristotle does. (ii) The elements do not seem to have inborn impulses, rather (iii) their movements result from the shaking of the receptacle (as well as from the principle that like goes to like). Likewise, (iv) the elements do not *aim* for their proper places as they do in Aristotle's theory, rather, (v) their 'proper' places are allotted to them by the shaking; they are a function of an external motion and their own magnitudes, i.e. whether they are dense, light, etc. (and again the principle that like goes to like). These grounds led Skemp to conclude that natural motion and natural place are essentially absent from the *Timaeus.*[109] Solmsen, on the other hand, has argued that they are natural by appealing to two features of this motion.[110] First, the shaking motion of the receptacle is itself ultimately due to the powers (whatever these might be) of the elements,[111] and these 'powers are clearly part of their nature'.[112] Second, even if one overlooks this and maintains that the shaking motion is simply the work of the receptacle (and perhaps the Forms, if they play any role), one must not forget that the receptacle is the elements' mother (and the Forms their father)[113] and so any effect they produce on the elements must be natural, i.e. akin.[114] Solmsen is perhaps right to insist that there are some textual grounds for saying that these motions are natural.[115] Nevertheless, Plato would have probably

motion involves constant collisions and is limited to the six linear motions which Plato takes to be disorderly (cf. *Laws* 898b7). The only orderly motion in the cosmos is circular, and this belongs primarily to the celestial bodies but also to each of the four elements insofar as all four elements exist in heaven (see Skemp 1967: 83).

[109] (1967: 84).

[110] Cornford also calls these motions 'natural' (1937: 124).

[111] 52e1–3.

[112] Solmsen (1960: 268).

[113] 50d3.

[114] Solmsen's position seems to be that these motions caused by the shaking are natural and that their allotted places are natural places. To this extent the physics of the *Tim.* is comparable to Aristotle's, but the two physical systems differ, according to Solmsen, insofar as Plato's concept of nature excludes the concept of order whereas for Aristotle 'order is the natural and normal state of the elements' (1960: 272). But this account seems somewhat unsatisfactory. Solmsen has raised an important question without answering it: How can the elements in the *Tim.* 'naturally' move to their proper places without producing order? The answer seems to be that orderly movement is circular. If this is right, then Solmsen's attempt to distinguish Platonic nature from Aristotelian nature by including order in the latter but not the former seems illegitimate, since 'order' would be used in two different senses (i.e. for Plato 'orderly' motion would be circular motion; for Aristotle 'orderly' motion would be that motion which sustains the cosmic arrangement).

[115] Cf. 79d5–6 and 63c8.

been reluctant to use this terminology, since for Plato it is soul that is 'pre-eminently natural'.[116] This suggests that for Plato it is the psychic, circular motion of the heavens that is natural for the elements.[117] Yet it is important to bear in mind that in the later tradition it is often taken for granted that Plato held something roughly equivalent to Aristotle's theory of natural motion and natural place.[118]

It is celestial motion, then, that is the best candidate for natural motion because it is produced by soul. As we saw above, Plato cannot reduce circular motion to a natural impulse in the celestial body, as Aristotle does, because for Plato the heavens are composed of the same elements as the sublunar region. The World-Soul has two motions; the circle of the Different accounts for the eastward planetary motion, and the circle of the Same accounts for the westward motion of the fixed stars. In addition to the motions of the Same and the Different, the fixed stars are said to rotate around their axes, and these motions are presumably due to the individual souls of the stars.

Again, it should be stressed that Plato is less interested in the opposition between natural and unnatural motion than he is in the opposition between necessity and reason. Psychic motion and, hence, the circular motion of the heavens is rational, whereas the rectilinear sublunar motions of the elements are necessary.[119] But since for Plato the soul is 'pre-eminently natural',[120] one can justifiably say that circular celestial motion is more natural than rectilinear motion. But if one does adopt this terminology, it is important to bear in mind that 'natural' is being used in a much different sense than in Aristotle. Aristotle defines natural motion as what is due to the inborn impetus of a body so that natural movement stands in opposition to psychic movement, whereas for Plato celestial motion is only natural in the sense of being the motion appropriate to soul.

Further, the *mode* of celestial motion should be considered. Quite generally, there are two options: either the celestial bodies move of their own power through space, or they are implanted in spheres (as in Aristotle's system) which carry them in circles. The *Timaeus* does explain celestial

[116] *Laws* 892b.

[117] Hence, if one agrees with Solmsen that the shaking of the elements is natural, then one should conclude that the elements have *two* natural motions in the *Timaeus*.

[118] See e.g. Proclus, *In Tim.* 2.12.9 ff.

[119] However, this conclusion only follows in the *Tim*. In the *Rep*. celestial motions are said to be due to necessity (616c4–5), though presumably not due entirely to necessity (617c5–d1).

[120] *Laws* 892c5.

motion by referring to 'rings', but since these rings are psychic and immaterial (they are constituted, not of the four elements, but of Being, Same, and Different) the latter option is certainly ruled out.[121] Each of the seven wandering stars moves by the agency of its own soul which is identical to its respective ring. The mode of motion of the fixed stars is two-fold. Each spins along its own axis by the agency of its own soul, but is moved forwards by the agency of the ring of the Same.[122] The astronomical picture offered in *Republic* X, however, is rather different. There, a heavenly system is described that consists of concentric 'whorls'—hemispheres fitted into one another like 'nested boxes'.[123] These hemispheres are explicitly said to be material[124] and the planets are presumably set within them. The totality of celestial motion is produced by the revolutions of these hemispheres, and there is no real indication of any celestial body possessing a soul or moving by one.[125] The motion is a result of both necessity[126] and the daughters of necessity, the Fates, who are presented as the external movers of the cosmos.[127] Since, as Skemp remarks, 'the myth [of Er] is not intended to dogmatise on astronomical matters',[128] it would be wrong to put this short description from the *Republic* on equal footing with the *Timaeus* account, but given the tendency in Neoplatonism to harmonize Plato's thought (including his myths) it is important to keep some of the details of the *Republic* description in mind.

Finally, Plato's position on the material substance of the heavens finds some repercussions in the regularity of celestial motion. By not isolating a celestial body that is immune to change, Plato allows the motions of the celestial bodies to suffer slight deviations,[129] which is not the case in Aristotle.[130]

[121] Cf. Cornford (1937: 78 and 119).

[122] In fact, the motion of the wandering planets is also two-fold. They, too, are carried westwards by the motion of the Same, but counteract this motion with their own eastward motions.

[123] *Rep.* 616c6–d5. Campbell and Jowett are probably right that it is unclear whether the whorls are concentric hemispheres or cylinders (1894: 3.474), but the 'nested boxes' imagery speaks for the former (Adam (1902: 2.448).

[124] 616c6–7.

[125] One could interpret the Sirens assigned to each of the whorls to be souls, as Proclus does (*In Remp.* 2.238.6), but even then they are only responsible for uttering sound (617b4–7).

[126] 616c4–5.

[127] 617b7–d1.

[128] 41 n. 3.

[129] *Rep.* 530a7–b4, but compare *Laws* 822a. See note on 2.8–10.

[130] *DC* 270^{b}13–16.

The Everlastingness of the Universe

The everlastingness of the cosmos was also a central issue in Plato's cosmology. The cosmos is also said here to have 'ceaseless' life which endures 'for all time'.[131] It seems, however, to be one of the tenets of the *Timaeus* that what is generated in any sense—temporally or ontologically—cannot be truly everlasting. This is why the Demiurge says to the generated gods: 'since you [viz. created gods] were generated, you are neither wholly deathless nor indissoluble.'[132] In light of this, some explanation is needed to account for the everlastingness of the cosmos, since as we have seen the cosmos is in some sense generated.

Part of Plato's explanation is that unlike particular substances within the cosmos, the cosmos itself has nothing external to it that could attack it. This is why the Demiurge uses up all of the elements in the creation of the cosmos so that nothing might be left that could assault it.[133]

But this at most explains why the universe does not perish at the hands of an external agent; the problem of internal destruction still needs to be addressed. Here Plato's explanation involves an appeal to the bond that holds the universe together. This bond is initially said to be proportion, which 'is of a nature to complete this task best'.[134] The bond of proportion is so efficacious because it creates 'friendship' among the constituents which results in their compliant association.[135] As 'friends' they do not seek their separation. Dissolution can only come when the proportion is upset, and the Demiurge alone is capable of this. Thus, the prior, more significant bond is the Demiurge's will, which is said to be 'a greater and more sovereign bond'.[136] If he so wanted, he could destroy the proportion among the elements and reinvoke the state of chaos, but as it is, the Demiurge's will is fettered by his goodness. He is essentially good, and that entails that he wants everything to be as good as possible: 'it is not lawful (*θέμις*), and never was, for the greatest being to do anything other than what is best.'[137] And as order is better than disorder, the cosmos will never be dissolved. Thus, although in the *Timaeus* the will of God plays a crucial role in explaining the everlastingness of the cosmos, there is no deep interest in theological volition here. It functions rather as a way to bring 'the Good' into Timaeus' cosmological account just as

[131] *Tim.* 36e4–5. [132] 41b2–3. [133] 32c5–33b1. [134] 31c3–4.
[135] 32c2.
[136] 41b4–6. Cf. *Laws* 896c9 where will is said to be prior to material creations, but also see *Gorg.* 509d2–6 where Plato acknowledges that will (at least among mortals) does not necessarily imply ability.
[137] 30a6–7.

Socrates sought to do in the *Phaedo*.[138] To say that the cosmos is everlasting because the Demiurge wills it, is to say that it is good that the cosmos is everlasting.

The *Statesman* myth (269c4–274e1) offers another world model in which the will of God is responsible for the permanence of the cosmos. Here again, the cosmos is described as an intelligent living thing constructed by a Demiurge.[139] On this model, however, the Demiurge himself is in motion, revolving eastwards continuously, and the world itself perpetually runs through a cycle consisting of two periods.[140] First, the cosmos is helped along by the Demiurge and moves eastward with him, and then after a designated amount of time the Demiurge lets go. No longer driven by his motion, the world begins to spin back westwards until such a time as its inborn impetus becomes so disorderly that it is in danger of destroying itself. At that point, it is 'helped by the guidance of another, divine cause, acquiring life once more and receiving a restored immortality from its Demiurge'.[141] Unlike in the *Timaeus*, here the Demiurge periodically and actively intervenes to keep the cosmos running, but on both models the divine support is indispensable on roughly the same grounds. In the *Timaeus* the will of God is introduced because the cosmos is a sensible body and thus in some sense generated. In the *Statesman*, the bodily nature of the cosmos is again to blame. This prohibits it from remaining permanently in the same state so that at least two rotary motions are necessary,[142] and it is also responsible for its inclination toward self-destructive disorderly motion.[143]

Aristotle's Cosmological Theory

Whereas Plato's world-view is for the most part concentrated in the *Timaeus* together with a few passages from the other dialogues, Aristotle's is contained in a wide range of systematic texts. For this reason it is best first to present a concise and unified picture of Aristotle's cosmos before going into details and discrepancies.

[138] 97c ff.

[139] 269d1–2; 270a5.

[140] Many of the details of this myth are a matter of debate, including whether the Demiurge is himself in motion and whether there are two or three periods in the cosmic cycle. Most scholars seem to think that the Demiurge himself moves and that there are two periods (cf. Mohr (1985: 150), Skemp (1967: 25), Solmsen (1960: 28)). Dissenters include Rowe and Brisson.

[141] 270a3–5. And cf. *Rep.* 617c5–d1.

[142] 269d5 ff.

[143] 273b4–d4.

The Generation and Structure of the Universe

The universe is ungenerated and incorruptible, continuously displaying the arrangement and ordered motions that are constitutive of the present cosmos. There are five elements—the four conventional elements plus a fifth element which builds the substance of the heavens. Further, Aristotle's universe is divided into five concentric strata such that each element receives a stratum for its proper place. The sublunar elements will naturally move to their natural places if not hindered. The stratum of earth lies at the centre, followed by a layer of water and a layer of air. Next comes the stratum of fire, also called the *hypekkauma*, and these constitute the sublunar world. The sublunar world is surrounded by the stratum of aether in the heavens. While the heavens (and thus the aether) are much more massive in size than the sublunar world, they are not infinitely large, as the entire universe including the heavens is itself finite. Outside of the universe there is no void, nor even place or time.[144]

The Elements and the Constitution of the Heavens

Aristotle's two major treatises dealing with the elements are *De generatione et corruptione* and *De caelo*, and these two discussions differ considerably. In *De generatione et corruptione* Aristotle only considers the four sublunar elements, and he defines their natures in terms of two sets of contrary tactile qualities—the hot and cold, and the moist and dry—such that fire is hot and dry, air is hot and moist, water is cold and moist, and earth is cold and dry. Moreover, each element is better characterized by one of these qualities than by the other: fire is more hot than dry, air more moist than hot, water more cold than moist, and earth more dry than cold.[145]

One quickly sees that this distribution of qualities is exhaustive; there is no combination left that could characterize a fifth element. This is no accident and yet need not imply that the Aristotle of the *De generatione et corruptione* did not envisage a fifth element, aether, that constituted the heavens. For Aristotle the fifth element is ungenerated and indestructible, and hence there is no reason to discuss it in a treatise on generation and destruction. Moreover, its ungeneratedness and indestructibility has much to do with the fact that it does not partake of any quality to which there

[144] *DC* 279^{a}11ff.

[145] *GC* 331^{a}3–6. However, in *Meteo*. water is associated more with moist than cold (382^{a}3–4, cf. *Phys*. 204^{b}27–8), and the later Aristotelian tradition tends to follow the *Meteo*. See note on 8.7–8.

is an opposed quality.[146] Since it is the presence of contraries that leads to generation and destruction, aether cannot be hot or cold nor moist or dry; it even follows that it cannot be light or dark, either, since these, too, are contraries. For this reason, he is compelled to advance some explanation for the apparent radiance of the celestial bodies and the warmth which appears to emanate from the sun. He does supply a solution, but it is an obscure one whose details are at best hard to work out. His suggestion is that the heavenly bodies, though themselves neither luminous nor warm, nevertheless produce light and warmth by the friction in the air generated by their movement. It is somewhat unclear, however, what air is meant. The heavens being presumably full of aether, it is reasonable to take 'air' to mean the *hypekkauma*, especially in light of Aristotle's characterization of it—the *hypekkauma* consists of elemental fire, which is not fire in the tradition sense but rather a warm and dry exhalation;[147] it is an inflammable material which even a little motion can cause to ignite.[148] Moreover, some would-be celestial phenomena like shooting stars are explicitly said to occur here.[149] The chief difficulties with this proposed interpretation are (i) that the *hypekkauma* is only in direct contact with the innermost of the celestial bodies, so that it is left uncertain how the distant fixed stars could generate light, and (ii) that it could not be synthesized with Aristotle's acceptance[150] of the fact that the moon receives its light from the sun. For this reason it has been suggested that the air at issue is not located in the sublunar regions at all. There are a couple passages which intimate that the aether is not completely homogeneous; it is entirely pure only at the periphery and becomes more contaminated the closer it is to the sublunar world.[151] Thus, one should conclude, so runs the suggestion, that there is air mixed into the aether, and that this is the air that catches fire.[152] This solution, however, has problems of its own. It is at odds with Aristotle's theory of natural place and with his refutation of the Pythagorean theory of celestial harmony.[153] Furthermore, both theories are difficult to integrate into the theory of celestial spheres that Aristotle inherited from Eudoxus, since on this theory the planets them-

[146] *DC* 270^{a}13–23.
[147] *Meteo*. 340^{b}29, 341^{b}14.
[148] *Meteo*. 341^{b}19–21.
[149] *Meteo.* 341^{a}31 ff.
[150] As is evident from Aristotle's remarks on lunar eclipses; cf. *APo* 87^{b}39–40, 98^{b}17–19; *DC* 297^{b}20–30; *Meta*. 1044^{b}9–15.
[151] *DC* 269^{b}15–17, *Meteo*. 340^{b}4–14.
[152] This reading is adopted by Heath (1913, 242), cautiously suggested by Guthrie (1939, pp. xiii–xiv and 179), disputed by Moraux (1963: 1204.54–1205.19; 1965: pp. cii–ciii), and extensively developed by Thorp (1982).
[153] Cf. Leggatt (1995: 238), Moraux (1965: p. ciii).

selves remain stationary with respect to their own spheres so that friction is rendered impossible.[154]

As a result of all these ambiguities and incongruities, it is best to accept Moraux's prudent conclusion: Aristotle probably never had a unified theory of the substance of the heavens that was in full accord with the other features of his natural philosophy.[155]

There is also a connection between the fifth element and soul that deserves some mention, if only in passing. In *De generatione animalium*, Aristotle likens the warm *pneuma* which functions as a vehicle for the soul to the fifth body.[156] This has led some ancient and modern commentators mistakenly, first, to identify the soul with the *pneuma*, and then to identify further the fifth body with soul.[157] This identification was buttressed by the remarks in *De philosophia* (Cicero, *Acad.* 1.7.26) that the fifth body is that 'out of which stars and minds are constituted',[158] which led other scholars to confine this identification to the 'young' Aristotle of *De philosophia*.[159] Certainly this identification of the fifth body and soul can be ruled out, but it is difficult to say any more than this regarding the connection between them. Nevertheless, Moraux has made one suggestion that, even if it remains somewhat speculative, is important for us on account of the resonance that it will find in Plotinus:

> Therefore, it is very likely that Aristotle, when he composed the treatise *De caelo*, took the celestial spheres to be living things, consisting of a body (πρῶτον σῶμα, aether) and a soul. The relationship between this body and this soul differs from the one that the young Aristotle thought to obtain in human beings, in that the former is based on a magnificent synergy (*wunderbare Synenergie*), while the union of body and soul in a human being represents a state that is for the soul contrary to nature and distressing.[160]

The fifth body is not identical to soul, but it does have a special affinity toward soul. It is a body whose superiority over the four elements (and the composites of these elements) consists in its naturally adapting to the inclinations of the soul, and this in turn accounts in part for why

[154] Thorp (1982) proposes an inventive but ultimately unsatisfactory solution to this problem.

[155] (1963: 1208.68–1209.4).

[156] $736^{b}29$–$737^{a}7$. Note that here the fifth body is said to be warm, whereas in *DC* and *Meteo.* it, having no properties for which there are opposites, is neither warm nor cold.

[157] See Moraux (1963: 1206.44–63). For a recent interpretation along these lines, see Reeve (2000), 45 ff.

[158] *e quo essent astra mentesque*.

[159] See Moraux (1963: 1213.43–1218.13).

[160] (1963: 1199.48–60).

the celestial composites are everlasting while the sublunar composites are not.[161]

Elemental and Celestial Motion

While *De generatione et corruptione* discusses only the four sublunar elements and characterizes them in terms of tactile qualities, *De caelo* introduces the fifth element as well and characterizes all the elements rather in terms of their natural motions. Near the core of Aristotle's physics lies his definition of a natural body as one that has an 'innate impulse to change' where 'change' includes (among other types of changes) change of place.[162] A particular instance of this definition informs Aristotle's entire cosmology—a given natural body has an innate impulse to given types of change, more specifically, a single, simple natural body has an innate impulse to a single, simple change of place. Thus, Aristotle's coupling of the elements with simple motions builds the starting point of his cosmology.[163]

Aristotle recognizes only two rectilinear simple motions: upward and downward motion, where in Aristotle's spherical cosmos 'up' really means towards the periphery and 'down' means towards the centre.[164] Strictly speaking, it is earth that has the innate impulse to the centre and fire that moves to periphery, and for this reason the latter is called 'light' and the former 'heavy'. This leaves Aristotle with the problem of trying to incorporate air and water into this system of natural motion. To do this Aristotle must divide each of these rectilinear motions into two further simple motions, and he accomplishes this by appealing to the concept of natural place.[165] Given what he has said about natural motion so far, he is entitled to conclude that there are at least two natural places, the centre and the periphery, but Aristotle maintains (without argument) that there must also be some intermediate region and element.[166] In fact, he concludes that there must be two intermediate regions and, thus, two corresponding elements:

But since there is only one body that floats to the top of *all* things, and one which

[161] See notes on 5.9–14 and 5.14–17.
[162] *Phys.* 192^{b}13–14.
[163] Cf. *DC* 268^{b}11 ff.; 300^{a}20 ff.; Solmsen (1960: 253 ff.).
[164] 268^{b}21–2. 'Up' and 'down' are in fact relative terms and their references differ with the subject in question. For a plant 'down' means 'away from the centre of the earth' and up means 'towards the centre of the earth' (*DA* 416^{a}2–5).
[165] For what follows, see Solmsen (1960: 283 ff.).
[166] 312^{a}7–9.

sinks to the bottom of *all* things, there must be two others which sink to the bottom of *something* and float to the top of *something*.[167]

So, like Plato, Aristotle commences his cosmology with earth and fire and then introduces water and air, but whereas Plato justifies this addition on mathematical grounds, Aristotle adheres to physical (albeit somewhat perfunctory) considerations. Despite the fact that throughout most of *De caelo* Aristotle's position seems to be that there are only two simple rectilinear motions, at the end of the day the number of simple, natural, rectilinear motions is extended to four.

So far it has been taken for granted that each of the four sublunar elements naturally moves to its own region of the sublunar world. There is, however, one caveat. At one point Aristotle describes this motion of the elements as being motion towards their *forms*.[168] If one takes this remark seriously, the four conventional elements will not have any natural motion at all since the true elements, i.e. those that have achieved their forms, are already in their natural places. To finish drawing conclusions, it could then truly be said that no rectilinear motion is natural to the elements, rather all five elements naturally either rest or move in a circle.[169] As we will see, this is in fact the doctrine which Proclus attributes to Plotinus and which several other thinkers in Antiquity advocated.[170]

It is on the basis of these same considerations that Aristotle argued for the fifth element. He called this element 'the first body', but subsequent thinkers came to call it 'the fifth body (substance, element)' or 'aether'.[171]

[167] 312[a]28–30.

[168] *DC* 310[a]33–b1 and 311[a]1–3.

[169] The aether naturally moves in a circle. The *hypekkauma* and however much air is located above the highest mountain tips are carried along by the motion of the heavens so that they, too, move in a circle. Mountains impede the lower air from assuming this motion, so that it remains at rest, as does the earth and water. There was some discussion in antiquity as to the status of the motion of the *hypekkauma* (and upper air). There are three options—the motion is forced, natural, or neither, i.e. hypernatural—and all three found defenders at some point in time. Philoponus, in fact, at different points in his career advocated all three positions: first taking its motion to be forced (*In DA* 66.1–4, cf. Sorabji (1988: 240)), then hypernatural (*In Phys.* 198.12–19; 378.21–31), and then natural (*AA* as reported by Simplicius (*In DC* 34.8; 35.2–8; 35.14–20; 35.28–30)).

[170] Xenarchus appears to be the founder of this reading, and its later advocates include Ptolemy (Proclus, *In Tim.* 2.11.27 ff. and 3.114.31–3); Simplicius, *In DC* 20.10 ff.; cf. Sorabji (2005): vol. 2, 332). Simplicius also remarks that Aristotle (and Alexander) seems to agree with this theory, citing *DC* 310[a]33–4 (*In DC* 20.15–18). It will be shown below (pp. 62–8) that this is not exactly Plotinus' theory of elemental motion. For Proclus' theory, see Siorvanes (1996: 244–7). For a recent defence of this view as an interpretation of Aristotle, see Cohen (1994).

[171] In the few passages where Aristotle introduces the word 'aether', he usually connects it to other thinkers, especially Anaxagoras. Aristotle censures Anaxagoras for misusing

For in addition to the two (or four) rectilinear simple motions, circular motion is also considered to be simple.[172] In fact, since the circle is a complete figure and for this reason prior to the line (which is incomplete), one should expect the circular motion itself to be prior to the rectilinear motions.[173] It follows that the body that corresponds to the circular motion is 'prior to and more divine than all the other' simple bodies.[174] Further, since this body moves neither up nor down, it is neither light nor heavy;[175] nor is it subject to generation and destruction, since (i) these are processes that affect opposites and (ii) there is no opposite to circular motion;[176] nor is it subject to growth or decay, since these are just instances of generation and corruption;[177] finally, it is inalterable because what can be altered is subject to growth and decay.[178]

As remarked, all of these properties derive from the contention that circular motion has no opposite. One might think that westward circular motion could serve as the opposite to eastward circular motion, but Aristotle insists that motion must be defined by its destination, and whereas upward and downward motions have opposite destinations, eastward and westward circular motions do not.[179] Still, there is a certain ambiguity in Aristotle's discussions of opposed motions. Although he denies that any circular motion is the contrary of any other circular motion,[180] at one point he is willing to say that the eastward motions of the planets are contrary to the motion of the sphere of fixed stars.[181] Similarly, he has al-

'aether' to denote fire, but his point seems only to be that Anaxagoras did not completely understand his predecessors. They did indeed use 'aether' to denote the heavens, but the heavens are not made of fire as Anaxagoras would have it (*DC* 270^{b}20–5; *Meteo.* 339^{b}21–7). Moraux believes that Aristotle might have called the substance of the heavens 'aether' in *DP* (1210.63–7), but Ross takes it to be fire (1936: 96). In the spurious *DM* the fifth element which constitutes the heavens is repeatedly called 'aether' (392^{a}5–^{b}5, 393^{a}2–3).

[172] 268^{b}20.

[173] 269^{a}18 ff.

[174] 269^{a}31–2. In *Meteo.* A3 Aristotle offers a different proof for the existence of a fifth body in the heavens: Astronomers have established that the celestial regions are much larger than the sublunar regions, and for this reason the former cannot be made out of a material that could interact with the material of the sublunar regions. For if that were the case, the sublunar matter would be completely transformed into the celestial material (cf. *GC* 328^{a}23–7). Thus, the heavens must consist of some other body which could not possibly change into any of the four others.

[175] 269^{b}18–270^{a}12.

[176] 270^{a}13–23. Again, one is presumably supposed to draw the consequence that the first body does not have any other properties, either, for which there are opposites (cf. *Meteo.* 341^{a}12–17). This also follows from Aristotle's thesis of the priority of local motion. Cf. *Phys.* Θ7 and *DC* 310^{b}34–311^{a}1.

[177] 270^{a}23–6. [178] 270^{a}26–35. [179] *DC* A4. [180] 286^{a}3.

[181] 285^{b}31–2.

lowed himself some flexibility in designating what counts as an unnatural motion. When Aristotle argues that circular motion cannot belong to any of the four sublunar elements, the crux of his proof is that unnatural movement is the contrary of natural movement and a single thing has only a single contrary.[182] Accordingly, the only motion unnatural to fire is downward motion, and the only motion unnatural to earth is upward motion. It would seem to follow that circular movement is, for fire, neither natural nor unnatural. And yet Aristotle also often gives 'unnatural motion' a much wider scope so that any motion that is not natural fits in the category of 'unnatural'. Thus, Aristotle can say that 'each thing naturally moves in one way but has many unnatural motions'[183] and that if circular movement belongs to fire it is just as unnatural as downward movement.[184] It is this ambiguity that led some readers in antiquity to conclude that circular motion of the fire in the *hypekkauma* is unnatural, not in the sense of being opposed to the natural motion, but in the sense of being 'hypernatural'.[185]

Aristotle's heaven, then, is made up of this fifth element, and so the status of the circular movement of the heavenly bodies appears to be on a par with that of the rectilinear motions of the sublunar elements. All five elements move by natural, innate impulses. The motions are physical as opposed to the psychic heavenly motions that one finds in Plato's *Timaeus*.[186] The specific planetary and stellar motions result from a celestial structure ultimately based on Eudoxus' system of concentric spheres.[187] The heaven is divided into a company of contiguous concentric spheres such that each has its axis of rotation fixed to the sphere immediately exterior to it. To each planet (including the sun and the moon) a group (between five and nine) of neighbouring concentric spheres is assigned to account for the planet's motion, and the planet itself is set within the innermost sphere in this group. The fixed stars are assigned a single sphere, the outermost sphere encompassing all the others. The planets, stars, and spheres are all composed of the fifth element, which accounts for their motion.

[182] $269^{a}9$–10. [183] $300^{a}26$–7. [184] $269^{b}10$–12.

[185] Simplicius, *In DC* 35.13–14, 38.1–2, 57.18–29, etc. Philoponus, *AP* 492.20–6.

[186] Cf. Solmsen (1960: 289): '[The circular motion] is the movement which Plato had assigned to mind and World-Soul. If it is now associated with a physical body, non-physical agents being again eliminated from the Cosmos, this body aspires logically to the same status as Plato's soul.'

[187] For what follows, cf. Heath (1913: 219–31) and Ross (1924: pp. cxxx–cliv). Now it is usually assumed that Eudoxus gave separate mathematical models for each planet and Aristotle tried to combine them into a single cosmic system.

However, this is not necessarily as clear as it has been made to look.[188] A comprehensive Aristotelian explanation of celestial motion must make reference to the prime mover. In the *Physics* Aristotle presents a theory according to which motion is defined as the actualization of a potency. Further, it is demanded that what actualizes this potency must itself be in a state of actuality with respect to the change or motion at issue. It follows that there can be no self-motion; rather, every motion must be actualized by some other mover. But neither can this chain of movers go on *ad infinitum*, since there is no actual infinity. Thus, Aristotle is led to posit a first mover who is himself unmoved and alone responsible for all the movement in the cosmos. As set out above, Aristotle's heaven consists of a number of concentric spheres, and he locates this mover at or outside of the periphery of the sphere of fixed stars.[189] This doctrine is also found in *Meta.* Λ where several other details are added. The prime mover is characterized by numerous superlatives: it is one,[190] eternal,[191] immaterial[192] and thus indivisible[193] and non-spatial,[194] completely impassive,[195] necessary,[196] substance,[197] actuality,[198] separate from sensible things,[199] highest good,[200] life,[201] God.[202] More specifically, this first mover is said to be an intellect whose sole activity is the unceasing contemplation of itself.[203] Given its nature and activity, it cannot cause motion in any mechanical sense; rather, it serves as the primary cause of motion by being the primary object of thought and desire (or love).[204] Situated as it is at or outside of the sphere of fixed stars, the prime mover is directly responsible only for the motion of this sphere but is indirectly responsible for all subsequent motion, since each sphere confers motion to the next interior sphere. In addition, the sole unmoved mover of the *Physics* is replaced by

188 For what follows, see Guthrie (1939: pp. xxix–xxxvi) and Ross (1936: 94–102).

189 *Phys.* 267^{b}6–9 suggests that it is at the periphery. *DC* 279^{a}18–22 and *MA* 3–4 suggest that it is rather just outside of the cosmos. The latter position is difficult since for Aristotle there is no place outside of the cosmos.

190 *Phys.* 259^{a}13–20; *Meta.* 1074^{a}36–7.

191 *Phys.* 259^{a}6–20; *Meta.* 1071^{b}22, 1072^{a}25, 1072^{b}28–30.

192 *Meta.* 1071^{b}20–1.

193 *Phys.* 267^{b}25; *Meta.* 1073^{a}7 and 1075^{a}7.

194 *Phys.* 266^{a}10–11; 267^{b}17–26; *Meta.* 1073^{a}5–6. Note that this is fully compatible with Aristotle's demand that the prime mover is just outside of the fixed sphere, since outside of the cosmos there is no space (*DC* 279^{a}11–14). Also cf. *DC* 279^{a}18.

195 *Phys.* 258^{b}14–15, 260^{a}17–19; *Meta.* 1072^{b}7–8, 1073^{a}11–13.

196 *Meta.* 1072^{b}10.

197 *Meta.* 1072^{a}25, 1073^{a}4.

198 *Meta.* 1072^{a}25, 1072^{b}11 and 27.

199 *Meta.* 1073^{a}4–5.

200 *Meta.* 1072^{b}14 and 28.

201 *Meta.* 1072^{b}29–30.

202 *Meta.* 1072^{b}24–30.

203 *Meta.* 1072^{b}18–27, 1074^{b}15–1075^{a}10.

204 *Meta.* 1072^{a}26–7.

an entire legion in the *Metaphysics*, each of which is responsible for the movement of a single celestial sphere.

It is questionable whether this theory is compatible with the theory of *De caelo*[205] as there are passages which speak for[206] and passages which speak against[207] its presence in and general compatibility with *De caelo*. This is hardly the place for a careful examination of the relevant passages, and for this reason I shall only record the observation of most scholars that the theory of *De caelo* need not exclude the presence of transcendent unmoved movers. There are different answers as to why the unmoved mover plays little to no role in the causal explanations of *De caelo*, the most appealing of which is that transcendent movers, like soul, do not fall in the scope of the treatise's field of investigation, which is limited to immanent physical causes of motion.

Moreover, certain details of Aristotle's theory suggest that the sphere of fixed stars as well as the other celestial spheres are ensouled. For while it is true that according to Aristotle's psychology intellect can exist independently of soul,[208] it is not clear how a lifeless corporeal sphere could be stimulated by an object of thought and desire.[209] In fact, this inference holds good of all of the spheres with respect to their unmoved movers, since they share the characteristics of the prime mover; they are intellects that incite motion by being the objects of desire. If this is so, then Aristotle would be presenting a three-tiered celestial ontology: (i) the intellects (the prime mover and the other unmoved movers), (ii) the souls of each of the spheres, and (iii) the bodies of the spheres.[210] Indeed, some of Aristotle's remarks in *De caelo* suggest that the heavens are ensouled.

[205] For what follows, see Moraux (1963: 1200.12–1201.50).

[206] At 288^{a}27–^{b}7 Aristotle distinguishes between the celestial body in motion and its incorporeal mover. 311a11 refers to the proof in the *Phys.* (255^{b}29) that none of the simple bodies are self-moved. Guthrie (1939) also sees a reference to the transcendent unmoved mover of *Meta.* Λ at 277^{b}9.

[207] At 279^{a}33–^{b}3 the heaven is itself described as 'the foremost and highest divinity' because 'there is nothing more powerful so as to move it'. Thus, the heaven seems to move independently of any higher-order moving cause. Guthrie lists several other passages: 284^{a}18 ff.; 286^{a}9 ff.; 300^{b}18 ff.; 309^{b}17 f. (1939: pp. xxi–xxiii).

[208] *DA* 413^{b}26–7—in contrast to Plato, for whom there can be no intellect without soul (*Tim.* 30b3).

[209] Cf. Ross (1924), vol. 1, p. cxxxvi, 2.375, and 2.384.

[210] Many commentators have tried to collapse this ontology a notch by identifying the souls of the spheres with their intellects (Averroes, Zabarella (cf. Ross (1924: vol. 1, pp. cxxxvi–cxxxvii). Alexander might have identified all the unmoved movers with the exception of the prime mover with their immanent souls (Simplicius, *In Phys.* 1261.30–1262.5, cf. Sorabji (2005) vol. 2, 340–2)) while others have looked to attribute to Aristotle a sort of hylozoism which would identify the souls with their bodies (cf. Moraux (1963: 1216.39–1217.13).

Notably, at 285[a]27–30 he says quite clearly that the heavens are ensouled and have a principle of motion. This appears to be further confirmed by Aristotle's repeated allusions to the celestial bodies being 'divine', 'immortal', and 'gods'.[211] And at 292[a]18–21 one finds this: 'The fact is that we are inclined to think of the stars as mere bodies or units, occurring in a certain order but completely lifeless; whereas we ought to think of them as partaking of life (ζωῆς) and initiative (πράξεως).'[212] A similar view is found in what most scholars consider a very early work, the dialogue entitled *De philosophia*. There Aristotle presents a vision of the cosmos in which the motions of the celestial bodies are neither natural nor forced; they are rather termed 'voluntary', because they are the activity of the animate and intelligent celestial bodies themselves.

The presence of these remarks in *De caelo* is disconcerting, however, for two reasons. First, whereas in *De philosophia* nature is denied any role in the causal account of the celestial motions, in *De caelo* nature has been pushed in the foreground. Thus, we must ask ourselves, if the celestial bodies move in a circle just as naturally as fire moves upwards, what room is left for celestial souls? Secondly, Aristotle at one point in *De caelo* also seems firmly to declare that soul plays no role in the activities of the heaven:

> There is no need, therefore, in the first place to give credence to the ancient mythological explanation according to which it owes its safety to an Atlas; those who made up that story seem to have had the same notion as later thinkers, that is, they thought that in speaking of the upper bodies they were treating of bodies which were earthlike and had weight, when they posited for the heaven the constraint of a living being. We must not think in this way […] A third supposition is equally inadmissible, namely that it is by the constraint of a soul that [the heaven] endures forever: for such a life as the soul would have to lead could not possibly be painless or blessed.[213]

Thus, one must also wonder whether in *De caelo* Aristotle wholeheartedly subscribes to souls inhabiting and acting in the heaven.

Scholars have, in the main, found two different responses to this question. Some have insisted that there truly is no place for soul in the mechanics of *De caelo* because the celestial body moves entirely by the agency of its nature, just as the sublunar elements do. One can then explain the above passages which suggest celestial souls as being either later additions

[211] 269[a]31, 270[b]1–11, 284[a]1–2.
[212] Guthrie's translation.
[213] 284[a]18–24, 27–9, Guthrie's translation.

to *De caelo*,[214] or the remnants of an inherited belief in the divinity and life of the celestial bodies that, although not inconsistent with Aristotle's own rational account of their motion, have not yet been reconciled with them,[215] or finally simply tentative metaphors meant as provisional solutions to this or that difficulty.[216] Others have maintained that the two currents are not incompatible at all. Ross, for example, points to *Physics* Θ where the elemental motions are said to be natural but still require an agent to actualize their potential—the rationale being that natural capacity has to be moved *by* something else. Soul, then, can function in *De caelo* as the actualizer of the natural capacity of the celestial body, and the soul's own activity would be a result of its desire for the prime mover. Soul, on this account, is not being rejected *tout court* but only the 'soul which constrains the heavenly bodies to motion contrary to their natural motion.'[217]

The Everlastingness of the Universe

Aristotle was, by his own declaration, the first Greek thinker to maintain that the cosmos in which we live is everlasting and without beginning.[218] This is in fact an illegitimate claim on Aristotle's part since as we saw above Plato's account in the *Timaeus* is best understood as expounding the ontological order of an everlasting and beginningless cosmos. Aristotle, however, took the genetic account of the *Timaeus* literally.[219] But if Plato and Aristotle both affirmed the everlastingness of the world, their explanations of this state of affairs differ greatly. Plato, as we saw, explains this by appealing to the will of God. Aristotle, by contrast, supplies arguments that proceed from familiar features of his philosophy of nature.[220] First, he has an argument for the everlastingness of motion, since for any motion to commence, another actual motion must already exist.[221] For similar reasons, motion is also interminable.[222] This argument alone

[214] Elders (1965: 32).
[215] Guthrie (1939: pp. xxxiv–xxxv).
[216] Leggatt (1995: 246–7).
[217] Ross (1936: 98). Cherniss agrees (1944: 541), as does Moraux (1963) who lists many concurring opinions (1199.16–39). Simplicius disagreed. Alexander argued that soul *is* nature in the heavens, eliminating all tension (cf. Sorabji (2005), vol. 2, p. 49), and this is very near to Plotinus' theory (cf. II.2.1.38–9).
[218] *DC* 279^{b}12–17.
[219] *DC* 280^{a}28–32.
[220] Cf. Sorabji (1983: 276 ff.).
[221] See above, p. 29. Cf. *Phys.* 236^{b}32 ff. and Θ1; *Meta.* 1071^{b}6–7 (and 1050^{b}3–6).
[222] *Phys.* 251^{b}28–252^{a}5. In all of the arguments it is important to keep in mind the primacy of local motion over all other types of change, cf. *Phys.* Θ7 and *DC* 310^{b}34–311^{a}1.

is not sufficient to prove that the present cosmos is without beginning and without end, since it is also compatible with the thesis that the cosmos is periodically destroyed and reborn, as Empedocles and Heraclitus taught,[223] and Aristotle never fully develops it into a proof of the everlastingness of the cosmos.[224] Instead, Aristotle focuses on refuting the proposition that a generated world could exist without end.[225] The proofs he presents are intractable and have been variously interpreted. The main idea in them, however, is that if something is generated it has a potential for non-existence and no potential can remain unrealized for an infinite stretch of time. Thus, the cosmos, if generated, has a potential not to exist which would have to be realized again eventually. Finally, Aristotle can appeal to the results of his discussion of the heavens for confirmation. For as we saw, the heavens are made of a body which is inalterable, ungenerated, and incorruptible, so the everlastingness (in both directions) of the celestial region is secured.[226] And as Aristotle says himself, it would be more right to acquit the sublunar region on account of the heavens, than to condemn the heavens on account of the sublunar region.[227]

An appeal to God can be found, however, in the *De mundo*,[228] a spurious work (scholars date its composition somewhere around 100 BCE to 50 CE) of late peripatetic natural philosophy and theology into which many Stoic doctrines have been assimilated. Although its authenticity was doubted even in antiquity,[229] it is possible that Plotinus took it to be genuine.[230] There, the cosmos is said to be 'preserved by and through the

[223] *DC* 279^{b}14–17.

[224] Zeller, however, is perhaps right to point out how close Aristotle was to such a finished proof. He suggests the following continuation (1855–65; 2.2.432 n. 8): If the cosmos were to enter a self-destructive phase, this would involve a change, and this change would have to be due to either the matter or the prime mover. But the matter cannot change all by itself, and the prime mover is inalterable. Thus, the cosmos is everlasting. Aristotle's only real response to Empedocles and Heraclitus is found at 280^{a}10–28 where he says that the cosmos is not actually coming to be and perishing but only changing shape.

[225] *DC* A12.

[226] One has to fill in the details for the sublunar world. Presumably, one would appeal to the fact that the four sublunar elements can only change into each other, and given their natural places at the very least the four-strata arrangement of the sublunar world is everlasting (in form if not in number). Furthermore, one could press on the idea that all change in the sublunar world ultimately originates in the heavens (*GC* B11).

[227] *Meta*. 1010^{a}31–2.

[228] On *DM*, see Zeller (1855–65: 3.1.653–71).

[229] Cf. Proclus, *In Tim.* 3.272.21.

[230] Cf. Harder's remark on IV.8.2.29: 'Der Vergleich mit dem Herrscher und die Unterscheidung zwischen oberer Befehlsstelle und den ausführenden Unterorganen liegt in breiter Durchführung vor in der Schrift von der Welt 397b20 ff.; die Berührung ist so nahe, daß Plotin aus derselben Tradition schöpfen muß'.

gods'.[231] Even this remark, however, does not appear to attribute to the gods the crucial role that the Demiurge receives in the *Timaeus.* In fact, there is no talk of God's (or the gods') *will* in this passage at all. Moreover, even in *De mundo* other grounds are given for the everlastingness of the world.[232] At 396[a]27 it is suggested that the destruction caused by the mingling of the elements is limited to the parts of the universe. The universe itself is preserved by the harmony of its parts[233] and in particular the agreement[234] of the elements. This, of course, recalls Plato's account of the friendship and proportion of the elements.

Stoic Cosmological Theory

The Generation and Structure of the Universe

The layout of the Stoic cosmos is similar to that of Plato and Aristotle. There is only one cosmos,[235] and it is spherical,[236] consisting of concentric layers of elemental ensembles, beginning with earth, then water and air, and finally fire.[237] Apart from this, however, it is the disagreements between Stoic cosmology and its Platonic and Aristotelian predecessors that are most striking. One major Stoic modification to this world-view is their explicit approval of void outside of the cosmos and their subsequent distinction between 'the totality' (*τὸ πᾶν*) and 'the whole' (*τὸ ὅλον*). The latter is identical to the ordered cosmos consisting of both the sublunar and superlunar regions, while the former consists of the whole plus the infinite void stretching beyond the cosmos.[238] While the Stoics deny that there is any void within the cosmos,[239] the external void is an important feature of Stoic cosmology insofar as it plays a significant role in the Stoic account of the destruction of the cosmos.[240]

[231] *ὑπὸ θεῶν τε καὶ διὰ θεῶν φυλαττομένη* (391b11–12).

[232] Cf. also 397[a]14–17 where the universe is said to have a power (*δύναμις*) over old age and corruption.

[233] *ἁρμονία*, 396[b]25.

[234] *ὁμολογία*, 396[b]34.

[235] *SVF* 2.576.

[236] *SVF* 1.99; 2.527, 547, 555, 557, 582, 650, 654, 681, 1009.

[237] *SVF* 2.555.

[238] *SVF* 1.95–6, 99; 2.503, 509, 522–5, 535, 538–40, 543, 552–4, 609, 619.

[239] *SVF* 1.95; 2.543 and 546.

[240] See below, p. 35. *Pace* Lapidge, who tries to argue that the picture of the whole floating in an infinite void is inaccurate. In his view, since the void is technically a non-existent thing, the Stoic view is more accurately represented by saying that 'there is nothing outside the universe'. He surmises that 'the Stoics strictly posited a finite spherical universe and nothing else' and that 'the distinction between "the whole" and "the totality" was an

The Stoics also took the cosmos to be generated in a quite literal sense.[241] The account of its genesis varies in some minor details among the early Stoics, but there was general agreement regarding the basic process. In the beginning, there is simply a mass of pure fire. This fire is extinguished, turning first into air and then moisture, and from this moisture the four elements earth, water, air, and fire are created in their concentric strata. Living things are subsequently produced from the elements.[242] Every aspect of this genesis is steered by God. This Stoic God is not external to the universe as Plato's Demiurge and Aristotle's prime mover appeared to be; rather, it is immanent, stretching entirely through it, and guides every detail of the universe according to its excellent plan.[243]

In fact, the cosmos's generation is periodic, and so it is also periodically destroyed.[244] This destruction occurs by conflagration,[245] and the primary reason given for this conflagration is that the fire that constitutes the heavenly bodies gradually consumes all of the moisture in the universe until everything catches fire,[246] which was understood to happen at the arrival of the Great Year when all the planets return to a single starting point.[247] The external void comes into play during the conflagration because once the universe changes into fire it requires more space, just as ordinary fire grows larger than the wood that fuels it.[248] In this way the universe returns to its original state of fire, from which the process of genesis can begin anew.[249]

The Elements and the Constitution of the Heavens

The Stoic account of the elements looks much like Aristotle's. They, too, begin with the four elements, earth, water, air, and fire, that can transform into each other either directly (e.g. earth into water and water into

addition of later doxography—or at least of later Stoics who chose to overlook the original theory' (1978: 177).

241 *SVF* 2.574–5.

242 *SVF* 1.102–4; 2.580–1, 589–90, 605.

243 See the discussion of *pneuma* below, pp. 36–9.

244 *SVF* 1.106.

245 *SVF* 2. 596, 598, 600, 603, 605, 618–20.

246 *SVF* 2.593, 1131 (cf. *SVF* 2.650). This involves a certain difficulty. As we shall see below, the heavenly bodies are made up of a special kind of fire that is not destructive, but rather creative and preservative. Lapidge labels this difficulty, which was already raised in antiquity (*SVF* 2.1050), a 'patent contradiction' (1978: 181), though Furley has since suggested a solution (1999: 240).

247 *SVF* 2.625.

248 Cleomedes, *Caelestia* 1.1.43–54 (= Poseidonius, fr. 277 Th.; 1.1.43–8 = *SVF* 2.537).

249 Later Stoics such as Boethius of Sidon and Panaetius eventually abandoned the thesis of conflagration (Philo, *Aet. mundi* §15 f.).

air) or indirectly (e.g. earth into air *via* water).[250] And the Stoic elements are also characterized by the same four tactile qualities that characterize Aristotle's elements, although the Stoics attached only a single quality to each element: earth is dry, water moist, air cold, and fire hot.[251] An important consequence of this modification seems to be that in order to account for the presence of other properties in the elements (e.g. the coldness of water), the Stoics maintained that all the elements were invariably mixed together and no element existed in isolation of the others.[252] Moreover, the Stoics, like Aristotle, considered hot and cold to be active qualities—hot being more active than cold—and moist and dry to be passive qualities.[253] Thus, for the Stoics, air and fire are the active elements, earth and water passive elements.[254]

It is not surprising, then, that the Stoics defined *pneuma*, a prominent active agent in their cosmology, as a mixture of fire and air.[255] *Pneuma* blends continuously through each body, that is to say, it penetrates the body completely while retaining its own character,[256] and as such it has two primary functions. First, it is responsible for holding the body together. This function appears to be due to the inward force that the air in the *pneuma* produces.[257] But it is also responsible for the qualities that each body possesses, and this is attributed to an outward force produced by the fire in *pneuma*.[258] Together these two forces constitute what the Stoics call 'tension' (*τόνος*) which varies in accordance with the

[250] *SVF* 2.414, 415, 436; Cicero, *De fin*. 4.12.

[251] *SVF* 2.580. As we saw above, Aristotle is also prepared to say that one of the two qualities is dominant, though he (at least in *GC*) makes cold the characteristic property of water and moistness that of air. See note on 8.7–8.

[252] *SVF* 2.561 and Seneca *Nat. quest*. 3.10.4. See Graeser (1972: 37–8). Fire, of course, can exist without the others during the conflagration. Plotinus considers this thesis regarding the thorough mixture of the elements as a possible consequence of the *Tim*.'s account of the elements in II.1.6–7. See note on 6.21–4.

[253] *SVF* 2.406 and 416. Cf. *Meteo*. 378^{b}10 ff. and *GC* 329^{b}24ff.

[254] *SVF* 2.418.

[255] *SVF* 2.310, 442, 786, 787, 841.

[256] Alexander, *De mix*. 217.32 ff. The Stoics distinguish three types of mixture: 'juxtaposition' (*παράθεσις*) by which different bodies all share the same place while retaining their own identity, e.g. the mixture of different kinds of beans in a jar; 'fusion' (*σύγχυσις*), an irreversible mixture in which different bodies surrender their individual identities in order to form a new compound substance, e.g. chemical compounds; finally, 'blending' (*κρᾶσις*), a reversible mixture in which two substances completely and continuously penetrate the same place and yet retain their own identities. A favourite example of blending is the mixture of wine and water; the mixing process can be reversed by removing the water with a sponge soaked in oil.

[257] *SVF* 2.444 and 449. Cf. 2.439.

[258] Nemesius, *Nat. hom*. 2.70.6–71.4.

relative proportions of fire and air. These variations in tension account for the three different kinds of *pneuma*. The most basic of these is called 'state' or 'tenor' (ἕξις) which pervades lifeless objects such as stones and logs and provides their unity and characteristic properties. Things that are alive have a different kind of *pneuma*. Plants have nature (φύσις), a form of *pneuma* that imparts to them generative and nutritive abilities, and animals have soul, *pneuma* in its most rarified state that accounts for the more complex activities of life, such as sensation, impulse, and thought.[259] Although this psychic *pneuma* permeates the entire body, it has its command centre (ἡγεμονικόν) located in the heart.[260]

Since the cosmos itself is a single body, it, too, is pervaded by *pneuma*, and since the Stoic cosmos, like the Platonic one, is a rational living thing, the kind of *pneuma* that pervades it is soul.[261] By virtue of this World-Soul, the different parts of the universe are united by a cosmic sympathy: just as when a person suffers trauma to one hand the rest of the body reacts on account of the unifying soul, so too do the parts of the universe react to each other.[262] And like individual souls, the World-Soul also has a command centre, though Stoics disagreed about its location. Poseidonius located it in the heaven as a whole,[263] Cleanthes in the sun,[264] and Chrysippus in 'the purest of the aether,' i.e. in the sphere of fixed stars;[265] one anonymous Stoic even locates it in the earth.[266] For the duration of the cosmos's life, this World-Soul can be described as the Stoic divinity, and so can its command centre and the cosmos itself.[267] As such, the World-Soul is to be identified with the Stoic *logos* and fate (εἱμαρμένη);

[259] *SVF* 1.135–8, 140, 145–6, 484; 2.407, 806, 911. Hierocles, *Elements of Ethics* 1.5–33, 4.38–53.

[260] *SVF* 2.96, 837–9, 843, 848, 879, 885–6. In *SVF* 2.836 it is located in the head.

[261] *SVF* 1.110–14; 2.310, 416, 475, 604, 613, 633 ff., 1023, 1026, 1042.

[262] *SVF* 2.441, 475, 532, 534, 546, 753, 912, 1013.

[263] *SVF* 2.644 (= fr. 347 Th.).

[264] *SVF* 1.499 and 2.644.

[265] *SVF* 2.527, 634, 642–4, 1032. This is also the opinion of Ptolemy, *Peri kritikou* 22.1 f.

[266] *SVF* 2.642. Lapidge believes 'this view must surely arise from a textual corruption' (1978: 179), but there are certainly good Stoic reasons for locating the command centre in the earth. *Pneuma* is responsible for the centripetal motion towards the centre of the cosmos, i.e. towards the earth. However, *pneuma* draws things not necessarily towards its physical centre, but rather towards its pneumatic centre, i.e. the command centre (cf. Furley 1999: 447). Hence, the earth would appear to be the command centre of the cosmos. There is no evidence that Zeno considered the cosmos to have a command centre, see Hahm (1977: 150).

[267] *SVF* 1.146, 158; 2.310, 532, 1009, 1026–7, 1033, 1035, 1037, 1042, 1051, 1054, 1076–7.

it is the providential[268] rational principle by which all events in the world are determined.

This doctrine of *pneuma* was mostly developed by Chrysippus. Although Zeno and Cleanthes did incorporate *pneuma* into their explanations of human life, they did not apply the same explanation to the cosmos. Rather than positing cosmic *pneuma* to account for the divine and rational life of the cosmos, they allowed a certain kind of fire to function as divinity and World-Soul. In addition to ordinary sublunar fire or 'undesigning fire' (*πῦρ ἄτεχνον*) which is characterized by its destructivity and raw consumption of fuel, there is also so-called 'designing fire' (*πῦρ τεχνικόν*), whose warmth causes growth and preservation rather than destruction.[269] The Stoics clearly did not consider this kind of fire to be a fifth element;[270] it served rather to reconcile the traditional theory of four elements with Aristotle's theory concerning the peculiar nature of the heavens.[271] Following Aristotle, they made the heavens and heavenly bodies consist of this designing fire, which they then called 'aether'.[272] Plotinus' own distinction[273] between sublunar fire and superlunar fire, which he calls 'corporeal light', certainly owes some debt to this distinction of Zeno's between designing and undesigning fire.[274]

Chrysippus' introduction of a *pneuma* to the cosmos does not exactly replace Zeno's designing fire since *pneuma* is itself a mixture of designing fire and air. But since *pneuma* does literally take over the cosmic role that designing fire played for Zeno and Cleanthes, a question is raised regarding Chrysippus' account of the composition of the celestial region. Like other Stoics, he maintains that it is composed of aether, but is this to say that it is composed of designing fire, or does he now identify aether with *pneuma*? The answer seems to be both. One of Chrysippus' more enigmatic cosmological theses is that the celestial aether varies in purity.[275]

[268] *SVF* 2.937, 1029, 1064, 1185. As providence it could even be described as 'the will of god' (cf. *SVF* 2.914 and note on 1.2).

[269] *SVF* 1.120.

[270] *SVF* 2.147; Cicero, *De fin.* 4.12.

[271] So Graeser (1972: 22).

[272] *SVF* 1.115–16, 120, 504; 2.429, 447, 527, 579–80, 634, 642, 650, 664, 682, 684, 686. At *SVF* 2.555 our source is unsure whether aether and the heaven are the same or not.

[273] II.1.7.24–30.

[274] See Graeser (1972: 22–4), but note that Graeser incorrectly sees Plotinus as distinguishing a 'scale of [three] different types of fire', where Plotinus is in fact only distinguishing two. See note on 6.52.

[275] Cf. *SVF* 2. 642, 644. For some puzzled reactions, cf. Lapidge (1978: 179–80), and Hahm (1977: 158). Aristotle makes a similar assertion at *DC* 269^{b}15–17 and *Meteo.* 340^{b}4–14. See above, p. 23.

His account of the composition of the individual heavenly bodies provides some help in interpreting this thesis. We are told, for example, that the sun and the fixed stars are of pure fire or aether,[276] whereas the moon is a mixture of fire and air.[277] This suggests that for Chrysippus aether is *pneuma* and aether's purity is a function of how much air is present in the *pneuma*. Hence, pure aether is simply designing fire.[278]

Elemental and Celestial Motion

According to the Stoics, all elements have a primary natural tendency to move toward the centre of the cosmos.[279] This is an important feature of the Stoic universe, since otherwise the cosmos would disperse into the infinite void surrounding it. This tendency, which has been recognized to bear a striking resemblance to a gravitational theory,[280] is due to the centripetal force exerted by the cosmic *pneuma* that holds the cosmos together. To this extent, Stoic theory clearly distances itself from Peripatetic theory, according to which elements have an 'innate impulse to change',[281] and is somewhat closer to the Platonic model of the *Timaeus* which attributes elemental motion, at least in part, to the shaking of the receptacle. Nevertheless, the Stoics are prepared to rephrase this theory in terms of weight: an essential feature of every body is weight, which naturally draws it towards the centre.[282] There is no contradiction here if we bear in mind that weight itself is due to the cosmic *pneuma*. This centripetal tendency, however, does not appear to be equal for all the elements. The Stoics often describe fire and air as being 'weightless' (*ἀβαρές*) or 'light' (*κοῦφον*) elements in contrast to the heavy elements earth and water,[283] and we should understand the Stoics to mean that fire and air are *relatively* lighter than earth and water.[284] To this extent

[276] *SVF* 2.650, 677, 682, 684, 686.
[277] *SVF* 2.650, 669–74, 677.
[278] *SVF* 2.774, 870, 1027, 1054.
[279] *SVF* 1.99; 2.550 (*τὴν πρώτην κατὰ φύσιν κίνησιν*); Cicero, *De natura deorum* 2.115.
[280] Gilbert (1907: 246); Lapidge (1978: 178); Furley (1999: 446).
[281] *Phys.* 192^{b}13–14, see above, p. 25.
[282] *SVF* 2.323, 420, 450, 979.
[283] *SVF* 1.99–100; 2.434–5, 473, 501, 555, 571.
[284] It would seem otherwise inconsistent to maintain that fire and air are both light and heavy. So, too, Furley (1999: 444). *Pace* Hahm (1977) who remarks that he is 'reluctant to follow Furley . . . [that] air and fire [are] only *relatively* light and rising', maintaining instead that 'the weightlessness of air and fire [is] an absolute, active force' (132 n. 52). One feature of Stoic cosmology that speaks in Hahm's favour is their explanation of the cosmos' stationary persistence: it results from the counterbalancing of the heavy elements (earth and water) with the light elements (air and fire) so that the cosmos as a whole is weightless

we can describe fire and air as having a second *natural* motion, namely the upward motion away from the centre that they have in the presence of earth and water.[285]

The natural upward motion of air and fire is necessary on the Stoic view in order to account for the nourishment of the heavenly bodies.[286] Here the Stoics are following an older tradition of natural philosophy represented by thinkers such as Heraclitus,[287] Anaximenes,[288] and Xenophanes[289]—a tradition to which Plato does not belong and that Aristotle explicitly sought to refute[290]—which maintains that the heavenly bodies consume fuel from the sublunar region in the form of exhalations from the earth and sea. An obvious and thoroughly un-Aristotelian consequence of this theory is that sublunar elements can make their way into the heavens, a consequence which Plotinus also finds unpalatable since it would seem to indicate that the heavenly bodies will eventually perish.[291]

The Stoics clearly believed that the aether in the heavens moved in a circle, but there is no real evidence suggesting that they took this motion to be natural.[292] In Cicero's *De natura deorum* Cleanthes explicitly rejects nature as the cause of their circular motion, preferring instead the more Platonic explanation that their motion is due to their rationality, divinity, and free-will.[293] This explanation finds further confirmation in the Stoic Cleomedes' *Celestia*, where heaven is said to *choose* (εἱλούμενος) westward circular motion which is in turn called a 'providential' (προνοητική) motion, and each of the planets has in addition chosen (προαιρετική) eastward motion.[294] Nevertheless, just as we saw that the psychic circular motion of Plato's heavens might be called natural insofar as it is soul that is pre-eminently natural, so too might the circular motion of the Stoic

(*SVF* 1.99; 2.555). This explanation appears dispensable to me since the cosmos would remain in its place at the centre even if all elements have weight and thus tend to the centre, and there is no reason to think that the Stoics, like the Epicureans, envisaged everything in the void as moving downwards.

285 *SVF* 1.99–100; 2.434, 501, 571; cf. 2.646.
286 *SVF* 1.121, 122; 2.650, 652, 655, 656, 658, 661, 663, 677, 690.
287 DK 22A1.[(9)]–(10), A11, A12.
288 DK 13A7(5).
289 DK21A33(3), A40, A46, B30.
290 *Meteo*. 354^{b}33–355^{a}32.
291 II.1.8.19–28.
292 *SVF* 1.101; 2.527, 569, 571, 579.
293 *ND* 2.43–4. A similar view is found in Aristotle's treatise *DP* which Cleanthes apparently refers to in this passage.
294 *Caelestia* 1.2.1–11.

heavens be called natural insofar as they identified nature and designing fire or *pneuma*, i.e. the very substance that fills the heavens and chooses to move in this way.[295]

PLOTINUS' COSMOLOGY: AN OVERVIEW OF II.1

In II.1 Plotinus is concerned to defend the thesis that the universe, the heavens, and the heavenly bodies are all everlasting. It was pointed out above that this general view was shared by Aristotle and probably Plato, but Plotinus here is engaged in espousing the view in a more precise form that Plato and Aristotle never explicitly took up, namely that the universe, the heavens, and the heavenly bodies all remain numerically the same individuals for all time.[296] This keener focus on individual identity forces Plotinus to examine factors previously left untouched and leads him to offer reasonably considered expositions on both the natural movements of the elements and the constitution of the heavens. Although these three themes—everlastingness of the heavens, natural movements of the elements, constitution of the heavens—are inherently related, for the sake of clarity each will be treated individually in what follows, beginning with the everlastingness of the universe and heavens, followed by natural elemental motion and finally the constitution of the heavens.

Diachronic Identity: Some Historical Background

In the Greek tradition problems of personal identity over time go back at least as far as Epicharmus, a fifth-century BCE comic playwright who put into the mouth of one of his characters a most unlikely (and unconvincing) argument in order to get out of a debt: human beings are constantly growing, diminishing, and, in general, changing; but 'whatever changes naturally and never persists in the same state is surely different from what has changed. Even you and I are different now from what we were yesterday.'[297] The character concludes that he is not the same man who borrowed the money and is not obliged to repay another man's debt.

[295] *SVF* 1.171; 2.774, 1027, 1133–4; [Galen] *De historia philosophica* 6 and 8 (= Kühn, edn. vol. 19, pp. 246 and 252).

[296] Aristotle remarks that the heavenly bodies remain numerically the same for all time (*GC* 338^{b}14–17) and leaves it at that. The more difficult case for Aristotle is the numerical everlastingness of the universe because unlike the heavenly bodies much of the universe's matter is in flux, and this issue is left untouched.

[297] DK 23 B 2.9–11.

That his creditor companion responded by punching him rather than refuting him can perhaps be understood as a sign of the times: the rigorous solution to problems of diachronic identity had to wait for Plato, Aristotle, and the Stoics.

This is not to say that such problems were not frequently brought up. This belief in the material flux of sensible things and the resulting lack of identity is, on some interpretations, referred back to Heraclitus[298] and Cratylus.[299] Plato often makes reference to flux doctrines and was certainly influenced to some extent by Heraclitus and Cratylus.[300] Yet, the sense in which Plato genuinely thought sensible things were in flux is unclear, and even if, as some have held,[301] he fully endorsed the Heraclitean view that the sensible world is constantly in material flux, his dualistic ontology should allow him to escape the conclusion that individual living things do not persist, since he could maintain that the soul accounts for one's identity through time.[302] Aristotle provides the first careful discussion of how a body remains numerically identical through time. In *GC* A5 he examines the process of growth and argues that a hylomorphic analysis of the process can explain why a single substance persists through the change:[303] it is because the food is transformed into the same form as the substance being nourished.[304]

The problems surrounding flux and growth continued to be discussed in the form of famous paradoxes such as the Growth Argument[305] and Theseus' Ship, [306] but it is only with the Stoics that one finds unparalleled

[298] DK 22 B12, B49a, B91. Kahn, for example, attributes an extreme flux theory to Heraclitus (1979: 223), but such an attribution is disputed by, e.g. Reinhardt (1942), Kirk (1954), and Marcovich (1967), who downplay the importance of flux in order to emphasize the *constancy* involved in change.

[299] DK 65 A3 and A4.

[300] Aristotle *Meta*. 987^{a}29 ff. Cf. *Phaed.* 78c–79a, 83b; *Phil.* 58a–59d; *Crat.* 432a, 439d–440b; *Theaet.* 155d–157c, 159a ff., 182c–d; *Symp*. 207d–e; *Rep.* 477e–480a; *Tim.* 45b–d, 51b–52c, 67c–68b.

[301] e.g. Cornford (1935: 36).

[302] But cf. *Symp*. 207d–e where even the soul is said to be changing.

[303] *ὑπομένοντός τε τοῦ αὐξανομένου*, 321^{b}12.

[304] 322^{a}1–2. Michael Frede (1987b) also takes problems of diachronic identity to be central to Aristotle's *Meta*., but there is no clear indication in the *Meta*. that this is Aristotle's concern.

[305] Plutarch tells us that one of the premises of this argument was that 'all particular substances are flowing and in motion' (*Mor.* 1083b). According to Chrysippus this problem derived from Epicharmus (Plutarch, *Mor*. 1083a; cf. *Mor*. 559b).

[306] Plutarch, *Theseus* XXII. Plutarch's own interest in such problems is epitomized in the title of his lost treatise, *That We Do Not Remain the Same since Our Substance is Always Flowing* (cf. *Mor*. 741c).

accounts aimed at solving problems of diachronic identity—especially concerning the identity of the universe.[307] Plutarch ascribes one such account to Chrysippus (third century BCE), the third head of the Stoa:

> [E]ach of us is two substrates, the one substance and the other ⟨what is peculiarly qualified⟩, the former being always in flux and motion, neither growing nor diminishing nor remaining of any character at all, and the latter persisting and growing and diminishing and being affected in all respects contrary to the other, though coalescent with it and conjoined and commingled and nowhere affording sensation a perception of the difference.[308]

Each living thing consists of two substrates.[309] One is the thing's matter,[310] and the other is called 'what is peculiarly qualified'. The concept of a material substrate is not unfamiliar to most, and it is with respect to this that a living thing is said to be in flux. The idea of a peculiarly qualified substrate by virtue of which each individual living thing is said to remain numerically identical over time is clear enough: a certain quality makes us the individuals we are. Socrates, for example, is and remains the individual he is because he alone possesses a quality, call it 'the quality of being Socrates', that makes him this individual. However, as David Sedley has shown, spelling out more precisely what the peculiar quality of an individual person is supposed to be—a common quality, a bundle of common qualities, memories, external relations—proves difficult.[311]

This difficulty becomes all the more pronounced when one considers the Stoic application of this distinction to the universe. As Diogenes Laertius reports, the Stoic word 'cosmos' has three senses:

> They call God himself, who is peculiarly qualified from the entire substance,[312]

[307] Cf. Sedley (1982: 255 and 271 n. 3).

[308] Plutarch *Mor.* 1083d, Cherniss's translation slightly revised: *δύο ἡμῶν ἕκαστός ἐστιν ὑποκείμενα, τὸ μὲν οὐσία τὸ δὲ ⟨ἰδίως ποιόν⟩· καὶ τὸ μὲν ἀεὶ ῥεῖ καὶ φέρεται, μήτ' αὐξόμενον μήτε μειούμενον, μήθ' ὅλως οἷόν ἐστι διαμένον, τὸ δὲ διαμένει καὶ αὔξάνεται καὶ μειοῦται, καὶ πάντα πάσχει τἀναντία θατέρῳ, συμπεφυκὸς καὶ συνηρμοσμένον καὶ συγκεχυμένον καὶ τῆς διαφορᾶς τῇ αἰσθήσει μηδαμοῦ παρέχον ἄψασθαι*. Regarding *⟨ἰδίως ποιόν⟩*, see Sedley (1982: 273 n. 26). Similar accounts of Chrysippus' solution are found in Arius Didymus, *Epitome*, fr. 27; Simplicius, *In DA* 217.36 ff and *In Cat.* 140.24 ff.

[309] Cf. *SVF* 2.374.

[310] For the Stoics matter is substance (*SVF* 1.87; 2.316, 318, 320, 323, 380).

[311] Sedley (1982) himself concludes: 'the Stoics never, to my knowledge, decided what such a criterion might consist in' (266).

[312] This is a difficult phrase: *τὸν ἐκ τῆς ἁπάσης οὐσίας ἰδίως ποιόν*, as the variety of translations shows: 'den Träger der eigenartigen Qualität der gesamten Substanz' (Apelt); 'die ewige qualifizierte Substanz' (Pohlenz (1959: 2.44); 'the individual being whose quality is derived from the whole of substance' (Hicks). Hahm glosses it with 'the whole mass

'cosmos'; he is indestructible and ungenerated, being the demiurge of the ordering of the world, and throughout the duration of a certain period consumes the entire substance into himself and brings it forth from himself again. And they say that the ordering of the world itself is a cosmos; and thirdly, that which is composed of both.[313]

One of these senses simply refers to the active principle of the cosmos, i.e. the designing fire that the Stoics called a god and that is said to be everlasting, ungenerated, and indestructible. This is said to be the peculiarly qualified substrate of the universe. Thus, according to Stoic theory the universe remains numerically the same for all time despite the periodic conflagrations; these conflagrations destroy the universe only in the second and third senses of 'cosmos': the ordering of the cosmos and the ordered cosmos are destroyed. But these are presumably as inessential to the universe's individuality as job titles are to our own.

It is easy to see why one might find this account dissatisfying. How is one supposed to believe that the ordered whole consisting of the earth, the ensembles of water and air, and the heavens with all their contents of regularly moving spheres is numerically identical to a mass of fire? It should come as no surprise, then, that when the problem of the diachronic identity of the universe emerges as a standard philosophical problem,[314] philosophers looked for new solutions. Centuries later, when Plotinus turned to examine this problem, he was also dissatisfied with the Stoic account of the universe's numerical persistence. He wanted to secure more than just nominal identity, and not just for the universe but for the heavens and the heavenly bodies. To do so he required a slightly more elaborate explanation of diachronic identity, which I elucidate in the next section.

of qualified matter (*οὐσία*) that constitutes our world. The cosmos, in the sense of cosmic material' (1977: 264). He is, no doubt, led to this interpretation by the second and third senses of 'cosmos:' if the second is the ordering and the third is the composite of the first and the second, the first must be the matter. But this cannot be completely right. As we have just seen, it is the peculiar quality that persists; the matter does not. Moreover, it would be strange to call the matter 'demiurge of the ordering of the world'. Nevertheless, insofar as the Stoics identify the active demiurgic principle and God with creative fire, one could concede to Hahm that the first sense of 'cosmos' is in a way material.

313 7.137 (= *SVF* 2.526). Similar accounts are given in *SVF* 2.528 and 590.

314 Hippolytus reports that even prior to Plotinus, Platonists had been thinking about the diachronic identity of the universe (*Refut.* 1.19.5), and it should remain a topic of interest as long as thinkers are concerned with the everlastingness of the world. Cf. e.g. Philoponus, *AP* 502.8–10, 502.15–503.7.

Plotinus' Theory of Diachronic Identity

Plotinus, like the Stoics, accepts the initial hypothesis that all sensible body is constantly in flux.[315] More precisely, all sensible body is constantly undergoing *external* flux, that is, constantly gaining and losing parts.[316] This might lead one to conclude that all sensible things are constantly perishing. Indeed, two passages would also appear to support this conclusion.

1. IV.3.8.22–30. For it is necessary that the realities stay fixed, and that the intelligibles be the same, and each be one in number. For this is what individuality is. For some things, since due to the nature of bodies their individuality is flowing because the form is imported from the outside, always have their being formally by imitating the real things [i.e. the Forms]. Other things, because they are not composites, possess being in what is numerically one and has existed since the beginning, and are neither coming to be what they previously were not, nor will be what they are not now.

2. V.9.5.32–48. For none of the realities is outside or in place; rather, they always remain in themselves and are receptive of neither change nor destruction. For this reason, they are truly realities. Now what comes to be and is destroyed will employ reality imported from the outside; and therefore they will not truly be, rather that reality will truly be. And it is by participation that the sensible things are what they are said to be, as their underlying nature has its shape from somewhere else. For example, bronze has its shape from the art of sculpture, and wood from carpentry; for while the art enters into them through the image, the art itself remains external to the matter and in self-identity and possesses the true statue and the true bed. And the same thing occurs with bodies. This universe, by partaking in images, shows that the realities are different from these bodies: the realities are unchanging, while these change; the realities are set firm upon themselves and have no need of place since they are not magnitudes; they have an intellectual existence which is sufficient for them. But the nature of body wants to be preserved by something else, whereas Intellect upholds by its wonderful nature the things that would of themselves fall down, and it does not seek its dwelling place.

In each of these passages, Plotinus makes a simple division between intelligible things and sensible things and says that only the former remain numerically the same. He underlines that the problem with the latter is that they have their forms 'imported from the outside', and this prohibits them from truly being and thus remaining the same. Does Plotinus,

[315] II.1.1.24–5; II.1.2.5–6, 18; II.1.3.1–2.

[316] As opposed to mere internal flux which would refer simply to a body's parts being in motion.

then, mean to say that *all* sensible things are constantly perishing? Not necessarily. Judging by his examples in the second passage, it seems that he is mainly interested in illustrating the superior nature of the intelligible things by means of a *polar* contrast, that is to say, by contrasting them with those sensible things which are most unlike the intelligibles—artefacts and lifeless bodies. These things clearly have their forms 'brought in from the outside'. But there is no indication here that this is meant to be applied to *living* things.

In this connection Plotinus' routine practice of considering living things *qua* lifeless bodies is also important. Strictly speaking, Plotinus' own ontological theory precludes bodies completely bereft of soul, since it is 'a trace of soul' which makes each body a body. But it is surely *conceptually* possible to consider bodies—even bodies of living things—as completely lifeless, and Plotinus takes recourse to this sort of reflection in order better to classify the sensible world as such.[317] Throughout VI.3, for example, Plotinus ignores the psychic element of sensible things and considers them only *qua* lifeless bodies. This is why he is comfortable characterizing sensible substance as just 'a conglomeration of qualities and matter'.[318] This suggests that in the two passages above, the class of things which do not persist numerically through time is restricted to genuinely lifeless things including the individual bodies of living things considered *qua* lifeless.

This conclusion is confirmed in II.1.3 where Plotinus likens the universe to a human being. After admitting that sublunar elements are constantly changing into one another, Plotinus claims that the universe nevertheless remains the same living thing and he argues for this claim by analogy: 'For our parts, too, are always changing and flowing away into what is exterior, and yet each of us persists for a long time.'[319] Here Plotinus makes it clear that he does think that sensible *living* things (or at least human beings) do persist numerically though time. Given that lifeless sensible things do *not* persist, we should now ask ourselves by virtue of *what* this diachronic persistence is possible. Surely, it is by virtue of one's soul, but this response is not specific enough for Plotinus, given the

[317] VI.3.1.21–8.

[318] VI.3.8.20; VI.3.10.15–17; VI.3.16.36–7. Cf. II.4.11.1–2. I do not think it has been emphasized enough that these characterizations of sensible substance are all subject to the initial qualification of VI.3.1.21–8—cf. Bréhier (*notice* to VI.1–3, p. 48), Rist (1967: 108), Wurm (1973: 250–4), Gerson (1994: 104–8). When every trace of soul is conceptually abstracted from a sensible substance, you could describe it as a conglomeration of qualities and matter, but no sensible substance is actually just matter and qualities.

[319] II.1.3.9–10.

sophistication of his account of soul. Plotinus partitions individual souls up in several ways,[320] but for questions of diachronic personal identity the following trifold division provides helpful orientation. First, there is a lower soul that informs the body, making it 'a body of a certain sort' or 'a body which has been given life'.[321] In this composite of body and lower soul we can also include the faculty of sense perception, and in general those of all non-cognitive life-activities. Next, reason, or what Plotinus sometimes calls the middle soul,[322] is set over the composite and is the agent of discursive thinking. Whereas the non-cognitive activities cannot be performed apart from body, reason is to some extent separable, although it does require a prior contribution from the body. On top of these is the highest part of soul which is impassible, never descends into body, and always exists.

Given this psychic ontology, by virtue of which of these powers or parts of soul can a human being be said to 'persist for a long time'? Surely not by virtue of the undescended soul. For this soul is completely impassible and unchanging, with the result that any human being *qua* undescended soul will persist for *all* time.[323] Similar considerations rule out reason. Since the rational soul is an image of the undescended soul and separable from the body,[324] it would appear to survive death and *metempsychōsis*, a doctrine according to which one's soul will some time after one's death be born again as another living thing—and not necessarily as a human being.[325]

[320] See note on 5.6 (*καὶ τὰς ἡμετέρας δέ·*).

[321] I.1.5.1–3; I.1.10.6–7; IV.4.28.5.

[322] II.9.2.9.

[323] Similar reasons also rule out individual Forms. The exact status of these Forms is disputed. The first dispute concerns whether Plotinus consistently maintained the existence of Forms of individuals. Blumenthal (1966 and 1971*a*: 112–33) argues that the evidence is contradictory and that Plotinus seems to have gone back and forth on the issue. He is opposed by Rist (1963 and 1970), Gerson (1994), and Kalligas (1997), all of whom hold the evidence to be clearly in favour of taking Plotinus to have consistently accepted ideas of individuals. A second dispute concerns which particulars can be said to have corresponding individual forms—whether all particulars (Blumenthal (1966: 73) seems to indicate that a doctrine of individual forms would have to apply to all individuals), or only particulars with souls (Cherniss (1944: 508); Rist), or only particulars with intellects ((Gerson (1994: 254 n. 19); Kalligas (1997: 212)). A third unresolved issue concerns what the ontological status of these Forms of individuals would be. Cherniss asserts that these Forms would simply be identical to the individual souls i.e. the higher undescended souls, and Kalligas recently defended this view (1997: 214 ff.). Rist (1967: 86–7) criticizes this account, charging Cherniss with abolishing the distinction between the noetic and psychic hypostases. Gerson (1994: 75), starting from Rist's criticism, proceeds to identify the Form of an individual with that individual's intellect.

[324] I.1.11.10.

[325] III.4.2.

Thus, if Pythagoras were to be reincarnated as Socrates, Socrates' rational soul would be identical to that of Pythagoras. The identity of the rational soul from one incarnation to another is accounted for by shared memories.[326] Moreover, even when a man is reborn as an (irrational) animal, the rational soul is said 'to be present without being present',[327] which I take to mean that the rational soul still exists but the animal cannot make use of it. Reason, then, like the undescended soul, can only account for *everlasting* persistence.

Thus, it must be the lower soul that is responsible for one's persisting for a long time, and this makes good sense of the context. Plotinus is concerned about the persistence of the *composite*, or as he refers to it, the living thing (*ζῷον*),[328] and as he repeatedly emphasizes in II.1.5,[329] it is the lower soul that is responsible for making and maintaining the body.

The Diachronic Identity of the Universe, Heavens, and Heavenly Bodies

The Universe

When one turns to Plotinus' full account in II.1 of the diachronic identity of the universe, the heavens, and the heavenly bodies, one immediately encounters a barrier. Presumably, three different arguments are called for, one for the numerical everlastingness[330] of the universe, one for the

[326] This thesis is complicated by the following problem. If Pythagoras is reincarnated as Socrates, we need some sense in which they are two distinct individuals, but we also need some sense in which it is not arbitrary to say that Socrates (and not Antiphon) is the reincarnation of Pythagoras. If memory helps us with the latter, we cannot count on it to help us with the former. One way of cutting this Gordian knot is to insist that Socrates would not have Pythagoras' memories in the same way that Pythagoras had them. For instance, Socrates need not be conscious of the memories (Plotinus does stress that unconscious memories have the strongest effect on the soul (IV.4.4.7–13), and he emphasizes that the nature of a soul is heavily determined by its behaviour in past lives (IV.3.8.5 ff., III.4.2.1 ff.)). Alternatively, one could be conscious of these memories without as it were affirming them to be memories of one's own life, like an actor in the midst of playing one role remembering a previous role (see Gerson 1994: 144, 180–2). See also Blumenthal (1971*a*: 94–5).

[327] I.1.11.11.

[328] I.1.7.17–20 where Plotinus also notes that in a wider sense 'living thing' can refer to this composite of body and lower soul *plus* reason.

[329] See note on 5.18–23.

[330] Plotinus distinguishes between everlasting and eternal. The universe, the heavens, and the heavenly bodies are everlasting: they always exist and are in time. What is eternal, e.g. intellects and the One, 'always' exists but is in fact outside of time (see III.7.3). It should be noted, however, that Plotinus does not use the terminology of the later tradition—*ἀΐδιος* for everlasting, *αἰώνιος* for eternal—to mark this distinction. Rather, both

heavens, and one for the heavenly bodies, but Plotinus seems to shift much too readily from one subject to the other; in addition, grammatically the subject is often left implicit and must be supplied by the reader.[331] For this reason I shall first isolate Plotinus' account of the numerical everlastingness of the universe, and then proceed to his arguments for heaven and the heavenly bodies.

The ontology of emanation provides Plotinus with a succinct argument for the everlastingness of the universe. Each level in Plotinus' ontological hierarchy from *Nous* on down to matter is a *necessary* product of the activity of the level preceeding it, such that one level cannot exist without producing the one beneath it, e.g. *Nous* cannot exist without producing Soul (IV.8.7.19–21). Moreover, the universe is the necessary product of soul. Thus, as long as the intelligibles exist, the universe exists, and since the intelligibles always exist, so too does the universe (see note on 1.1–2). But this argument, as least as it stands, is too weak since it is also compatible with the Stoic and Empedoclean thesis that the world undergoes an infinite number of ordered periods, punctuated by periods of destruction. That this Stoic thesis runs counter to Plotinus' world-view is clear from II.1, nor do his scattered references to cosmic periods[332] suggest otherwise, since such talk of cosmic cycles need not entail any commitment to the periodic destruction of the cosmos.

The very first lines of II.1 attest to the general importance and centrality to the treatise of establishing the everlastingness of the universe. Nevertheless, it is not immediately clear where the argument to this conclusion is to be found. A careful reading, however, reveals that the everlastingness of the universe is still an open question at the end of II.1.2 and ceases to be a topic of discussion after II.1.4. Thus, the argument must be contained in II.1.3–4.[333]

The argument needs to address the following difficulty. According to the conclusions we have reached so far, composite living things should

ἀΐδιος and αἰώνιος are used synonymously to refer to the timelessly eternal. Plotinus' term for everlastingness is τὸ ἀεί. See Beierwaltes (1967: 156 ff.).

[331] Cf. II.1.6.1 ff. where Armstrong and Beutler–Theiler take Plotinus to be referring to the heavenly bodies, but Bouillet and Bréhier take him to be referring more generally to heaven.

[332] III.2.13.3; IV.8.1.38; V.7.1.12–13, 23–5; V.7.2.18–23; V.7.3.16–18; VI.4.16.3. Although for the Stoics cosmic periods were defined by conflagration (*SVF* 1.106; 2.596, 620, 625–6), talk of cosmic periods in Plotinus mostly serves to fill in the details surrounding *metempsychōsis* such that every soul receives one incarnation per period. See esp. IV.8.1.38–40 where he discusses the *Phaedr.* myth in such terms.

[333] See notes on 3.2 τὴν τοῦ κόσμου ἀθανασίαν and 4.16–33.

persist as the same individual living things for their entire lifetime. But in Plotinus' eyes a problem arises when one wishes to maintain that their lifetime is everlasting. This is due to an implicit assumption he makes regarding the body's relation to the soul. If the body of a living thing does not persist numerically through time, the living thing will itself eventually perish. The reasoning, though admittedly subtle, is Aristotelian at heart[334] and appears to run something like this. Material flux signals a lack of harmony between the living thing's body and soul. The union is in some sense unnatural so that the soul has to force the body to stay together as best it can, and this tension between the body and soul eventually manifests itself in the perishing of the living thing.[335] Thus, external flux, which brings with it the immediate destruction of the body, also signals a tension between body and soul that inevitably leads to the composite living thing's destruction.

Thus, the core of Plotinus' argument for the numerical permanence of the universe is to establish that the universe suffers no external flux. To this end, he need only appeal to the fact that the universe has no exterior.[336] This, however, is apparently not sufficient. In the course of II.1.3–4 Plotinus adds two further conditions for the numerical persistence of the universe. The first is hardly surprising and adds nothing to our previous discussion of the diachronic identity of living things: the World-Soul must persist.[337] For we have seen that all composite living things persist in virtue of their (lower) soul. It is the second condition that surprises: in order for the universe as a whole to persist numerically, heaven must persist numerically.[338] This condition is not easily explicable, but we can go some way toward explaining it by considering the relation between heaven and the universe as a whole, and in particular between the psychic life of the heavens and that of the entire universe. It will turn out that for Plotinus, as for many other philosophers, the celestial region functions as a sort of command centre for the World-Soul, and

[334] For Aristotle, if a soul had to work to keep the body together, the composite could not persist everlastingly: *DC* 269^{b}7–9, 286^{a}17–18, 296^{a}32–3; *Meta.* 1015^{b}14–15.

[335] These ideas find their point of origin in Aristotle's *DC* 284^{a}27–^{b}5, where he criticizes Plato's theory of celestial motion. Plato maintained that although the heavens are composed of the four sublunar elements, the World-Soul makes them move in a circle. Aristotle's criticism is that this motion would be unnatural and achieved at the cost of the World-Soul's labour, and further that this constant exertion prevents the universe from being everlasting. Hence Plotinus repeatedly states that the activity of the World-Soul must be without labour (II.1.4.31, II.9.2.13, III.2.2.40–2, etc.).

[336] II.1.3.2 ff.

[337] See II.1.4.29–30 and note on 4.30.

[338] See notes on 3.23–6 and 3.29–30.

it is not unreasonable for Plotinus to think that if this does not stay the same, neither will the universe as a whole.

In order to see that the celestial region does serve this function, one should first look to the *Timaeus*. There, the World-Soul is said to be present throughout the universe, 'being completely interwoven from the centre to the outermost heaven [i.e. the sphere of fixed stars]'[339] despite the fact that according to the account of the construction of the World-Soul[340] the substance of the World-Soul is divided exhaustively into eight circles which are designated as the circles of the seven planets and the fixed sphere. It was probably this peculiarity that led Proclus to ask where Plato goes about positing a soul proper to the heaven:[341]

> Where did Plato grant a soul (ἐψύχωσεν) to heaven specifically, as ⟨he granted a soul⟩ to the Earth when he said that the Earth is 'the oldest of the gods in heaven' [*Tim.* 40c3]. For every god might be said to ⟨have a soul corresponding to its own order⟩, just as divinity (τὸ κρεῖττον) in general ⟨requires both a body and⟩ a soul. If Plato ⟨granted a soul to heaven⟩ when he created the universal soul, why did he call this soul the All-Soul (and why does he keep on calling it that)? This difference in terminology is not trivial because the heaven was not the All when he created the cosmic ⟨soul⟩. [. . .] One can ask these questions because Plato nowhere explicitly establishes a soul proper to heaven.[342]

Here Proclus begins by assuming that there is a soul of heaven since the heaven, like all divinities, requires a soul, but wonders where it is that Plato explicitly discusses this. He thinks this celestial soul might just be identical to the World-Soul but sees that there are problems with this conjecture. Proclus tries to get around these problems by showing how the identity of the World-Soul and the celestial soul would not hinder the latter from belonging primarily to heaven:

> The solution to these difficulties is the following. One must say at any rate that the soul which is created in the psychogony [i.e. *Tim.* 34b ff.] is the cosmic soul. For Plato said that God 'began to fashion within it [*viz.* the soul] *all that is bodily*' [*Tim.* 36d9–e1] and not just the heaven. But one must say that this soul, even though it belongs primarily to the universe, illuminates the heaven and yet enlivens the sublunar region because the latter is attached to heaven. And for this reason it is also primarily celestial. And you could extract a sufficient model of this

[339] 36e2.

[340] In particular 36b5–d7.

[341] The Greek text of the next two passages is plagued with lacunae, but the main points are clear. On some details I am following the conjectures Festugière suggested in his French translation.

[342] Proclus, *In Tim.* 3.181.9–18.

from the human soul. For Plato says [*Tim.* 44d] that even though this directs the entire body it nevertheless obtains the head as its dwelling place, since from there it directs the rest of the body by carrying sensation to every part. In the same way, then, one must also say that the ⟨World-Soul⟩ also ⟨enlivens⟩ the ⟨universe⟩ but that it pri⟨marily commands⟩ the heaven.[343]

Proclus' formulation of the solution might appear crude (the same soul both primarily belongs to the whole universe and is primarily celestial) but his analogy to a human soul makes his meaning clear: even though the human soul is extended throughout the entire body, it has a command centre locally concentrated in a certain part of the body, namely the head. Spatially situating different parts of the soul in different parts of the body is a solid piece of Platonic doctrine, as is locating the command centre, i.e. reason, in the head.[344] Thus, on Proclus' account, the celestial soul is not really distinct from the World-Soul; it is a part of it—indeed, the most important part.

The Stoics came to essentially the same conclusion. For them, as for Plato, the universe was a living being, and a human being was a microcosm exhibiting the same order found in the universe. Thus, since on Stoic theory the human soul pervades the body and has a command centre, the *ἡγεμονικόν*, localized in some part of the body (although for the Stoics it was the heart rather than the brain),[345] the same is true of the universe as a whole. As we saw above, the cosmic *ἡγεμονικόν* was located in different places by different thinkers. On one (anonymous) view it was located in the Earth itself,[346] and Cleanthes took it to be the sun.[347] Chrysippus, however, perhaps like Plato before him and certainly like Proclus after him, located the *ἡγεμονικόν* in the heaven.[348] Posidonius did, too,[349] and this becomes especially significant if one accepts the thesis that Plotinus directly took over much of Posidonius' natural philosophy.[350]

Proclus and some Stoics, then, are generally in agreement on this issue: there is no celestial soul which is distinct from the World-Soul; rather, a

[343] Proclus, *In Tim.* 3.181.19–182.10
[344] See *Tim.* 44d–e.
[345] *SVF* 2.838, 848, 879, 885, 886.
[346] Cf. *SVF* 2.642.
[347] *SVF* 1.499; *SVF* 2.644.
[348] *SVF* 2. 527, 605, 634, 642, 644. One report (*SVF* 2.644) suggests that Chrysippus might not have thought the entire heaven formed the *ἡγεμονικόν*, but only the purest part.
[349] *SVF* 2.644.
[350] This thesis has been put forth by many scholars including Theiler (1930: *passim*) and Reinhardt (1953: coll. 820–1); but see Dillon (1977: 106–7).

part of the World-Soul, namely the command centre, is locally concentrated in the heavens, and the celestial soul is simply identical to this part. Given such uniformity, it is surely likely that Plotinus, too, adopted some such theory, yet there seems to be a serious problem with this suggestion. Although Plato and the Stoics both held that different parts of the soul are spatially located in different parts of the body, Plotinus ascribed this theory solely to the Stoics and vigorously attacked it. In its place he taught that the soul is everywhere present as a whole without parts[351] and parts of soul are not present in parts of the body.[352] Thus, since the order of the macrocosm mirrors that of the microcosm, it would seem that the World-Soul could not have one of its parts localized in a particular region like the heavens. However, a closer look at Plotinus' account of the relation between body and soul suggests that there might still be a way for Plotinus to accept something like Proclus' solution.

It would have been difficult for Plotinus to deny that the soul's power of perception and motion do seem to be located in specific parts of the body. The power of sight is exclusively positioned in the eye, and the power of smell in the nose. Plotinus' thesis that the soul is everywhere as a whole has to accommodate in some way for the selective spatial presence of these psychic powers. He does this by maintaining that not all body is equally capable of receiving soul.[353] In order for certain aspects of soul to appear certain material conditions must be in place. For example, all powers of perception require a specific organ. In this way, there are parts of the body where certain functions of the soul—which are themselves present everywhere and not spatially restricted to a certain place in the body[354]—are performed exclusively. The *dynamis* of sight, for example, is present everywhere but is only performed (or actualized) in the eye.

Furthermore, there is even a sense in which Plotinus can say that one region of the body contains one's command centre. Although these powers of perception and motion of the soul exist indiscriminately throughout the body and are actualized (or performed) by the appropriate organs, this actualization begins at the starting point of each organ, and the starting point of every organ is located in the brain.[355] Since these powers belong to the perceptive soul,[356] one can say that the perceptive soul begins its work in the brain. But since the perceptive soul also makes judgements

[351] IV.2.1.62–76; IV.3.22.14–15; VI.4.3.27–31; VI.4.13.18–19; VI.9.5.40–6.
[352] IV.3.20.
[353] VI.4.3.10–11.
[354] IV.3.23.19–20 and cf. VI.4.9.36.
[355] IV.3.23.12–16.
[356] IV.3.23.21–2.

in a way,[357] it needs to make use of reason which, metaphorically speaking, lies above it.[358] This means that even though reason is not really in place, there is a place where it, as it were, comes into play. Just as certain material conditions must be met for certain psychic powers to obtain, so too reason requires certain psychic conditions (which are then in turn dependent on material conditions). As Plotinus sums up, 'So the reasoning part is not there [*viz.* in the brain] in the sense of being in a place, but because what is there [*viz.* the starting point of the perceptive part] makes use of it.'[359] Thus, there is a command centre spatially located in the body but not in the sense that Plato and the Stoics thought, that is, not in the sense that a part of the soul exists exclusively in some region of the body. The parts of the soul exist throughout the body; the command centre simply marks the place both where all psychosomatic powers commence their activity and where these powers, as it were, touch reason.

Plotinus, however, never uses the Stoic term *ἡγεμονικόν* to refer to this 'part' of soul. He does employ *τὸ ἡγεμονοῦν* to refer to the command centre of the soul but almost exclusively in anti-Stoic contexts aimed at demolishing the concept.[360] This, however, as has been noted by others,[361] is not at odds with Plotinus' view that the brain does serve as the seat of perception. Plotinus' attack is restricted to certain aspects of Stoic philosophy of mind that are incompatible with his own: that the command centre is extended and material, that perception only takes place in the command centre, that sensation is physically transmitted to the command centre. The Plotinian 'command centre' outlined above does not incorporate any of these features.

Returning to the macrocosm, it is now clear that Plotinus can adopt Proclus' solution to the problem of the celestial soul without restricting a part of the Word-Soul to a certain region of space, by positing the heavens as the cosmos's command centre from which the functions of perception and movement commence and where the World-Soul accesses reason and intellect. In fact, there are a number of parallels between Plotinus' characterization on the microcosmic level of the relationship between the powers of the soul and the brain and his characterization on the macrocosmic level of the relationship between the parts or powers of the World-Soul and the heavens.

[357] IV.3.23.31 and II.2.3.3.
[358] IV.3.23.23.
[359] IV.3.23.33–4.
[360] III.1.4.12; IV.2.2.13; IV.7.6.23–37; IV.7.7.5–6.
[361] Blumenthal (1971*a*: 73–5), Emilsson (1988: 105–6).

First, the powers (and parts) of the World-Soul run through the entire cosmos but require certain material conditions to be actualized, just as is the case with individual souls. As in any living thing, there is a great variety of powers in the universe.[362] However, Plotinus sometimes appears to place these powers in specific regions of the cosmos. For example, in II.2.3 Plotinus describes two powers of the World-Soul:

> This, too, is another way of putting it; there is the ultimate power of soul which begins at the earth and is interwoven through the whole universe, and there is the power of soul which is naturally perceptive and receives the opinionative kind of reasoning; this keeps itself above in the heavenly spheres.[363]

Recall that Plotinus firmly believes that all psychic powers are ubiquitous and none are located in particular regions of space. This passage, then, can be understood only in the manner outlined above. That is to say that strictly speaking both powers pervade the universe, but certain material conditions prevent the perceptive power from being actualized in the sublunar region. Presumably, it is the sublunar body itself that inhibits the perceptive power of the World-Soul, since as Plotinus repeatedly says, it is inferior and less pure than the celestial body.[364] This is surely to be explained in part (but only in part) by the translucence of the heavenly body[365] which seems necessary to bring about a sort of visual perception.[366]

Second, just as the brain is determined to be the starting point of the body's motion, so too the heaven is said to be the starting point of the universe's motion. Psychic movement proceeds from the superlunar region and from there is conveyed to the entire universe, and bodily motion

[362] IV.4.36.8–9.

[363] II.2.3.1–4, and cf. III.4.6.25 f.

[364] II.1.4.8–10; II.1.5.9; II.1.6 and 7 *passim*; II.1.8.22 f.; II.9.8.35–6; IV.4.37.17 where I take 'nature' to mean 'bodily nature'; IV.8.2.7–8.

[365] II.1.7.47.

[366] IV.4.24. But what about Plotinus' assertion that the Earth, too, has (visual) perception (IV.4.22.43–4; IV.4.26.28–9; IV.4.27.13–15) since the Earth would seem to lack the necessary matter for (visual) perception? Plotinus attributes this ability to see to a translucent breath (*πνεῦμα*) that runs through the Earth (IV.4.26.23–9). If this is so, the material conditions for visual perception seem to be met in both the superlunar and the sublunar regions, and it becomes difficult to see why Plotinus would attribute the power of perception primarily to the superlunar region. The answer to this puzzle brings the macrocosmic case even closer to that of the microcosm. We saw above that in a human being perception is not limited to the brain, but the beginning of the actualization of the power of perception does take place in the brain. Likewise, perception in the universe is not limited to the superlunar region, but it does begin there; the sublunar region receives any perceptive power it has from there (II.2.3.5–6; IV.4.26.27–8; IV.4.27.13–15. Cf. *DA* 418^{b}11–13).

follows upon this psychic motion.[367] Finally, on the microcosmic model the brain was also said to be the place where soul 'touches' reason and makes use of it since perceptions both involve and lead to judgements. Something analogous is found on the macrocosmic level. The heavens function not only as a starting point for (downwardly directed) psychosomatic activity, but also for (upwardly directed) psychonoetic activity. It is in the heavens that reason and intellect come into play.[368]

Thus, Plotinus does seem to have considered the heaven to be a sort of command centre for the entire cosmos in the following sense. The World-Soul and all of its powers pervade the entire cosmos, but certain material conditions configure the actualization of its powers. The material structure of the universe is such that the starting point of actualization of the power of perception begins in the heavens. These same material conditions place the principle of motion in the heavens. This allows one to say that, loosely speaking, the power of perception and motion is located in the heavens. The celestial soul is essentially identical to this power.

Our conclusions are, again, not necessarily a reflection of Plotinus' own vocabulary. He does often speak of the *ἡγεμονοῦν* or *ἡγούμενον* of the cosmos, but these terms refer variously and opaquely. Generally they refer to the World-Soul, but it is usually unclear whether specifically the higher transcendent or the lower immanent World-Soul is meant, or whether Plotinus has any particular 'part' or 'power' of it in mind.[369] They can equally refer to the reason[370] or intellect[371] of the cosmos. Similar terminological flexibility is also found in his discussions of individual souls.[372] But the point I am making here is one not of terminology but of content. Plotinus clearly does envision a soul for the heavens, and his own remarks indicate, as the discussion above has shown, that the best way to understand this soul is as a 'part' or 'power' of the World-Soul. We can call it a command centre insofar as it is analogous to the brain, being the seat of perception, the initiator of motion, and the access point to reason and intellect.

[367] II.2.3.5–10.

[368] II.2.3.1–4 and 17–18.

[369] Cf. I.2.1.8; II.3.13.29; II.9.9.32; III.3.2.3; IV.2.2.48; IV.4.10.4–16; IV.4.12.14; IV.4.42.19. At II.3.17.8 it clearly refers more narrowly to some higher 'part' of the World-Soul. Plotinus also mentions the *ἡγούμενον* of the Earth at IV.4.26.7.

[370] III.1.9.9.

[371] III.5.8.7–14.

[372] As mentioned above (p. 54) Plotinus generally uses *ἡγεμονοῦν* and *ἡγούμενον* in anti-Stoic contexts, but at several points he does employ the term sincerely. The soul is said to receive *ἡγεμονία* at I.1.7.16; at IV.4.40.31 *ἡγούμενον* refers more narrowly, perhaps to Intellect.

Seen in this light, it is not entirely unreasonable for Plotinus to make the persistence of the heavens a necessary condition for the persistence of the universe. And so, once the other two conditions[373] of the universe's persistence are shown to be satisfied, the question of the universe's everlastingness is reduced to a question of the heaven's everlastingness. This explains why a treatise eight chapters in length that begins with an inquiry into the everlastingness of the universe devotes the last four chapters to the heavens and the heavenly bodies. It is to these arguments that we now turn.

The Heavens

The problem of the heavens' everlastingness is similar to that of the universe's. In both cases, it would be unproblematic, according to Plotinus' views on diachronic identity, to maintain that it persists numerically for *some* time. But in order to establish *everlasting* numerical persistence one must demonstrate the required harmony between body and soul. As we saw above, this involves showing that the body in question does not suffer any external flux of matter. This was easy enough in the case of the universe since there is no exterior to the universe, but it is more difficult to show this for heaven. One must show that there is no material exchange between the sublunar and superlunar regions.

To this end Plotinus provides two separate arguments. The primary argument is found in II.1.4, where he makes appeal both to the superior nature of celestial body as well as to the power of the World-Soul in the heavens,[374] though the *place* of the heavens also appears to play a role.[375] The soul of heaven, its body, and the place in which it resides are all superior to their respective sublunar counterparts. The primacy of the celestial body in II.1 is clear.[376] Plotinus also clearly holds both that the superlunar region is superior to the sublunar[377] and that this superiority plays an important role in explaining why superlunar things are capable of everlasting numerical persistence whereas sublunar things are not.[378] It is not clear whether Plotinus offers any arguments for the pre-eminence of the superlunar region. Plotinus might in II.1.3.16 ff. be trying to derive

[373] See above, p. 50.
[374] II.1.4.6–11.
[375] See note on 5.9–14.
[376] II.1.4.8–10; II.1.5.9; II.1.6 and II.1.7 *passim*; II.1.8.22 f. The primacy of the celestial body is discussed in the final section of this introduction.
[377] II.1.3.20; II.1.4.10; II.1.5.10; II.1.8.22.
[378] II.1.5.10 and II.1.8.22.

the superiority of the celestial region from the fact that it has no exterior, but this would only seem to explain why the outermost rim of heaven is superior. Plotinus most likely just took over the idea of the pre-eminence of the heavenly region from Plato and Aristotle[379] and was not at all concerned with offering additional arguments for the thesis.

Plotinus also asserts and defends the thesis that the World-Soul is more powerful than the souls of sublunar living things and that this helps account for the numerical everlastingness of the heavens.[380] In the heavens, the World-Soul has a 'marvellous power'[381] derived from the fact that it is 'next to the best things'[382] and has 'proceeded from a god'.[383] He explains and supports these assertions with an exegesis of Plato's *Timaeus* in II.1.5, in which the celestial things are products of the World-Soul whereas sublunar things are products of lower souls.[384]

Plotinus understands this creation story from the perspective of his own ontology. Plato's Demiurge is replaced by Plotinus' *Nous*,[385] and he identifies the generated gods of the *Timaeus*, i.e. those entities which are here characterized as the immediate products of the Demiurge, with the World-Soul and the stellar souls,[386] which are then responsible for creating the souls of individual sublunar creatures.[387] More precisely, they are responsible for producing our *lower* souls, whereas our higher souls are, like the World-Soul itself, immediate products of *Nous*.[388] Thus, the World-Soul enjoys a certain advantage over our lower souls since it is ontologically closer to *Nous*, and this is the reason for its 'marvellous power'. For according to a conception common to Platonists and Stoics, one of the powers of soul is to bind the body together,[389] so that this

[379] For Plato, see e.g. *Phaed.* 109b7–8; for Aristotle, *DC* 286^{a}10 and the spurious *DM* 400^{a}6.

[380] II.1.4.14–16; II.1.5.11–14; II.1.8.21.

[381] II.1.4.15.

[382] i.e. the Forms II.1.4.14.

[383] II.1.4.17.

[384] See note on 5.7 *ἴνδαλμα*.

[385] Plotinus often explicitly identifies the two; see: II.3.18.15; II.9.6.21–2; V.1.8.5; V.8.8.5 f.

[386] This is a difficult passage, a full exegesis of which will be found in the commentary.

[387] II.1.5.6–8.

[388] II.1.5.5–6, 18–20. The hypostasis Soul is left out of the picture here. See note on 5.5–6.

[389] See e.g. Plotinus, II.2.1.18; Alcinous, *Didask.* 14.4; Numenius, fr. 4b; Sextus Empiricus, *Adv. math*. 7.234 and 9.81; *SVF* 2.454 and 719. Cf. Aristotle, *DA* 410^{b}10 ff., 411^{b}7–8 and [Aristotle] *DM* 397^{b}9 ff. Reportedly denied by Epicurus (see Poseidonius, fr. 149 (E-K) = fr. 400a (Th) and note on 4.17).

ontological seniority of the World-Soul over other souls brings with it an increased power to bind.[390] In virtue of this power, the World-Soul can always harness the celestial body and prevent any loss of parts.[391] Importantly, this includes not just celestial matter physically exiting the superlunar region and entering the sublunar region, but also the loss of celestial matter that would occur if one celestial element were to go out of existence and change into another celestial element.[392] Sublunar things, on the other hand, are held together by their lower souls,[393] and these lack the strength to hold their bodies together for all time.[394]

These three features work together to form Plotinus' primary account of why there is no natural loss of parts from the celestial region: the heaven is of a purer body held together by a more powerful soul operating in a better place. Plotinus adds, however, a second argument against the heaven's losing any parts, aimed at refuting those who do not accept his appeal to the power of soul.[395] This argument Plotinus again divides into two parts. Since downward motion is not natural to fire, if superlunar fire were to enter the sublunar region, it would have to be by force, and the cause of this force would either be superlunar or sublunar. But a superlunar cause is unthinkable since no heavenly body could force another heavenly body down. For then the former body would itself be either moving down naturally or likewise subject to force. Thus, such explanations can only lead in a circle. This leaves only the case of sublunar causes forcing the superlunar fire down, and the only possible candidates for such causes are those sublunar bodies which are adjacent to the heaven: air and fire.[396] Plotinus immediately dismisses air,[397] presumably either because air does not border on the heaven directly but is separated by the fire sphere or because if there is air directly adjacent to heaven this air is too fine to act on anything.[398] Plotinus gives two reasons against fire's forcing the celestial body down: (1) sublunar fire cannot even come into contact with superlunar fire; (2) and if there is any fire in the upper air, it is simply not suited for acting on the heavenly fire. Flame cannot even contact the superlunar fire because 'it would change direction by its downward force before that heavenly fire could suffer anything.'[399] Or,

[390] Cf. II.9.2.16.
[391] II.1.3.20–2; II.1.4.14–16.
[392] II.1.4.14–16.
[393] II.1.5.18–20; II.1.8.24–5.
[394] II.1.5.12–14; II.1.8.25–6.
[395] II.1.8.
[396] II.1.8.7–8.
[397] II.1.8.8.
[398] II.1.7.40.
[399] II.1.8.10–11. Note that my translation differs considerably from Armstrong's. See note on 8.10–11.

as Plotinus elsewhere[400] expresses this same point: 'Since flame goes up together with earth it is cast down, not being able to pass to the above [viz. to heaven].' Any fire which inhabits the highest sublunar stratum is not suited for acting on the heaven due to its inferior strength.[401] That is to say, for fire to act is to heat; thus, if sublunar fire in the upper air is to act on the neighbouring superlunar fire, it must do so by heating it. But the fire in the upper air is incapable of heating the superlunar fire both because the superlunar fire is *per se* hot and *per se* hot things cannot be heated[402] and because the fire in the upper air 'if it remains, slowly goes out and becomes softer'.[403] Thus, since the heavenly body cannot be forced from the heavenly region by either a superlunar or a sublunar cause, and since any natural loss of celestial matter has also been ruled out, the heaven never loses or gains any parts.[404]

The Heavenly Bodies

Once this account of the superlunar realm has been sketched out, it is easy to see how it could be made to suit the heavenly bodies. Again, one must show that they do not suffer any external flux, but since they, too, reside in a better place, are made of purer body or matter, and since their souls are, like the World-Soul, direct products of *Nous*, they should also not lose or gain any parts and should thus persist numerically and everlastingly. Indeed, this is exactly Plotinus' approach to the problem in II.1.5.

A couple of passages in other treatises, however, appear at first glance to suggest that there is some sort of external flux from the stars. At the end of IV.4.42 where Plotinus examines the manner in which heavenly bodies act on the rest of the universe, he states:

> And if they (*sc.* the stars) give something off by means of their soul, their soul is not diminished and their bodies remain the same; and if something flows off from them, it goes off imperceptibly; and if something comes to them, it comes to them inconspicuously.[405]

[400] II.1.7.38–9.
[401] II.1.8.11 f.
[402] II.1.8.12–13.
[403] II.1.7.40–1.
[404] Two passages (II.1.3.13–20 and II.2.1.20 f.) appear at first glance to suggest that there is some material exchange between the sublunar and superlunar regions, or at least that some fire passes from the sublunar into the superlunar. However, neither passage truly implies this; rather both are exclusively focused on the activity of fire in the superlunar region.
[405] IV.4.42.26–30.

One might think, as Beutler–Theiler do,[406] that Plotinus is here expressly admitting the possibility that corporeal parts of the stars are in flux. This interpretation might find some justification in II.3.2 where Plotinus writes:

> However that may be, they (*sc.* the stars) will determine our given destiny only in our bodily nature, since there is a corporeal transference from them to us, and one of such a kind that the alteration they produce in our bodies is not great, since the outflow from each individual star is the same, and they are all mixed together into one on earth, so that the only differences are local differences, according to how near or far we are from the stars.[407]

This 'corporeal transference' might likewise suggest that Plotinus at times did think that pieces of the stars' bodies actually separate off and enter the sublunar region. Neither of these passages, however, need imply that he ever seriously thought it possible that the stars' bodies could suffer external flux. In II.3.2 Plotinus is reporting the views of certain astrologers.[408] There might nevertheless be a sense in which Plotinus would say *in propria persona* that there is some corporeal transference from the stars to the sublunar region, but this would not be in the sense that a (piece of) body is itself transferred from one whole to another but that something *which pertains to body* is transferred from one body to another. Perceptual qualities, for example, which are corporeal insofar as they can only be perceived through bodily organs,[409] might be transferred from the stars to the sublunar regions, and this could occur without a piece of body breaking off and acting as a carrier for these properties. That this is in fact the sort of corporeal transference that Plotinus has in mind is made clear in III.1.6.5–7. A transference of qualities could take place through cosmic sympathy, and this is likely to be the reason why it happens 'imperceptibly'.

Thus, rather than undermining the impact of flux, as the Stoics did with their theories of two substrates, Plotinus takes material flux and its consequences for diachronic identity very seriously: even for ensouled sensible things, external material flux inevitably entails a thing's destruction since it indicates a lack of harmony between soul and body. Yet, by

[406] Beutler–Theiler translate εἴ τι ὑπεκρεῖ, ἀναισθήτως ἀπιόντος with 'und wenn ihnen *ein Stück Körper* entweicht, so geht es unvermerkt ab' (emphasis added).

[407] II.3.2.4–9, Armstrong's translation.

[408] Here Beutler–Theiler are right to make explicit what is only tacit in the Greek—that this is all an account of the astrologers' views: 'jedenfalls, ihre Gabe wird *nach dieser Lehre* nicht über unsere Körperlichkeit hinausreichen . . .' (emphasis added).

[409] See e.g. IV.2.23.33.

isolating *external* flux as the culprit, Plotinus is able to argue succinctly for the numerical everlastingness of the universe, the heavens, and the heavenly bodies.

Natural Motion of the Elements

In the section on Aristotle's cosmology above we saw that Aristotle was the first to characterize and explore the four elements earth, water, air, and fire in terms of natural motions. It will be helpful here to review several of the points examined there. First, Aristotle posited a fifth body that naturally moves in a circle. It is imperative that this motion be natural since for Aristotle every motion is either natural or forced,[410] and if the heavens were not moving in a circle naturally, they would be doing so by force. Consequently, the heavens would constantly be subject to force and in an unnatural state, and since Aristotle also claims that nothing can persist forever in an unnatural state,[411] the eventual destruction of the heavens would be entailed. So the natural motion of the heavens is closely connected to their everlastingness. Secondly, Aristotle's theory of natural motion goes hand in hand with his theory of natural place. Earth moves down and fire moves up because each strives to be in its own natural place. When elements achieve their natural places, they naturally rest. Thus, the elements only have their natural motions when they are *not* in their natural places. The fifth body is, of course, an exception. Its natural place is the heaven in which it everlastingly resides, and so it does possess its natural circular motion in its natural place.

Aristotle's arguments for the fifth body were attacked by Xenarchus in the first century BCE in his work *Against the Fifth Substance*. Although this treatise has been lost, Simplicius has preserved some of its content, including Xenarchus' criticisms of ten separate hypotheses used by Aristotle in his arguments for the fifth body.[412] Of these ten objections, three are particularly important here.[413] First, Xenarchus argued that one of

[410] In fact, there is a certain disparity surrounding Aristotle's remarks on natural motion. See above, pp. 27–8.

[411] Cf. *DC* 269^{b}7–9, 286^{a}17–18, 296^{a}32–3; *Meta.* 1015^{b}14–15.

[412] See note on 2.13.

[413] The others are: that there are not two simple lines (*In DC* 13.22 ff.); that not every simple motion corresponds to a simple body (23.11 ff.); that circular motion does not belong to a simple body (24.21 ff. and 42.8–10); that mathematical arguments are not proper to the study of nature (25.11–13 and 42.6–8); that one thing can have more than one opposite (55.25 ff.); that Aristotle did not define 'lightness' properly (70.20ff.); and that there is indeed void outside of the universe (286.2 ff.).

the four sublunar elements could, in addition to its primary rectilinear motion, also move naturally in a circle.[414] Secondly, he applies this objection specifically to fire and argues that the circular motion of the fire in the *hypekkauma* is also natural.[415] Finally, he pursues a more sweeping line of argument. Recall that in *De caelo* Δ3 Aristotle explains that 'something's moving to its own place is its moving to its own form',[416] and from this a certain ambiguity concerning the relation between the four sublunar elements and natural motion follows. For if an element only achieves its form in its natural place, then despite all of Aristotle's talk about the natural motions of the elements, the *true* elements have no natural rectilinear motions at all; rather, it is their nature either to rest or to move in a circle. Xenarchus draws precisely this conclusion, thereby denying Aristotle's principle that to every simple body belongs a simple motion,[417] since only fire would seem to possess a simple motion.[418]

Thus, when Plotinus ultimately rejects Aristotle's position regarding the fifth body in heaven, preferring rather to keep to the Platonic doctrine that heaven consists of (mostly) fire,[419] he can look to Xenarchus' criticisms for support. In particular, Plotinus can look to Xenarchus when faced with the following dilemma: If, on the one hand, the fire in the heavens does not naturally move in a circle, then the heavens will eventually perish since every movement is either natural or unnatural and nothing in an unnatural state can persist indefinitely; if, on the other hand, the fire in heaven does move naturally in a circle, then fire would seem to have two distinct natural motions which, one would think, is absurd. The first horn of the dilemma is irremediable as it was just about axiomatic in later Greek thought that nothing in an unnatural state can persist forever[420] and Plotinus by no means wanted to claim that the heavens were going to perish. As we have seen, however, the second horn offers some leeway. First, one could simply try to develop Xenarchus'

[414] *In DC* 23.31–24.7.
[415] *In DC* 50.18–24.
[416] 310^{a}33–^{b}1.
[417] *DC* 269^{a}3–4.
[418] *In DC* 21.33–22.17 and 42.10–14. Here Xenarchus is assuming fire to be the substance of the heavens.
[419] A full discussion of the superlunar substance follows below in the section entitled 'Constitution of Heaven'.
[420] Cf. Simplicius, *In DC* 51.20–1, 53.4–5, 376.8–9; 399.15, 536.31–2; *In Phys.* 918.29 ff.; Philoponus, *In DA* 101.32–3, 137.11; *In Phys.* 437.1; *AP* 279.12–14; Asclepius, *In Meta.* 313.22–3; Olympiodorus, *In Gorg.* 23.3.34–5; 50.2.25; *In Phaed.* 4.6.2–3; Proclus, *In Remp.* 2.148.7; *In Tim.* 1.105.20–1; 3.130.20–1.

suggestion that fire has two natural motions.[421] Second, one could utilize Xenarchus' other objection and argue that the rectilinear motions of the elements are not natural at all; the true elements, i.e. those elements in their proper places, naturally either rest or move in a circle. There are, of course, non-Xenarchian possibilities as well. One could, for example, deny Aristotle's dictum that every motion is either natural or unnatural: while the upward motion of fire is natural its circular motion is neither natural nor unnatural; one might say it is rather hypernatural.[422]

Proclus interprets Plotinus as adopting this second solution to the dilemma:

> One must give the Plotinian account, that every body which is simple and exists in its own place remains motionless or moves in a circle. For by this motion it will not leave its proper place. For if something moves in any other way, it will either no longer be in its own place or it will not be in it yet. So if the celestial element, which must be fire, moves, it moves in a circle, since the earth too, if it were to move, would move in a circle, if it is not to leave the middle place. For whenever the fire moves upwards, it moves upwards as something which is in a foreign place, and the lump of earth moves downwards in the same manner, and in general the straight motions of the elements are unnaturally disposed. Therefore, it is false to say that fire moves in a straight line by nature. For it exists most naturally whenever it occupies its own place, but when it is carried to its own place, it does not yet occupy its natural place [*τὸ κατὰ φύσιν*]. This having been shown, it is clear how even the celestial fire, since it does move, moves in a circle and nothing troubles the Platonic account.[423]

I hope to show that this is an inaccurate account of Plotinus' position. He is much closer to the first alternative sketched above—fire has two natural motions—only he complicates this view by linking it to a psychosomatic account of fire. Thus, the straight upward motion of fire is natural to fire's body, and fire's circular motion is natural to its soul.

Proclus' account implies that sublunar bodies do not naturally move in a straight line, but there is ample evidence in the *Enneads* that they do move in this way naturally. At IV.5.2.37–8 Plotinus says that the stone's downward motion is natural; at IV.5.2.10 it is said that light moves in a straight line.[424] Although he does not explicitly mention the elements in this passage, at VI.3.24.7 he acknowledges that some upward (and down-

[421] This is, according to Simplicius (*In DC* 35.14–16), Philoponus' proposal in *AA*.
[422] Roughly Philoponus' (earlier) view in *AP* (278.21–8; 492.20–493.5).
[423] *In Tim.* 2.11.27 ff.
[424] The context here is visual perception. The light involved in our vision moves in a straight line. Cf. also IV.6.1.17. And again VI.9.9.58, where Plotinus says that light (*φῶς*) is light (*κοῦφος*), which presumably implies some upward motion (cf. VI.3.24.7).

ward) motion is natural and that its pulsive force is levity (or gravity in the case of downward motion). In his discussion on the movement of the heavens in II.2, Plotinus explicitly asserts that 'body is *naturally* transported in a straight line'.[425] A few lines later one finds this: 'Fire moves in a straight line till it comes to its ordained place; for as it is ordained, so it appears both to rest naturally and to be conveyed to the place where it was ordained to be.'[426] As Armstrong translates this passage the scope of 'naturally' is limited to its resting, but what is important here is that Plotinus says that fire's being conveyed to its own place *has been ordained*. And 'Nature', Plotinus adds a little further down, 'is just what has been ordained by universal soul.'[427] Thus, it is natural for fire to go to its own place. It would seem, then, that fire might have two natural motions. This appears to be confirmed by a further passage where Plotinus says that in the heavens the soul moves the body 'in a manner natural to it *there*'.[428] So what counts as the natural motion of fire will depend on where the fire is.[429]

The one piece of text that would seem to support Proclus' claim is II.1.8.15–19:

> Therefore, the heaven does not require another body in order to persist, nor again is another body required for its natural circular motion. For it has not yet been shown that its natural motion is to move in a straight line. For what is natural for them is either to stay put or to move in a circle—the other motions would belong to them only if they were forced.

Proclus seems to have derived his Plotinian account from this passage[430] by taking the '*them*' (αὐτοῖς) in line 19 to refer to the elements in general: the elements naturally either rest or move in a circle and possess the other movements if they are forced. On this interpretation Plotinus defends the more specific thesis that heaven (and Proclus probably takes this to mean the heavenly body, fire) does not naturally move in a straight line by appealing to the more general proposition that none of the elements moves naturally in a straight line. Yet, for reasons given in the commentary, it is better to understand the '*them*' with most modern translations

[425] II.2.1.17–18. Armstrong's translation (italics added).
[426] II.2.1.20–3. Armstrong's translation.
[427] II.2.1.38–9. Armstrong's translation.
[428] II.2.3.17, my emphasis. And see IV.3.18.16 f. where Plotinus says that the celestials perform each of their tasks in accordance with nature.
[429] Cf. *SVF* 1.101.
[430] Diehls refers to II.2.1, but this passage seems more likely.

as referring to the things in heaven,[431] and once it has been determined that this passage is only concerned with celestial things and not with all the elements, there is no longer any pressing reason to see it as confirming the thesis that no straight motion is natural.

As regards the circular motion of the heaven and its contents, Proclus correctly assigns to Plotinus the opinion that it is natural. Two passages[432] that evince this doctrine were reviewed above, and additional material confirms this attribution.[433] Yet, the thesis that a single element has two distinct natural motions screams of incongruity; a fuller account is required which reconciles the two motions by spelling out just how each motion naturally belongs to fire.

Harder believed that Plotinus repeatedly changed his mind on such issues surrounding the motion of the heavens, citing a total of six texts that span Plotinus' career.[434] In fact, all of these passages build a consistent account of celestial motion. In order to see this, each passage will be considered here in chronological order.

II.2 (14).1. In his earliest account and the only treatise devoted entirely to the issue of celestial motion, Plotinus develops a theory that would serve as a basis for all his subsequent statements on the matter. First, we are told that the nature of fire is to be in motion and that the natural motion of body is rectilinear.[435] Thus, we should expect celestial fire to keep moving in a straight line, thereby leaving the universe, but Plotinus explains why it does not in fact behave this way:

> It is an act of providence—or rather something in the fire that it has from providence such that when it is in heaven it moves in a circle *of its own accord*. It desires to go straight but there is no place left, so it bends back and slides around the area it can; for beyond itself it has no place.[436]

The important points here are that although fire's corporeal inclination[437] is to go straight, providence has given it a second inclination—for soul.[438] If soul were located at any one place in the celestial region, the fire would move in a straight line to that location. Soul, however, is in

[431] Cf. Armstrong's 'heavenly bodies'; Harder and Beutler–Theiler's 'der Oberen'; Bouillet's 'des choses célestes'; Bréhier's 'les corps célestes'.

[432] II.1.8.15–19 and II.2.3.17.

[433] Cf. e.g. II.1.3.19 in conjunction with VI.9.8.2; IV.4.16.23 ff.

[434] Beutler–Theiler 1b, 534–5.

[435] II.2.1.17–18 and 23–4.

[436] II.2.1.25–9.

[437] *ἐφιέμενον*, II.2.1.27.

[438] *αὐτῆς πάντη ἐφίεται*, II.2.1.44 (H–S$^{3\text{-}5}$). H–S$^{1\text{–}2}$ follows the MSS *αὐτῆς*, *παντὸς ἐφίεται*.

fact everywhere in the heavens, so that fire's inclination for soul draws it in a circle.[439] To this extent, one can even say that soul is *leading*[440] the heavenly body in a circle. The soul's circular (though non-physical) motion is in turn attributed to its desire for and imitation of *Nous*.[441]

There is nothing in the other five accounts of celestial motion that does not fit into this picture. In VI.4 (22).2 Plotinus reiterates these same points. The celestial body cannot keep moving upwards since there is no more space,[442] and again fire is described as having a second, more fundamental inclination for an ontologically prior substance that fills the heavens.[443] If this substance were at a particular location in heaven, the fire would simply move there in a straight line. But since this substance permeates the heaven, the celestial body encounters it everywhere and is free to turn in a circle.[444]

IV.4 (28).16 contains an extremely brief explanation from which many details are surely missing, but what is there is not new. The celestial body desires to move in a straight line.[445] The soul moves in a circle out of its desire for what is ontologically prior to itself.[446] Without going into specifics—no doubt because they have already been discussed in II.2—Plotinus tells us that as a composite of these two desires, the celestial region moves in a circle.[447]

Again in II.1 (40). 3 Plotinus emphasizes that fire's nature is to keep moving and that its initial desire is to move in a straight line and thus exit the universe.[448] Since there is no place outside of the universe,[449] it acquires a second natural motion by being drawn by soul in a circle.[450]

The last two passages are particularly concise. In III.7 (45).4 Plotinus remarks that the cause of the universe's circular motion is its hastening to the future,[451] which he glosses as 'a sort of desire for substance'.[452] This is a murky passage, but there is nothing necessarily incongruous about it.

[439] II.2.1.43–4 and 49–51.

[440] *περιάγοι*, II.2.1.38; *ἄγουσα*, II.2.1.46 and 48; *ἄγειν*, II.2.1.46; *κινεῖ*, II.2.1.46; *κινοῦσα*, II.2.1.47.

[441] II.2.1.1 ff. This is clearly the core of II.2.1's explanation of celestial motion. Bréhier (1955) exaggerates the importance of ll. 16–19. These lines serve only as an introduction to the problem (ll. 19–20) of how body and soul work together to produce celestial motion. In what follows, Plotinus works out his solution to this problem, as presented above. By crediting the circular motion of the heavens to the celestial soul's imitation of *Nous*, Plotinus is almost certainly drawing on Alexander. See Sorabji (2005): vol. 2, 338–40).

[442] VI.4.2.35.

[443] VI.4.2.34–8.

[444] VI.4.2.39–41 and 43–7.

[445] IV.4.16.29.

[446] IV.4.16.24–7.

[447] IV.4.16.27–31.

[448] II.1.3.14–16.

[449] II.1.3.17.

[450] II.1.3.18–20.

[451] III.7.4.28–33.

[452] III.7.4.31.

This movement towards the future might just be a redescription of how soul, which is in time, imitates *Nous*, which is not. In any case, the final passage III.2 (47). 3 makes clear that Plotinus still endorses the account in II.2. Celestial motion is ultimately due to the soul's desire for and imitation of *Nous*.[453] Plotinus adds only that it seeks nothing outside of itself, thus reiterating a point from II.2.1 and VI.4.2: since soul is everywhere wholly in the heaven, there is no need for the celestial body to keep moving outwards; it can surrender itself to circular motion.

Constitution of Heaven

The question of the material constitution of the heavens is critical for what is the primary focus of II.1: the examination into the everlastingness of the universe, the heavens, and the heavenly bodies. For, as became clear above, one of the reasons for the numerical persistence of the heavens lies in the purity of its body. Now, Plotinus has to give some account of how it is purer than sublunar bodies. This requires finesse. Plotinus cannot just say that it is a different kind of body since this would amount to the Aristotelian thesis that Plotinus rejects. He rather wants to keep near to Plato's theory in the *Timaeus* according to which the heavens are mainly fire.[454]

Plotinus takes up this task in II.1.6–7. He begins by sketching out what he takes to be the *prima facie* content of the *Timaeus*.[455] Anything visible and solid consists of all four elements. Thus, the heaven and its contents also consist of all four elements, but mostly of fire. Fire's presence is required to make things visible, earth's to make things solid; air and water are required as intermediates to bind these two together. Any theory, however, which identifies the ultimate constituents of heaven with those of the sublunar region is unappealing to one who wants to maintain that the heavenly body is somehow better than the sublunar bodies, and so Plotinus begins an attack on it. He starts by criticizing specific theses, e.g. that air and water are present in heaven.[456] Amidst so much fire, he argues, any portion of water would be destroyed, and air would change into fire. Furthermore, Timaeus used mathematical considerations to argue for the celestial presence of air and water, but Plotinus responds to

[453] III.2.3.29–31.

[454] See above, pp. 10–16.

[455] Plotinus begins by distinguishing between the character Timaeus and Plato in such a way that this *prima facie* theory is attributed to the former but not the latter. See note on 6.6–8.

[456] II.1.6.12 f.

this with the natural criticism that just because two solid numbers require two intermediates, this does not imply that two physical solids behave similarly.[457] This leads to a more general criticism. By Timaeus' reasoning, no element can exist in a pure state without the others mixed in. This is a consequence that Plotinus finds unacceptable.

Plotinus' strategy for refutation is simple: he singles out earth and asks, first, whether earth's existence requires any other element and, second, whether any other element's existence requires earth.[458] In the discussion that follows, some specific questions are left open, but on the whole Plotinus provides good motivation for denying Timaeus' thesis.

It remains for Plotinus to show that although he is opposing the account that was drawn from the *Timaeus*, he is not really opposing Plato. Plato's own theory is to be found not by looking to other texts or literary figures, but by looking more deeply into Timaeus' own words. Thus, Plato strictly speaking does not disagree with any part of Timaeus' account, but the superficial understanding of Timaeus' account fails to penetrate into the depth of Plato's genuine theory. This means that although some parts of Timaeus' account are quickly seen to harmonize with Plato's own views,[459] other parts are *prima facie* incompatible and require deeper reflection.[460] When Timaeus, then, says that a thing requires earth to be solid and fire to be visible, Plato does not intend his readers to expect the presence of an actual piece of earth in every solid thing nor the presence of an actual portion of fire in every visible thing. To advance to the text's deeper meaning, one has to be aware that although we only recognize one thing as fitting under the classification 'earth', namely that element which we can perceive with our senses, is cold and dry, has colour, etc.,[461] Plato's application of the name 'earth' is wider than ours. Here, for example, Plato is using 'earth' in the sense of 'solidity'.[462] Thus, when Timaeus says that earth's presence is required in heaven, all that is meant is that solidity must be present. So, too, with the other elements. The actual element air need not be present in heaven, only its softness; not actual water, but its cohesive power.

[457] II.1.6.14 f. Cf. Xenarchus' objection to Aristotle that mathematical arguments should not be used in natural philosophy. See above, n. 413.

[458] II.1.6.21 ff.

[459] Much of what Plotinus attributes to Plato stems from Timaeus' account; e.g. at II.1.7.19–21 Plotinus cites Timaeus' own words as if they were Plato's.

[460] e.g. when Timaeus asserts that the heavens and the heavenly bodies consist of all four bodies, Plato only agrees that this view is probable (II.1.6.7–8), but since this assertion turns out to be false, we 'must listen more carefully to Plato' (II.1.7.1–2).

[461] II.1.7.32–3.

[462] II.1.7.31–2.

With fire the case is different. It is not simply fire's visibility that is present in heaven, but the element itself. Plotinus describes the celestial fire as being both a body[463] and warm.[464] But this element is not the flame that we are accustomed to call 'fire' down here in the sublunar region.[465] It is rather corporeal light, which Plotinus, following Plato, calls a species of fire.[466] This corporeal light possesses solidity, softness, and cohesion by virtue of the cosmic sympathy maintained by the World-Soul.[467]

The greatest virtue of this revision of the Timaean account is its compatibility with the Aristotelian theory of natural places. If the actual sublunar elements were present in the heavens, they would not be in their natural places and would thus be there by force. But nothing held together by force and in an unnatural state could be everlasting.

This is, then, the true meaning of Timaeus' account, and Plotinus appeals to several passages in the Platonic corpus to show that they are closer to his interpretation than to the superficial account. It is not by mixing the four elements together that the Demiurge is said to produce the sun; rather, He 'kindles a light'.[468] Moreover, the sun is called 'brightest'[469] and 'whitest',[470] and this is no doubt meant to appeal to the intuition that any earth whatsoever in a thing would detract from the thing's brightness; a particle of earth would block the light behind the particle, and if the earth were somehow blended into the fire one would expect the totality of fire to be dimmed as a result. Therefore, the brightest thing has to be pure fire, and the more superficial understanding of Timaeus' account is mistaken.

Thus, Plotinus offers an account of the composition of the heavens which, although drawn from the *Timaeus* and hermeneutically defended as the correct interpretation of Plato, departs somewhat from what is said in the dialogue. But this departure is necessary for Plotinus to defend effectively a very Platonic thesis, the everlastingness of the heaven, against the new waves of Stoic and Christian arguments to the contrary. Plotinus develops a comprehensive account of the numerical everlastingness of the universe, heaven, and heavenly bodies, but it is an account that needs to be buttressed by specific understanding of the body of the heavens and natural motion.

[463] II.1.7.26.
[464] II.1.7.25.
[465] II.1.7.25.
[466] II.1.7.24–6; *Tim.* 58c5–7.
[467] II.1.7.14–16.
[468] II.1.7.19–21; *Tim.* 39b4–5.
[469] II.1.7.22; *Theaet.* 208d2 and *Rep.* 616e9.
[470] II.1.7.23. The only occurrence of λευκότατος, -η, -ον is at *Rep.* 617a3, but there it is not the sun (the planet in the seventh whorl) that Plato calls λευκότατον, but the planet in the third whorl (Jupiter).

SIGLA

H	Scriba in scribendo
H^{s}	Scriba in scribendo supra lineam
H^{mg}	Scriba in scribendo in margine
$H^{\gamma\rho}$	Scriba in scribendo praemisso γρ(άφεται)
$H^{\gamma\rho s}$	Scriba in scribendo supra lineam praemisso γρ(άφεται)
$H^{\gamma\rho mg}$	Scriba in scribendo in margine praemisso γρ(άφεται)
H^{ec}	Ipse probabiliter scriba e correctione
H^{ac}	Ante correctionem
H^{pc}	Post correctionem
H^{1}	Revisor non certo distinctus a scriba
H^{2}	Revisor certo distinctus a scriba
H^{3}	Revisor ab H, H^{1}, H^{2} distinctus
H^{1-2}	H^{1} vel H^{2}
$\kappa\alpha\grave{\iota}^{1}$	καὶ prima vice in contextu
μ^{2}	Littera μ secunda vice in vocabulo de quo agitur
w	Consensus codicum eiusdem classis qui in apparatu testium afferunter
Enn.	Enneadum archetypus
Vita	Vitae Plotini archetypus
Pinax	Index omnium titulorum primae Enneadi praemissus
Summ.	Summarium, id est index titulorum cuique Enneadi praemissus
γρ.	γράφεται
ἴσ.	ἴσως
[σῶμα]	Interpolatio delenda
⟨ψυχὴ⟩	Additio
νέκυες	Quae ad verbum citat Plotinus, diductis litteris scripsimus
†	Locus nondum sanatus
=	Fons ex quo Plotinus quamquam liberius citans tamen dubium non est quin hauriat
cf.	Locus ad quem alludere videtur

CODICES

FAMILIA w

A	Laurentianus 87. 3
F	Parisinus Gr. 1816
	Marcianus Gr. 241
E	Parisinus Gr. 1976

FAMILIA x

B	Laurentianus 85. 15
R	Vaticanus Reginensis Gr. 97
J	Parisinus Gr. 2082

FAMILIA y

U	Vaticanus Vrbinas Gr. 62
	Cizensis 63
S	Berolinensis Gr. 375
C	Monacensis Gr. 449
M	Marcianus Gr. 240

FAMILIA z

Q	Marcianus Gr. 242
L	Ambrosianus Gr. 667

FAMILIA D

D	Marcianus Gr. 209

Omnes editores	Consensus septem priorum editorum qui sunt Perna, Creuzer, Kirchhoff, Müller, Volkmann, Bréhier, Faggin.
H–S^{1}	*Plotini opera*, ed. P. Henry et H.-R. Schwyzer, editio maior, tomus I, 1951.
H–S^{2}	*Plotini opera*, ed. P. Henry et H.-R. Schwyzer, editio minor, tomus I, 1964.
H–S^{3}	addenda et corrigenda ad textum et apparatum lectionum, editio maior, tomus III, 1973.
H–S^{4}	addenda et corrigenda ad textum et apparatum lectionum, editio minor, tomus III, 1982.
H–S^{5}	corrigenda ad Plotini textum, H.-R. Schwyzer, Museum Helveticum 44 (1987), 191–210.

TEXT AND TRANSLATION

II 1 (40)

ΠΕΡΙ ΤΟΥ ΚΟΣΜΟΥ

1. *Τὸν κόσμον ἀεὶ λέγοντες καὶ πρόσθεν εἶναι καὶ ἔσεσθαι σῶμα ἔχοντα εἰ μὲν ἐπὶ τὴν βούλησιν τοῦ θεοῦ ἀνάγοιμεν τὴν αἰτίαν, πρῶτον μὲν ἀληθὲς μὲν ἂν ἴσως λέγοιμεν, σαφήνειαν δὲ οὐδεμίαν ἂν παρεχοίμεθα. ἔπειτα τῶν στοιχείων ἡ μεταβολὴ καὶ τῶν ζῴων τῶν περὶ γῆν ἡ φθορὰ τὸ εἶδος σῴζουσα μήποτε οὕτω καὶ ἐπὶ τοῦ παντὸς ἀξιώσει γίγνεσθαι ὡς τῆς βουλήσεως τοῦτο δυναμένης ἀεὶ ὑπεκφεύγοντος καὶ ῥέοντος τοῦ σώματος ἐπιτιθέναι τὸ εἶδος τὸ αὐτὸ ἄλλοτε ἄλλῳ, ὡς μὴ σῴζεσθαι τὸ ἓν ἀριθμῷ εἰς τὸ ἀεί, ἀλλὰ τὸ ἓν τῷ εἴδει· ἐπεὶ διὰ τί τὰ μὲν οὕτω κατὰ τὸ εἶδος μόνον τὸ ἀεὶ ἕξει, τὰ δ' ἐν οὐρανῷ καὶ αὐτὸς ὁ οὐρανὸς κατὰ τὸ τόδε ἕξει τὸ ἀεί; εἰ δὲ τῷ πάντα συνειληφέναι καὶ μὴ εἶναι εἰς ὃ τὴν μεταβολὴν ποιήσεται μηδέ τι ἔξωθεν ἂν προσπεσὸν φθεῖραι δύνασθαι τούτῳ δώσομεν τὴν αἰτίαν τῆς οὐ φθορᾶς, τῷ μὲν ὅλῳ καὶ παντὶ δώσομεν ἐκ τοῦ λόγου τὸ μὴ ἂν φθαρῆναι, ὁ δὲ ἥλιος ἡμῖν καὶ τῶν ἄλλων ἄστρων ἡ οὐσία τῷ μέρη καὶ μὴ ὅλον ἕκαστον εἶναι καὶ πᾶν, οὐχ ἕξει τὴν πίστιν παρὰ τοῦ λόγου, ὅτι εἰς ἅπαντα μένει τὸν χρόνον, τὸ δὲ κατ' εἶδος τὴν μονὴν αὐτοῖς εἶναι, ὥσπερ καὶ πυρὶ καὶ τοῖς τοιούτοις μόνον ἂν δόξειε παρεῖναι καὶ αὐτῷ δὲ παντὶ τῷ κόσμῳ. οὐδὲν γὰρ κωλύει ὑπ' ἄλλου ἔξωθεν μὴ φθειρόμενον, ὑπ' αὐτοῦ, τῶν μερῶν ἄλληλα φθειρόντων, τὴν φθορὰν ἀεὶ ἔχοντα,*

Enn. = w(= AE) x(= BJR) y(= USC) Q

1. 2 cf. Plat. *Tim.* 41 b 4 12–13 cf. ibid. 33 b 2–4

Tit. *περὶ τοῦ κόσμου Vita* 5. 47 et 24. 40 Philoponus Simplicius: *περὶ οὐρανοῦ Enn.* H–S$^{1\text{-}5}$ **1.** 2 *βούλησιν τοῦ θεοῦ* : *τοῦ θεοῦ βούλησιν* Q 3 *μὲν*^{2} wB^{s}yQ^{s} : om. B^{ac}RJQ^{ac} *ἂν ἴσως* transp. x 10 *ἓν* : *ἐν* Y 12 *τὸ τόδε* ERJU cf. 2. 2 et 4 : *τόδε* ABSCQ 14 *τι* F^{3mg} = Ficino H–S$^{3\text{-}5}$: *τὸ Enn.* H–S$^{1\text{-}2}$ 15 *οὐ φθορᾶς* : *συμφορᾶς* y 19 *πάντα* y *μενεῖ* Q 20 *αὐτὴν* A(*οἷς* A^{1s})E 22 *ἄλλων* y 22–3 *ὑπ' αὐτοῦ ab ipso* scil. mundo *τὴν* xyQ : *τὴν* et 3 litt. spatium E et prob. A^{ac} : *οὕτω τὴν* in ras. A$^{2\text{–}3}$

ON THE UNIVERSE

[1.1] When we say that the cosmos both has always existed in the past and will always exist in the future even though it has a body, if we refer the cause of its everlasting existence to the will of God, then first although we might perhaps be speaking the truth we would not be supplying any clarity. Second, the changing of the elements and the destruction of the living things on earth, which preserves their form [i.e. their species], will perhaps require this to happen in the case of the universe as well since the will of God is capable of this (even though body is always fleeing and flowing), namely, of placing the same form at one time in one thing and at another time in another so that while its unity in number is not preserved forever, its unity in form is. After all, why should some things possess only formal everlastingness, while the things in heaven and heaven itself will possess individual everlastingness?

[1.12] If we assign the cause of its not being destroyed to the universe's enveloping all things, and there being nothing into which the universe will make a change, and there not being anything exterior to the universe, which upon encountering the universe, could destroy it, then from this account we would be granting to the *whole*, i.e. the universe, that it would not be destroyed, but the sun and the substance of the other stars, by virtue of the fact that they are parts and none is a whole or universe, will not by this account possess the assurance that they will persist for all time, rather they will only possess the assurance that their permanence will be formal, just like fire and such seem to possess only this formal persistence. And even the entire cosmos itself will seem to have only formal persistence. For even if it is not destroyed by another thing exterior to itself, nothing prevents it from being destroyed by itself, persisting only in form, and constantly perishing while its parts destroy each other; i.e. if the nature of its substratum is constantly flowing and something else

τῷ εἴδει μόνον μένειν, καὶ ῥεούσης ἀεὶ τῆς φύσεως τοῦ ὑποκειμένου, τὸ εἶδος ἄλλου διδόντος, γίγνεσθαι τὸ αὐτὸ ἐπὶ τοῦ παντὸς ζῴου, ὅπερ καὶ ἐπὶ ἀνθρώπου καὶ ἵππου καὶ τῶν ἄλλων· ἀεὶ γὰρ ἄνθρωπος καὶ ἵππος, ἀλλ' οὐχ ὁ αὐτός. οὐ τοίνυν ἔσται τὸ μὲν μένον αὐτοῦ ἀεί, ὥσπερ ὁ οὐρανός, τὰ δὲ περὶ γῆν φθειρόμενα, ἀλλ' ὁμοίως ἅπαντα, τὴν διαφορὰν ἔχοντα μόνον τῷ χρόνῳ· ἔστω γὰρ πολυχρονιώτερα τὰ ἐν οὐρανῷ. εἰ μὲν οὖν οὕτω συγχωρησόμεθα τὸ ἀεὶ ἐπὶ τοῦ παντὸς καὶ ἐπὶ τῶν μερῶν εἶναι, ἧττον ἂν τὸ ἄπορον τῇ δόξῃ προσείη· μᾶλλον δὲ παντάπασιν ἔξω ἀπορίας ἂν γιγνοίμεθα, εἰ τὸ τῆς βουλήσεως τοῦ θεοῦ ἱκανὸν εἶναι δεικνύοιτο κἂν οὕτω καὶ τοῦτον τὸν τρόπον συνέχειν τὸ πᾶν. εἰ δὲ κατὰ τὸ τόδε τι αὐτοῦ ὁποσονοῦν λέγοιμεν ἔχειν τὸ ἀεί, ἥ τε βούλησις δεικτέα εἰ ἱκανὴ ποιεῖν τοῦτο, τό τε ἄπορον μένει διὰ τί τὰ μὲν οὕτω, τὰ δὲ οὐχ οὕτως, ἀλλὰ τῷ εἴδει μόνον, τά τε μέρη τὰ ἐν οὐρανῷ πῶς καὶ αὐτά· ἐπειδὴ οὕτω καὶ αὐτὰ τὰ πάντα εἶναι.

2. Εἰ οὖν ταύτην παραδεχόμεθα τὴν δόξαν καί φαμεν τὸν μὲν οὐρανὸν καὶ πάντα τὰ ἐν αὐτῷ κατὰ τὸ τόδε ἔχειν τὸ ἀεί, τὰ δὲ ὑπὸ τῇ τῆς σελήνης σφαίρᾳ τὸ κατ' εἶδος, δεικτέον πῶς σῶμα ἔχων ἕξει τὸ τόδε ἐπὶ τοῦ αὐτοῦ κυρίως, ὡς τὸ καθ' ἕκαστον καὶ τὸ ὡσαύτως, τῆς φύσεως τοῦ σώματος ῥεούσης ἀεί. τοῦτο γὰρ δοκεῖ τοῖς τε ἄλλοις τοῖς περὶ φύσεως εἰρηκόσι καὶ αὐτῷ τῷ Πλάτωνι οὐ μόνον περὶ τῶν ἄλλων σωμάτων, ἀλλὰ καὶ περὶ τῶν οὐρανίων αὐτῶν. πῶς γὰρ ἄν, φησι, σώματα ἔχοντα καὶ ὁρώμενα τὸ ἀπαραλλάκτως ἕξει καὶ τὸ ὡσαύτως; συγχωρῶν καὶ ἐπὶ τούτων δηλονότι τῷ Ἡρακλείτῳ, ὃς ἔφη ἀεὶ καὶ τὸν ἥλιον γίνεσθαι. Ἀριστοτέλει μὲν γὰρ οὐδὲν ἂν πρᾶγμα εἴη, εἴ τις αὐτοῦ τὰς ὑποθέσεις τοῦ πέμπτου παραδέξαιτο σώματος.

2. 9–10 = Plato *Resp.* 530 b 2–3 11 cf. Heraclit. *Fr.* B 6 = Aristot. *Meteor. B* 2. 355^{a}13–14, cf. Plat. *Resp.* 498 b 1 12–13 cf. Aristot. *De caelo A* 3. 270^{b}21–2

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1. 30 *μόνω* x 31 *συγχωρησαίμεθα* w 34 *γενοίμεθα* y *εἰ τὸ* : *ἀπὸ* y 35 *συνέχειν* wBRJ(*οι* J^{s})Q : *συνέχει* US : *συνέχοι* C 36 *κατὰ* H–S^{5} : *καὶ Enn.* H–S$^{1–4}$ *τὸ τόδε* ExUQ : *τόδε* ASC *ὁποσονοῦν* wxQ : *ὁποσοῦν* U : *ὁπωσοῦν* J^{γρmg}SC **2.** 1 *παραδεχοίμεθα* y 2 *τόδε* : *τόδε τι* y 4 *ἔχον* w 5 *καὶ* : *ὃ καὶ* Q 9 *σώματα Enn.* H–S$^{1–4}$: *σῶμα τε* H–S^{5} *ἔχοντα Enn.* Plato : *ὄντα* Philoponus, *De aeternitate mundi* xiii.15, p. 525.5 *τὸ* Philoponus ibidem : om. *Enn.* 11 *ἀεὶ καὶ τὸν ἥλιον Enn.* H–S$^{1–2}$: *ἀεὶ καινὸν ἥλιον* H–S$^{3–5}$: *ἀεὶ καινὸν τὸν* Holwerda 89, cf. Heraclit. *Fr.* B6

is providing its form, nothing prevents the same thing from happening with the universal living thing that happens in the case of man and horse, etc. For man and horse always exist, but not the same man or the same horse. Further, it will not be the case that one part of it [viz. of the whole living thing], i.e. the heaven, will always persist while the parts around the earth perish; rather, all things will behave similarly, and they will only differ with respect to the duration of their existence. For we can let the things in heaven be longer-lived.

[1.31] If, then, we end up agreeing that this is how everlastingness belongs to both the whole and the parts, the difficulty of this opinion would be diminished. Rather, we might get completely clear of the difficulty, if it might be shown that the will of God is sufficient to hold the universe together in this manner. But if we say that any part of it, no matter how small, possesses individual everlastingness, it must be shown that the will of God is sufficient to do this. Yet still the difficulty remains as to why some parts persist in this way, while others do not but persist only in form, and as to how the parts in the heaven for their part persist, since it would seem that the totality for its part too exists in that manner.

[2.1] If, then, we accept this opinion and say that the heaven and everything in it possess everlastingness individually, whereas the things below the lunar sphere possess everlastingness in form, we must show how the former things, even though they each have a body, will everlastingly possess individuality properly in what is the same, meaning that they will be particulars and the same despite the fact that the nature of body is always flowing. This seems right to certain other natural philosophers and in particular to Plato himself—not only for the other bodies, but even for the celestial bodies themselves. For how, Plato asks, could things which have bodies and are visible be undisturbed and the same? On these issues Plato clearly agrees with Heraclitus who said that even the sun is always coming to be.

[2.12] For Aristotle there would not really be any difficulty—if someone were to accept his hypotheses concerning the fifth body. But for those

τοῖς δὲ μὴ τοῦτο τιθεμένοις, τοῦ σώματος δὲ ἐκ τούτων ὄντος τοῦ οὐρανοῦ, ἐξ ὧνπερ καὶ τὰ τῇδε ζῷα, πῶς τὸ τόδε ἂν ἔχοι; ἔτι δὲ μᾶλλον πῶς ἥλιος καὶ τὰ ἄλλα τὰ ἐν τῷ οὐρανῷ μόρια ὄντα; συγκειμένου δὴ παντὸς ζῴου ἐκ ψυχῆς καὶ τῆς σώματος φύσεως ἀνάγκη τὸν οὐρανόν, εἴπερ ἀεὶ κατ' ἀριθμὸν ἔσται, ἢ δι' ἅμφω ἔσεσθαι, ἢ διὰ θάτερον τῶν ἐνόντων, οἷον ψυχὴν ἢ σῶμα. ὁ μὲν δὴ τῷ σώματι διδοὺς τὸ ἄφθαρτον οὐδὲν ἂν εἰς τοῦτο τῆς ψυχῆς δέοιτο ἢ τοῦ ὁμοῦ ἀεὶ εἶναι πρὸς ζῴου σύστασιν· τῷ δὲ τὸ σῶμα παρ' αὐτοῦ φθαρτὸν εἶναι λέγοντι καὶ τῇ ψυχῇ διδόντι τὴν αἰτίαν πειρατέον καὶ τὴν τοῦ σώματος ἕξιν μηδ' αὐτὴν ἐναντιουμένην τῇ συστάσει καὶ τῇ διαμονῇ δεικνύναι, ὅτι μηδὲν ἀσύμφωνον ἐν τοῖς συνεστηκόσιν ἐστὶ κατὰ φύσιν, ἀλλὰ πρόσφορον καὶ τὴν ὕλην πρὸς τὸ βούλημα τοῦ ἀποτελέσαντος ὑπάρχειν προσήκει.

3. Πῶς οὖν ἡ ὕλη καὶ τὸ σῶμα τοῦ παντὸς συνεργὸν ἂν εἴη πρὸς τὴν τοῦ κόσμου ἀθανασίαν ἀεὶ ῥέον; ἢ ὅτι, φαῖμεν ἄν, ⟨ῥεῖ ἐν αὐτῷ·⟩ ῥεῖ γὰρ οὐκ ἔξω. εἰ οὖν ἐν αὐτῷ καὶ οὐκ ἀπ' αὐτοῦ, μένον τὸ αὐτὸ οὔτ' ἂν αὔξοιτο οὔτε φθίνοι· οὐ τοίνυν οὐδὲ γηράσκει. ὁρᾶν δὲ δεῖ καὶ γῆν μένουσαν ἀεὶ ἐν σχήματι τῷ αὐτῷ ἐξ ἀιδίου καὶ ὄγκῳ, καὶ ἀὴρ οὐ μήποτε ἐπιλείπῃ οὐδὲ ἡ ὕδατος φύσις· καὶ τοίνυν ὅσον μεταβάλλει αὐτῶν οὐκ ἠλλοίωσε τὴν τοῦ ὅλου ζῴου φύσιν. καὶ γὰρ ἡμῖν ἀεὶ μεταβαλλόντων μορίων καὶ εἰς τὸ ἔξω ἀπιόντων μένει ἕκαστος εἰς πολύ· ᾧ δὲ ἔξω μηδέν, οὐκ ἀσύμφωνος ἂν τούτων ἡ σώματος φύσις πρὸς ψυχὴν πρὸς τὸ τὸ αὐτὸ εἶναι ζῷον καὶ ἀεὶ μένον. πῦρ δὲ ὀξὺ μὲν καὶ ταχὺ τῷ μὴ ὧδε μένειν, ὥσπερ καὶ γῇ τῷ μὴ ἄνω· γενόμενον δὲ ἐκεῖ, οὗ στῆναι δεῖ, οὕτοι δεῖν νομίζειν οὕτως ἔχειν ἐν τῷ οἰκείῳ ἱδρυμένον, ὡς μὴ καὶ αὐτὸ ὥσπερ καὶ τὰ ἄλλα στάσιν ἐπ' ἄμφω ζητεῖν. ἀνωτέρω μὲν γὰρ οὐκ ἂν φέροιτο· οὐδὲν γὰρ ἔτι· κάτω δ' οὐ πέφυκε. λείπεται δὲ αὐτῷ εὐαγώγῳ τε εἶναι καὶ κατὰ

2. 15 τὸ om. Q 16 ἄλλα τὰ A^{1mg}xQ : om. wy 17 παντὸς : τοῦ παντὸς Q 18 τῆς wBRJ^{s}Q : om. Jy 22 δέοιτο ἢ H–$S^{3–5}$ (ἢ = *vel*) : δέοιτο, ἢ H–$S^{1–2}$ (ἢ = *nisi*) 27 ἀλλὰ : ἀλλὰ καὶ y 28 ἀποτελέσαντος coniecimus : ἀποτελέσματος *Enn.* **3.** 3 ⟨ῥεῖ ἐν αὐτῷ·⟩ ῥεῖ coniecimus 5 γηράσκει wU (ο U^{s})S (οι S^{s})Q : γηράσκοι xC 11 τούτων A^{ac}(ν eras.)EBRJ(ω J^{2s})yQ pluralis post ᾧ indefinitum : τούτῳ Perna 13 γῇ ⟨δυσκίνητος καὶ στερεὰ⟩ Igal, *Helmantica* 28, 1977, 244, sed δυσκίνητος et στερεὰ vel ἑδραία subintellegi potest 14 δεῖν A^{ac}(ν eras.)EBJy : δεῖ RQ

who do not posit this, since the body of the heaven must be composed out of the same elements that the living things down here are composed of, how could the heaven possess individual permanence? And this question becomes even more imperative for the sun and the other bodies in the heaven since they are parts.

[2.17] Since every living thing is composed of soul and the nature of body, if the heaven is to persist numerically forever, it must do so either through both of the things within it [viz. body *and* soul] or through one or the other of them, viz. through soul *or* body.

[2.20] Whoever grants the quality of being indestructible to body would not require the soul for this purpose, *except that* it would always have to be together with soul in order to constitute a living thing. But whoever says that body is *per se* destructible and confers the cause of everlasting numerical persistence to the soul, must try to show that the state of body is not itself opposed to the constitution and persistence, and that there is naturally no discord in these composite substances, and that even the matter is appropriately agreeable to the will of Him who has produced the composite.

[3.1] How, then, might the matter and body of the universe co-operate towards the immortality of the cosmos even though they are constantly flowing? We could answer that it is because the body of the universe only ⟨flows internally⟩; for it does not flow out of the universe. If, then, it flows internally and not away from itself, it, remaining the same, could neither increase nor decrease. Therefore, it could not grow old, either.

[3.5] One must observe that even the earth has always from all time remained the same in figure and bulk. Air, too, never runs out. Nor does the nature of water. And further, however much elemental change goes on in these ensembles, it has not transformed the nature of the universal living thing. For our parts, too, are always changing and flowing away into what is exterior, yet each of us persists [numerically] for a long time. But for that which suffers no external flux, the nature of its body would not be discordant towards its soul, as far as its being the same living thing and always persisting is concerned.

[3.13] Fire is swift and quick because it does not remain down here, just as earth [is immobile and plastic] because it does not remain above. But when fire has come to be there—where it must stop—one must not think that it, when seated in its proper place, is not such as to seek position in both directions, as is the case with the other elements. But since fire could not move higher (because there is no place left) and fire is not of a nature to move down, it remains for fire to be easily led, drawn by soul

φυσικὴν ὁλκὴν ἑλκομένῳ ὑπὸ ψυχῆς πρὸς τὸ ζῆν εὖ μάλα ἐν καλῷ τόπῳ κινεῖσθαι ἐν τῇ ψυχῇ. καὶ γάρ, εἴ τῳ φόβος μὴ πέσῃ, θαρρεῖν δεῖ· φθάνει γὰρ ἡ τῆς ψυχῆς περιαγωγὴ πᾶσαν νεῦσιν, ὡς κρατοῦσαν ἀνέχειν. εἰ δὲ μηδὲ ῥοπὴν πρὸς τὸ κάτω ἔχει παρ' αὐτοῦ, οὐκ ἀντιτεῖνον μένει. τὰ μὲν οὖν ἡμέτερα μέρη ἐν μορφῇ γενόμενα οὐ στέγοντα αὐτῶν τὴν σύστασιν ἀπαιτεῖ ἀπ' ἄλλων μόρια, ἵνα μένοι· εἰ δ' ἐκεῖθεν μὴ ἀπορρέοι, οὐδὲν δεῖ τρέφεσθαι. εἰ δὲ ἀπορρέοι ἀποσβεννύμενον ἐκεῖθεν, πῦρ δεῖ ἕτερον ἐξάπτεσθαι καί, εἰ ἄλλου τινὸς ἔχοι καὶ ἐκεῖθεν ἀπορρέοι, δεῖ καὶ ἀντ' ἐκείνου ἄλλου. ἀλλὰ διὰ τοῦτο οὐ μένοι ἂν τὸ πᾶν ζῷον τὸ αὐτό, εἰ καὶ οὕτως.

4. Ἀλλ' αὐτό γε ἐφ' ἑαυτοῦ, οὐχ ὡς πρὸς τὸ ζητούμενον, σκεπτέον εἴτε τι ἀπορρεῖ ἐκεῖθεν, ὥστε δεῖσθαι κἀκεῖνα τῆς λεγομένης οὐ κυρίως τροφῆς, ἢ ἅπαξ τὰ ἐκεῖ ταχθέντα κατὰ φύσιν μένοντα οὐδεμίαν πάσχει ἀπορροήν· καὶ πότερον πῦρ μόνον ἢ πλέον τὸ πῦρ καὶ ἔστι τοῖς ἄλλοις αἰωρεῖσθαι καὶ μετεωρίζεσθαι ὑπὸ τοῦ κρατοῦντος. εἰ γάρ τις προσθείη καὶ τὴν κυριωτάτην αἰτίαν, τὴν ψυχήν, μετὰ τῶν οὕτω σωμάτων καθαρῶν καὶ πάντως ἀμεινόνων – ἐπεὶ καὶ ἐν τοῖς ἄλλοις ζῴοις ἐν τοῖς κυρίοις αὐτῶν τὰ ἀμείνω ἐκλέγεται ἡ φύσις—πάγιον ἂν τὴν δόξαν περὶ τοῦ οὐρανοῦ τῆς ἀθανασίας λάβοι. ὀρθῶς γὰρ καὶ Ἀριστοτέλης τὴν φλόγα 'ζέσιν' τινὰ καὶ πῦρ οἷον διὰ κόρον ὑβρίζον· τὸ δὲ ἐκεῖ ὁμαλὸν καὶ ἠρεμαῖον καὶ τῇ τῶν ἄστρων πρόσφορον φύσει. τὸ δὲ δὴ μέγιστον, τὴν ψυχὴν ἐφεξῆς τοῖς ἀρίστοις κινουμένην δυνάμει θαυμαστῇ κειμένην, πῶς ἐκφεύξεταί τι αὐτὴν εἰς τὸ μὴ εἶναι τῶν ἅπαξ ἐν αὐτῇ τεθέντων; μὴ παντὸς δὲ δεσμοῦ οἴεσθαι κρείττονα εἶναι ἐκ θεοῦ ὡρμημένην, ἀνθρώπων ἀπείρων ἐστὶν αἰτίας τῆς συνεχούσης τὰ πάντα. ἄτοπον γὰρ τὴν καὶ ὁποσονοῦν χρόνον δυνηθεῖσαν συνέχειν μὴ καὶ ἀεὶ ποιεῖν τοῦτο, ὥσπερ βίᾳ τοῦ συνέχειν γεγονότος

4. 11 cf. Aristot. *Meteor. A* 3. 340^{b}23 et *A* 4. 341^{b}22 31 cf. II. 9. 9. 17–18 et II. 9. 6. 2–3

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3. 20 *ἐν τῇ ψυχῇ Enn.* (*τῇ* om. y) H–S$^{1–2}$: [*ἐν τῇ ψυχῇ*] Müller H–S$^{3–5}$ 24 *στέργοντα* y 25 *μένοι* xyQ^{ac} : *μένῃ* AE(*οι* E^{s})Q^{pc}(*η* in ras.) **4.** 1 *ἀλλ'* : *καὶ* y 10 *πάγιον* : *πάλιν* Q 14 *δὴ* : *μὴ* US : om. C 14–15 *κινουμένην δυνάμει θαυμαστῇ κειμένην* A^{ac} (*κινουμένην* eras.) EBRJ(ad *κειμένην* in mg. *κινουμένην* J^{ym})USQ H–S$^{1–2}$: *κινουμένην* C : *κειμένην δυνάμει θαυμαστῇ κινουμένην* Creuzer H–S$^{3–5}$

in accordance with a natural attraction to a very good life in a noble place and to move in soul.

[3.20] For even if one is afraid that the celestial fire might descend, he should be confident that this will not happen. For the revolution of the soul outstrips any downward tendency, so that the soul masters the celestial fire and keeps it up on high. And if celestial fire does not *per se* have any inclination downward, it will remain in the heavens without resisting.

[3.23] Now, once our members have been formed, they demand parts from other things in order to persist because they do not sustain their constitution. But if the celestial fire does not flow out from the heaven, the heaven will not require any nourishment.

[3.26] If, however, celestial fire does flow out from the heaven by being extinguished, some other fire must be ignited. And if the heaven partakes of some other element and this flows out from heaven, another element of the same sort is required in place of that one. But because of this the universal living thing would not remain [numerically] the same, even if this is how things were.

[4.1] But we should still consider this question all by itself and not in relation to what is still under examination: Does anything flow out from heaven so that even the celestial things would require 'nourishment' (though this is not strictly speaking nourishment), or is it rather that the things that once for all have been ordained to be there remain there naturally and suffer no external flux? And, is the heaven solely fire or mostly fire? I.e., is it possible for the other elements to be mastered by the World-Soul and born up and suspended in heaven by it?

[4.6] Now, if one would add the most sovereign cause, the soul, along with the bodies which are so pure and thoroughly better (since even in other living things nature selects the better bodies for their sovereign parts), one would obtain a solid opinion about the immortality of heaven. For even Aristotle correctly defines flame to be a sort of 'boiling' and a fire that, as it were, runs wild because of its excessiveness, whereas the fire in heaven is uniform and gentle and suitable to the nature of the stars.

[4.14] But the greatest argument is this: seeing that in heaven the soul moves next to the best things and is situated with a marvellous power, how will any of the things that were once placed in it escape from it into non-being?

[4.16] [And regarding the universe,] to think that the World-Soul, having proceeded from a god, is not stronger than every bond is a notion of men who are ignorant of the cause that holds all things together. For it

καὶ τοῦ κατὰ φύσιν ἄλλου ἢ τούτου ὄντος, ὃ ἐν τῇ τοῦ παντός ἐστι φύσει καὶ ἐν τοῖς καλῶς τεθεῖσιν, ἢ ὄντος τινὸς τοῦ βιασομένου καὶ διαλύσοντος τὴν σύστασιν καὶ οἷον βασιλείας τινὸς καὶ ἀρχῆς καταλύσοντος τὴν ψυχῆς φύσιν. τό τε μήποτε ἄρξασθαι—ἄτοπον γὰρ καὶ ἤδη εἴρηται—πίστιν καὶ περὶ τοῦ μέλλοντος ἔχει. διὰ τί γὰρ ἔσται, ὅτε καὶ οὐκ ἦδη; οὐ γὰρ ἐκτέτριπται τὰ στοιχεῖα, ὥσπερ ξύλα καὶ τὰ τοιαῦτα· μενόντων δ' ἀεὶ καὶ τὸ πᾶν μένει. καὶ εἰ μεταβάλλει ἀεί, τὸ πᾶν μένει· μένει γὰρ καὶ ἡ τῆς μεταβολῆς αἰτία. ἡ δὲ μετάνοια τῆς ψυχῆς ὅτι κενόν ἐστι δέδεικται, ὅτι ἄπονος καὶ ἀβλαβὴς ἡ διοίκησις· καὶ εἰ πᾶν οἷόν τε σῶμα ἀπολέσθαι, οὐδὲν ἂν ἀλλοιότερον αὐτῇ γίγνοιτο.

5. Πῶς οὖν τὰ ἐκεῖ μέρη μένει, τὰ δ' ἐνταῦθα στοιχεῖα τε καὶ ζῷα οὐ μένει; ἦ, φησὶν ὁ Πλάτων, τὰ μὲν παρὰ θεοῦ γεγένηται, τὰ δ' ἐνταῦθα ζῷα παρὰ τῶν γενομένων παρ' αὐτοῦ θεῶν· γενόμενα δὲ παρ' ἐκείνου οὐ θεμιτὸν φθείρεσθαι. τοῦτο δὲ ταὐτὸν τῷ ἐφεξῆς μὲν τῷ δημιουργῷ εἶναι τὴν ψυχὴν τὴν οὐρανίαν, καὶ τὰς ἡμετέρας δέ· ἀπὸ δὲ τῆς οὐρανίας ἴνδαλμα αὐτῆς ἰὸν καὶ οἷον ἀπορρέον ἀπὸ τῶν ἄνω τὰ ἐπὶ γῆς ζῷα ποιεῖν. ψυχῆς οὖν μιμουμένης τοιαύτης τὴν ἐκεῖ, ἀδυνατούσης δὲ τῷ καὶ χείροσι σώμασι χρῆσθαι πρὸς τὴν ποίησιν καὶ ἐν τόπῳ χείρονι καὶ τῶν εἰς τὴν σύστασιν ληφθέντων οὐκ ἐθελόντων μένειν, τά τε ζῷα ἐνταῦθα οὐκ ἀεὶ δύναται μένειν, τά τε σώματα οὐχ ὁμοίως κρατοῖτο ἄν, ὡς ἂν ἄλλης ψυχῆς αὐτῶν προσεχῶς ἀρχούσης. τὸν δὲ ὅλον οὐρανὸν εἴπερ ἔδει μένειν, καὶ τὰ μόρια αὐτοῦ, τὰ ἄστρα τὰ ἐν αὐτῷ, ἔδει· ἢ πῶς ἂν ἔμεινε μὴ ὁμοίως καὶ τούτων μενόντων; τὰ γὰρ ὑπὸ τὸν οὐρανὸν οὐκέτι οὐρανοῦ μέρη· ἢ οὐ μέχρι σελήνης ὁ οὐρανός. ἡμεῖς δὲ πλασθέντες ὑπὸ τῆς διδομένης παρὰ τῶν ἐν οὐρανῷ θεῶν ψυχῆς καὶ αὐτοῦ τοῦ οὐρανοῦ κατ' ἐκείνην καὶ σύνεσμεν τοῖς σώμασιν· ἡ γὰρ ἄλλη ψυχή, καθ' ἣν ἡμεῖς, τοῦ εὖ εἶναι, οὐ τοῦ εἶναι αἰτία. ἤδη γοῦν τοῦ σώματος ἔρχεται γενομένου μικρὰ ἐκ λογισμοῦ πρὸς τὸ εἶναι συλλαμβανομένη.

5. 2–4 cf. Plat. *Tim.* 69 c 3–5 4–5 cf. ibid. 41 a 7–8

4. 29 ἀεί : ἀεὶ καὶ w **5.** 18 ὑπὸ : παρὰ A(ὑπὸ A^{1s})E 23 συλλαμβανομένη xyQ H–$S^{3–5}$: συνεκλαμβανομένη w H–$S^{1–2}$

would be strange if the World-Soul could hold all things together for any time at all—however short—and did not do so for ever, as if their being held together came about by force and the natural state of affairs were different from this one that now obtains both in the nature of the universe and in the things that have been nobly placed, or as if there were something that would overpower the universe and dissolve its constitution—disbanding the nature of the soul as if from some kingship or rule.

[4.25] And the fact that the universe never had a beginning (for its having a beginning was already said to be bizarre) gives assurance concerning its future. For why should there be a time when the universe no longer exists? For the elements do not wear out like wood and such. And if the elements persist, the universe persists. Even if the sublunar elements are constantly changing into one another, the universe persists; for the *cause* of elemental change perists.

[4.30] And it has been shown that it is empty to suppose that this soul changes its mind, since its administration of the universe is without toil or harm. Even if it were possible for all body to perish, nothing would be much different for this soul.

[5.1] How is it, then, that the *parts* in heaven persist [everlastingly and numerically], whereas the elements and living things down here do not? Plato says that the former have come into being from God, whereas the living things down here have come into being from the gods who have in turn come into being from Him. And he says that it is not allowed for the things that come into being from Him to perish. But this is just to say that next to the Demiurge is the celestial soul, and our souls, too, and that from the celestial soul an image of it goes forth, flowing out, as it were, from the things on high, and makes the living things on earth. And since this sort of soul [*viz.* the image] imitates the celestial soul but lacks power (because it uses worse bodies for its making and is in a worse place while the elements that it has received for composition are not willing to persist), the living things down here are not able to persist for ever [numerically] and the sublunar bodies are not mastered in the same way they would be if another soul ruled over them directly.

[5.14] Since it is necessary for the entire heaven to persist [everlastingly], it is also necessary for its parts, the stars in it, to persist [everlastingly]. How else could the heaven persist if these parts did not persist in the same way? For the things beneath the heaven are no longer parts of heaven. Or else the heaven would not extend only as far as the moon.

[5.18] We, however, have been forged by the soul dispensed from the gods in heaven and from heaven itself. This is the soul by which we are

6. *Ἀλλὰ πότερον πῦρ μόνον καὶ εἰ ἀπορρεῖ ἐκεῖθεν καὶ δεῖται τροφῆς νῦν σκεπτέον. τῷ μὲν οὖν Τιμαίῳ τὸ τοῦ παντὸς σῶμα πεποιηκότι πρῶτον ἐκ γῆς καὶ πυρός, ἵνα ὁρατόν τε ᾖ διὰ τὸ πῦρ, στερρὸν δὲ διὰ τὴν γῆν, ἀκολουθεῖν ἔδοξε καὶ τὰ ἄστρα ποιεῖν οὐ πᾶν, ἀλλὰ τὸ πλεῖστον πυρὸς ἔχειν, ἐπειδὴ τὰ ἄστρα τὸ στερεὸν φαίνεται ἔχοντα. καὶ ἴσως ὀρθῶς ἂν ἔχοι συνεπικρίναντος καὶ Πλάτωνος τῷ εἰκότι τὴν γνώμην ταύτην. παρὰ μὲν γὰρ τῆς αἰσθήσεως κατά τε τὴν ὄψιν κατά τε τὴν τῆς ἁφῆς ἀντίληψιν πυρὸς ἔχειν τὸ πλεῖστον ἢ τὸ πᾶν φαίνεται, διὰ δὲ τοῦ λόγου ἐπισκοποῦσιν, εἰ τὸ στερεὸν ἄνευ γῆς οὐκ ἂν γένοιτο, καὶ γῆς ἂν ἔχοι. ὕδατος δὲ καὶ ἀέρος τί ἂν δέοιτο; ἄτοπόν τε γὰρ δόξει ὕδατος εἶναι ἐν τοσούτῳ πυρί, ὅ τε ἀὴρ εἰ ἐνείη μεταβάλλοι ἂν εἰς πυρὸς φύσιν. ἀλλ' εἰ δύο στερεὰ ἄκρων λόγον ἔχοντα δύο μέσων δεῖται, ἀπορήσειεν ἄν τις, εἰ καὶ ἐν φυσικοῖς οὕτως· ἐπεὶ καὶ γῆν ἄν τις ὕδατι μίξειεν οὐδενὸς δεηθεὶς μέσου. εἰ δὲ λέγοιμεν· ἐνυπάρχει γὰρ ἤδη ἐν τῇ γῇ καὶ τῷ ὕδατι καὶ τὰ ἄλλα, δόξομεν ἴσως τι λέγειν· εἴποι δ' ἄν τις· ἀλλ' οὐ πρὸς τὸ συνδῆσαι συνιόντα τὰ δύο. ἀλλ' ὅμως ἐροῦμεν ἤδη συνδεῖσθαι τῷ ἔχειν ἑκάτερον πάντα. ἀλλ' ἐπισκεπτέον, εἰ ἄνευ πυρὸς οὐχ ὁρατὸν γῆ, καὶ ἄνευ γῆς οὐ στερεὸν πῦρ· εἰ γὰρ τοῦτο, τάχ' ἂν οὐδὲν ἔχοι ἐφ' ἑαυτοῦ τὴν αὐτοῦ οὐσίαν, ἀλλὰ πάντα μὲν μέμικται, λέγεται δὲ κατὰ τὸ ἐπικρατοῦν ἕκαστον. ἐπεὶ οὐδὲ τὴν γῆν ἄνευ ὑγροῦ φασι συστῆναι δύνασθαι· κόλλαν γὰρ εἶναι τῇ γῇ τὴν ὕδατος ὑγρότητα. ἀλλ' εἰ καὶ δώσομεν οὕτως, ἀλλὰ ἕκαστόν γε ἄτοπον λέγοντα εἶναί τι ἐφ' ἑαυτοῦ μὲν μὴ διδόναι σύστασιν αὐτῷ, μετὰ δὲ τῶν ἄλλων ὁμοῦ, οὐδενὸς ἑκάστου ὄντος. πῶς γὰρ ἂν εἴη γῆς φύσις καὶ τὸ τί ἦν εἶναι γῇ μηδενὸς ὄντος μορίου γῆς ὃ γῆ ἐστιν, εἰ μὴ καὶ ὕδωρ ἐνείη εἰς κόλλησιν; τί δ' ἂν κολλήσειε μὴ ὄντος*

6. 2–4 cf. Plat. *Tim.* 31 b 4–8 5–6 cf. ibid. 40 a 2–3 7–8 cf. ibid. 30 b 7 14–15 cf. ibid. 32 b 2–3 25–6 cf. Plut *De primo frigido* 16. 952b

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6. 11 *εἰ* wJ$^{1-2}$(in ras.)yQ : *εἰς* B^{ac}(*ς* cancell.)RJ^{ac} 12 *δέοιτο* : *γένοιτο* A(*δέοιτο* A^{1s})E 13 *τε*^{1} A^{1s} om. w *εἰ* om. y 15 *λόγου* y 16 *ὕδατι* om. Q 18 *καὶ*^{2} y : om. wxQ 22 *γῆ* : *ἡ γῆ* Q 28 *διδόναι* : *διδόναι δὲ* Q *αὐτοῦ* Q 30 *γῆ ἐστιν* : *ἐστι γῇ* Q
6. 31 *τί—κολλήσειε* om. y

joined to our bodies. For the other soul, by which we are ourselves, is not the cause of our *being* but of our *well-being*. At any rate, it is only when the body has already come to be, that the higher soul, by using reason, comes to contribute a little to its being.

[6.1] But now we should examine whether only fire exists in heaven, whether anything flows out from heaven and whether the heaven requires nourishment.

[6.2] It seems to follow from Timaeus' first having made the body of the universe out of earth and fire so that it will be visible due to the fire and solid due to the earth, that he also makes the stars not completely but mostly of fire, since the stars obviously possess solidity. And Timaeus might, perhaps, be right, since Plato also judges this opinion to be likely. For perception, both by sight and by the apprehension that belongs to touch, makes it evident that most or all of the heaven is made of fire, and to those who consider the heaven through reason, if there could be no solidity without earth, the heaven should be made of earth, too.

[6.12] But why would the heaven require water and air? For it would seem strange for any water to exist in so much fire; and as for air, if it should exist in so much fire it would change into the nature of fire. But even if two mathematical solids that have the feature of being extremes do require two intermediates, one might doubt whether this is also the case with physical solids, since one could mix earth with water without requiring any intermediate.

[6.17] If we answer that one can mix earth with water because the other elements are already present in earth and water, perhaps we might be onto something. But someone could respond that the other elements are not present in earth and water in order to bind the two [*viz.* earth and water] together when they meet. But all the same let us say that because each of them contains all the elements the earth and water are now bound.

[6.21] But we must consider whether earth is not visible without fire, and whether fire is not solid without earth. For if this is the case, none of them will have its being by itself; rather, they will all be mixed and will be named according to whichever element predominates. For they say that not even earth can exist without moisture because the moistness of water is a cohesive agent for earth. But even if we grant that this is the case [*viz.* that there are no pure samples of the elements], it is odd for one to say that the individual element is something, and yet not grant it any existence by itself, but only grant it existence when it is together with the other elements as if the individual element itself were nothing. For how could there be any nature or essence of earth if no particle of earth exists which

ὅλως μεγέθους, ὃ πρὸς ἄλλο μόριον συνεχὲς συνάψει; εἰ γὰρ καὶ ὁτιοῦν μέγεθος γῆς αὐτῆς ἔσται, ἔσται γῆν φύσει καὶ ἄνευ ὕδατος εἶναι· ἤ, εἰ μὴ τοῦτο, οὐδὲν ἔσται, ὃ κολλήσεται ὑπὸ τοῦ ὕδατος. ἀέρος δὲ τί ἂν δέοιτο γῆς ὄγκος πρὸς τὸ εἶναι ἔτι ἀέρος μένοντος πρὶν μεταβάλλειν; περὶ δὲ πυρὸς εἰς μὲν τὸ γῆ εἶναι οὐκ εἴρηται, εἰς δὲ τὸ ὁρατὴ εἶναι καὶ αὐτὴ καὶ τὰ ἄλλα· εὔλογον μὲν γὰρ συγχωρεῖν παρὰ φωτὸς τὸ ὁρᾶσθαι γίνεσθαι. οὐ γὰρ δὴ τὸ σκότος ὁρᾶσθαι, ἀλλὰ μὴ ὁρᾶσθαι φατέον, ὥσπερ τὴν ἀψοφίαν μὴ ἀκούεσθαι. ἀλλὰ πῦρ γε ἐν αὐτῇ οὐκ ἀνάγκη παρεῖναι· φῶς γὰρ ἀρκεῖ. χιὼν γοῦν καὶ τὰ ψυχρότατα πολλὰ λαμπρὰ πυρὸς ἄνευ. ἀλλ' ἐνεγένετο, φήσει τις, καὶ ἔχρωσε πρὶν ἀπελθεῖν. καὶ περὶ ὕδατος δὲ ἀπορητέον, εἰ μὴ ἔστιν ὕδωρ, εἰ μὴ γῆς λάβοι. ἀὴρ δὲ πῶς ἂν λέγοιτο μετέχειν γῆς εὔθρυπτος ὤν; περὶ δὲ πυρός, εἰ γῆς δεῖ αὐτῷ τὸ συνεχὲς παρ' αὐτοῦ οὐκ ἔχοντι οὐδὲ τὸ διαστατὸν τριχῇ. ἡ δὲ στερεότης αὐτῷ, οὐ κατὰ τὴν διάστασιν τὴν τριχῇ, ἀλλὰ κατὰ τὴν ἀντέρεισιν δηλονότι, διὰ τί οὐκ ἔσται ᾗ φυσικὸν σῶμα; σκληρότης δὲ γῇ μόνῃ. ἐπεὶ καὶ τὸ πυκνὸν τῷ χρυσῷ ὕδατι ὄντι προσγίνεται οὐ γῆς προσγενομένης, ἀλλὰ πυκνότητος ἢ πήξεως. καὶ πῦρ δὲ ἐφ' αὑτοῦ διὰ τί ψυχῆς παρούσης οὐ συστήσεται πρὸς τὴν δύναμιν αὐτῆς; καὶ ζῷα δὲ πύρινά ἐστι δαιμόνων. ἀλλὰ κινήσομεν τὸ πᾶν ζῷον ἐκ πάντων τὴν σύστασιν ἔχειν. ἢ τὰ ἐπὶ γῆς τις ἐρεῖ, γῆν δὲ εἰς τὸν οὐρανὸν αἴρειν παρὰ φύσιν εἶναι καὶ ἐναντίον τοῖς ὑπ' αὐτῆς τεταγμένοις· συμπεριάγειν δὲ τὴν ταχίστην φορὰν γεηρὰ σώματα οὐ πιθανὸν εἶναι ἐμπόδιόν τε καὶ πρὸς τὸ φανὸν καὶ λευκὸν τοῦ ἐκεῖ πυρός.

7. Ἴσως οὖν βέλτιον χρὴ ἀκούειν τοῦ Πλάτωνος λέγοντος ἐν μὲν τῷ παντὶ κόσμῳ δεῖν εἶναι τὸ τοιοῦτον στερεόν, τὸ ἀντίτυπον ὄν, ἵνα τε ἡ γῆ ἐν μέσῳ ἱδρυμένη ἐπιβάθρα καὶ τοῖς ἐπ' αὐτῆς βεβηκόσιν ἑδραία ᾖ, τά

6. 38 cf. Plat. *Tim.* 31 b 5 51 cf. ibid. 59 b 1–4; Aristot. *Meteor. Δ* 10. 389ª7–9 **7.** 2–3 cf. Plat. *Tim.* 31 b 5–6 3–4 cf. Tim. Locr. 97 d–e

33 αὐτὴ A(acc. mut. et ς add. A^{1s})E 38 αὐτὴ : αὐτὸ w 44 ἀπελθεῖν *Enn.* H–$S^{1–5}$: ἀπελθεῖν. ⟨ἢ ἀπώλεσεν ἂν πρὶν ἀπελθεῖν.⟩ Igal, *Helmantica 28*, 1977, 246 50 ἢ JyQ : ἤ BR : ἤ w 54 κινήσωμεν AE(ο E^{s}) 55 τὸ coniungendum cum ἔχειν **7.** 4 αὐτῆς RJy : αὐτοῖς A^{ac}(οι in η mut.)EBQ^{ac} (οι in η mut.) 4–5 βεβηκόσιν—αὐτῆς om. y

is earth without water being present as a binding agent? What would the water bind if there is absolutely no quantity of earth for it to attach to another neighbouring particle? For if there is any quantity of earth itself, it will be possible for earth to exist by nature even without water. And if this is not the case, there will be nothing for water to bind. And why would a piece of earth need air in order to exist—air that keeps on being air before changing? Concerning fire, it was not claimed to be necessary in order for earth to exist, but rather in order for both earth and the other elements to be visible. Surely it is reasonable to agree that visibility is achieved by light. For clearly it is not the case that darkness is visible; rather one must say that it is invisible, just as noiselessness is inaudible. Fire, however, need not be present in it. For light is sufficient. Snow, in any case, and many other quite cold things are bright without fire. But it *was* in it, someone will say, and coloured it prior to its departure. And further one should be puzzled about water, too, whether nothing is water unless it partakes of earth. And how could one say that air, which is easily dispersed, partakes in earth? And what about fire? Does it require earth as if it were neither *per se* continuous nor extended in three directions? And why wouldn't solidity—not in terms of extension in three directions—rather, clearly in terms of resistance—belong to it simply *qua* natural body? It is rather hardness that belongs to earth alone. For even the density of gold, being water, is increased—not by adding earth—but by density or freezing. And when soul is present, why shouldn't fire all by itself gain a solid constitution by the power of soul? After all, there are even fiery living things among the daimons. Of course, we will upset the belief that every living thing is constituted by *all* of the elements. One could say that the terrestrial living things are constituted by all elements, but that to raise earth up into heaven is unnatural and contrary to what nature has ordained; and that for the swiftest revolution to carry along earthy bodies is both implausible and a hindrance to the brightness and whiteness of the superlunar fire.

[7.1] Perhaps, then, one must listen more carefully to Plato; he says: in the cosmos as a whole there must be this kind of solidity, i.e. resistance, in order that the earth, being seated at the centre, may be a solid foundation for the things that stand upon her, and that the living things upon

τε ζῷα τὰ ἐπ᾽ αὐτῆς ἐξ ἀνάγκης τὸ τοιοῦτον στερεὸν ἔχῃ, ἡ δὲ γῆ τὸ μὲν εἶναι συνεχὴς καὶ παρ᾽ αὐτῆς ἔχοι, ἐπιλάμποιτο δὲ ὑπὸ πυρός· μετέχειν δὲ ὕδατος πρὸς τὸ ⟨τὸ⟩ μὴ αὐχμηρὸν ἔχειν τε καὶ μερῶν πρὸς μέρη μὴ κωλύεσθαι συναγωγήν· ἀέρα δὲ κουφίζειν γῆς ὄγκους· μεμίχθαι δὲ τῷ ἄνω πυρὶ οὐκ ἐν τῇ συστάσει τῶν ἄστρων τὴν γῆν, ἀλλ᾽ ἐν κόσμῳ γενομένου ἑκάστου καὶ τὸ πῦρ ἀπολαῦσαί τι τῆς γῆς, ὥσπερ καὶ τὴν γῆν τοῦ πυρὸς καὶ ἕκαστον ἑκάστων, οὐχ ὡς τὸ ἀπολαῦσαν γενέσθαι ἐξ ἀμφοῖν, ἑαυτοῦ τε καὶ οὗ μετέσχεν, ἀλλὰ κατὰ τὴν ἐν κόσμῳ κοινωνίαν ὃν ὅ ἐστι λαβεῖν οὐκ αὐτὸ ἀλλά τι αὐτοῦ, οἷον οὐκ ἀέρα, ἀλλ᾽ ἀέρος τὴν ἁπαλότητα καὶ τὴν γῆν πυρὸς τὴν λαμπρότητα· τὴν δὲ μίξιν πάντα διδόναι, καὶ τὸ συναμφότερον τότε ποιεῖν, οὐ γῆν μόνον καὶ τὴν πυρὸς φύσιν, τὴν στερεότητα ταύτην καὶ τὴν πυρότητα. μαρτυρεῖ δὲ καὶ αὐτὸς τούτοις εἰπών· ‘φῶς ἀνῆψεν ὁ θεὸς περὶ τὴν δευτέραν ἀπὸ γῆς περιφοράν,’ τὸν ἥλιον λέγων, καὶ ‘λαμπρότατόν’ που λέγει ἀλλαχοῦ τὸν ἥλιον, τὸν αὐτὸν δὲ λευκότατον, ἀπάγων ἡμᾶς τοῦ ἄλλο τι νομίζειν ἢ πυρὸς εἶναι, πυρὸς δὲ οὐδέτερον τῶν εἰδῶν αὐτοῦ τῶν ἄλλων, ἀλλὰ τὸ φῶς ὅ φησιν ἕτερον φλογὸς εἶναι, θερμὸν δὲ προσηνῶς μόνον· τοῦτο δὲ τὸ φῶς σῶμα εἶναι, ἀποστίλβειν δὲ ἀπ᾽ αὐτοῦ τὸ ὁμώνυμον αὐτῷ φῶς, ὃ δή φαμεν καὶ ἀσώματον εἶναι· τοῦτο δὲ ἀπ᾽ ἐκείνου τοῦ φωτὸς παρέχεσθαι, ἐκλάμπον ἐξ ἐκείνου ὥσπερ ἄνθος ἐκείνου καὶ στιλπνότητα, ὃ δὴ καὶ εἶναι τὸ ὄντως λευκὸν σῶμα. ἡμεῖς δὲ

7. 20–1 = Plat. *Tim.* 39 b 4–5 22 = Plat. *Theaet.* 208 d 2 et *Resp.* 616 e 9 25–6 cf. Plat. *Tim.* 58 c 5–7

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6 *ἔχῃ* : *ἔχοι* w 7 *ἔχοι* : *ἔχῃ* y *μετέχειν δὲ Enn.* H–S$^{1–2}$: *ἔχοι δὲ* e lin. 8 huc transp. H–S$^{3–5}$ *πρὸς τὸ* regit etiam 9 *κωλύεσθαι* 8 *τὸ ⟨τὸ⟩* scripsi : *τὸ Enn.* H–S$^{1–5}$ *ἔχειν τε* scripsi : *ἔχοι δὲ* wBRUS : *ἔχει* (*οι* C^{s}) *δὲ* CQ H–S^{1} : *ἔχῃ* (*ειν* J^{s}) *δὲ* J : *ἔχειν δέ* (*habet vero scil. aquam terra*) J^{pc} H–S^{2} : [*ἔχοι δὲ*] ut correctionem ad 7 *μετέχειν δὲ* transp. H–S$^{3–5}$ *μέρη* : *τὰ μέρη* w 13 *ἀπολαῦσαι* Q 14 *καὶ* : *καὶ τοῖς* y 17 *διδόναι, καὶ* H–S$^{4–5}$ *τὸ συναμφότερον* et *γῆν* et *φύσιν* subiecta ad *ποιεῖν* : *διδόναι καὶ* H–S$^{1–3}$ 18 *οὐ* : *οὐχὶ* Q 19 *πυρότητα* Gollwitzer H–S$^{3–5}$: *πυκνότητα Enn.* H–S$^{1–2}$ 23–4 *πυρὸς*^{1} genitivus ut Thuc. i. 83 *ἔστιν ὁ πόλεμος οὐχ ὅπλων . . . ἀλλὰ δαπάνης* 24 *οὐδέτερον* Gollwitzer H–S$^{3–5}$: *οὐδετέρων* wB^{pc}RJy : *οὐ δευτέρων* B^{ac} : *οὐδετέραν* Q : *οὐδέτερον* et 25 *φῶς* reguntur a 23 *νομίζειν* 25–6 *ὅ — φῶς* om y 26 *ἀποστίλβον* y 27 *αὐτῷ* : *αὐτοῦ* w

her necessarily possess this kind of solidity; but the earth has the quality of being continuous *per se*, and is illuminated by fire, and partakes of water so as not to be dry and not to prevent the joining of parts to parts; and air lightens the masses of earth. But as for earth's being mixed with the fire above, it is not in the constitution of the stars, but since both are in the universe, even fire derives some benefit from earth just as earth, too, derives some benefit from fire, and in general each thing benefits from each thing; not in the sense that what has benefited is constituted of both, of itself and of that of which it partakes; rather each thing benefits by being subject to the community in the cosmos, and this is to receive not the thing itself but something of the thing, e.g. earth receives not air but air's softness, and fire's brilliance. It is the mixture that furnishes all the properties, and so it is the combination (and not simply earth or the nature of fire) that produces this solidity and fieriness.

[7.19] And even Plato bears witness to this when he says 'God kindled a light around the second revolution from the earth', where by 'light' he means the sun; and somewhere else he calls the sun 'most brilliant', and he calls the same thing 'most white'. And he does this in order to stop us from thinking that the sun is anything other than fire—and not just any of the other kinds of fire, but light, which he says is different from flame and is only warm in a gentle way. And this light is a body, but it emits from itself what is homonymously called light, and this, we say, is incorporeal. This incorporeal light is produced from that corporeal light, shining forth from it as if it were the blossom and brightness of that which is the truly white body. We take what is earthy for something worse than

τὸ γεηρὸν πρὸς τὸ χεῖρον λαμβάνοντες, τοῦ Πλάτωνος κατὰ τὴν στερεότητα λαβόντος τὴν γῆν, ἕν τι γοῦν δὴ ὀνομάζομεν ἡμεῖς διαφορὰς γῆς ἐκείνου τιθεμένου. τοῦ δὴ τοιούτου πυρὸς τοῦ φῶς παρέχοντος τὸ καθαρώτατον ἐν τῷ ἄνω τόπῳ κειμένου καὶ κατὰ φύσιν ἐκεῖ ἱδρυμένου, ταύτην τὴν φλόγα οὐκ ἐπιμίγνυσθαι τοῖς ἐκεῖ ὑπολῃπτέον, ἀλλὰ φθάνουσαν μέχρι τινὸς ἀποσβέννυσθαι ἐντυχοῦσαν πλείονι ἀέρι ἀνελθοῦσάν τε μετὰ γῆς ῥίπτεσθαι κάτω οὐ δυναμένην ὑπερβαίνειν πρὸς τὸ ἄνω, κάτω δὲ τῆς σελήνης ἵστασθαι, ὥστε καὶ λεπτότερον ποιεῖν τὸν ἐκεῖ ἀέρα καὶ φλόγα, εἰ μένοι, μαραινομένην εἰς τὸ πραότερον γίνεσθαι καὶ τὸ λαμπρὸν μὴ ἔχειν ὅσον εἰς τὴν ζέσιν, ἀλλ' ἢ ὅσον παρὰ τοῦ φωτὸς τοῦ ἄνω ἐναυγάζεσθαι· τὸ δὲ φῶς ἐκεῖ, τὸ μὲν ποικιλθὲν ἐν λόγοις τοῖς ἄστροις, ὥσπερ ἐν τοῖς μεγέθεσιν, οὕτω καὶ ἐν ταῖς χρόαις τὴν διαφορὰν ἐργάσασθαι, τὸν δ' ἄλλον οὐρανὸν εἶναι καὶ αὐτὸν τοιούτου φωτός, μὴ ὁρᾶσθαι δὲ λεπτότητι τοῦ σώματος καὶ διαφανείᾳ οὐκ ἀντιτύπῳ, ὥσπερ καὶ τὸν καθαρὸν ἀέρα· πρόσεστι δὲ τούτοις καὶ τὸ πόρρω.

8. Τούτου δὴ μείναντος ἄνω τοῦ τοιούτου φωτὸς ἐν ᾧ τέτακται καθαροῦ ἐν καθαρωτάτῳ, τίς ἂν τρόπος ἀπορροῆς ἀπ' αὐτοῦ ἂν γένοιτο; οὐ γὰρ δὴ πρὸς τὸ κάτω πέφυκεν ἀπορρεῖν ἡ τοιαύτη φύσις, οὐδ' αὖ τί ἐστιν ἐκεῖ τῶν βιαζομένων ὠθεῖν πρὸς τὸ κάτω. πᾶν δὲ σῶμα μετὰ ψυχῆς ἄλλο καὶ οὐ ταὐτόν, οἷον μόνον ἦν· τοιοῦτον δὲ τὸ ἐκεῖ, οὐχ οἷον τὸ μόνον. τό τε γειτονοῦν εἴτε ἀὴρ εἴτε πῦρ εἴη, ἀὴρ μὲν τί ἂν ποιήσειε; πυρὸς δὲ οὐδ' ἂν ἓν ἁρμόσειε πρὸς τὸ ποιῆσαι, οὐδ' ἂν ἐφάψαιτο εἰς τὸ δρᾶσαι· τῇ ῥύμῃ τε γὰρ παραλλάξειεν ἂν πρὶν παθεῖν ἐκεῖνο, ἔλαττόν τε τοῦτο ἰσχύον τε οὐκ ἴσα τοῖς ἐνθάδε. εἶτα καὶ τὸ ποιῆσαι θερμῆναί ἐστι· δεῖ τε τὸ θερμανθησόμενον μὴ θερμὸν παρ' αὐτοῦ εἶναι. εἰ δέ τι φθαρήσεται παρὰ πυρός, θερμανθῆναι δεῖ πρότερον αὐτὸ καὶ παρὰ φύσιν αὐτὸ ἐν τῷ

7. 32 cf. Plat. *Tim.* 31 b 6 33 cf. ibid. 60 b 6

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7. 32 *γοῦν δὴ* y : *δὴ γῆν* wxQ 37 *ἐντυχοῦσαν πλείονι* transp. Q 41 *μένοι* wx : *μένοις* y : *μένει* Q *πραότερον* wxQ : *πρότερον* $J^{\gamma pmg}$y 44 *ἐν*^{2} om. Q 47 *λεπτ. τοῦ σώμ.* : *τοῦ σώμ. λεπτ.* x **8.** 4 *τοιαύτη* A^sE^sxyQ : *ἄνω* w 8–9 *ἓν ἁρμόσειε* Gollwitzer : *ἐναρμόσειε* wxQ : *πυρὸς δὲ οὐδ' ἂν ἐναρμόσεις* y 11 *τε*^{2} : *δὲ* w 12 *τε* : *δὲ καὶ* Q

Plato who understands earth in the sense of solidity—we, in any case, only call *one* thing 'earth' whereas Plato distinguishes varieties of it. And the sort of fire that produces the purest light is located in the upper place and is naturally seated there. And one has to suppose that sublunar flame is not mixed up with the bodies there, but that it rather hastens only so far, namely to its extinction since it meets a great quantity of air, and since it goes up together with earth it is cast down, not being able to pass to the above, but rather stops beneath the moon with the result that it makes the air there finer and, if it remains, it slowly goes out and becomes softer and does not have enough radiance to blaze but only enough to be illuminated by the light above. But regarding the light there, some of it is variegated in proportions, so that a differentiation in the colours of the stars is produced as well as in their sizes. The rest of heaven is itself of this same sort of light, but it is not visible because of the non-resistant fineness and transparency of the body, just as with pure air; and in addition because of the distance.

[8.1] Since this sort of light remains above in the place it was ordered to be in—the pure in the purest—what manner of external flux from it could occur? For this sort of nature is not such as to flow out downward; nor again is there anything there that would forcefully push it downward. (Every body with soul is different and not the same as if it were only body; and the body in heaven is of this sort and is not like body alone.) And what borders upon the heavenly body is either air or fire. And what could air do? And concerning fire, no kind is fit to do this; it cannot even come into contact with the superlunar fire in order to accomplish this task. For it would change direction by its downward force before that heavenly fire could suffer anything, and it is less powerful and not equal to the flames on the earth's surface. Further, for fire to act is to heat, and what is to be heated must not be itself hot. But if something is to be destroyed by fire, it must first be heated, and in being heated it must come to be in an unnatural state.

θερμαίνεσθαι γίνεσθαι. οὐδὲν δεῖ τοίνυν ἄλλου σώματος τῷ οὐρανῷ, ἵνα μένῃ, οὐδ' αὖ, ἵνα κατὰ φύσιν ἡ περιφορά· οὐ γάρ πω δέδεικται οὐδὲ ἐπ' εὐθείας οὖσα ἡ κατὰ φύσιν αὐτῷ φορά· ἢ γὰρ μένειν ἢ περιφέρεσθαι κατὰ φύσιν αὐτοῖς· αἱ δ' ἄλλαι βιασθέντων. οὐ τοίνυν οὐδὲ τροφῆς δεῖσθαι φατέον τὰ ἐκεῖ, οὐδὲ ἀπὸ τῶν τῇδε περὶ ἐκείνων ἀποφαντέον οὔτε ψυχὴν τὴν αὐτὴν τὴν συνέχουσαν ἐχόντων οὔτε τὸν αὐτὸν τόπον οὔτε αἰτίας οὔσης ἐκεῖ, δι' ἣν τὰ τῇδε τρέφεται συγκρίματα ἀεὶ ῥέοντα, τήν τε μεταβολὴν τῶν τῇδε σωμάτων ἀφ' αὑτῶν μεταβάλλειν ἄλλης ἐπιστατούσης φύσεως αὐτοῖς, ἢ ὑπ' ἀσθενείας οὐκ οἶδε κατέχειν ἐν τῷ εἶναι, μιμεῖται δὲ ἐν τῷ γίνεσθαι ἢ γεννᾶν τὴν πρὸ αὐτῆς φύσιν. τὸ δὲ μὴ ὡσαύτως πάντη, ὥσπερ τὰ νοητά, εἴρηται.

8. 28 cf. II. 9. 2. 2–3 et II. 9. 3. 11–15

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8. 15 *τῷ* : *ἐν τῷ* y 23 *τρέφεσθαι* Q 25 *αὐτῆς* Q ἢ Ax : ἢ EyQ

[8.15] Therefore, the heaven does not require another body in order to persist, nor again is another body required for its natural circular motion. For it has not yet been shown that its natural motion is to move in a straight line. For what is natural for them is either to stay put or to move in a circle—the other motions would belong to them only if they were forced. Therefore, one must not say that the celestial things require any nourishment either. Nor should one make any statements about them based on sublunar things; for they do not have the same soul holding them together; nor are they in the same place; nor does the same reason for nourishment apply there: sublunar things use nourishment because they are composites and always in flux, and the change that these sublunar bodies undergo is a change away from themselves since another nature is set over them. Due to its weakness this other nature cannot keep the body in being; rather, in becoming and generation it imitates the nature prior to itself. But, as was said, it does not remain *absolutely* the same as the intelligibles do.

Commentary

This treatise has come down to us under two different titles, but neither is from Plotinus himself (see Porphyry's *VP* 4.16). Porphyry, in his *VP*, twice refers to it with the title *ΠΕΡΙ ΤΟΥ ΚΟΣΜΟΥ*. This is also how Philoponus (*AP* 524.27) and Simplicius (*In DC* 12.12) refer to it. But the MSS give the title *ΠΕΡΙ ΟΥΡΑΝΟΥ*. This terminological divide, however, is easily narrowed. Although usually *οὐρανός* is taken to refer to the heaven as opposed to the sublunar region and *κόσμος* to the entire universe composed of both the sublunar and superlunar regions, both can be quite similar in meaning. This is very clear in Aristotle who distinguishes three senses of *οὐρανός* in *DC* A9 ($278^{b}10$ff.): (*a*) 'The substance of the extreme circumference of the universe, or the natural body which is in the extreme circumference of the universe'; this is the sphere of fixed stars which Aristotle often calls 'the first heaven' (*DC* $288^{a}15$, $292^{b}22$, $298^{a}24$; *Meta.* $1072^{a}23$) but occasionally 'the last heaven' (*DC* $270^{b}15$; cf. *Tim.* 36e2). Taylor (1928: 175) reports that this use of *οὐρανός* 'appears to be specifically Pythagorean', but it is also Stoic (cf. DL 7.138). (*b*) 'The body which is continuous with the extreme circumference of the universe in which the sun, the moon, and some of the stars reside'—the heaven in its usual meaning. This is the most common meaning of *οὐρανός* in the *Enneads*, and Plotinus defines it as such at II.1.5.16–17. (*c*) 'The body encompassed by the extreme circumference: For we are accustomed to calling the whole and the universe "*οὐρανός*" '. Aristotle sometimes makes it clear that he is using *οὐρανός* in this third sense by calling it *ὁ σύνολος οὐρανός* or *ὁ ὅλος οὐρανός* (cf. Plato's *ὁ πᾶς οὐρανός* in *Tim.* 28b2), but quite often *οὐρανός* all by itself has this meaning (see Bonitz $541^{b}56$ff.). In *DC* A10 ($280^{a}22$), Aristotle even uses *οὐρανός* epexegetically for *κόσμος*: 'the combination of the whole is a cosmos, i.e., heaven.' Plotinus sometimes employs *οὐρανός* in this meaning (cf. III.2.4.7, IV.3.7.4–5), though not in II.1. Additionally, *οὐρανός* often is used in a fourth sense in the *Enneads*, namely to refer to the intelligible region (III.2.4.6–7, V.8.3.32–4).

ὁ κόσμος can be equally flexible. Although its common meaning is 'universe', Philo lists three senses of *κόσμος* (*Aet. mundi* §4), one of which clearly has the meaning 'celestial region'. Aristotle uses *ὁ περὶ τὴν γῆν ὅλος κόσμος* (*Meteo.* $339^{a}20$) to refer exclusively to the sublunar region, and *ὁ*

περὶ τὰς ἄνω φορὰς κόσμος (*Meteo.* 339[b]18, cf. *Meta.* K 1063[a]10) to refer to the superlunar region. The author of the *Epin.* even uses ὁ κόσμος to refer just to the sphere of fixed stars (987b, and in general see Festugière (1950–4, 2.244 n. 4), some of whose examples are questionable).

Nevertheless, Plotinus uses κόσμος and οὐρανός in II.1 in their regular senses of 'universe' and 'heaven' respectively. With this in mind, we should be able to decide in favour of whichever title best captures the content of the treatise. Although most scholars have opted for the title *ΠΕΡΙ ΟΥΡΑΝΟΥ* (Armstrong, Beutler–Theiler, Bouillet, Dufour), I shall adopt *ΠΕΡΙ ΤΟΥ ΚΟΣΜΟΥ* with Harder and Bréhier. The subject of the treatise is clear: Plotinus is concerned with the entire universe. He repeatedly discusses sublunar phenomena. While it is true that he pays extra attention to the heaven, this is because the heaven and its contents are the most likely candidates for everlasting, numerical persistence, and this will have consequences for the status of the everlastingness of the entire universe (see notes on ch. 3).

II.1.1

Argument of II.1.1 Plotinus assumes that the cosmos, i.e. the universe, is numerically everlasting, but he is concerned in II.1 to provide a satisfactory explanation for this everlastingness. He considers two non-exclusive explanatory accounts, both of which are found to be insufficient:

(I) Will of God (l. 2). This account is found to be insufficient on two grounds:

(a) lacks clarity (l. 4);
(b) the 'God's will' explanation is also compatible with the mere formal (as opposed to numerical) everlastingness of the universe (ll. 4–12).

(II) All things are contained within the universe; there is nothing outside of it which could destroy it (ll. 12–15). This, too, is inadequate for two reasons:

(a) this explanation cannot account for the numerical individuality of the heavenly bodies (ll. 15–21);
(b) nor can it even account for the numerical persistence of the universe (ll. 21–31).

Since both of the accounts share the shortcoming of not providing a convincing reason for attributing numerical (as opposed to formal) everlastingness to the universe, Plotinus suggests that it would be easier just to say

that the universe and its parts are formally everlasting (ll. 31–6). He concludes by making three demands on any account claiming the numerical everlastingness of any part of the universe (ll. 36–7):

(i) one must show God's will to be sufficient for this (l. 37);
(ii) one must explain why this thing does have numerical everlastingness when everything else is only formally everlasting (ll. 37–9);
(iii) one must explain how the parts of heaven exist (ll. 39–40).

1.1–2 Τὸν κόσμον ἀεὶ λέγοντες . . . καὶ ἔσεσθαι. Quite generally, there are three possible positions on the status of the world's everlastingness: (1) The present cosmos came to be at some definite point in time and at some point will perish. (2) The present cosmos came to be at some point in time but will never perish. (3) The present cosmos has always existed and will never perish. (No one seems to have thought that the world has always existed but will nevertheless perish.) Although the treatise is an investigation into the everlastingness of the world, Plotinus starts off by taking the everlastingness of the world in both directions, i.e. (3), for granted and devotes his entire attention to the examination of the type of everlastingness—whether it is numerical or formal. This is perhaps a surprising approach, since many of his contemporaries and predecessors believed that the cosmos did have a temporal beginning. Further, it is important to keep in mind that when Plotinus rejects (1) and (2) he is not simply denying creation *ex nihilo*. In Pre-Socratic Greek philosophy, for example, where cosmogony was a dominant and constant theme, the everlasting pre-existence of the cosmos was consistently rejected, and yet none of these early thinkers held that at some time nothing existed. Creation *ex nihilo* was a concept foreign to Greek thought. Rather, they thought that the matter of the cosmos always existed, and at some point in time this matter became ordered ('*cosmos*' is Greek for 'order'); for Thales there was water; for Anaximander there was the *apeiron*, etc.[1] In *DC* 301^{b}30–302^{a}9 Aristotle argues that creation *ex nihilo* is impossible.

Creation *ex nihilo* has become part of the standard understanding of Christian and Jewish doctrine even though nothing in the scriptures of either of the two traditions explicitly advances the view (see Grant, 1994:

[1] Hesiod is a more difficult case and depends on the meaning giving to 'Chaos'. It is certainly incorrect to say, as Leggatt does (1995: 208), that for Hesiod there was always Chaos from which all else came to be, since Chaos itself came to be (*Theogony* 116). If 'Chaos' means 'space' or 'water' as Aristotle and the Stoics thought respectively, then creation *ex nihilo* is at least a possible reading. Modern scholars, however, take it that the meaning is closer to 'gap', and Chaos' coming to be signifies the separation of an already existent mass into heaven and earth (cf. Kirk, Raven, and Schofield, 36–9).

89). The beginning of *Genesis* might 'strongly' suggest it (as Sorabji, 1983: 194) believes), as might the pronouncement in *2 Maccabees* 7: 28 that God created the heaven and earth 'not from things that exist' (οὐκ ἐξ ὄντων)—this latter passage falls short since matter is often said 'not to exist' in some sense (cf. e.g. Aristotle, *Phys.* 192ª3–5 and *Meta.* 1029ª20–1; Alexander, *In Top.* 418.11–12; Plotinus II.5.4.3–8 and III.6.7.2–3). However, other passages suggest that God generated the world from some pre-existing chaos (e.g. *Book of Wisdom* 11: 17; see Sorabji, 1983: 194). The earliest *ex nihilo* account was probably formulated in the latter half of the second century simultaneously but independently by Tatian, a teacher in Rome, and Theophilus, Bishop of Antioch (May, 1980: 151ff.), and although this pre-dates Plotinus and is at odds with his own account that matter is everlasting, he rarely, if ever, considers it (see Rist, 1967: 118–19). It is difficult to account for Hierocles' opinion that Plotinus, insofar as he kept to the true philosophy of Plato (Photius 173a15–40), also taught that the sensible world (as well as the intelligible world) was created out of nothing (Photius 461b6–8), although in a certain sense it is true that the Neo-Platonic God needs no matter for creation: even matter is ultimately derived from the One (IV.8.5.14–16).

Aristotle, by his own profession (*DC* 279ᵇ12–13), was the first Greek to put forward the view that the present cosmos had no beginning, but this is only true if one interprets the *Tim.* as giving an account of the actual, temporal creation of the cosmos, as Aristotle admits to doing (*DC* 280ª27f.). In fact, this is not the best way to understand the *Tim.* (see Introduction, pp. 6–7). Plotinus, however, understands the *Tim.* differently; not surprisingly, he sees the *Tim.* as being in accord with his own position denying a temporal origin of the cosmos: there is something prior to the cosmos only in an ontological, not a chronological, sense (III.7.6.50f.; IV.3.9.15–17; IV.8.4.40–2; and cf. Proclus, *In Tim.* 1.276.30ff.).

None of the Hellenistic schools, however, would have agreed with Plotinus on this issue of the beginninglessness of the cosmos. Epicurus certainly held that there were always moving atoms, but he denied that this world-order had always existed; at some point in time the present cosmos was generated as a result of some random atomic motion (*Letter to Herodotus* §73, *Letter to Pythocles* §§89–90; cf. Lucretius 5.416ff.). The Sceptics predictably took the issue to be indeterminable (cf. Sextus Empiricus, *Adv. math.* 7.68–72). The Stoics, like the Epicureans, held that the present cosmos had a beginning out of ungenerated principles (*SVF* 1.102–4; 2.574–5); an initial state of pure creative fire gives way to the concentric strata of elements that form the frame of our cosmos (see

Introduction, p. 35). Contemporaneous with Plotinus were also many Gnostics who accepted a temporal beginning of the cosmos (see May, 1980: 40ff.).

Thus, Plotinus' claim that the world is without a temporal beginning (e.g. II.9.8.1f.) was in agreement with two of the major contemporary schools of thought—the Platonists and the Peripatetics—but a great number of thinkers (Presocratics, Hellenistic schools, Christians, Gnostics) would have objected. We should expect, then, Plotinus to give some account as to why the universe has no beginning in time, and he does give such an account. He does not, however, utilize any of the arguments that Aristotle had introduced for this purpose (see Introduction, pp. 32ff.). Aristotle argued, for instance, that there could not have been a temporally first motion, since motion is only started by motion, and that it would be arbitrary for the cosmic order to begin at some point in time after an infinitely long period of rest (*Phys.* 236b32ff. and Θ1; *DC* 283^{a}11ff.; *Meta.* 1050^{b}3–6, 1071^{b}6–7). Similarly, since 'time is either the same thing as motion or an attribute of motion', if motion started with the creation of the world, there would have been a time before time, which is nonsensical (*Meta.* 1071^{b}8–10 and *Phys.* 251^{b}10–13).

Plotinus, rather, defends this claim via considerations internal to his own system of thought. First, Plotinus argues from the nature of emanation. Each stage of emanation is necessary. Futhermore, each thing has two activities—that of its substance and that which proceeds from its substance; the former is identical to the thing, and the second is different (V.4.2.27f.). And it is necessary for a thing, if it is to be what it is, to perform each of these activities—that of sustaining itself and that of producing another (V.1.6.30f.). Thus, *Noûs*, for example, is not *Noûs* unless it produces the subsequent hypostasis Soul (IV.8.7.19–21; II.9.3), and the same reasoning entails the beginninglessness of the sensible world. For the sensible world is an image of the intelligible world (II.3.18.19–22; II.9.4.26; III.2.1.25–6), and so the sensible world is a necessary product of emanation (III.2.2.8; III.2.3.3; cf. IV.8.6.20–1); as long as the intelligible realities exist, so does the sensible world (II.9.7.1f.; II.9.13.14–18).

Plotinus also gives a second, related argument against a temporal creation of the cosmos. A temporal beginning of the cosmos would require some sort of rational planning on God's part (III.2.1.15ff.; cf. III. 2.14.1f.), but such rational planning is impossible since there are insurmountable difficulties involved both in God's acquiring this plan and in its implementation (V.8.7.8–12). The way to get around these difficulties is to have the creation of the sensible world be immediate and continuous

(v.8.7.13f.). The 'creation account' of the heaven offered at v.1.2.18ff. stands by no means in opposition to Plotinus' position on the beginninglessness of the cosmos. There, he is concerned to offer readers an exercise designed to lead their souls to comprehend their identity with the World-Soul; it is a meditation that lends its practitioner a certain mental attitude towards the pre-eminence and hegemony of soul—that is, of one's own soul (v.1.2.50–1).

Plotinus also holds the world to be without end (e.g. III.3.6.24; IV.8.6.25f.). Again, he has the Platonic and Peripatetic traditions on his side and must do battle against the Hellenistic schools, Christians, and Gnostics, and again his position is explained in part by the necessity involved in emanation: the sensible world must exist as long as the intelligible world does. Here in II.1 Plotinus is working to give other arguments that are more specifically directed at showing *numerical* everlastingness.

1.1–2 καὶ πρόσθεν εἶναι καὶ ἔσεσθαι. According to Beutler–Theiler, it is an 'axiom of Greek thought' that what is without death is also without birth (IVb, 400), and indeed, Proclus calls it an ἀξίωμα at *In Tim.* 3.212.25–6. There are approximations of this thought at *Tim.* 37d3–4 ('it is not possible for this [viz. being eternal] to attach completely to what is generated') and 41b2–3 ('since you [viz. created gods] were generated, you are neither wholly deathless nor indissoluble'); *DC* 279^{b}17–18 ('to say that it comes to be but is nevertheless everlasting [ἀΐδιον] is to assert the impossible'); and see III.2.4.17. Still, its status as an axiom for *all* Greek thought is questionable. After all, Aristotle himself remarks in *Meta.* 1026^{b}15–19 not only that discussions did take place concerning 'whether everything which is, but is not everlasting, has come to be', but also that these discussions really fall into the domain of sophists since they deal 'above all with the accidental', and both of these stand as good reasons for not taking the proposition in question as axiomatic. Aristotle also, despite his own convictions on the matter, reports: 'All say that ⟨the universe⟩ was generated, but some say that although generated it is everlasting [ἀΐδιον], while others say it is destructible' (279^{b}12–13). Simplicius relates Alexander's hypothesis as to whom Aristotle had in mind: 'Of the men who say that the universe was generated, some say that it is everlasting [ἀΐδιον], just like Orpheus and Hesiod and, after them, Plato, as Alexander says' (*In DC* 293.13–15, cf. 296.5–6), and this is partially confirmed by Aristotle in 298^{b}28–9 where he mentions Hesiod and his followers. For Hesiod and in Orphic literature, cosmogony is simply theogony; earth and heaven are included among the immortal gods (e.g. *Theogony* 116ff.).

1.2 σῶμα ἔχοντα. Plotinus is conscious of the fact that Plato put forth conflicting views on the relationship between body and soul (see IV.8.1.27ff.), and so it should come as no surprise that one can find Plotinus himself issuing opposing statements on the matter. Often Plato depicts body as confining, and being in body as something culpable. In the *Phaedr*. myth a soul's presence in body is due to its incompetence and its growing heavy with evil (248c5ff.); the *Phaed.* presents the body as a prison from which the soul is better freed (67d1-2); Plotinus also understands the cave in book VII of the *Rep.* to represent the sensible world in general (IV.8.1.34–5). And yet this characterization of body and its relationship to soul is difficult to reconcile with the *Tim.* where the Demiurge is said to fashion a body for the soul so that 'His work might be most noble and by nature very good' (30b5–6).

Plotinus inherits both of these attitudes towards body. He quite often considers body to be deficient and a burden on soul: it is 'an evil' (I.8.4.1) and 'of a nature opposite to soul and opposed to soul in substance' (III.6.6. 74–6); 'one attains virtue by separating oneself from body' (I.8.7.13; cf. IV.8.1.1ff.) since the body fills the soul with desires, pleasures, and pains (IV.8.2.44–5; III.2.4.41–2); for the soul, to die is to sink into body (I.8.13. 21ff.); body is a 'river of forgetting' and impedes one's memory (IV.3.26. 50–5); it also interferes with the soul's reflection (IV.3.19.25–7; IV.8.2.44) And yet, one also finds Plotinus praising the sensible world (cf. Schwyzer, 1951: 567.34ff.): it is a necessary image, indeed the best possible image, of the intelligible world (III.8.11.28–31); its *only* drawback is not being the intelligible world itself (II.9.4.26ff.; V.8.8.22f.); it is a 'wonder' (III.3.3.30–1); the World-Soul did not decline when it made the sensible world (II.9.4.6–7). And this approval is also placed upon body in general, especially when Plotinus is engaged in refuting Gnostics. The identification of matter with evil in Gnostic thought was as fundamental as it was thoroughgoing—the Gnostics condemned the entire cosmos along with its creator (Rudolf, 1987: 60). Thus, Plotinus lectures the Gnostics that what is ontologically posterior, like body, should not be reviled (II.9.13.4–5); the body is a tool given to us for good reason (I.4.16.27–8).

It seems, in general, that when Plotinus esteems body and the sensible world, he has the process of emanation in mind and is considering body as the product of higher entities, and when he looks down on sensible things, he has his eye on the soul's ascent.

For 'body' Plotinus could have just as easily written 'matter', since bodies are bad because they have matter (I.8.4.1ff). For body's vulnerability to flux, see note on ll. 8–9 below.

1.2–12 εἰ μὲν . . . τὸ ἀεί. Plotinus begins by suggesting two prominent explanations for the numerical everlastingness of the universe, and both are found of themselves to be insufficient. (I) The first is simply 'the will of God'. This is rejected on two counts: (*a*) lack of clarity; (*b*) the 'God's will' explanation is also compatible with the mere formal everlastingness of the universe, since God's will is equally capable of bestowing the same form on different bundles of matter. Moreover, the universe's formal everlastingness seems more likely given the sublunar phenomena we witness. The second explanation is offered at 1.12.

1.2 τὴν βούλησιν τοῦ θεοῦ. In the *Tim.*, the Demiurge creates the heavens and the celestial bodies, which because they were generated are also dissoluble (see note on ll. 1–2 *καὶ πρόσθεν εἶναι καὶ ἔσεσθαι*). Yet the Demiurge prevents their dissolution by his will alone: 'my will is a still greater and more sovereign bond than those bonds that held you [*viz.* the heavenly bodies] together when you came to be' (41b4–6; cf. 29e–30a; *Laws* 896c, 967a). This appeal to the Demiurge to preserve what would otherwise perish is made again in the *Stat.* myth (269c ff.). There, the universe continuously goes through a cycle of two stages (see Introduction, p. 21 and n.): In the first stage it is caused to rotate by God in one direction, in the second God lets go and the world spins in the opposite direction. The stranger explains that if the universe were left on its own, it would surely perish because 'to turn itself by itself forever is, I dare say, impossible for anything except the one who guides all things'. Therefore, 'at times it is helped by the guidance of another, divine, cause, acquiring life once more and receiving a restored immortality from its Demiurge' (269e5–6, 270a3–5 Rowe's translation; see Introduction, p. 21).

Although Christian authors generally denied the world's everlastingness, Plato's appeal to God's will as a cause for everlasting existence was absorbed into ecclesiastical explanations—in particular, in debates on the status of individual souls. Those who believed that individual souls did not exist for all time but were rather created by God, would then appeal to God's will as a cause for their (otherwise improbable) everlasting existence, e.g. the apologist and martyr Justin in his *Dialogue with Trypho*:

> Then are you saying the sort of thing that Plato intimates about the cosmos in the *Tim.* when he says that the cosmos itself is destructible insofar as it was generated, but will not be dissolved nor encounter the fate of death due to the will of God? Does it seem right to you to say this about the soul, and simply about all things? For whatever is after God or will be at some time is by nature destructible, and is capable of being destroyed and of being no more. For only God is ungenerated and indestructible (and for this reason He is God), but everything else was generated

after him and is destructible. (5.4.1–9. Cf. Hippolytus, *Refut.* I.19.10.1–4 and Georgius Cedrenus, *Compendium historiarum*, 1.279.23–280.3)

More importantly, a number of Plotinus' immediate predecessors reflected on the efficacy of God's will. Alcinous writes 'and the universe admits of no dissolution owing to His will' (*Didask.* 15.2.2–3). Plotinus' teacher Ammonius Saccas is reported to have thought that 'God's will is sufficient for the subsistence of beings' (Photius *Bibliotheca* 461b8–9, cf. 172a25). Further, one of Ammonius Saccas' students, Origen (the Christian), seems to have followed him (*De principiis* 3.6.6; *Contra Celsum* 5.23.22). In addition, Proclus (*In Tim.* 3.212.6ff.) tells us that Plutarch of Chaeronea, Atticus, and Severus all considered the world '*per se* dissoluble and yet indissoluble due to the will of the Father', and we should bear in mind that Porphyry relates explicitly that the works of Atticus and Severus were studied in Plotinus' school (*VP* 14). Alexander of Aphrodisias, on the other hand, who is also reported to have been read in Plotinus' academy, devoted several pages of his treatise *PS* to this issue (on the authenticity of *PS*, see Thillet (1984: pp. lxiii–lxv) and Moraux, 1942), and he developed a more critical stance on the limits confining the power of God's will. The eighteenth problem runs: 'That it is not possible for the cosmos to be indestructible through the will of God, if it is destructible by its own nature' (2.5–6). Alexander's solution (30.25–32.19) involves distinguishing between things which are impossible because they are prevented by some circumstance (e.g. it is impossible for a pebble to be seen when it is in an abyss) and things which are impossible by nature or necessity (e.g. it is impossible for the diagonal to be commensurate with the side). What is impossible in the former sense can also become possible but not what is impossible in the latter sense. With this distinction in hand, which can also be found in Aristotle (*MA* 699^{b}17–21), Alexander considers the cosmos:

If then the cosmos, being generated, has in itself the capacity both to be destroyed and not to be destroyed, it is possible for it, by being prevented from destruction from something, to become incapable of being destroyed. But if destruction is necessarily in the nature of everything that has come to be, then having to perish would necessarily belong to everything that has come to be. But if perishing belongs to something by necessity, it is incapable of not perishing due to the fact that its nature cannot attain everlastingness. Therefore, even the cosmos, being destructible by necessity (if indeed it is begotten), by its own nature does not admit of everlastingness. [32.1] And it is impossible for what in this way does not admit of everlastingness by its own nature, to receive everlastingness. But what is

impossible in this way is impossible for all things and would even be impossible for the gods. For what belongs to something by necessity is incapable of ever being prevented from belonging to the things that it belongs to [reading *οἷς ἦν* with Bruns] in this way. (*PS* 31.24–32.5)

One must conclude that Alexander is dissatisfied with Plato's explanation of the everlastingness of the world in the *Tim.* For, as Alexander sees it, Plato's cosmos is *by its own nature* destructible (*In Meta.* 212.13–15) so that not even a god could grant it everlastingness. In II.1 Plotinus is clearly following Alexander; not all states of affairs can obtain simply in virtue of God's will. God's will has to be up to the task (*δυναμένης* 1.7, *ἱκανόν* 1.34, *ἱκανή* 1.37). When Plotinus (near the end of ch. 1) calls for a demonstration that God's will is up to the task, he is not seeking an investigation into the nature and limits of God's will (and no such discussion follows). Rather, he seems already to have a certain conception of what falls within the limits of God's will, and showing God's will to be sufficient to bring about a certain state of affairs involves showing something about that state of affairs. Presumably, it involves showing that it is not unnatural or that the opposite is not necessary. The rest of II.1 is accordingly devoted to the demonstration that although the heaven is embodied, it can nevertheless persist numerically for all time owing to the nature of its soul, body, and place. See note on ll. 3–4.

Simplicius and Proclus will follow Plotinus and Alexander in limiting the power of God's will to what by nature is not impossible (Simplicius, *In DC* 369.26–8 and *In Phys.* 1334.25; Proclus *In Tim.* 3.212.6 ff. and *In Crat.* §185). Proclus, for his part, objects that 'it is ridiculous to say that things which are *per se* dissoluble are indissoluble solely through the will of the Father' (*In Tim.* 3.212.23–4).

1.3 τὴν αἰτίαν. Should one translate *αἰτία* with 'cause', or is it better to translate it with 'reason' or 'explanation'? The word appears seven other times in II.1 (1.15; 2.25; 4.7, 18, 30; 5.21; 8.22), and it is best to consider its translation on a case by case basis. Translators are divided here: Bouillet, Harder, Beutler–Theiler and Armstrong have 'cause', Bréhier has 'reason', and Hankinson (1998*a*: 419) has 'explanation'. 'Reason' and 'explanation' are usually taken to be broader concepts than 'cause' in that they need not imply any causal relation. The will of God is the *αἰτία* in question here, and the will of God is nothing other than the activity of the One, which is in turn identical to the One itself (see note on ll. 3–4). Further, Plotinus surely envisioned the One as being causally efficacious; all things and states of affairs are ultimately caused by the One. This reason alone makes it better to translate *αἰτία* with 'cause'.

1.3 μὲν . . . μὲν. Although some MSS do not offer the second *μέν*, both seem to belong. *πρῶτον μέν* is answered by *ἔπειτα* (l. 4), and *ἀληθὲς μέν* by *σαφήνειαν δὲ* (l. 4).

1.3–4 ἀληθὲς μὲν ἂν ἴσως λέγοιμεν. Plotinus does not entirely object to bringing God's will into the picture. This raises the question as to what a Neoplatonist like Plotinus understood by the expression 'the will of God'. 'God' in the *Enneads* can refer to any number of things: any soul or intellect (including the hypostases), the One, any of the visible gods (including the sun, all the stars and the cosmos) or invisible gods. As Arnou (1921) comments, 'bref *θέος* chez lui n'est pas du tout un terme réservé' (108 and cf. Beutler–Theiler VI 146ff.; Dodds, 1963: 268).

An entire treatise is devoted to expounding upon the will of the One (VI.8), on which Georges Leroux (1990) has furnished a helpful commentary (see esp. pp. 23–61, and cf. Kenney, 1991: 79–80). For our purposes, it suffices to say that if by 'the will of God' Plotinus has the will of the One in mind, when he concedes that the will of the One might be the cause of the everlastingness of the world he in no way wishes to imply that the One is actively considering the everlastingness of the world. He only means that the activity and substance of the One (which is synonymous with the will of the One, VI.8.7.6–8) is the first principle of all things including the everlastingness of the world in question. Thus, if the world turns out to be numerically everlasting, its being so is ultimately caused by the will of the One. However, that is not very informative since this weak sense of willing could 'explain' any obtaining state of affairs. If by 'will of God' Plotinus means the will of the Intellect, Soul, or World-Soul, a similar interpretation will follow. No superior beings deliberate (Leroux 32), nor is any of their willing contingent.

1.4–12 ἔπειτα . . . τὸ ἀεί; The second reason why Plotinus rejects the will of God explanation. Here it becomes clear that he has all along been concerned about the *numerical* persistence of the universe. For he objects that the will of God explanation is also compatible with the universe's mere *formal* persistence.

1.5–6 τῶν στοιχείων ἡ μεταβολὴ καὶ τῶν ζῴων τῶν περὶ γῆν ἡ φθορὰ. The elements undergo *μεταβολή* while living creatures suffer *φθορά*. It is true that the individual elements, like individual living creatures, come to be and perish, but, as Simplicius observes, 'the sublunar elements come to be and are destroyed but have their generation and destruction by changing into one another (*κατὰ τὴν εἰς ἄλληλα μεταβολὴν ἔχοντα*)' (*In DC* 366.30–1).

1.6 τὸ εἶδος σῴζουσα. The participle refers back to *φθορά* (K-G II.i. 81

n. 3), since this process preserves their form insofar as the species persists while the individuals perish.

1.6 μήποτε. In later Greek, 'perhaps' (LSJ *μήποτε* I.3).

1.7 ἀξιώσει. The requirement that Plotinus has in mind is clearer than the reasoning behind it. The requirement is surely that the universe should undergo destruction, but there are two possibilities as to why this should be the case: First, the changing of the elements and the destruction of the creatures on earth require the universe also to change and undergo destruction because it should behave *analogously* to the elements and living things. Second, the constant destruction of the universe is required because its constituent parts, the elements and creatures, are constantly being destroyed and thereby *cause* its own continual destruction. The reason that Plotinus gives in l. 10 (and see note) suggests he probably has the former in mind.

1.7–9 ἀεὶ ὑπεκφεύγοντος καὶ ῥέοντος τοῦ σώματος. There is a long history of thinkers associating body and flux (see the argument of ch. 3). Plotinus often says that body flows (II.1.3.1–2; II.1.8.22–3; IV.3.20.50–1; IV.7.3.18–20; IV.7.8.45; VI.3.2.1–4; VI.4.15.20–1; cf. V.1.9.3–5) and for this reason body is only called 'substance' homonymously, being more properly called 'generation' (VI.3.2.1–4). Because of this flux, bodies are said to 'escape reality' (I.8.4.4–5; cf. II.9.7). When Plotinus says that sensible things are in flux or becoming, he does not have in mind what many scholars take to be the sense of becoming in Platonic dialogues, namely compresence of opposites (see Irwin, 1977); Plotinus is more concerned with succession. Moreover, Plotinus seems to be less concerned with objects taking on different properties in different contexts, and he in fact does not use properties (either compresent or in succession) to expound what he means by flux. Plotinus' is a theory of *material* flux; the nature of body is in motion (IV.7.3.18–20) and thus body does not have its being in what is numerically one (IV.3.8.27–30); this is also clear from II.1.3.1ff. where Plotinus distinguishes between internal and external flux. Thus, soul is required to keep bodies in being; soul contains body and keeps it from dispersing (IV.7.3.18–20; cf. note on 1.35–6). The bodies which make up the heaven are exceptions because their bodies and souls are finer than the sublunar ones and they are also located in a better place (see Introduction, pp. 57ff.).

1.9 τὸ ἓν ἀριθμῷ. Aristotle typically uses this expression to individuate things *synchronically*. For instance at time *t* Socrates and Coriscus are in the agora; Socrates and Coriscus are each individually one in number, and taken together they are one in form (*Meta.* 999^{b}33–1000^{a}1; 1016^{b}31–6).

Plotinus is using *τὸ ἓν ἀριθμῷ diachronically*: Socrates at t_1 and Socrates at t_2 are one in number. This use of *τὸ ἓν ἀριθμῷ* is not entirely absent in Aristotle. In *GC* 338b6-19, where Aristotle is concerned to clarify why some things are individually everlasting, while others are only everlasting in species, he explains: 'Whatever has a substance which, although subject to change, is indestructible, it is clear that these things will be the same in number [*ἀριθμῷ ταὐτὰ ἔσται*] (for the change is consequent upon the thing undergoing the change). But whatever has a substance which is not indestructible but rather destructible, these necessarily recur in form [*τῷ εἴδει ἀνακάμπτειν*], but not in number.'

1.11 τὸ ἀεί. Plotinus' standard expression for everlastingness as opposed to eternity (cf. I.5.7.26), though he sometimes uses it in the latter sense (e.g. III.6.6.19) or as a blanket term for both senses (III.7.2.28).

1.10–12 ἐπεὶ διὰ τί . . . τὸ ἀεί; Plotinus has just suggested that both super- and sublunar objects persist in form only; this suggestion is now supported by the reflection that *prima facie* there does not seem to be any reason why superlunar things should behave differently than sublunar things.

1.12 κατὰ τὸ τόδε. See note on 2.2.

1.12–15 εἰ δὲ . . . οὐ φθορᾶς. Plotinus now offers a second explanation: (II) Because all things are contained within the universe, there is nothing outside of it which could destroy it. Whereas the first explanation was derived ultimately from Plato, the second one can be found in both Plato and Aristotle. In *Tim.* 32c5ff. it is related that all four elements were entirely used up in the creation of the universe for three reasons, the last of which is 'that it might be without age or disease as the Demiurge realized that when hot and cold and whatever else possesses strong powers surrounds and attacks a composite body from the outside, they dissolve it prematurely and by bringing diseases and old age they cause it to perish' (33a2-6). Further down one reads that the universe has no need of any organs since there is nothing external to it on which any organ could perform its function. In particular, 'there would be no need for its having any organ by which it would receive nourishment into itself or by which it would later expel the nourishment that it previously digested. For nothing could leave it or enter it from somewhere (because there was nothing [*viz.* outside of it]); for it supplies itself with nourishment by its own waste' (c4–8, and cf. IV.8.2.18–19; II.9.7.30f.).

In Aristotle such an argument can be found in *DP* fr. 19 (= Philo, *Aet. mundi* §21): 'If the universe perishes, it must be the case that it will perish either by one of the powers external to it or from one of the powers in

itself. But each of these cases is impossible: For there is nothing outside the universe as everything has contributed to its completeness. Therefore, in this way it will be one and a whole and ageless.' These are, in fact, the same three reasons that Timaeus gives in the above passage. Some commentators (Bouillet, Henry–Schwyzer) see a reference here to *DC A*.9 279[a], where Aristotle does say that all matter is used up on the universe so that there is no mass outside of it. Aristotle does not go on to say that this makes the *universe* indestructible or ageless, rather he says: 'Therefore *the things there* (τἀκεῖ) are neither naturally in place, nor does time cause them to age, nor is there any change in any of the things arranged beyond the outermost motion; they are rather changeless and impassive and possess the best life . . .' (279[a]18–21). Opinions are divided as to what Aristotle intends to refer to with 'the things there' (cf. Wilberding (2005: 324) and see below, note on 5.9–14). In any case it is clear that it is by no means the universe that Aristotle is calling ageless. Bouillet also refers the above passage to Heraclitus (referring to Diogenes Laertius 9.8), but here he is certainly mistaken. Heraclitus does say the universe is limited (πεπεράνθαι) and one, but he does not credit its lasting unity to that fact that there is nothing outside of it.

This argument was not at all uncommon. Chrysippus seems to have employed it: 'The cosmos alone is said to be sufficient because it alone contains in itself all things that it requires; further, it is nourished and grows from itself when the other parts change into one another' (*SVF* 2.604). And Philo credits Ocellus with a similar argument: 'If someone were to think that the universe is to be destroyed, it will either be destroyed by one of the things exterior to the universe or by something in its interior. But it will not be destroyed by anything exterior. For there is nothing exterior to the universe . . . Nor will it be destroyed by anything in its interior . . .' (Harder, 1966: 13.24–8). Although Harder suggests that Plotinus had little interest in Pythagoreans like Ocellus (1966: p. xiv), there is no reason to doubt that Plotinus had access to Ocellus' *On the Nature of the Universe* which scholars date around 150 BCE (the work is considered spurious on account of the strong Aristotelian influence); Plotinus could have also found the argument in Middle Platonists like Alcinous (*Didask.* 12.3) and Epicureans like Lucretius (*De rerum natura* 3.806ff. and 5.351ff.).

Plotinus finds two faults with this explanation: (*a*) it cannot account for the diachronic numerical everlastingness of the heavenly bodies (but only for the universe as a whole); (*b*) it could still be the case that the universe is destroyed from the *inside*. Plotinus does in fact admit that

the universe is complete and contains everything in itself (II.9.17.52ff.; III.2.3.20ff.; IV.3.10.41–2), although this deserves some qualification; it is not complete and self-sufficient in the sense that the intelligible reality or the One is (VI.6.18.50ff.). It is rather the body of the universe that is complete in the sense that it neither requires nor suffers from any external bodies (IV.8.2.14ff.). This is in stark contrast to our own bodies which are constantly in need of nourishment and suffering attack from foreign bodies (IV.8.2.12–14). The closest Plotinus ever comes to actually employing this argument is in I.1.2.13ff. and I.2.1.11–12 where he states that the World-Soul has nothing to fear because there is nothing outside of the universe.

1.13 μὴ εἶναι εἰς ὃ τὴν μεταβολὴν ποιήσεται. 'there being nothing into which the universe will make a change.' *Prima facie* this seems to say that the universe cannot change because its changing requires something external to it *into which* it can change, but it is hard to make any good sense of that. This is presumably what led Dufour to translate 'c'est-à-dire qu'il n'existe rien *avec quoi* il pourra faire un échange', but this is hardly an adequate translation of *εἰς ὅ*. Plotinus probably has an argument in mind similar to that found in Ocellus 11.8–10 (and cf. 13.18–23): 'and if someone thought the universe were destructible, he would not find anything into which it might perish and dissolve [. . .] whatever it perishes into will be the end *of the universe* [*εἰς ὅ τε πάλιν φθαρήσεται, ἐκεῖνο ἔσχατον τοῦ παντὸς ἔσται*].' Ocellus' point is simply that the universe cannot be destroyed by changing into e.g. fire, because fire is a part *of the universe*.

1.14 μηδέ τι. With H–S^{3}, though there is no authority for *τι*. H–S^{1} and H–S^{2} had *μηδὲ τὸ* which would read 'nor can what is exterior to the universe, upon encountering the universe, destroy the universe'. Armstrong translates H–S$^{1-2}$'s *μηδὲ τὸ* as if it were *μηδέ τι*.

1.15 τὴν αἰτίαν. See note on l. 3.

1.15 τῆς οὐ φθορᾶς. Beutler–Theiler note that such negated nouns occur frequently in Plotinus (e.g. VI.3.18.42).

1.15–21 τῷ μὲν ὅλῳ . . . τῷ κόσμῳ. Plotinus' first objection to this explanation: it cannot account for the diachronic numerical everlastingness of the heavenly bodies.

1.16–17 ὁ δὲ ἥλιος . . . ἡ οὐσία. The parts of heaven pose a particularly difficult problem for Plotinus. See note on 2.17. Some manuscripts offer *ἡ συνουσία* which occurs only four other times in Plotinus—always with the sense of 'union'. Here it would have to mean something like 'the *company* of other stars'. But since Plotinus here is concerned with the stars as

individual parts, it is better to follow most manuscripts and all modern texts by opting for *ἡ οὐσία*.

1.19 μένει. Unless further qualified, *μένειν* tends to have the meaning of numerical persistence. (Cf. 3.10, 3.12, 3.25, 3.29, 5.1, 8.16.)

1.21 παρεῖναι καὶ αὐτῷ δὲ παντὶ τῷ κόσμῳ. I mark a break after *παρεῖναι* in my translation to emphasize that Plotinus is now giving a new objection: This second explanation cannot account for the numerical persistence of the universe.

1.22–31 οὐδὲν γὰρ κωλύει . . . ἐν οὐρανῷ. Plotinus gives a reason for this second objection: The universe can destroy itself from the inside.

1.23 φθειρόντων, τὴν φθορὰν. Bréhier prints *φθειρόντων οὕτω τὴν φθορὰν*, the *οὕτω* being found in two MSS *in rasura*. Although the explicitness brought about by the *οὕτω* is desirable, the sense is already clear without it: it perishes by having its parts destroy each other.

1.24–5 ῥεούσης ἀεὶ τῆς φύσεως τοῦ ὑποκειμένου. See 2.5–6 which seems to suggest that 'substratum' here simply means 'body'. Moreover, sometimes 'the nature of body' seems to mean nothing more than 'body' (2.18; 3.7; 3.11; Plato, *Stat.* 269d6–7). Cf. 3.2 and Müller (1916*b*: 323–4).

1.26 τοῦ παντὸς ζῴου. Armstrong is somewhat off here, and is forced to translate *τοῦ παντὸς ζῴου* ungrammatically as 'every living thing' and leave the *ὅπερ* untranslated. The cosmos is ensouled and thus a living thing, cf. I.1 *passim*; II.3.7.8; III.2.7.37; III.2.16.47–8; III.3.6.8; IV.3.17.28–9; IV.4.32.5—a thought clearly in Plato (see Introduction, pp. 8 f.). For an account of this conception of the universe from the Pre-Socratics to Aristotle, see Lloyd (1966: 232–72). Theophrastus had some reservations about viewing the world as a living thing (Reydams-Schils (1999: 46–60), and according to Hahm 'it was the Stoic achievement to rejuvenate the ancient idea by taking literally again the metaphorical language' (1977: 66; cf. 63ff.). In particular, it has been argued that Plotinus' brand of vitalism is essentially derived from that of Poseidonius (Reinhardt (1926: 108; 1953: 618.68–619.21; Theiler (1930: 70 ff.).

1.26–7 ἐπὶ ἀνθρώπου καὶ ἵππου καὶ τῶν ἄλλων. Cf. *Phaed.* 78d10–e4.

1.27 ἀεὶ γὰρ ἄνθρωπος καὶ ἵππος, ἀλλ' οὐχ ὁ αὐτός. Cf. II.3.12.5 and III.4.2.16. Elemental exchange—or parts destroying each other—leads to identity in form only because inevitable destruction is entailed (see Introduction, p. 50). Thus, Plotinus switches over to the point about man and horse: if the universe's parts destroy each other, it will persist everlastingly only in form *just as* man and horse do—eventually it will be destroyed and another with take its place (as the Stoics say).

1.30 ἔστω. Cf. Schwyzer (1951, col. 517.26–31): 'Der Imperativ wird häufig im konzessiven Sinne (für ein vorläufiges Zugeständnis an den Gegner) verwendet, so VI.1.10.28. Oft steht er, wo man den Potentialis (VI.1.5.17) oder Irrealis (II.1.1.30) erwartet.' Thus, there is no need to follow Volkmann and emend to *ἔσται*. Cf. Plato, *Epin*. 982a2–3.

1.31–40 εἰ μὲν οὖν . . . πάντα εἶναι. Plotinus gives his conclusions for the section in the form of an alternation: Either nothing in the universe persists numerically for all time, or something does. Since both explanations suggested above were shown to have a single shortfall in common—neither could provide convincing reason for thinking that the universe (or anything in it) has everlasting *numerical* persistence—Plotinus points out that by relinquishing the demand for the everlasting numerical persistence of the universe, one's account (whatever it turns out to be) will be less problematic. Here it also becomes clear that the two explanations explored above were not meant to be exclusive. No matter what sort of persistence one attributes to the universe and its parts, the will of God has to play some part in the explanation (cf. V.1.2.29–30). In particular, Plotinus demands that God's will be shown to be sufficient for the production of such persistence. This is, however, the last we shall hear of God's will in II.1. As remarked above (note on l. 2 *τὴν βούλησιν τοῦ θεοῦ*), Plotinus probably conceives of the limits to God's will as Alexander did where the obtaining of a given state of affairs was labelled as being within God's power if and only if the state of affairs in question is not by its very nature impossible. Thus, in what follows, Plotinus shows that the everlastingness of the cosmos is within God's power, not by some analysis of God's efficacy, but by showing that it is not unnatural.

1.35–6 συνέχειν τὸ πᾶν. In the *Phaed.* Socrates, after criticizing past attempts at natural philosophy, remarks that the explanation of natural phenomena that one should strive for takes the Good as its focal point: the Good is a power which makes things as they are and must bind and hold all things together (99c1–6). Plotinus takes up this challenge and in his system makes the One hold itself and everything that exists together (VI.8.21.19–21). Thus, the activity or will of the One holds the universe together. Nevertheless, in a more proximate sense it is the World-Soul that acts as the bond of the universe (II.9.7.14), holding it together (II.1.4.18–20; II.1.8.21; IV.2.2.42–6), just as generally body is held together by soul (IV.3.20.50; IV.4.22.21), but the universe is not exactly held together by soul in the same way that sublunar bodies are. The World-Soul, that is, the lower part of the World-Soul which acts on body (II.9.7.15–18), commands the ensembles of the elements to stay in their strata while

'running, as it were, on the surface' of the universe (II.9.7.27–8); 'running on the surface' is not to be taken literally, and in particular does not mean that the lower World-Soul is only at the periphery of the cosmos; the lower World-Soul pervades the cosmos (IV.2.2.42). The facility of the World-Soul's activity is no doubt due in part to the ensembles' already being in their proper places (II.9.7.30–2; IV.8.2.10–11). The constituent elements of individual bodies, on the other hand, are not in their proper places and are thus always trying to escape to their natural places. Accordingly, it takes a little more effort to hold the bodies together; these bodies require a 'second bond' (II.9.7.29-30). This second bond is, presumably, each body's lower 'bodily' soul or *physis* (IV.4.28.34–5), the first bond being the World-Soul itself which governs all things in the cosmos including individuals. This individual lower soul appears to keep the body together in a different way, by either 'arresting it together from the inside or pushing it in from the outside' (II.9.7.31–2). Again, the spatial metaphors must be taken with a grain of salt; the true contrast seems to be that the lower World-Soul simply 'commands' and 'wills', whereas the individual lower souls have to 'arrest' or 'push' the elements.

That it is the World-Soul's responsibility to hold the body of the world together is a point made by Plotinus' middle-Platonic precursors, cf. Alcinous, *Didask.* 14.4; Maximus of Tyrus, *Dialexeis* 9.5e ff. (and cf. Nemesius *Nat. hom.* 2.113.6–8). Dillon rightly observes that this thought is not found in Plato (1993: 127). In the *Tim.* both the proportion among the elements (31b4 ff.) and the Demiurge's will (41b4–5; cf. 32c3–4) are called bonds of the world's body. Also, the circumference of the universe 'binds all things together' by denying the elements exit (58a4–7—note the similarity between this and Plotinus' World-Soul which 'runs along the surface' of the cosmos; cf. Empedocles, DK 31 B 38.4). When the Demiurge introduces the World-Soul to its body (36d8 ff.), the soul is only said to 'cover the body from the outside' (36e3; and cf. *Rep.* 616c2 where light, not soul, is said to bind the heavens). The World-Soul in the *Tim.* is at most a bond in the sense of being a link between the sensible and intelligible worlds (see Baltes, 1987–98: iv. 322). Nor are other souls allotted the function of binding the body together; if anything, they are bound *to* the body (73b3–4). It is rather 'invisible pegs' which are said to hold our bodies together (43a3). Perhaps the closest Plato ever comes to this idea is in Simmias' account of the soul in the *Phaed.* (85e3–86d4) where the body is said to be held together by physical qualities like the hot, the cold, the wet, and the moist, and then the soul is said to be 'mixture and harmony of these'.

The notion of soul holding body together is rather Aristotelian and is clearly expressed in *DA*: 'What, then, would hold the soul together if it were by nature divided? Surely not the body [*contra* Democritus], since on the contrary the soul seems rather to hold the body together. In any case, when the soul has departed the body disperses and rots' (411b6–9; and cf. 416a6–9 where Aristotle censures Empedocles for not providing plants with a soul to hold them together—for Empedocles this role was probably performed by friendship, cf. *Soph.* 242e). Aristotle, however, did not apply this thought to the entire cosmos. The Stoics, who generally took the body to be held together by (material) *πνεῦμα* (*SVF* 2.439, 440, 444), were the first to apply this model explicitly to the cosmos as a whole (*SVF* 2.447, 448; cf. Hahm (1977: 142ff. and 165ff.).

1.36–40 εἰ δὲ κατὰ . . . πάντα εἶναι. The alternative to saying that no individual persists for all time: There is at least one thing that does persist in this way. Although this represents Plotinus' own opinion, he lists three problems (*τε . . . τε . . . τε*) that those advocating individual everlastingness must address.

1.36 κατὰ τὸ τόδε. H–S^5 sensibly adopts Igal's emendation of *κατὰ* for *καὶ*. The difficulty with the text as it stands is producing a sensible translation of *τὸ τόδε τι αὐτοῦ*. *τὸ τόδε τι* generally either refers to the property of individuality or can simply mean 'the individual' (e.g. Philoponus, *In Phys.* 164.27). But neither of these translations will do here (see Bréhier for a failed attempt to translate according to the former sense—the problem is what to do with *ὁποσονοῦν*). The sense required here is indefinite: *some* or *an* (individual) thing, and nearly all modern translations try to force this sense onto *τὸ τόδε τι*. Igal's emendation offers a simple way to achieve the required sense: some part of the universe (*τι αὐτοῦ*), no matter how small, has individual (*κατὰ τὸ τόδε*) everlastingness (*τὸ ἀεί*). See l. 12 and note on 2.2.

1.37 ἥ τε βούλησις . . . ποιεῖν τοῦτο. First problem: God's will must be up to the task. See note on ll. 31–40.

1.37–9 τό τε ἄπορον . . . εἶδει μόνον. Second problem. If one wishes to assert that something in the universe (or the universe itself) persists everlastingly as the same individual, one has to explain not only why the will of God is up to this task but also why only these things persist in this way and why other things persist only in form. Cf. Proclus, *In Tim.* 2.43.14–16.

1.39–40 τά τε μέρη . . . πάντα εἶναι. Third problem: How do the parts, i.e. the heavenly bodies, persist numerically for all time without all individuals persisting in this way? The solution is offered in chapter 5.

1.40 ἐπειδὴ οὕτω καὶ αὐτὰ τὰ πάντα εἶναι. Schwyzer reports '[o]ft steht auch ein Akkusativ mit Infinitiv statt eines Verbum finitum, wobei man sich ein Verbum des Sagens oder Müssens hinzudenken muß [. . .] Einen Akkusativ mit Infinitiv im Nebensatz treffen wir in IV.4.21.4' (520.62–65, 521.6–8), and here we have another such example in a subordinate clause. Thus, as it stands, some finite verb needs to be mentally supplied. Beutler–Theiler remark: 'bei *εἶναι* müßte man an *λέγοιμεν* (l. 36) weiter denken', but Armstrong and Bouillet appear to supply a *δοκοῖ* and Bréhier's 'sera' and Harder's 'wären' are closer to a tacit *δεῖ* than *λέγοιμεν*. Beutler–Theiler avoid this problem themselves by adopting Volkmann's emendation of *εἴη ἄν* in place of *εἶναι*.

This line is difficult and variously construed. Plotinus seems to be suggesting here that in whatever manner the parts of heaven persist, the totality (*τὰ πάντα*) or the universe will persist in the same way. Armstrong's 'all the parts' for *τὰ πάντα* would more appropriately translate [*τὰ*] *πάντα*. I follow Beutler–Theiler's suggestion of taking both instances of *καὶ αὐτά* as 'for their part' (cf. K-G II.i. 653 n. 2f.). That the permanence of the universe is not independent of celestial permanence is also mentioned at 3.29–30 (see note ad loc.).

II.1.2

Argument of II.1.2 Plotinus begins to examine these problems (see note on 1.36–40) for the specific case of the everlasting numerical identity of the heaven and its contents. He mostly focuses on the second problem (the third is a particular instance of the second), reformulating it more acutely for the case of the heavens by distinguishing several intuitions that would seem to speak against their being numerically and everlastingly identical:

(I) First, he presents an argument against both the whole and the parts of heaven. They have body (just like everything else) and body is in flux (ll. 1–12). Aether might get you around this problem, but Plotinus rejects this route (ll. 12–16).

(II) Then, he produces an argument just against the everlastingness of the particular heavenly bodies. The heavenly bodies are parts, so how can they be individually everlasting (ll. 16–17)?

Plotinus then begins to construct the frame of the answer to these intuitions (ll. 17ff.). The individual everlastingness of the heavens (and its contents) has to be explained by reference to (*a*) its body, or (*b*) its

soul, or (*c*) both its body and its soul (ll. 17–20). Thus, it becomes clear that regardless of which of these three one thinks explains the heavens' numerical persistence, since body is the limiting reagent one will have to explain how the body is either responsible for or co-operates towards this numerical everlastingness (ll. 20–8).

2.1–3 Εἰ οὖν . . . κατ' εἶδος. This will turn out to be Plotinus' considered view. This is a particular case of the second alternative above (1.36–7)—particular in that Plotinus is specific about what is to have everlasting numerical persistence.

2.2 τὸν μὲν οὐρανὸν καὶ πάντα τὰ ἐν αὐτῷ. The heaven (i.e. superlunar region) and all of the heavenly bodies. This picks up on the third problem Plotinus indicated above (1.39).

2.2 κατὰ τὸ τόδε. 'Individually'. Plotinus' contrast of *κατὰ τὸ τόδε* and *κατὰ τὸ εἶδος* makes clear that *κατὰ τὸ τόδε* is equivalent to *ἀριθμῷ* which Plotinus uses much more frequently.

This expression is not found outside of Plotinus and is only found twice in the *Enneads*—here and at 1.12—and in both cases some MSS do not give the *τὸ*. (In addition, H–S^5 emends *καὶ τὸ τόδε* to *κατὰ τὸ τόδε* at 1.36.) There is, however, good reason to retain the *τὸ*. First, although *κατὰ τὸ τόδε* is found only twice in the *Enneads*, *κατὰ τόδε* is found only once (II.3.1.24). Secondly, only B and M omit the *τὸ* here. It is true that the manuscript evidence is more evenly divided at 1.12, but one can reasonably assume that in these manuscripts the expression less common in other authors was changed into the more common one. Finally, when Plotinus discusses Aristotle's other categories, the expression *κατὰ τὸ p* is more common than *κατὰ p* (*κατὰ τὸ ποιὸν* occurs twice (II.4.6.18, VI.1.20.3), *κατὰ ποιὸν* never; *κατὰ τὸ ποσὸν* occurs five times (II.4.16.10, II.8.1.23, V.5.4.33, VI.3.11.7, VI.3.25.15), *κατὰ ποσὸν* only once (II.8.1.15)). *κατὰ τὸ ποιὸν* and *κατὰ τὸ ποσὸν* both in fact appear very frequently in philosophical authors, and Plotinus just seems to have extended the use of the *τὸ* to the category of substance.

2.4–6 δεικτέον . . . ῥεούσης ἀεί. This accounts for the second problem listed above (1.37–9), and this leaves only the first problem (1.37) unaccounted for at this point (see note on 1.31–40). Plotinus comes back to the first problem in ll. 27–8.

2.4 σῶμα ἔχων. Cf. 1.2 and note ad loc.

2.4–5 ἕξει τὸ τόδε ἐπὶ τοῦ αὐτοῦ κυρίως, ὡς τὸ καθ' ἕκαστον καὶ τὸ ὡσαύτως. Plotinus spells out what he means by individual identity. Unfortunately, the Greek is unclear, and this has forced all modern trans-

lations to paraphrase rather freely. Armstrong and Beutler–Theiler both follow Sleeman's suggestion of translating τὸ τόδε ἐπὶ τοῦ αὐτοῦ with 'its individual identity', the sense of which seems right, but it is not immediately clear how to get that from the Greek. In particular, it is uncertain how ἐπὶ τοῦ αὐτοῦ is meant to function in this phrase. IV.3.8.24–8, a passage concerned with individual identity and for this reason discussed in the Introduction (p. 45), offers some help here: 'For some things, since due to the nature of bodies their individuality is flowing because the form is imported from the outside, always have their being formally by imitating the real things [i.e. the Forms]. Other things, because they are not composites, possess being in what is numerically one and has existed since the beginning.' As in the present passage, Plotinus contrasts formal diachronic identity with numerical diachronic identity, and the latter is distinguished by having its being in what is numerically one (τὸ εἶναί ἐστιν ἐν τῷ ὅ ἐστιν ἀριθμῷ ἕν). Here Plotinus appears to be making a similar point: what is everlastingly identical has its individuality properly *in what is the same* (ἐπὶ τοῦ αὐτοῦ). For ἐπί in this sense, see III.4.6.40–1 (compare III.7.11.52), III.6.10.15, and IV.3.19.1.

Sublunar things harbour their being and individuality in what is not the same over time—their composite bodies which are in flux—but the heavens and their contents are individuals that persist over time and have their individuality in what is the same over time—composite bodies which are *not* in flux. Thus, what must be shown here is that the composite body of the whole heaven (as well as the particular composite heavenly bodies) is not in flux.

This leaves ὡς τὸ καθ' ἕκαστον καὶ τὸ ὡσαύτως. The word order suggests that the ὡς is working together with κυρίως: what follows the ὡς explains what it means to have individuality properly in what is the same. Beutler–Theiler take the scope of ὡς to be limited to τὸ καθ' ἕκαστον; on this interpretation the heavens will possess two things: τὸ τόδε ἐπὶ τοῦ αὐτοῦ and τὸ ὡσαύτως; κυρίως modifies τὸ τόδε ἐπὶ τοῦ αὐτοῦ and is explained by ὡς τὸ καθ' ἕκαστον. Other translations seem to take the scope of ὡς to include both τὸ καθ' ἕκαστον and τὸ ὡσαύτως, and this seems more likely. (It is impossible to tell, based on Bréhier's translation ('a body can retain its individuality in the proper sense and its identity to itself') how he understands this phrase. Armstrong ('in the sense that each particular detail remains unchanged') and Kalligas ('in the strict sense of the word, i.e. each of its parts is the same') overtranslate.)

Hence, to have one's individuality properly in what is strictly the same is to possess (the ἕξειν is understood) (1) τὸ καθ' ἕκαστον and (2) τὸ

ὡσαύτως. (1) is transparent: it will be a particular. (2) is more opaque: it will possess τὸ ὡσαύτως. As the paraphrase of *Rep.* VII 530b2–3 in ll. 9–10 demonstrates, ὡσαύτως is a word with strong Platonic roots. Plato often uses ὡσαύτως together with κατὰ ταὐτά to characterize the Forms (see *Phaed.* 78c6, d2–3, 6; *Soph.* 248a12) in such a way that the two expressions are practically synonymous (Gallop, 1975: 137; Rowe, 1993: 182): whereas sensible things are 'different at different times' (ἄλλοτ' ἄλλως), the Forms are always the same. Since in Plato it is the Forms that are said to be the same, one can expect the sense of sameness to be rather austere. This is probably what led Armstrong to take ὡσαύτως in an equally austere sense here ('each particular detail remains unchanged'), but 8.27–8 shows that this cannot be right. For there Plotinus reminds the reader that this strict sense, ὡσαύτως πάντη, is reserved for the intelligibles and cannot be applied to the heavens.

The present context, then, calls for a more lenient meaning of ὡσαύτως, and Damascius (*In Parm.* 209.24–7) offers an analysis of ὡσαύτως that hits on the appropriate sense: 'Plato further shows that the difference between what resembles and the thing that it resembles is not one of "more" or "less" but of "ὡσαύτως," i.e. sameness of form (ταυτοειδῶς). For the "ὡς" means an analogy (παραβολὴ) to or likeness (ὁμοίωσιν) of "αὕτως". Therefore, what resembles and the thing that it resembles are not indistinguishably the same, but roughly the same (ὥστε οὐχ αὕτως ἀπαραλλάκτως, ἀλλ' οἷον αὕτως).' It would certainly be mistaken to insist that ὡσαύτως always has this weaker meaning—in both Plato and Plotinus it can have the stronger meaning that Damascius is trying to avoid (e.g. IV.4.2.16)—but it does seem right for this passage: for Plotinus the heavens and the heavenly bodies are always roughly the same. (Incidentally, Plato also permits himself to use ὡσαύτως in this more lenient sense; see *Tim.* 82b3 where he says healthy bodies remain κατὰ ταὐτὸν καὶ ὡσαύτως.) This qualification of remaining 'roughly' the same would account for the slight changes they do undergo—changes of location.

Finally, the translation should take into account that the context here is dialectical. On the one hand, the heavens and the heavenly bodies have to be ὡσαύτως in order to remain numerically one over time, but on the other hand they cannot be ὡσαύτως because they are bodies (as both Plato and Heraclitus explicitly say). They are both the same and not the same. The solution to this difficulty lies in distinguishing these two senses of ὡσαύτως. Although only the intelligibles, being free of body, can be ὡσαύτως in the strict sense (ὡσαύτως πάντη), the heavens are ὡσαύτως in this more lenient sense—they are roughly the same. Thus, in order to

allow this *aporia* to be set up, one has to translate ὡσαύτως generically: 'the same'.

2.5–6 τῆς φύσεως τοῦ σώματος ῥεούσης ἀεί. Cf. l. 18; 1.24-5; 3.2.

2.6–7 τοῖς τε ἄλλοις τοῖς περὶ φύσεως εἰρηκόσι. Someone who περὶ φύσεως εἴρηκε is a natural philosopher. οἱ ἄλλοι refers to *certain* natural philosophers other than Plato—not, as Armstrong translates, *all* other natural philosophers. Armstrong's reading is uncharitable since many philosophers in Antiquity who had discussed nature would deny that body is always flowing. Melissus and Zeno, both of whom wrote treatises (later) entitled *On Nature* (περὶ φύσεως), denied that anything was in motion; similarly Parmenides' *Way of Truth* and Georgias' *On Nature or On the Non-existent*. It is better, then, to follow Ficino's translation ('*aliorum* (as opposed to *ceterorum*) qui de natura disputaverunt') (cf. I.4.1.9).

It remains to ask whom Plotinus did have in mind. One possibility is that Plotinus had access to a copy of Hippias' *Συναγωγή*, a sort of encyclopaedic lexicon of passages from various authors organized under certain lemmata one of which probably dealt with everything being in flux (Patzer, 1986: 49–55, Kerferd and Flashar, 1998: 66). On Patzer's reconstruction, this lemma would have included passages from Homer, Hesiod, Orpheus, Epicharmus, Empedocles, Heraclitus, Protagoras, and Cratylus. This is not exactly what one would immediately characterize as a group of natural philosophers, but the appellation is not as inappropriate as one might think. Although Epicharmus wrote comedies, a number of quasi-scientific works including one on nature were attributed to him in antiquity (Kaibel, 1907: 40.17–20; cf. *VP* 24.6–9). No book on nature is attributed to Protagoras, but Plato's authority would have sufficed (*Theaet.* 152c ff.). And the *Homeric Allegories* by a certain Heraclitus (1st cent. CE), which declares 'Homer is the single leader of all the natural doctrines on the elements, too, and became the instructor of everyone after him' (22.2.1-3), shows how epic authors also came to be known as authorities on nature (and cf. DK 22B105).

Plotinus certainly also had later authors in mind. The Stoics admitted that matter was in perpetual flux (Plutarch, *Mor.* 1083b); Epicurus needed to invoke material flux to explain perception (*Letter to Herodotus* §48.2–6). Similarly, Alexander (*In Meta* 308.7–10; *PS* 13.26–32), Alcinous, *Didask.* 11.2.1–3 and others.

2.7–8 τῶν ἄλλων. 'the other bodies', i.e. the sublunar bodies.

2.8–10 πῶς γὰρ ἄν . . . τὸ ὡσαύτως. This is a close paraphrase of *Rep.* VII 530b2–3: *οὐκ ἄτοπον, οἶει, ἡγήσεται τὸν νομίζοντα γίγνεσθαί*

τε ταῦτα ἀεὶ ὡσαύτως καὶ οὐδαμῇ οὐδὲν παραλλάττειν, σῶμά τε ἔχοντα καὶ ὁρώμενα ('. . . and don't you think that he [viz. the guardian in training] would think strange the man who considers these things [viz. the celestial phenomena] to be always the same and never to change in any way, though they have body and are visible . . .'). This passages expresses what Adam called 'a cardinal principle with Plato' (2.130) that celestial bodies, since they are corporeal and visible, must suffer some deviation and change.

παράλλαξις did come to have a technical meaning in astronomy which Proclus defines in the case of the moon as 'the difference between the moon's position with respect to the centre of the earth, and its position with respect to the earth's surface' (*Hyp. astr.* 4.53). When viewed from the earth's surface, the moon and sun will likely (depending on where one is standing) appear to be in slightly different parts of the ecliptic than they would if viewed from the centre of the earth (see Ptolemy, *Alm.* 5.11–19 = Heiberg 1.401–59). The five planets did not produce any visible parallax (*Alm.* 9.1 = Heiberg 2.207.14–15), and the fixed stars are by definition not subject to parallax. Hipparchus appears to have been the first to discover parallax, at least for the sun (see Boll, 1909*a*: 2347.15 ff.), which rules out that Plato had anything like this technical sense in mind.

Adam, therefore, is probably right to say that Plato uses παράλλαξις 'half-technically of any change or deviation in the courses of the heavenly bodies' (2.130), as is confirmed by *Stat.* 269a ff. There, Plato begins by making the same point as *Rep*. 530b ('Being always constant and unchanging and identical (τὸ κατὰ ταὐτὰ καὶ ὡσαύτως ἔχειν ἀεὶ καὶ ταὐτὸν εἶναι) is only fitting for the most divine things of all, and the nature of body is not of this order' (269d5–7)) and concludes that the universe must also have a reverse rotation which is 'the smallest παράλλαξις of its motion' (269e4; see Introduction, pp. 16–19). Thus, παράλλαξις here simply refers to the counter-revolution that the cosmos periodically undergoes. Consequently, in the *Rep.* οὐδαμῇ οὐδὲν παραλλάττειν might just be a reference to retrograde motion.

One must further ask whether Plato in *Rep*. 530b is claiming that the movements of the celestial bodies are necessarily *irregular*. There is, after all, nothing in the *Stat.* passage that suggests that the counter-revolutions occur irregularly, and from that one might wish to conclude that in *Rep.* 530b Plato simply wants to say that motions of the celestial bodies are not *simple*. This is comparable to asking whether Plato ever changed his mind regarding the regularity of the heavens, since in the *Tim.* and the *Laws* (which are universally taken to be later dialogues) Plato insists on some

form of regularity of the heavenly bodies. At *Tim.* 47a–c it is suggested that one can recalibrate the revolutions of one's soul by using one's eyes to observe the regular and kindred motions of the heavenly bodies. And the Athenian in the *Laws* declares that 'this doctrine concerning the sun, moon and other stars—the one, namely, which states that they sometimes wander—is incorrect; precisely the opposite of this is true. Every one of them perpetually revolves through the same route—not many routes but a single one, although it appears to move through many' (822a4–8; note how this passage also apparently runs together the question of regularity and that of simplicity). Heath (1913: 139) and Skemp (1967: 146) conclude on this basis that Plato did rethink this issue of regularity.

This conclusion, however, is unsatisfactory, and Shorey (1953–63: note on 530b) is right to oppose it. The same tension that some scholars have believed to find between the *Rep.* and the *Tim.* can be found within the *Tim.* itself. For in spite of what Timaeus says at 47a–c, at 39d1–2 we are told that 'the wanderings of these bodies is time, although they are inconceivable in number and astonishingly diverse'. The diversity in question is that of their motions, as Proclus tells us. By isolating this passage from 47a–c and comparing it to *Laws* 822a, other scholars (e.g. Burkert, 1962: 305) have been led to group the *Tim.* together with the *Rep.* and to conclude that Plato re-evaluated his position on the regularity of heavenly motion sometime between *Tim.* and the *Laws*.

Simplicius also noticed this 'discrepancy', and his solution to it is probably on the right track:

> Plato appears on the one hand to say in the *Laws* [822a] that although the planets *appear* to move in diverse ways, they surely do not truly move like this; but on the other hand in the *Tim.* [39d], he agrees that their motion is rather diversified as they are intermediates between the things that are completely ordered and the things that are completely disordered and for this reason have an ordered deviation. Accordingly, even in the *Laws* he is inveighing against those men who only affirm their wandering and do not think that this motion also partakes of order and belongs to them naturally. (*In DC* 489.5–11)

Simplicius maintains that there is no real contradiction. Since the celestial souls have been formed from a mixture of 'indivisible Being [Sameness, and Difference] that is always the same (κατὰ ταὐτά)' and 'divisible Being [Sameness, and Difference] that comes to be in bodies' (*Tim.* 35a; see Introduction, pp. 8–9), their paths should be both ordered and disordered. We should then expect Plato sometimes to remark on their orderliness and at other times on their disorderliness.

Following Simplicius' lead we can maintain that there need not be

any contradiction between any of the passages discussed here. Sometimes (*Rep.* 530b, *Tim.* 39d) Plato emphasizes the disorderly aspect of the motion of the celestial bodies, and sometimes (*Tim.* 47a–c, *Laws* 822a) the orderly aspect. Furthermore, since 47a–c and the identification of celestial movement with time at 39d provide sufficient proof for the regularity of heavenly motion in the *Tim.* (see Skemp, 1967: 79–80), and since there is no reason to assume that *Rep.* 530b is alluding to anything other than periodic retrograde motion, there is no warrant for saying that Plato ever thought that celestial motion was irregular. He seems rather to have maintained consistently that while the motion of the fixed stars is singular and uniform, lunar, solar, and planetary motion is complicated by their diverse paths but nevertheless regular.

2.9 σώματα ἔχοντα. Marcovich (1967: 314), H–S[5], and Kalligas write *σῶμά τε ἔχοντα* for *σώματα ἔχοντα*, which restores Plato's original formulation in 530b3, but this is unnecessary. Plotinus is closely paraphrasing, not quoting; he is concerned with not one but all heavenly bodies; and this is a phrase he uses elsewhere (III.2.5.7, IV.4.5.17). Moreover, one of the *Rep.* manuscripts offers *τὰ σώματα* for *σῶμα* there.

2.11 Ἡρακλείτῳ, ὃς ἔφη ἀεὶ καὶ τὸν ἥλιον γίνεσθαι. Armstrong's suggestion that Plotinus drew this line from Aristotle's *Meteo.* B2 is more probable than Bréhier's suggestion that the source is Plato's *Rep.* 498a both because the latter passage more strongly suggests a *periodic* destruction and generation of the sun and because the context of the former passage is more related to Plotinus' present concern. It has also been suggested that Plotinus might have had direct knowledge of Heraclitus' book (Roussos, 1968: 100) (but see Lasserre's (1970) criticism).

In *Meteo.* B 2 Aristotle discusses those of his predecessors who, by likening the sun to sublunar fire which can burn only as long as it is nourished by moisture, maintained that the sun, too, is nourished by moist exhalations from the sublunar region. He objects: 'But the cases are not similar. For the flame *comes to be* through the continuous exchange of moist and dry and is not *nourished* (for it so to speak never remains identical for any time) [see note on 4.3]; but it is impossible for this to happen with the sun, since if it is indeed nourished in the same way, as these men say, then clearly *καὶ ὁ ἥλιος οὐ μόνον καθάπερ Ἡράκλειτός φησιν, νέος ἐφ' ἡμέρῃ ἐστίν, ἀλλ' ἀεὶ νέος συνεχῶς*' (355a8–15). This last line can be translated in two different ways, depending on what one takes the scope of the Heraclitus fragment to be:

(1) '. . . then clearly not only "is the sun new each day", as Heraclitus said, but always continuously new.'

(2) '. . . then clearly "the sun is", as Heraclitus said, "not only new each day but always continuously new".'

On reading (2) Aristotle brings in Heraclitus' opinion that the sun is continuously changing as the impossible consequence of assuming that the sun and fire behave similarly. The most immediate interpretation of (1) is that Aristotle is drawing a consequence that is unacceptable to Heraclitus: Heraclitus wants the sun to become new every day (periodically), but if it truly behaves like fire, it would have to become new continuously. It is also possible to limit the Heraclitus fragment to *ὁ ἥλιος . . . νέος ἐφ' ἡμέρῃ ἐστίν*, as (1) does, and yet to interpret it in a sense that comes close to (2) (see Reinhardt, 1942: 235, and Kirk, 1954: 266–7). Almost all scholars go with (1): DK 22B6; Alexander, *In Meteo.* 72.31–73.1; Olympiodorus, *In Meteo.* 136.4–15; the scholiast on Plato's *Rep.* 498a (Greene, 1938: 240–1); Robinson, 1987: 12–13. Kirk accepts (1), remarking that (2) is 'conceivable' and 'does not weaken Aristotle's sense', but 'if this were the meaning *καθάπερ Ἡράκλειτός φησιν* would more naturally precede *οὐ μόνον*' (266). The only exception appears to be Conche (1986: 306).

Both periodic and continuous readings of the sun's identity are compatible with Heraclitus' cosmology (see Diogenes Laertius 9.9–10 = DK 22A1 and Kahn's criticism of it (1979, 290–3)) according to which the heavenly bodies are solid bowls (of some undetermined material) that are filled with fire. This fire is maintained by exhalations issuing from the sublunar region. The manner of maintenance is, like so much else in Heraclitus, disputed. According to Diogenes Laertius (who is in turn reporting Theophrastus' account of Heraclitus) there are two exhalations: a bright exhalation issuing from the sea, and a dark exhalation from the earth. When the bright exhalation that collects in the sun's bowl is predominant, it ignites and brings about day, and when the dark exhalation is predominant it is night. I am inclined to follow Kirk, however, who disputes the presence of two distinct exhalations (270–6): for Heraclitus there was only exhalation from the sea, and this nourished the sun (and the other heavenly bodies) (cf. [Aristotle] *Problems* 934b34); no other exhalation is needed to explain night, which occurs when the sun slips beneath the horizon. On what I am going to call the extreme continuous reading (Conche, Reinhardt) the sun is constantly gaining and consuming the rising exhalations and for this reason is constantly becoming a new sun. A moderate continuous reading is put forth by (Kirk (266–9) and Guthrie (485) who seem to think that the sun is continuously nourished but might still retain its identity for an entire day. On the periodic reading

(Alexander, Olympiodorus, the scholiast on Plato's *Rep.*, Marcovich) the sun's bowl would be filled at dawn and then extinguished at dusk.

What interests us here is not whether Plotinus got Heraclitus right, but the more preliminary question of exactly what doctrine Plotinus is attributing to Heraclitus. This passage together with v.1.9.3–5 shows that Plotinus did attribute to Heraclitus the doctrine that the sensible world is in flux, which he could have drawn from doxographical sources like Diogenes Laertius 9.8.3–4 as well as from Aristotle (*Top*. 104^{b}22; *DC* 298^{b}29–33; *DA* 405^{a}38; *Meta* 987^{a}33–4, 1010^{a}13,1078^{b}14–15; and see *Phys*. 253^{b}10 and 265^{a}3) and Plato (*Theaet*. 152e1–3, *Crat*. 402a8–10). Furthermore, as II.1 makes clear (e.g. 3.1–4), the sort of Heraclitean flux at issue is material as opposed to aspectual (as it is perhaps in Plutarch *Mor.* 392b ff.; the 'flux' that Plato and Aristotle attribute to Heraclitus might not have been the material change over time that we now understand by 'flux'; they could have had aspectual 'flux' in mind by which a thing is in flux if under one aspect it is (or appears) *p* and under another it is (or appears) not-*p*; see Irwin 1977). But what sort of material flux did he attribute to Heraclitus, the extreme continuous, moderate continuous, or periodic variety? Those who endorse the extreme continuous reading have appealed to Plotinus for help (Reinhardt, 235, 244; Conche, 307), and even those opposed to this reading seem to concede that this is Plotinus' interpretation. Kirk (1954: 269), for example, complains that 'Plotinus is of negligible evidential value, being an extremist follower of the *πάντα ῥεῖ* interpretation'. This does indeed seem to be Plotinus' interpretation of Heraclitus, but unlike Reinhardt and Conche, I do not think this interpretation can be inferred from this passage alone; to this end II.1.4.3 is critical (see note there).

καὶ τὸν vs. *καινὸν*. All the manuscripts as well as Philoponus (*AP* 525.7) have *καὶ τὸν*—'*even the* sun is always coming to be'—which presumably reproduces Aristotle's *καὶ ὁ* at 355^{a}13. H–S^{4} emended *καὶ τὸν* to *καινὸν*—'the sun is always coming to be *new*'—and has been recently followed by Kalligas. (NB: the Greek *ἥλιος* does not require the definite article as the English word 'sun' does, and Plotinus often uses it without the article (e.g. I.6.9.31, II.3.9.34, III.1.5.11, etc.).) The idea behind the emendation was that with *ἀεὶ καινὸν* Plotinus would be reproducing Aristotle's *ἀεὶ νέος* at 355^{a}14 (cf. a comparable use of *καινὴν* at II.9.5.24). If there is a difference in sense between the two texts, it is that the latter *more readily* attributes to Heraclitus the doctrine that the sun has no diachronic identity at all. But given the flexibility of words like *ἀεὶ* and *γίνεσθαι*, this could or could not be the meaning of either text. Never-

theless, I think that good reason can be given for retaining the MSS text. First, the word-order *ἀεὶ καὶ τὸν* is not un-Plotinian (cf. II.9.7.2). Secondly, Plotinus is hardly citing Aristotle *verbatim*; he uses *γίνεσθαι* in place of Aristotle's *ἐστίν* (355^{a}14; but cf. *γίγνεται* in ^{a}10) and leaves out other words like *ἐφ' ἡμέρῃ* (^{a}14) and *συνεχῶς* (^{a}15). Finally and most decisively, Plotinus can make better use of the *καὶ* here than he could of *καινὸν*. Plotinus appeals to Plato and Heraclitus as examples of natural philosophers who hold that not only the sublunar bodies *but even* the heavenly bodies are in flux (ll. 7–8). Thus, it is more on target for Plotinus to report that Heraclitus said '*even* the sun is always coming to be'. Cf. *καὶ περὶ τῶν οὐρανίων αὐτῶν* in l. 8.

Lastly, one should bear in mind that although (1) Plotinus does buy into some form of flux theory for the sensible world, (2) Plotinus associates this theory with Heraclitus, and (3) Plotinus portrays Plato as agreeing with Heraclitus, there are several critical points of Heraclitus' cosmology to which Plotinus would not assent. Heraclitus' account of the sun probably formed part of an attack on the prevalent belief in the sun's divinity (Marcovich, 1967: 318), whereas Plotinus (e.g. IV.3.11.23) agrees with Plato (*Tim.* 40c) that all the heavenly bodies are indeed gods (see note on 5.18–19). Plotinus obviously also disagrees with Heraclitus about the sun's persistence and about Heraclitus' belief that there is element exchange between the lunar and sublunar regions. The aim of II.1 is, after all, to show that the sun and the other heavenly bodies can enjoy everlasting numerical persistence by virtue of the fact that there is no such elemental exchange (VI.4.10.27–8, as Tornau (1998) observes, is purely hypothetical and does not contradict II.1 in any way). Cf. Plutarch, *Mor.* 1084e (= *SVF* 2.806).

2.13 τὰς ὑποθέσεις τοῦ πέμπτου παραδέξαιτο σώματος. On the fifth body in Aristotle, see Introduction, pp. 22 ff. Armstrong and Bréhier translate *τὰς ὑποθέσεις* with the singular: 'his assumption of the fifth body', but Aristotle did not just assume that there is a fifth body. Plotinus probably has *several* hypotheses in mind. For Aristotle each branch of science must begin from non-demonstrable principles not shared by any other science. Some of these principles are definitions, and others are hypotheses that something exists or is the case (*APo* 71b19 ff.). In *DC* Aristotle repeatedly makes explicit mention of his use of such hypotheses (*DC* 269^{b}18, 274^{a}34, b11, 276^{b}8), and it is only by means of these that Aristotle is able to *argue* for the existence of the fifth body. Both Proclus (*In Tim.* 1.237.22–238.2) and Simplicius (*In DC* 12.6–16 and 115.30–116.2) take Plotinus to be referring to several hypotheses from which

Aristotle could 'demonstrate the substance of the fifth body' and from which 'the everlastingness of the heaven follows'. And both even go to the trouble of isolating the hypotheses Plotinus had in mind. Proclus locates five hypotheses:

(1) Simple motion belongs to simple bodies (*DC* 269^{a}4, cf. 302^{b}6–9);
(2) Simple bodies have some simple motion naturally (*DC* 269^{a}3–4, 6–7, 8–9);
(3) There are two simple motions (*DC* 268^{b}18–19; cf. 270^{b}29–30);
(4) One thing has one contrary (*DC* 269^{a}14; cf. *Meta*. 1055^{b}30, *Phys*. 261^{b}16ff.);
(5) What has no contrary, has no destruction (*DC* 270^{a}22).

Simplicius provides a total of eight hypotheses (six at 12.6–16, two at 115.30–116.2): in addition to (1), (3), and (4) he divides (2) into two separate hypotheses:

(2*a*) Simple bodies have simple motions (*DC* 269^{a}3–4);
(2*b*) There is one natural motion for each thing (*DC* 269^{a}8–9);

and adds

(6) The heavens move in a circle (as perception confirms) (cf. *DC* 269^{b}13–17, 270^{b}12–16);
(7) There is no motion contrary to motion in a circle;
(8) What comes to be and is destroyed comes to be from contraries and is destroyed into contraries.

It is precisely these hypotheses which formed an argumentative battleground in the second century CE. Xenarchus sought to cast these principles into doubt while Alexander tried to defend them. (See Simplicius, *In DC* 13.22ff.; cf. Moraux, 1967: 1424.11ff. and 1433.57ff.) Neither of these lists exhausts the number of assumptions that Aristotle makes in the first book of *DC*; recently Leggatt has come up with an admittedly non-exhaustive list of 14 hypotheses (1995: 14 n. 26). As for which hypotheses Plotinus means here, Simplicius suggests that Plotinus '*might* mean *all* the hypotheses and premises from which the demonstrations were deduced', but he then says it is 'more appropriate' to take him to be referring specifically to (7) and (8). Plotinus' list is likely to have included some or all of the hypotheses that Proclus and Simplicius suggest, but it probably also included one other hypothesis that they do not mention. At II.5.13.19–20 Plotinus reports that 'for example, even Aristotle says that the fifth body is immaterial', and it could very well be that he took this to be one of Aristotle's hypotheses. The immateriality of the heavens would in any case eliminate the problem of accounting for the constancy and

identity of the heavens, given the strong connection between immateriality and ἀπάθεια (cf. Proclus in Simplicius' *In Phys.* (612.20–1): 'every immaterial body is ἀπαθές'; III.6.2.52).

Aristotle, of course, never said that the fifth body is immaterial; he is quite explicit that it does have matter, but only local matter (*Meta.* 1044^{b}6–8). That is to say, since all change requires matter (*Meta.* 1069^{b} 24–5) and the heavenly body changes, it, too, will require matter, but since its change is limited to change of place, it only needs matter for this sort of change. Many considerations, however, might lead one to think he held it to be immaterial. First of all, consider Aristotle's explicit statements on the fifth body. It is neither generated nor corruptible and has no properties for which there are contraries. This means, for example, that it is neither heavy nor light, which would make it essentially weightless. This seems already to be only a short step away from immateriality, and there are two specific passages that could encourage one to take that step. In *GA* he likens the warm πνεῦμα in a living thing's body to the fifth element, and in a post-Stoic intellectual environment which identified soul with πνεῦμα, this could be interpreted as making the fifth body into a sort of psychic substance (see Moraux, 1963: 1206.44–63). And Aristotle is reported to have said in *DP* that aether is the stuff 'out of which stars and minds are constituted' (*e quo essent astra mentesque,* Cicero, *Acad.* 1.7.26). Moreover, other aspects of his natural philosophy might have confused later readers into believing this. Many later thinkers, Plotinus included, called the celestial body 'light' (φῶς), and Aristotle certainly does say that light is immaterial (*DA* 418^{b}14–15), and Aristotle's enigmatic talk of fire being nearest of all elements to form (*GC* 335a18–20) is also likely to have contributed to the misunderstanding (cf. Simplicius, *In Phys.* 597.22–3). Finally, in *DC* Aristotle calls the fifth body 'impassive', but in *GC* he maintains that 'however many powers have form without being in matter, these are impassive; however many are in matter, are passive' (324^{b}4–6). Taken together, Aristotle's statements could easily be interpreted as a doctrine of some immaterial, almost psychic body, and many later thinkers understood him in precisely this way.

Thus, Alexander, although he usually only uses the word 'immaterial' of mathematicals (*In Meta.* 169.12; cf. Ps.-Alexander 738.27–8, 739.17–18) and God or Intellect (*In Meta.* 171.9; *DA* 88.2, 89.19; cf. Ps.-Alexander *In Meta.* 695.1–2), explains that 'Aristotle added "perhaps" to "every nature has matter" [*Meta.* 995^{a}17] since the body that moves in a circle is also natural, but its substratum is surely not matter' (*In Meta.* 169.17–19; cf. *PS* 40.3–10 and John Philoponus, *In Meteo.* 51.26–30).

And in his criticism of the fifth body Atticus complains that 'Aristotle says it is a body which is a non-body: he grants it the name, but demolishes all the powers by which a body naturally comes to be' (Eusebius, *Praep. evang.* 15.7 805a–b). Origen (*Contra Celsus* 4.56 = *SVF* 2.417) critically remarks that Celsus is forced to take refuge in 'Aristotle and the Peripatetics who say that the aether is immaterial'. Iamblichus appears to have been the most emphatic defender of the doctrine of immaterial aether (*De myst.* 5.4; cf. Nasemann, 1991: 80–2). Cf. Hermias, *In Phaedr.* 111.24ff., where Hermias works out a way to admit that the heavenly body is everlastingly self-moving without resorting to its immateriality.

As Simplicius would have it, these thinkers were not all that mistaken to say that the heavenly body is immaterial:

> It is clear that those who say that the heaven is immaterial do not mean that it is immaterial in the sense that it is intelligible, but in the sense that it transcends this matter which is in generation and corruption and receives and sheds forms. For Aristotle says in *Meta.* viii [1044b3–8]: 'One must understand natural and generated substances in this way, if one is to understand them correctly. For these are as many as there are causes, and one must know the causes. But in the case of everlasting natural substances there is a different account. For perhaps some do not have matter, or do not have matter of this sort, but only local matter.' For since (i) Aristotle has observed from change that matter is everywhere, and (ii) he sees only local change in the heaven, he reasonably allotted to it only this sort of matter. (*In DC* 133.29–134.9)

Simplicius' own position is that the heaven is not, strictly speaking, immaterial (*In DC* 139.9, *In Phys.* 615.12–13), since it has matter for local motion, but it does behave immaterially as far as the procession of the sun's rays is concerned (*In DC* 441.2–5).

In addition to the immateriality of matter, Plotinus also denies (2b) that a single simple body has only one natural motion (see Introduction pp. 62–8).

Both Proclus and Simplicius report Plotinus' text to have run *τὰς ὑποθέσεις τὰς περὶ τοῦ πέμπτου…* on the basis of which Volkmann inserted ⟨*τὰς περὶ*⟩ into the text (an insertion which Beutler–Theiler call 'nicht unbedenklich'). The *τὰς περὶ* would perhaps make clearer that Plotinus is not interested in 'Aristotle's assumption of the fifth body' but rather 'Aristotle's [several] assumptions concerning the fifth body', but it is not necessary and should not be inserted. Compare Xenophon's *τὸν τοῦ κυνὸς λόγον* 'the tale about the dog' (*Mem.* 2.7.13) and in general K-G II.i. 335–6.

2.17 μόρια ὄντα. Cf. 1.16–17 and 5.14–15. (II) Plotinus now states a

second problem, which is identical to the third problem raised at the end of ch. 1: How do some parts, i.e. the heavenly bodies, persist numerically for all time (cf. 1.15–20 and 1.39–40)? What is so problematic about the heavenly bodies' being *parts* of heaven? So far, the only specific problem that Plotinus has mentioned is that the second explanation offered in ch. 1 (ll. 12–15) for the numerical persistence of the universe—there is nothing outside of it which could destroy it—would not account for the numerical persistence of parts (1.15–21). But since Plotinus apparently rejected this explanation in light of the possibility of internal destruction (1.21–31), it is not immediately clear what special difficulties Plotinus sees the *parts* of heaven to raise.

In fact, Plotinus does adopt something similar to this second explanation as part of his account of the numerical persistence of the heavens. In II.1.3 he works out an account of the heavens which rules out external flux and thereby aims at making the heaven as a whole everlasting, and while this is not by itself a sufficient account (cf. note on 3.3–4), it already creates a problem for the parts of heaven which resembles the one raised in 1.15–21: If (i) external flux is a sufficient condition for not persisting as an individual and (ii) the heaven as a whole is undergoing internal flux, then it would seem that the parts within the heaven are subject to external flux and therefore cannot persist as individuals. So Plotinus here might be anticipating this problem.

There is, however, a longer story to tell concerning Plotinus' uneasiness about parts, and it has to do with his doctrine of affection (*πάθειν*), since affection is the 'road to destruction' (III.6.8.9–10). Form and (prime) matter are not subject to affection (VI.4.8.12; cf. II.4.9.4–5); only composites are affected (III.6.11.12–13). The reason for this is that being affected is a process of change with two important features: (a) it proceeds from one property to its opposite (III.6.8.1 ff., III.6.9.33), and (b) the subject of affection persists through the change (III.6.10.14–17), but prime matter has no properties and any change in a form would be an essential change through which the form itself could not persist (III.6.9). So far there is nothing in this doctrine which would make the parts of heaven better candidates for affection than the heaven as a whole, since both are composites possessing properties to which there are opposites. Parts are rather singled out through Plotinus' doctrine of cosmic sympathy:

> One must posit that this universe is a single living thing which encompasses all the living things that are within itself [*Tim.* 30d3–31a1]; it has a single soul for all its parts, in so far as each individual thing is a part of it; and each thing in the perceptible All is a part of it, and completely a part of it as regards its body; and

each thing in the sensible universe is a part—that is, as regards the body it is completely a part, and insofar as it partakes of the World-Soul, it is even a part in this way. And the things which only partake of the World-Soul are entirely parts; however, whatever partakes additionally of another soul has an existence which is not altogether that of a part, *but they are nevertheless affected by the other parts insofar as they have something of the universe and in accordance with what they have*. (IV.4.32.4–13, my emphasis)

Simply by virtue of their being parts of the universe, particulars are subject to affection (cf. IV.4.39.26, IV.4.43.12, VI.5.3.7–8). Plotinus draws this conclusion about the heavenly bodies specifically a couple times (IV.4.12.14–15, IV.4.42.23). The problem, then, that Plotinus faces regarding the heavenly bodies could be formulated as follows: How can the heavenly bodies persist forever (numerically) given that as parts of the universal living being they are subject to affection which is in turn the 'road to destruction' (III.6.8.9–10)? He solves this problem by distinguishing different manners of affection. One form of affection might be called bodily affection or nourishment, and this is undoubtedly the sort of affection that leads to destruction. Bodily affection occurs in that 'which needs something to enter it or exit it and has a deficient constitution in this thing's absence and is only complete when this is present' (III.6.11.13–15), and those composites which have no need of nourishment, i.e. the heavenly bodies, are *not* subject to bodily affection (III.6.11.13; cf. III.2.2.6–7). But bodily affection is distinguished from the affection which occurs by virtue of cosmic sympathy (IV.5.3.36–8). All particulars in the universe are subject to this sympathetic affection, regardless of whether they require nourishment or not. As in the case of bodily affection, Plotinus is willing to characterize sympathetic affection in terms of something 'entering' or 'exiting' the subject, but the something in question is quite different in each case. In bodily affection a *body* (nourishment) is entering the subject and changes the subject's constitution. In sympathetic affection what enters the subject is a *quality*, e.g. solidity (cf. II.1.7), which, unlike a body, can enter the subject inconspicuously (cf. Introduction p. 61).

One could still ask why sympathetic affection, which introduces qualities to a subject, does not likewise lead to the destruction of the subject. It would seem, after all, that by introducing solidity to a subject that is not solid, the constitution of the subject would change (perhaps even more than in the case of bodily affection). Plotinus, to my knowledge, never addresses this question.

2.17–28 συγκειμένου δὴ παντὸς ζῴου . . . προσήκει. Plotinus begins

to outline a solution to the problem surrounding the diachronic numerical identity of the heavens and the heavenly bodies by pointing out the three possible causes of the heavens' numerical everlastingness: (*a*) the composite, (*b*) the body, or (*c*) the soul. But what does Plotinus mean by 'a cause of a thing's everlasting persistence'? It is tempting to interpret these causes as three possible *criteria of identity*. If x is a criterion of identity of y, then the persistence of x from t_1 to t_2 is *sufficient* for the persistence of y from t_1 to t_2. This does not, of course, prohibit there being some z ($z \neq x$) such that y must have z to exist, without z having to remain the same from t_1 to t_2. For example, if we take Bob's brain to be the criterion of Bob's diachronic identity, then Bob will persist as long as Bob's brain remains identical (the sense of 'identical' here would need to be spelled out). We might also insist that Bob needs a head, heart, etc. in order to exist, but these do not have to remain the same like the brain does; they could, for example, be surgically replaced without affecting Bob's identity. If this is right, then Plotinus is essentially saying that the criterion of identity of a living thing is either

(*a'*) the body (In this case the soul would be a necessary constituent, but it would not have to remain identical; only the body would); or

(*b'*) the soul (The body would be a necessary constituent and would not have to remain the same over time); or

(*c'*) the body and the soul (Each must remain the same for the composite to persist).

Plotinus, however, probably has something else in mind. One can also say that x is the cause of the persistence of y, not necessarily because x is the criterion of identity of y, but because x somehow acts on y and keeps it in existence. The soul, for example, might be the cause of the composite's persistence because it prevents the body from flowing or dispersing. In this case, soul need not be the only criterion of identity. Both soul and body could function together as the criteria of identity, or I suppose it is even theoretically possible that the body is the only criterion of identity and different souls could perform the task of keeping the body identical. If this is what Plotinus has in mind, then he is claiming that a composite persists because either

(*a''*) the body accomplishes the composite's persistence (That the soul also persists is a given, but the soul does not contribute to the task of preserving the composite); or

(*b''*) the soul accomplishes the composite's persistence (Body must assist the soul by cooperating); or

(*c″*) soul and body each contribute equally to the persistence of the composite.

It is important to note the difference between (*b″*) and (*c″*). In (*b″*) soul is the true cause and body only an auxiliary cause, whereas in (*c″*) both are true (equal) causes.

As Ficino rightly observed, Plotinus ultimately decides on (*b″*), but it is understandable why Kalligas thinks Plotinus settles on (*c″*). After all, Plotinus devotes much effort to showing how body cooperates with the soul. Nevertheless, as ll. 24–8 make clear, this cooperation is part of explanation (*b″*). (*c″*) presumably demands more than the body's cooperation, as it proposes that body and soul are causes on a par with each other. See note on ll. 24–8 and 3.1 *συνεργὸν*.

2.18 τῆς σώματος φύσεως. Cf. 2.5–6. See notes on 1.24–5.

2.22 δέοιτο ἢ τοῦ ὁμοῦ ἀεὶ εἶναι πρὸς ζῴου σύστασιν. There are two possible translations for this clause which have scholars divided. (1) One could take the *ἢ* to be comparative and, taking *οὐδὲν . . . ἢ* together (almost as if it were *οὐδὲν ἄλλο . . . ἢ*, see K-G II.ii. 304, Anmerkung 4), translate:

(1) 'Whoever grants the [quality of being] indestructible to body would not require the soul for this purpose, *except that* it would always have to be together [with soul] in order to constitute a living thing.'

This is the sense given to the passage by Armstrong, Bouillet, Cilento, Harder, H–S[1], and Kalligas. (2) The *ἢ* can also be understood disjunctively, as Beutler–Theiler, Bréhier, H–S[3], MacKenna, and Müller interpret it. This gives something along the lines of:

(2) 'Whoever grants the [quality of being] indestructible to body would require to this end neither the soul nor the everlasting conjunction [with soul] which makes it a living thing.' (Beutler–Theiler, MacKenna; cf. Bréhier).

The note on the emendation in H–S[3] suggests that on reading (1) there should be a comma between *δέοιτο* and *ἢ*, on reading (2) there should not be, but this suggestion has not been followed in practice: Beutler–Theiler and Bréhier keep the comma, and Kalligas does not print it.

2.24–8 πειρατέον . . . ὑπάρχειν προσήκει. If one says that the soul is the cause of the immortality of the heavens, one must show three things:

(1) That the state of body is not opposed to its constitution with soul nor to the persistence of this constitution (ll. 24–5)
(2) That there is not naturally any discord between the body and the soul of the heavens

(3) That the matter of the heavens must rather be agreeable to the will of God.

In fact, all of these amount to the same thing. To show that the matter is agreeable to the will of God is simply to show that it is not naturally opposed to its everlasting conjunction with the soul. See notes on ll. 26–8, l. 28, 1.2, and 31–40. The *explananda* described here form the subject for the remainder of II.1, and from this we can conclude that Plotinus does in fact believe the protasis, i.e. that strictly speaking the soul is the cause of the everlastingness of the heavens.

2.26–8 ὅτι μηδὲν . . . ὑπάρχειν προσήκει. Cf. II.9.13.14–18. There are two translational issues here. The first concerns the sense of *ὅτι*. It could be taken to have a causal sense, in which case Plotinus is giving a reason why one must show body is not opposed to being together with soul (Beutler–Theiler, Bouillet, Ficino), or it could just mean 'that' and depend on the *δεικνύναι* immediately preceding it, in which case Plotinus is claiming that more than one thing has to be shown (Armstrong, Bréhier, Kalligas). The latter sense is more appropriate. The scope of the *ὅτι*-clause runs until the end of the chapter and thus includes the remark about matter's submitting to God's will, and this is precisely what Plotinus said must be *shown* (1.34–5). Moreover, in II.1.3–8 Plotinus *shows* that there is no discord between the soul and body of heaven.

Secondly, there is some ambiguity as to what *κατὰ φύσιν* is modifying. It could either be modifying *ἐστὶ*—'there is *naturally* no discord among the composites' (Armstrong, Kalligas), or it could modify *συνεστηκόσιν*—'there is no discord among what is composed *naturally*' (Beutler–Theiler, Bouillet, Bréhier, Ficino). Here, the former sense is more likely. I take it *all* living things are composites of body and soul which are naturally composed (cf. e.g. Alexander, *In Meta.* 169.17–19), but there is still something discordant about the sublunar which prohibits them from living forever. Thus, Plotinus wants it to be shown that this discord is naturally absent from the heavens.

2.28 ἀποτελέσαντος. A conjectured emendation in H–S^2 which seems right, even though all MSS offer *ἀποτελέσματος* (as printed in H–S^1). Beutler–Theiler object that the emendation is 'not necessary' and translate 'agreeable to the intention of the completed product', by taking the *τοῦ ἀποτελέσματος* as an objective genitive. Plotinus, however, only very rarely uses *βούλημα* or *βούλησις* with an objective genitive (perhaps only once, at VI.9.6.40, but probably also at VI.8.6.42). Moreover, in the context of II.1 the object of God's will is not the product *per se* but the

everlastingness of the product (cf. 1.1–3). Cf. Plato's use of ἀποτέλειν of the Demiurge's activity in the *Tim.* (28b1, 37d2) and his reference to the Demiurge as τοῦ γεννήσαντος in the *Stat.* (269d9).

II.1.3

Argument of II.1.3 At the end of II.1.2 Plotinus insinuates that the soul is the cause of the numerical everlastingness of the heavens *qua* living thing (see note on 2.24–8) but insists that for this to be the case the celestial body must in some way cooperate with the soul. Here he produces an account of the body's cooperation: Body cooperates by not flowing out, i.e. by not being subject to external flux (ll. 2–3). This lack of external flux alone apparently secures for the universe that it remains the same, i.e. its size neither increases nor decreases; and because of this (τοίνυν) it does not grow old (ll. 3–5).

In ll. 5–12 Plotinus begins to show that the body of the universe cooperates in this sense with the World-Soul. He starts by considering each of the three sublunar ensembles of elements—earth, water, and air—about which he wants to make three points:

(I) Observation tells us that these ensembles have always remained the same in form and quantity (ll. 5–7).

(II) The generation and destruction of the *individual* sublunar elements does not entail that the universe cannot persist numerically. After all, we humans, *qua* composite living things, persist numerically at least for a lifetime—even though the elements of our bodies are subject to these same processes of generation and destruction (ll. 7–10).

(III) Though the universe and the sublunar composite living things both persist numerically despite the generation and destruction of their constituent elements, there is a crucial difference between them: the universe persists numerically for *all* time. This is possible because of the cooperation of its elements: they do not flow out of the universe (ll. 10–12).

It has been shown that the *sublunar* elements cooperate in the requisite sense. It remains to show that the superlunar element, fire, also cooperates, and a stricter sort of cooperation is needed here, since Plotinus now has two tasks in mind. First, it is important that no fire exit the outer periphery of the heaven so that the universe can be free of external flux and thus persist numerically for all time. Secondly, it is equally important

that no superlunar fire descend into the sublunar region, since Plotinus also wants to show that the heavens persist numerically for all time, and this involves showing that they do not undergo any external flux, either.

Plotinus, then, first argues that superlunar fire itself must remain in the heaven (ll. 13–23). Fire cannot move beyond the periphery of the universe, since there is no place outside of the universe (ll. 13–17). And fire is not of a nature to move down (ll. 17–18). Even if one does not accept this Aristotelian thesis about the unnaturalness of downward motion for fire (the Stoics, for example, thought that downward motion was also natural to fire), superlunar fire will nevertheless remain in heaven thanks to the masterful power of soul (ll. 20–2). It is better, however, to say that fire has no such downward inclination, since then it would remain more harmoniously (ll. 22–3).

At this point it would seem that Plotinus has shown everything he wanted to show: superlunar fire cannot itself exit the heaven. If this is true, we can conclude that nothing in the superlunar region requires nourishment, since nourishment is only required where there is loss (ll. 23–6). There is, however, another possibility for loss of celestial fire that has yet to be considered: Celestial fire could extinguish, thereby changing into another element that would then naturally descend into the sublunar region (ll. 26–7). Plotinus offers a transcendental argument against this possibility: If this were to happen, it would ultimately mean that the universe would not remain numerically the same (ll. 27–30). Thus, these final lines make clear that the universe's numerical identity depends on more than just lack of external flux—it depends no less on the numerical identity of the heavens.

3.1–2 Πῶς οὖν . . . ἀεὶ ῥέον; Plotinus begins to comply with the demand he set for himself at 2.20–8, which is to show how the body of the universe is able to cooperate with the soul so that the composite can achieve numerical everlastingness.

3.1 ὕλη καὶ τὸ σῶμα. The two terms are not exactly synonymous for Plotinus. Some matter (i.e. prime matter) is incorporeal, and it is at least theoretically possible to imagine a body that is immaterial (as Plotinus understood aether, it was an immaterial body; see note on 2.13). Plotinus uses both terms here to make it clear once again that he is rejecting Aristotle's solution to the problem which involves making the heaven composed of an immaterial fifth body which is incorruptible.

3.1 συνεργὸν. Body and soul are not *equally* responsible for the numerical persistence of the heavens; body is only cooperative (*συνεργὸν*).

Plotinus' choice of word here is almost certainly influenced by a three-fold distinction of causes that goes back to the Stoics and that, as Sextus Empiricus tells us, most philosophers accepted (*Out. Pyrr.* 3.15). Although there are some discrepancies among the various accounts of this distinction (cf. Cicero, *De fato* 19.41; Clement, *Strom.* 8.9.25.3 and 8.9.33; [Galen], *Def. med.* 19.392–3 and *Hist. phil.* 19; Sextus Empiricus ibid. and *Adv. math.* 9.237–43), one can without many misgivings represent it as follows. Some causes are said to be perfect (*αὐτοτελῆ*) or containing (*συνεκτικά*). A cause is of this sort if it is in some sense sufficient for bringing about an effect all by itself. Other causes are said to be co-causes (*συναίτια*). The Greek word *συναίτια* is familiar from Platonic (e.g. *Tim.* 46c7) and Aristotelian (e.g. *Meta.* 1015^{a}21) contexts, but the Stoics give the word a new sense. When two or more things are roughly equally responsible and together sufficient for bringing about an effect, they are called *συναίτια*. Sextus' example of *συναίτια* is two oxen pulling a plough (ibid.). Finally, there are what are called *συνεργά* which are helpful in some way toward the production of the effect but do not themselves produce the effect; rather, they work together with either a single perfect cause or two or more co-causes (which in turn diminishes the sense in which these latter causes are said to be sufficient). Thus, the Stoic *συνεργά* correspond to Platonic *συναίτια*. The exact status of *συνεργά* is somewhat unclear; Clement (ibid. 8.9.28.3–5) and Simplicius (*In DC* 729.31–2) even deny that they are causes at all. Sextus gives the example of wood being a *συνεργόν* for burning of which fire is the proper cause (*Adv. math.* 9.241). See Frede (1980), Hankinson (1998*b*: 20–7), Sharples (1991: 198–201).

Plotinus does not take over this distinction wholesale—he never uses *συνεκτικός*, *-ή*, *-όν* or *αὐτοτελής*, *-ές*. But he does regularly distinguish between *αἴτια* and *συνεργά* in a way that approximates the Stoic *αὐτοτελῆ* (or *συνεκτικά*) *αἴτια*—*συνεργά* distinction. Thus, at II.9.13.14–16 Plotinus can call the heavenly bodies *συνεργοῦντα* for all the things that come to be naturally. This remark finds some elucidation in III.1.6.1–7: Man is the cause of man, and horse is the cause of horse; 'let the universal circuit be a *συνεργόν*, yielding the real burden (*τὸ πολὺ*) [of causation] to the things that come to be', i.e. the causes, man and horse. A similar point is made again in III.1.1.32–5: The father is the cause of the child, but there are several *συνεργά*, including a particular diet, easily flowing seed, and a woman well adapted to bearing children. Other examples can be found in II.3.14 where the possible causes of wealth (virtue, wickedness) are contrasted with possible *συνεργά* (body) and *συναιτίους* (the givers

of money—this is the only occurrence of *συναιτίος*, *-ον* in the *Enneads*, and it is tempting to take it in the Stoic sense; but Plotinus might just be using it as a synonym for *συνεργά*) and in IV.5.1.19–23 where Plotinus appears to concede that although the medium of sight is not affected and does not play any strong causal role it is a *συνεργόν* insofar as the wrong sort of medium (dark or dense) can hamper one's vision. Finally, at IV.4.30.10–11 Plotinus refers to the difficulties involved in making the gods *συνεργοὺς* or *αἰτίους* of indecent actions (the *καὶ* is linking alternatives and has the sense of *ἢ* (see Denniston 1954: 292); Bréhier gets it right, Armstrong and Beutler–Theiler do not). While *συνεργόν* might not have precisely the same meaning in all of these passages, a general commitment can be recognized to distinguish *συνεργά* from true causes. Cf. Dodds (1963: 240–1).

With this distinction in hand, Plotinus insists that the universe's body must be a *συνεργόν*: the soul is the cause, and the body must cooperate. This means that it must be suitable (*πρόσφορος*) to the will of God and to the nature of the stars (2.27; 4.13). This compatibility seems to be a *necessary condition* for the everlasting persistence of the heavens, despite the fact that Plotinus sometimes suggests that the celestial soul is powerful enough to hold any body together for ever (3.21–2; 4.14–18). See notes on 2.17–28 and 2.24–8.

3.2 τὴν τοῦ κόσμου ἀθανασίαν. Plotinus begins this chapter by asking about the everlastingness of the *universe* (*τὴν τοῦ κόσμου ἀθανασίαν*), but it is not immediately obvious where in II.1 his argument for the everlastingness of the universe is to be found. This is to be expected given his notorious breviloquence (see Schwyzer, 1951: 520.11–521.10) along with his interest in showing the everlastingness not just of the universe, but also of the heaven and the heavenly bodies. The everlastingness of the universe is still a live question at the end of the chapter (ll. 29–30), but it appears to be wrapped up by the end of ch. 4, since in chs. 5–8 Plotinus is concerned exclusively with the heavens and heavenly bodies. In fact, the everlastingness of the universe has simply been reduced to a question of the everlastingness of the heavens. A synopsis of Plotinus' argument for the numerical everlastingness of the universe might look something like this: The universe persists numerically for all time if three conditions are met:

(1) There can be no external flux from the universe (3.3–5, 10–12). This is shown to be the case in ch. 3.
(2) The heavens must also remain numerically the same for all time (3.26–30). This is shown in ch. 4 (4.6–16) by an appeal to the

power of the World-Soul and buttressed in ch. 8 by an argument that makes no appeal to soul.

(3) The World-Soul must persist (4.29–30).

This argument is supplemented by several considerations in ch. 4: Soul is the strongest bond imaginable (4.16–25); since the universe has always existed, it should always exist in the future (4.25–30); and the soul would not change its mind and dissolve the universe itself (4.30–3).

3.2 ἀεὶ ῥέον; Cf. 1.24–5; 2.5–6.

3.2–3 ἢ ὅτι, φαῖμεν ἄν, ⟨ῥεῖ ἐν αὐτῷ·⟩ ῥεῖ γὰρ οὐκ ἔξω. The text without something like H–S[1]'s addendum, *ἢ ὅτι, φαῖμεν ἄν, ῥεῖ γὰρ οὐκ ἔξω*, poses the following problem. The *ὅτι* would either have to be a plain conjunction ('that') or a causal conjunction ('because'). But the plain conjunction seems unlikely for two reasons. First, Plotinus mostly uses the first person plural of *φάναι* with *oratio obliqua* (Sleeman 1073.34–5). Secondly, the *γάρ* would have to be part of the dependent substantive clause ('we could say *that it is because* it does not flow out'), but Plotinus never uses *γάρ* in this way (in III.4.5.19, III.6.3.4, IV.4.29.15, V.4.1.38, and VI.1.1.18 the *γάρ* is not part of the *ὅτι*-clause).

For this reason Müller suggested that *ὅτι* and *γάρ* are both causal and work together, appealing to an analogous construction in German 'eben *darum*, *denn* er fließt ja nicht nach außen'. The lack of analogous constructions in other languages (the nearest English equivalent I can think of is: 'It *just* does, *because* it does not flow out') might explain why the only more recent edition to follow Müller is the German edition of Beutler–Theiler (but not Harder). Plotinus, however, nowhere else uses both *ὅτι* and *γάρ* to explain a single clause. One does often find them together, both in causal roles, but then the *γάρ* modifies an entire compound sentence and the *ὅτι* introduces just one part of that sentence: For (*γάρ*), because of (*ὅτι*) *p*, *q*—e.g. For, because Socrates is a man, he is mortal—cf. III.8.4.33; IV.4.3.10; IV.4.39.19; VI.7.18.49.

Thus, one must either accept an *addendum* like H–S[1]'s ⟨*ῥεῖ ἐν αὐτῷ·*⟩, Harder's ⟨*ἐν αὐτῷ·*⟩ or Volkmann's ⟨*ῥεῖ*⟩, or perhaps just get rid of the *γάρ*. I follow H–S[1], in part because in ll. 3–4 *ἐν αὐτῷ* is already contrasted with *οὐκ ἀπ' αὐτοῦ*.

3.3–4 εἰ οὖν . . . οὔτε φθίνοι. The tentativeness first signalled by the optative with *ἄν* (*φαῖμεν ἄν*) is carried through here with the conditional. Nevertheless, this is clearly part of Plotinus' solution. Thus, Bréhier's translation which breaks this condition into two assertions is acceptable. The supposition that what is not subject to external flux remains the same, i.e. neither increases nor decreases in size, and thus does not grow

old, resonates with the second explanation offered in ch. 1: that the universe has no exterior (cf. 1.12–15 and note there), but there are important differences. In ch. 1 Plotinus placed just as much if not more emphasis on the fact that there was nothing outside of the universe that could *attack* it (1.14) as on its not flowing outside of itself (1.13), here it is solely this latter consideration that is important. Moreover, the explanation here has a more general form: it is not limited to what has no exterior (only the universe fits this description), rather *whatever* is not subject to external flux can persist everlastingly. This solution, however, is similar enough to the one in ch. 1—which was put forth (1.12–15) only to be rejected (1.15-31)—that it needs to be shown how this account gets around the two objections raised there:

(*a*) it cannot account for the diachronic numerical everlastingness of the heavenly bodies (but only for the universe as a whole), and

(*b*) it could still be the case that the universe destroys *itself* internally.

With regard to (*a*), the general form of the explanation here allows it to be applied to the heavenly bodies as well. It must only be shown that the heavenly bodies are not subject to external flux, either, and Plotinus turns to this task in ch. 5. As for (*b*), in addition to this argument, Plotinus offers some reasons for why the universe would not destroy itself internally. He does this by considering and evaluating various scenarios:

(i) The generation and destruction of particular sublunar elements does not lead to the destruction of the universe (ll. 5–12; 4.27–30).

(ii) Although the generation and destruction of superlunar elements would seem to amount to the destruction of the universe (ll. 26–30), no such generation and destruction obtains (4.6–16; 8.1ff.).

(iii) Finally, the World-Soul could never simply change its mind and dissolve the universe itself (4.30–3).

3.4 μένον τὸ αὐτὸ. 'remaining the same'. The exact sense of *μένειν* here is spelled out by *οὔτ' ἂν αὔξοιτο οὔτε φθίνοι* in l. 4: it remains the same size.

3.4 φθίνοι. It is important to distinguish between *φθίνειν* and *φθείρειν*. Although both can mean 'to perish', the former denotes the kind of perishing caused by diminution—wasting away—and is the opposite of *αὐξάνειν*. Cf. Aristotle, *Phys.* 245[a]12–14 and *Tim.* 81b4–5.

3.5–7 ὁρᾶν δὲ δεῖ . . . ὕδατος φύσις. Plotinus appears to be providing some sort of partial proof of the claim he just made that if the body of a living thing is not subject to external flux, then it will remain the same, i.e. neither increase nor decrease, and therefore it will not grow old. The first step is clear enough: if no parts are entering or exiting the universe, its

size will remain constant. But how does it follow from this that it doesn't grow old? Dufour (77) acutely points to *Tim*. 81b–d where old age is said to result from a lifetime of nourishment and digestion which dull the body's triangles so that the consumed food divides them rather than the other way around (cf. *Tim*. 33a). This is not as far as one might think from Aristotle's account of old age as resulting from a loss of heat (*PN* 478^{b}31–2, 479^{a}15ff.; and cf. Plutarch, *Mor*. 736a3–4), since for Plato it is pyramidal fire that is primarily responsible for cutting (*Tim*. 56a5–b2). One should conclude, then, that the universe is not growing older and will not perish (cf. IV.3.8.34–5).

That the sublunar ensembles are meant in what follows is clear, since we could never say of an individual element of air or water that it doesn't run out. This is only true of the ensembles. The absence of fire is immediately apparent. Plotinus is here considering the sublunar world which consists entirely of these three ensembles. The *hypekkauma* is thus included under the rubric 'air'. (Identifying the *hypekkauma* with air is not unusual for Plotinus (see notes on 7.33–43 and 8.7–8), or for Aristotle for that matter (see Introduction, p. 23); Plotinus, indeed, has better reason to make this identification than Aristotle. Having rejected Aristotle's fifth body, the ensemble of fire must properly be seated in the celestial region.) One can see (presumably by comparing one's present observations with older, historical descriptions of the world) that each of these ensembles has remained roughly the same in shape. For instance, one does not see the surface of the ocean (which is identical to the surface of the ensemble of water) taking on radically new shapes (say, the shape of a pyramid). Despite the irregularities of the waves at its face, the ensemble always looks roughly spherical.

Likewise, these ensembles remain the same in quantity. Plotinus probably wishes to call on the intuition that (e.g.) the size of the ocean relative to the earth never increases nor decreases. This is a disappointing argumentative strategy. If he is arguing against the Stoic position that the universe suffers periodic destruction, he is doing so by means of a premise that no Stoic would accept. The Stoic doctrine of conflagration stands in direct conflict with this premise. Plotinus does not appear to be aware that he is making a controversial claim. Both Jews and Christians might have considered the Flood (*Genesis* 6–8) as a counter-example, and there are even passages in Plato that would seem *prima facie* hard to reconcile with this assertion, e.g. *Tim.* 22d–e (and cf. *Laws* III 667a, 679d) reports the destruction of all things by fire and water in alternate recurring intervals. Yet presumably these sorts of objections could be answered by the

account that Aristotle gives in *Meteo*. A14 with which one should compare ll. 5–9.

3.6 ἐξ ἀιδίου. It might seem presumptuous of Plotinus to assume that the world always existed. At the start it appeared, in any case, that this was one of the propositions that Plotinus wanted to argue for (see 1.1; 4.25). This 'observation', then, that the universe has always existed sheds some light on what Plotinus is actually arguing for in this treatise. He is *not* concerned with those thinkers (Christians and Jews, as well as Platonists like Atticus and Plutarch) who claim that the universe came to be at some definition point in time prior to which no universe existed. He is simply assuming that there was always *some* universe. The question he is really interested in is whether this universe has always remained numerically the same or whether it is only the same in form. Given this starting point, his claim here that the sublunar ensembles have always remained the same *in form* should not strike us as question-begging.

3.7 ἐπιλείπῃ. 'dry up'.

3.7 ἡ ὕδατος φύσις. As remarked above (1.24–5; 2.18) Plotinus often seems to use 'the nature of *x*' synonymously for '*x*', cf. Beutler–Theiler (VI, 121).

3.7–9 καὶ τοίνυν . . . φύσιν. The generation and destruction of individual elements does not entail the universe's own destruction. It can persist through the change just as composite human beings do. Plotinus wants to meet the concern that the body of the universe is constantly flowing—some individual elements are going out of existence while others are coming into existence—and that the universe accordingly does not persist over all time numerically but only in form. This is essentially the problem concerning Theseus' ship applied to the universe—an application that is also found in Philoponus, *AP* (502.8–10, 15–503.7):

> [A] thing whose parts are generated and destructible must itself be generated and destructible [. . .] Now, if there is no part of water which is neither generated nor destructible, and if the whole is nothing other than all the parts taken together, then how can what has no ungenerated and indestructible part itself be ungenerated and indestructible? For what is properly ungenerated and indestructible must be numerically the same, but no element [i.e. no ensemble] can remain numerically the same over an extended period of time since all of its parts are being destroyed while some other parts come to be [. . .] just as the ship which is changed plank by plank is not numerically the same ship but is rather entirely changed over time and is a different ship than the one it came from, so too, what is presently water [i.e. the ensemble of water] is not numerically the same as the [ensemble of] water that existed, let's say, three thousand years ago, nor again is

it the same as the [ensemble of] water that will exist a long time from now since all the parts of the previous [ensemble of] water would now be destroyed and all the parts of the current [ensemble of] water will in turn be destroyed. And the same argument applies to the rest of the elements, too. So how can we say that the ensembles of the elements are ungenerated and indestructible when they are not always numerically the same?

Hippolytus (*Refut.* 1.19.5) reports that some Platonists flatly denied that this sort of material flux would jeopardize the universe's identity, believing that the everlastingness of the world could be guaranteed by the constant replacement of its parts:

Some Platonists . . . use this sort of example: just as a wagon can remain for all time undestroyed if it is repaired with respect to its parts—for even if on each occasion the parts are destroyed, the wagon as a complete whole always persists—in this manner the cosmos, too, even if it is destroyed with respect to its parts, remains everlasting if the destroyed parts are repaired and replaced.

Plotinus takes the middle path. He agrees with the general point these Platonists are making, namely that the generation and destruction of the universe's elements do not in fact entail the universe's own destruction, but he could also agree with Philoponus that *if* the universe were to lose parts *externally* (like Theseus' ship and the wagon), it would eventually perish, although it could persist numerically for *some* time—just as we composite human beings do.

3.8 μεταβάλλει . . . ἠλλοίωσε. In the Aristotelian tradition ἀλλοίωσις is usually distinguished from μεταβολή in that the former is taken to be a species of the latter. μεταβολή is often, then, the most generic term for change, being synonymous with κίνησις, and includes substantial, qualitative, quantitative, and local change (*Cat.* 15^{a}13 ff., *Phys.* 200^{b}33–201^{a}9, *Meta.* 1042^{a}33 ff., 1069^{b}9–10; Bonitz 391^{b}34–7 and 459.24–7. But see *Phys.* 225^{a}20–34 and 229^{a}31 and ^{b}14 where Aristotle asserts that κίνησις is a species of μεταβολή). ἀλλοίωσις is qualitative change (*Cat* 4^{a}30; *Phys.* 226^{a}26–7; *GC* 320^{a}14) distinct from substantial change (*GC* 319^{b}6 ff.) where a single substratum persists through the change (*GC* 314^{b}28–315^{a}3).

Plotinus takes much of this over into his own usage. μεταβολή is often used generically of all sorts of change as a synonym for κίνησις (esp. VI.3.22.1–2; II.9.14.20; IV.3.25.21; IV.4.15.11; VI.5.2.10), but it and its verb form μεταβάλλειν also take on a narrower sense of substantial change (II.1.1.13; II.1.8.23–4; II.4.6.7; II.9.8.4; III.2.15.28; IV.7.8^{5}.39; IV.7.9.15) and in particular substantial elemental change (II.1.1.5;

II.1.4.30; II.1.6.14; II.1.6.36; II.7.1.54; II.4.6.3–4; III.6.8.7–8). Likewise, *ἀλλοίωσις* is often reserved for qualitative change (VI.1.20.3–4 where he presents Aristotle's definition; II.3.13.38; III.6.8.7–8; III.6.12.16ff.), but *ἀλλοίωσις* and its verb form *ἀλλοιοῦσθαι* are not limited to this sense in the *Enneads*; both can also refer to substantial change (III.6.10.23; IV.7.12.17; VI.3.21.40 and Beutler–Theiler's note ad loc.; also III.6.12.16ff. where Plotinus does go on to object that *ἀλλοίωσις* cannot be a change of form, i.e. a substantial change, but the objection only pertains to *ἀλλοίωσις* of *prime matter*).

Here *μεταβάλλει* probably has the sense of elemental change, and Plotinus' argument requires *ἠλλοίωσε* to have the sense of changing a thing's nature: 'And further, however much elemental change goes on in these ensembles [literally, however much of these [ensembles] changes], it has not transformed the nature of the universal living thing [i.e. it has not made the universe a different individual living thing].' Cf. II.1.8.23–5 and Sorabji, 2005: 2.66–8.

3.9 ἀεὶ μεταβαλλόντων μορίων. Given that Plotinus is drawing a comparison between the universe and a human being, one would expect *μεταβάλλειν* to have the same sense in l. 8 and l. 9 so that here, too, Plotinus would be referring to the substantial elemental changes that go on in our bodies.

3.10–12 ᾧ δὲ . . . ἀεὶ μένον. Plotinus has just argued, on the basis of the comparison between the universe and a human being, that the universe can persist as the same individual living thing even though its parts are changing, but strictly speaking this comparison only justifies the conclusion that the universe remains the same individual living thing *εἰς πολύ*—for a long time, i.e. a lifetime. Thus, Plotinus now turns to explain why it is that the universe, but not human beings, can persist as the same individual living thing for *all* time.

His answer, in short, is that the universe is not subject to external flux: *ᾧ δὲ ἔξω μηδέν* [*sc.* *ῥεῖ* or perhaps *ἄπεισι*]. The verb must be supplied mentally. Most translators mentally supply 'is': *ᾧ δὲ ἔξω μηδέν* [*sc.* *ἐστίν*]: 'that for which there is no exterior'. The problem with this translation is that it falls victim to Plotinus' criticism in chapter 1: it only accounts for the everlastingness of the *universe*, and not that of the heavens or the heavenly bodies (see note on ll. 3–4). Thus, it is better mentally to supply 'flows', as Ficino seems to do: 'ubi vero extra nihil *exhalat*'. Where there is no external flux, body and soul enjoy a harmonious symbiosis that allows for everlasting composite existence.

3.10–11 ᾧ . . . τούτων. As H–S[1] note, the *ᾧ* is indefinite and answered by

the plural *τούτων* (cf. Schwyzer (1951), col. 515.32–4). Beutler–Theiler, Bréhier, Creuzer, and Kalligas follow Perna in changing the *τούτων* to *τούτῳ*. This emendation is prompted in part by their understanding an implicit *ἐστίν* in l. 11 (see note on ll. 10–12), since there is only one thing that does not have any exterior—the universe—so that the plural becomes inappropriate. Since we understood an implicit *ῥεῖ* at l. 11, the plural is not offensive (there are several things which are not subject to external flux: the universe, heaven, and each of the heavenly bodies), although it is grammatically surprising. Thus, although I have not been able to find any other instance in the *Enneads* of a singular relative being picked up by a plural, I am still inclined to follow the MSS. Some manuscripts also offer *ἀεὶ* in place of *ἄν*, but, as Sleeman (79.34–42) reports, Plotinus is quite capable of using *ἄν* without a verb.

3.11–12 ἡ σώματος φύσις πρὸς ψυχὴν. Cf. note on 1.24–5.

3.12 τὸ αὐτὸ εἶναι ζῷον καὶ ἀεὶ μένον. The universe, since it is not subject to external flux, can persist everlastingly as the same individual living thing.

3.13 πῦρ. Plotinus now turns to consider the final elemental ensemble, the ensemble of celestial fire. Several considerations make clear that a *sublunar* ensemble of fire is not meant: (1) Plotinus already dealt with the sublunar elements in ll. 5–9. (2) We are told there is nothing beyond it (l. 17). (3) This fire is drawn in a circle by soul (ll. 19–20). If the *hypekkauma* moves in a circle at all in Plotinus' system, its motion would presumably be caused not by soul but by the motion of the superlunar body, as Aristotle explained it. Finally, (4) in 7.35 f. Plotinus gives a description of the ascent of sublunar fire that is incompatible with this one.

Prima facie it would seem that here Plotinus is describing the ascent of sublunar fire into the superlunar region, as this is strongly suggested by language like 'fire does not remain down here' and 'when [it] has come to be there—where it must stop'. Yet this cannot be the case since Plotinus elsewhere denies any elemental exchange between the sublunar and superlunar regions (II.1.7.35 f.; II.1.8.19–20). For consistency's sake we must assume that Plotinus is describing an almost pre-cosmic state of the universe, similar to what Timaeus does at 53a, where he describes the state of affairs 'even before the birth of the heaven' (cf. Taylor, 352). It is almost as if Plotinus is giving an account of the creation of the heaven (although not a literal account, of course). This reading finds some confirmation in ll. 23 f. where Plotinus compares the heaven *qua* part or member of the universal animal with the parts of the human body. He contrasts the two saying 'Now, once our members have been formed (*ἐν μορφῇ γενόμενα*),

they demand parts from other things in order to persist because they do not sustain their constitution.' Thus, in ll. 13f. Plotinus must be describing the (hypothetical) taking shape of the heavens in order to assert that afterwards the heavens can sustain their constitution. For another example of hypothetical pre-cosmic description, cf. v.1.2.25–6.

3.13 ὀξὺ μὲν καὶ ταχὺ τῷ μὴ ὧδε μένειν. As H–S note, the *ὀξύ* and *ταχύ* are likely derived from *Tim.* 56a, where fire is called *εὐκινητότατον* and *ὀξύτατον*, in which case *τῷ μὴ ὧδε μένειν* is probably a dative of cause '*because* it does remain down here' (K-G II.i. 438–40; cf. *DC* 307[b]31–2). This is in accord both with II.1.7–8 where Plotinus attributes the weakness of sublunar fire to its encounters with the other sublunar elements and in general with Plotinus' doctrine of the efficacy of place according to which the celestial region itself contributes to the cause of everlastingness (see note on 5.9–14). If this is right, one has to supply the missing predicates in the next line: 'just as earth ⟨is immobile and plastic⟩ (*Tim.* 55e1–2) because it does not remain above', as H–S[4] suggest (*sed δυσκίνητος et στερεὰ vel ἑδραία subintellegi potest*). Yet this is a great deal to supply mentally, and Igal's suggestion of inserting ⟨*δυσκίνητος καὶ στερεὰ*⟩ into the text is tempting. That the earth's immobility is caused by its location, rather than by its size or shape or by some sort of vortex, is also Aristotelian doctrine (*DC* 294[b]13ff.). Cf. Poseidonius, fr. 307 (Th.): where there is an over-abundance of fire, the soul makes the living thing more active and spirited, and the body *ὀξὺ καὶ εὐκίνητον*.

3.13 ὧδε. Cf. VI.1.14.10–14 where Plotinus uses *ὧδε*, *ἐνταῦθα*, and *ἐν τῷδε* synonymously for 'here'. This is the only occurrence of *ὧδε* in this sense of 'sublunar region'. Usually Plotinus prefers *ἐνταῦθα* for the sublunar region (cf. 5.1, 5.3, 5.12, II.3.9.12, etc.). All three of these expressions can also refer to the sensible as opposed to the intelligible world (*ὧδε*: VI.1.12.52, VI.7.9.9; *ἐνταῦθα*: I.1.10.10, II.9.4.27; *ἐν τῷδε*: II.9.9.31, VI.4.6.7). See note on 8.11.

3.14 γενόμενον δὲ ἐκεῖ, οὗ στῆναι δεῖ. 'When it has come to be there [*viz.* the celestial region]—where it must stop'. The *γενόμενον* here corresponds to the *γενόμενα* in l. 24. This describes the hypothetical formation of one of the universe's parts, namely the heavens. According to Aristotle all simple bodies are naturally at rest in their proper (i.e. natural) places (*Phys.* 253[b]33–5; *DC* 276[a]22ff., 279[b]1–2, 300[a]28–9, etc.; see especially the similar formulation at *DC* 300[b]5–6, though the context is not the same).

Plotinus, like Aristotle, holds that when elements are in their proper places they either naturally rest or naturally move in a circle—sublu-

nar elements naturally rest, and the celestial body naturally moves in a circle. This is clear enough from II.2.1.23ff., where Plotinus considers why, although other elements naturally rest (*ἑστάναι κατὰ φύσιν*) in their proper places, fire moves in a circle. Hence, Plotinus is not, as Beutler–Theiler claim, polemicizing against the Aristotelian thesis that an element rests in its proper place, though he does disagree with Aristotle regarding the behaviour of fire. As Proclus would have it, the doctrine that all elements in their proper ensembles naturally either rest or move in a circle is clearly stated in 8.17–19, but see my note there.

3.14 ἐκεῖ. In II.1 and II.2 *ἐκεῖ* regularly means 'in the celestial region',although elsewhere its more common meaning is 'in the intelligible realm' (see Sleeman 347.29–349.11).

3.14–16 οὔτοι δεῖν . . . ἄμφω ζητεῖν. A difficult construction: 'One must not think that fire, when seated in its proper place, is not such as to seek *στάσις* in both directions, as is the case with the other elements.' That is to say, one should think that fire, when seated in the heavens, *does* seek *στάσις* in both directions. But do the other elements seek *στάσις* or not? And what is *στάσις*?

Generally, Plotinus reserves the use of *στάσις* for one of the five Platonic categories of the intelligible world (cf. Plato's *Soph.* 254d–257a). It is a sort of ontological 'rest' (III.7.2.20ff., IV.4.12.17, V.1.4.36, V.1.7.25, V.9.10.13, VI.2.7.27ff., VI.2.8.19ff., etc.). Plotinus even tells us that *στάσις* is an inappropriate expression for the sensible world where we should rather speak of *ἠρεμία* (VI.3.27), since the sensible world involves matter and there can be no *στάσις* of matter (VI.3.2.31–3). Nevertheless, Plotinus does sometimes use *στάσις*, as he does here, to refer to certain aspects of the sensible world, and in these cases it can have several different meanings: rest from motion (III.7.12.18, III.7.13.8, IV.4.8.44, IV.5.5.21), position (III.1.5.3, III.1.6.7), and standing (as opposed to sitting, VI.1.6.9 and 25). We can disregard the third meaning and ask ourselves whether the elements, once they are already in their proper ensembles, seek *rest* (Beutler–Theiler and Bréhier) or *position* (Armstrong). These two meanings seem to exclude each other: for an element to search for rest in its ensemble is simply to rest; but for an element to search for a position in its ensemble would seem to involve continued motion. Which of these two alternatives we decide on will inform how we read ll. 16–20.

(1) If we take fire to be seeking rest with respect to upward and downward motion, then ll. 16–18 will be providing the reason (*γάρ*) why it must seek rest, namely because it is not free to move up and down. And

ll. 18–20 makes the additional point that since it is at rest in this respect, it is free to accept a new, circular motion.

(2) If, on the other hand, we take fire to be seeking position with respect to upward and downward direction, then we have to take the first γάρ in l. 17 as anticipatory (the inception of the main clause is marked by the δέ in l. 18; see Denniston, 1954: 70), so that ll. 16–18 would serve as a reason why fire moves in a circle: fire seeks position primarily in the upward or downward direction, but since (γάρ) it is not free to move in either of these directions it is left to move in a circle.

Choosing between these alternatives is difficult, but a decision can be made by appealing to II.2.1.26ff. There, Plotinus maintains that when fire is in heaven, it still desires to move upward, but it fails to do so because there is no more room. Thus, it has no other choice than to move in a circle. After all, 'fire did not come to be [in heaven] in order to rest, but in order to move' (II.2.1.30–1). This is basically the theory presented in (2). Now we can also see how to understand ὥσπερ καὶ τὰ ἄλλα. The other elements clearly do seek to rest in their respective ensembles (II.2.1.20–4); fire is unique in its desire to keep moving. Thus, we should translate: '. . . one must not think that fire, when seated in its proper place, is not such as to seek position in both directions, as is the case with the other elements.'

Ficino has *amplificationem* in place of στάσιν, and this led Müller and Volkmann to revise στάσιν into ἔκτασιν so that fire in its proper place would be seeking *extension* rather than rest or position. Presumably, this means that, whereas a portion of fire down here on the surface of the earth is concentrated in a small area (e.g. the tip of a match), when a portion of fire is in its ensemble it seeks to spread out and disperse (see note on 3.14). But while this is a plausible account of what happens when an element reaches its ensemble, it does not fit into the context of the passage. One would expect the portion of fire to spread out horizontally, but ἐπ' ἄμφω has to mean 'vertically' in light of ll. 16–18.

3.15 οὕτως . . . ὡς μὴ. Although this construction does not occur in Plato or Aristotle (but cf. Pseudo-Aristotle, *De Mel.* 977ª9), it is common in Plotinus, cf. I.4.7.35; II.9.8.10–11; III.4.5.20; IV.4.30.6; IV.4.32.21–2; IV.7.10.23; V.3.15.31; VI.2.10.12.

3.17 οὐδὲν γὰρ ἔτι. Cf. Plato, *Tim.* 33c7. This claim, which Plotinus makes repeatedly (cf. II.2.1.27–9; II.9.7.30; III.2.3.31), is stronger than one might think, especially if II.1 is aimed at refuting Stoic doctrine. The Stoics held that the universe (τὸ πᾶν) was surrounded by an infinite void (τὸ κένον)—as did Xenarchus (Simplicius, *In DC* 286.2–6; see Moraux,

1967: 1427.22–49)—and the combination of the universe and the void they called 'the whole' (*τὸ ὅλον*) (*SVF* 1. 95–9, 2.522–5, etc.; Lapidge's attempt (1978: 171) to water this down is unconvincing). Two reasons are presented for positing a void outside of the universe (see Furley, 1999: 441–2): (1) if one were to position oneself at the edge of the universe and stretch out one's hand, it would either extend out (in which case there is void) or hit something (in which case there is body), but since all body is by definition in the universe there must be void (*SVF* 2.535; a common argument that goes back to Archytas (Simplicius, *In Phys.* 467.26–35)—cf. Lucretius (1.957–83) and Alexander's counter-argument *PS* (106.36–107.4)). By the same route one can argue that the void must be infinite (Cleomedes, *Caelestia* 1.1.106–9 Todd). More important for our concerns is the second reason presented for the void: (2) The void is required by conflagration. When solid bodies like wood turn into a more rarified substance like smoke, they cover a much greater area; so during conflagration, when all bodies are turned into fire, a much greater area than the universe will be required (Cleomedes, *Caelestia* 1.1.43–54 Todd).

Plotinus never argues that there is no void outside of the universe, and he probably accepted the doctrine on Aristotle's authority; he held that outside of the universe there is neither place, void, nor time (*DC* 279^{a}11 ff.). Plato might also have held that there is no void outside of the cosmos (see Introduction, pp. 9–10).

3.18–20 λείπεται δὲ . . . τῇ ψυχῇ. This passage, along with II.2.1.19ff., presents Plotinus' views on the natural motions of the elements. Aristotle established the view that nothing which is in an unnatural state or undergoing an unnatural activity can be everlasting (*DC* 269^{b}6–10 and 286^{a}17–18), and this view became very widespread if not axiomatic among thinkers in late antiquity (see e.g. Philoponus, *AP* 279.12–14; Simplicius, *In DC* 399.15; Proclus, *In Rep.* 2.148.7 and *In Tim.* 3.130.20–1). Plotinus, too, connects being unnatural to destruction (II.1.8.13–15; II.2.1.38; IV.4.42.21–3) and being natural to everlastingness and eternity (II.9.12.33–4; IV.8.2.35–8). For Aristotle, however, this view goes hand in hand with his doctrine of a fifth body: since every simple body has exactly one natural motion and every sublunar body has a rectilinear natural motion, the circular motion of the heaven cannot be natural to any of them. Thus, the heaven must be composed of another simple body that naturally moves in a circle, since otherwise it could not be everlasting (*DC* 269^{b}6–17). Thinkers, then, like Plotinus, who denied the existence of a fifth celestial body but nevertheless maintained that the heavens and

the heavenly bodies are everlasting had to address the question of the naturalness of the circular celestial motion.

Plotinus' solution to this problem, as I presented it in the Introduction (pp. 62–8), which should be consulted for a fuller account, is to deny one of Aristotle's critical premises, namely that one simple body can only have one natural motion (see note on 2.13). Fire, according to Plotinus, has two natural motions—moving upwards and moving in a circle—and this is pushed into the foreground by Plotinus' method of explication in II.1.3. Despite the fact that Plotinus maintains both that celestial fire is in some sense a different sort of fire than sublunar fire (7.24–6) and that there is no elemental exchange between the sublunar and celestial regions (7.35–6), he presents a quasi-mythical account here of fire travelling from the sublunar into the superlunar region. This is in part due to Plotinus' desire to contrast the sustaining power of the universe with that of other living things (see note on 3.13), but it also serves to underline an important article of Plotinus' theory, namely that celestial fire is not so distinct from sublunar fire that it is to be considered (with Aristotle) a separate substance—just a different *species* of fire. See Introduction pp. 16–17 and Sorabji, 2005: 2.364–6.

Celestial fire is so unequivocally of the same substance as sublunar fire that Plotinus is ready to describe a hypothetical formation of the heavens out of sublunar fire. This means that it is the same fire that naturally moves up and moves in a circle. Plotinus repeatedly says that celestial fire also has an inclination to move upwards (3.16; II.2.1.27). Nevertheless, its circular motion is not unnatural nor forced but natural, as he says several times (8.15–19; II.2.3.17). It is not, after all, the circular motion that impedes the upward motion but the spatial limits of the universe. This thought finds its expression here, too: since fire seeks to move up even when situated in the celestial region (ll. 14–16) but cannot move up on account of the spatial limits of the universe (ll. 16–18), it is left to move naturally in a circle (ll. 18–20, see following note).

3.18–19 εὐαγώγῳ τε εἶναι καὶ κατὰ φυσικὴν ὁλκὴν ἑλκομένῳ ὑπὸ ψυχῆς. The fire in the heavens is said to be 'easily led' and 'drawn in accordance with a *natural* inclination by soul' (i.e. by the lower power of the World-Soul, II.2.3.8–10). As Plotinus represents it here, these two properties follow from fire's being inclined to move but not being able to move vertically. As Plotinus later makes clear, this is not the whole story; celestial fire is not *exactly* the same as sublunar fire, and this surely contributes to its tractability.

If it seems that there is something incongruous about saying that a

thing is 'drawn by a *natural* inclination', it is because this locution makes it sound as if the motion is coming to fire from the outside, and would therefore appear to be in conflict with Aristotle's definition of natural motion according to which a thing moves naturally if it moves in accordance with the principle of motion that it has *within itself* (*Phys.* 192^{b}13–14). Moreover, the imagery of drawing or dragging something would seem to imply a sort of resistance on the part of the thing being drawn. But in fact neither of these features is incompatible with natural motion. First, there is nothing objectionable (even to Aristotle) in saying that a natural motion of a thing is caused by something external to that thing, as Aristotle himself says as much (*MA* 700^{a}16–17, ^{b}6; cf. Solmsen, 1960: 101). Of course, the objection can be given a more specific form, but since the soul is the cause of motion in question and it is not really external (cf. Plato, *Phaedr.* 245e4–6, Simplicius, *In Phys.* 285.35–286.2), our efforts are better spent focusing on the more specific question of whether soul can be an efficient cause of natural motion. Two considerations are likely to lead one to think that psychic motion (i.e. motion caused by the soul) cannot be natural motion. Psychic motion tends to be distinct from natural elemental motion. Living things like human beings have bodies that are predominantly earthy and for this reason naturally fall down (*DC* 269^{a}1–2), but the local motion originating in our souls, e.g. walking, is generally a horizontal motion. Psychic motion also tends to be opposed to natural elemental motion. If the elements that constitute our bodies had their way they would disperse and go to their own respective natural places, but they do not do this because the soul holds them together (*DA* 416^{a}6–8; cf. II.2.1.18). But both of these considerations assume that the natural motion of the living thing is its predominant *elemental* motion, and there is no pressing reason to make this assumption. One could just as easily say, as Philoponus does at one point (*AP* 484.26ff.), that the predominant elemental motion is natural to the thing *qua* lifeless body, and the psychic motion is natural to it *qua* living thing. Is such a move un-Aristotelian? Hardly (see *Phys.* 254^{a}15–20), and Aristotle does repeatedly emphasize that 'nature' can refer to soul (*PA* 641^{a}25–8, *Meta.* Δ4) and that the natural scientist for this reason must also study the soul (*DA* 402^{a}4–7; *PA* 641^{a}21–2). This could give one some reason to say that psychic motions are in some sense natural, but admittedly this manner of speaking is more Platonic than Aristotelian (see Introduction pp. 16–19).

But even if it is admitted that the psychic motion of a living thing is natural to it *qua* living thing, Plotinus seems to be making the stronger claim that the psychic circular motion is natural—not to the heavens

qua living thing but to the fire that constitutes the heavens. It is certainly implausible to claim that when someone runs 100m the elements that constitute his body naturally move horizontally (regardless of whether this movement is natural to this person *qua* living thing), but the case of the fire that constitutes the heavens is not analogous to this. Fire belongs to its ensemble, the heavenly region, in a much stronger sense than any element belongs to a human being, and the motion of the ensemble is to this extent much more the element's *own* motion.

One might still complain about Plotinus' choice of locution here. For it would seem that if A *draws* or *pulls* B, B's motion cannot be natural. In fact, Plotinus seems to say as much himself in II.2.1.38: 'For the soul does not draw (ἕλκει) the superlunar fire, nor is the circular motion unnatural.' Here Plotinus not only assimilates the soul's drawing the superlunar fire to fire's moving unnaturally but also explicitly denies that the fire is drawn by the soul. Plotinus does often use ἕλκειν in a sense that is synonymous with unnatural and forceful motion (e.g. III.2.8.12; IV.5.6.19; VI.8.7.11), but it does not always have this negative connotation. Sometimes ἕλκειν refers to the sort of gentle attraction of affection (I.6.1.18; IV.4.40.10; IV.9.3.3), and it is also used to describe the action of form on matter: form draws or attracts matter into a certain shape (III.6.15.30; VI.3.2.31)—and here it is explicitly denied that the action is forceful or unnatural (III.6.17.29–30). This gives us good reason to conclude that there is no contradiction between II.1.3.19–20 and II.2.1.38. In the latter passage Plotinus is using ἕλκειν in its negative sense, but here κατὰ φυσικὴν ὁλκὴν makes clear that such connotations are absent. Further, ἑλκομένῳ and ὁλκὴν are probably meant to pick up not just on the action of drawing but also on the experience of attraction or inclination, which would resonate with two Aristotelian theses: that matter desires form (*Phys.* 192ª20–2) and that heavenly bodies move by virtue of their desire for the unmoved movers (*Meta.* 1072ª26–7).

The language of this passage is reminiscent of Plato *Laws* 890a6–7: . . . στάσεις τε διὰ ταῦτα ἑλκόντων πρὸς τὸν κατὰ φύσιν ὀρθὸν βίον, but the unrelatedness of the content makes a clear reference questionable. Schwyzer (1951: 551.19–30, 62–6) is in any case sceptical as to whether Plotinus ever clearly refers to the *Laws*.

3.20 ἐν καλῷ τόπῳ κινεῖσθαι ἐν τῇ ψυχῇ. Müller (1916*a*: 918) argued that ἐν τῇ ψυχῇ is a gloss and should be bracketed on the following grounds: 'Fire does not move *in* the soul, rather it voluntarily follows the circuit of the soul which mightily holds it up. It is in the upper region that fire is in its natural place and not in the soul.' Curiously, H–S[1] and

H–S^2 acknowledge Müller's suggestion while retaining the original text, but H–S^3 brackets *ἐν τῇ ψυχῇ*, citing only Müller's article as justification. And this is presumably what prompted Kalligas to bracket it as well. Müller's reasons, however, do not hold up under scrutiny. He assumes that fire is *either* in the upper region (which is a noble place in its own right, see note on 5.9) *or* in the soul, but in fact it is in both. The soul in question is the (lower part of the) World-Soul (II.2.3.8–10; see note on 3.18–19), which is itself in some sense located in the celestial region. Thus, when fire comes to be in the celestial region it is also necessarily in the World-Soul (Plotinus prefers to speak of body being in soul rather than soul being in body, see IV.3.22.7–9, V.5.9.29–31; cf. *Tim.* 36d9–e1). This is confirmed in 4.15–16 where Plotinus asks 'How will any of the things that were once placed *in it* (i.e. *in the soul—τῶν ἅπαξ ἐν αὐτῇ τεθέντων*) escape from it into non-being?' Nor is the double use of *ἐν* without a connective necessarily un-Plotinian, cf. I.4.10.33; III.5.9.21; III.7.2.10–11; III.7.3.20–1.

3.20–3 καὶ γάρ . . . οὐκ ἀντιτεῖνον μένει. *εἴ τῳ φόβος μὴ πέσῃ*: literally, 'if a fear belongs to one that it might fall'. Plotinus is providing additional justification for his claim that celestial fire moves everlastingly in the celestial region. Up until this point Plotinus' argument was more or less intended for those who, like Plotinus himself, bought into Aristotle's theory of natural motion according to which fire does not naturally move down (ll. 17–18). But such an argument would fail to convince a Stoic since on Stoic theory all elements, including celestial fire, have a natural tendency towards the centre of the universe (*SVF* 1.99, 2.549, 550; see esp. Gilbert, 1907: 246–7, but also Pohlenz, 1959: i.76, ii.43, and Sambursky, 1959: 111ff.). Thus, Plotinus argues here in ll. 20–2 that *even if* (*καὶ . . . εἰ*) you, like the Stoics, do not accept the peripatetic premise that fire does not naturally move down, you still have to admit that there is no flux from heaven owing to the dominating power of the celestial soul (cf. 4.14–16). For *καὶ γάρ εἰ* in this sense, cf. Isocrates, *Panegyricus* 28. Yet even this argument would surely fall short of convincing any true Stoic since Plotinus just shifts the burden from the natural motion of fire to the activity of the celestial soul. The Stoics do have something in their cosmic ontology that corresponds to the World-Soul: creative fire or cosmic *πνεῦμα* (Zeno and Cleanthes refer the life and tension in the universe to creative fire; only Chrysippus introduces cosmic *πνεῦμα* (Lapidge, 1978: 169 f.; Furley, 1999: 440), where *πνεῦμα* is identified with soul (e.g. *SVF* 1.135–40)), and some Stoics like Chrysippus and Poseidonius even recognize the celestial region to be the governing part

(ἡγεμονικόν) of this World-Soul (*SVF* 2. 605, 634, 642, 644). Yet they are under no pressure to concede that the soul in the celestial region keeps the celestial fire in the heaven. Plotinus does try to motivate this concession, both here and at 4.14–16. Here he reasons that since in general soul masters (κρατοῦσαν) body, it should be the case that whatever inclination body has is forfeited in its servitude to soul, with the result that in the heavens the celestial soul holds the celestial body up (ἀνέχειν). Plotinus' suggested solution is similar to Galen's: 'he equally counter-balanced the innate downward inclination (ῥοπὴν) of the body with the upward motion due to the soul's tension' (*SVF* 2.450). It should also be noted that Plotinus is not interested in *arguing* that fire does not naturally move down, and for this reason he seems to admit that Stoics are not required to say that fire remains there without resisting.

3.21 ἡ τῆς ψυχῆς περιαγωγὴ. A very common Platonic expression, but here with a more literal meaning than is usual. In *Rep.* 521c6–7 Socrates metaphorically defines true philosophy as a 'turning away of the soul (ψυχῆς περιαγωγὴ) from a sort of nocturnal day to true day'. References to this definition can be found throughout later Platonic authors (e.g. Alcinous, *Didask.* 1.1; Iamblichus, *On Mysteries* 8.7.4 and *Comm. math.* 6.58; Syrianus, *In Meta.* 83.11; Proclus, *In Alc. I* 235.14). As Schwyzer notes, such 'Platonic expressions and images are sometimes only decoration' (1951: 551.68–552.2), but here its employment is legitimated—not so much by the *Tim.* where the Demiurge is said to make the universe revolve (περιάγειν 34a, 36c) but by the *Laws* where the Athenian repeatedly says that *soul* makes the heavens revolve (περιάγειν, 898c2–d4).

3.22 ὡς κρατοῦσαν ἀνέχειν. The soul is said to master or dominate the fire. Plotinus might be thinking here of *Tim.* 40a7–b2 where each fixed star is said to rotate around its own axis in addition to being mastered by (i.e. subject to) the revolution of the same (and see 39a1–2). And this should be compared to 43a where we are told regarding living things in the sublunar world (at least prior to studying philosophy and astronomy) that the soul neither masters nor is mastered by the body. So in the *Tim.* it is suggested that soul dominates body more completely in the celestial region than in the sublunar region, and in II.1 this becomes one of Plotinus' major principles. In general, for Plotinus the soul masters the body (IV.8.2.9), but among sublunar living things the lower soul is susceptible to being mastered by the body (IV.8.8.4). For the cosmos' being mastered by the World-Soul, see IV.3.9.35 and IV.4.10.17.

3.23 παρ' αὐτοῦ. *Per se.* Some MSS offer παρ' αὑτοῦ (which Beutler–Theiler and Bréhier read), and others have παρ' αὐτοῦ; debating between

these two readings is pointless since they all ultimately go back to MSS without breathings. On the use of non-reflexive pronouns in reflexive contexts, cf. Sleeman 280.56–60 and 282.37ff.; Schwyzer (1951: 514.38–9).

3.23–6 τὰ μὲν οὖν . . . οὐδὲν δεῖ τρέφεσθαι. Plotinus draws a provisional conclusion: If no matter exits the heaven, there will be no need for any matter to *enter* the heaven, i.e. it will not require nourishment. Thus, there are two features of corporeal cooperation, one of which is derivative of the other: it is not subject to outward flux, and it has no need of nutrition.

3.24 μὲν οὖν. The *μέν* is prospective and is answered by the first *δέ* in 3.26. The *οὖν* is transitional (cf. Denniston, 1954: 470f.).

3.25 μένοι. Numerical persistence, see note on 1.19.

3.26–30 εἰ δὲ ἀπορρέοι . . . εἰ καὶ οὕτως. Plotinus' argument against the need for nourishment in the heavens rests on his claim that celestial fire cannot flow out of the heavens into the sublunar region (ll. 25–6). This claim is in turn supported from two different perspectives: the Peripatetic perspective that fire does not move down because it is unnatural for it to do so (ll. 17–18); and the Stoic perspective that fire does have a natural inclination to move down but does not do so because the celestial soul masters it and holds it up (ll. 21–2). Here Plotinus acknowledges that there is another way in which fire could escape from the celestial region, namely by being extinguished and thereby changing into another element. For if celestial fire could change into water or earth, it would then have a natural inclination to move down, and Plotinus seems to think that the celestial soul, while having the power to master *fire* and keep it up in heaven, could not similarly overpower the stronger natural inclinations of earth or water (i.e. of true sublunar earth and water as opposed to their celestial counterparts; this question is specifically addressed in 4.4–6). In ll. 26–30 Plotinus presents a transcendental argument against this sort of flux by elemental change. The gist of the argument is that if such change occurs the universe could not remain numerically identical.

Müller (1916: 918) noted regarding ll. 26–30 that '[d]er Ausdruck ist ungewöhnlich hart', and the truth of his remark is witnessed by the variety of interpretations of these lines. The best exegetical starting point is the conclusion in ll. 29–30 where Plotinus says that if the state of affairs described in ll. 26–9 were to obtain, the universe could not remain numerically the same. What state of affairs could Plotinus have in mind? The only condition for the universe's numerical persistence mentioned so far is lack of external flux. This suggests the following interpretation.

(1) ll. 26–9 describe a scenario in which the universe is subject to external flux:

(α) If [celestial fire] is extinguished and flows out from [the universe], some other fire must be ignited.

(β) And if [the universe] has [this other fire] from some other [universe] and it flows out from [that other universe], then still other fire is required to replace that.

On this interpretation Plotinus is describing a continual exchange of fire between our universe and some other hypothetical universe. This would indeed account for his conclusion in ll. 29–30, but there are insurmountable problems with this reading. First, Plotinus has already made clear that there is nothing beyond the universe (l. 17, see note). Moreover, if fire is *extinguished*, one should expect this fire to move *toward* the centre of the universe and not away from it.

(2) Similar problems infect Beutler–Theiler's reading of the text. As they see it, Plotinus is worried about the exchange of fire between heavenly bodies *within* the heavens:

(α) If [fire] is extinguished and flows out from [one celestial body], some other fire must be ignited.

(β) And if [this celestial body] has the fire from some other [celestial body] and it flows out from [that celestial body], then still other fire is required to replace that.

While there are some merits to this reading, it is unlikely that Plotinus is concerned about heavenly bodies nourishing each other. In ancient celestial physics, the question of whether the heavenly bodies require nourishment had always been a question of whether they receive nourishment from the *sublunar* region (see Gilbert, 1907: 445f. and 685f.). Moreover, if fire is being borrowed from another heavenly body, why does Plotinus say that it must be *ignited*? Finally, this reading simply does not fit well into the present context. Plotinus is concerned with refuting the suggestion that the celestial region receives any sort of influx of material nourishment *from the sublunar region* (see note on 3.23–6).

(3) A third interpretation has been offered by Müller and Gollwitzer (Müller, 1916*a*: 981):

(α) If [celestial fire] is extinguished and flows out from [the celestial region], other [sublunar] fire must be ignited.

(β) And if [the celestial region] receives some of this other [sublunar] fire such that some flows out of [the sublunar region], then a [third] fire must be kindled [and so on *ad infinitum*].

The biggest problem with this reading is that it is not at all clear why the sublunar fire must be replaced. It is clear that the heavens, upon losing some constituent fire which by being extinguished sinks into the sublunar region, would need that fire replaced. The heavenly region is made up solely of corporeal fire; if some of this corporeal fire is lost the heavens would diminish in size, and this would entail its destruction (ll. 4–5). Moreover, the celestial region is the natural place for fire; if any other corporeal element were to exist there, it would do so unnaturally. But if sublunar fire were to flow out into the celestial region, there is no pressing reason to think that this fire has to be replaced. The sublunar region has not grown smaller since it has received the 'extinguished fire', i.e. some other element into which the fire has changed, from the celestial region, and fire does not naturally belong in the sublunar region anyway. Moreover, Müller–Gollwitzer think that Plotinus is alluding to a process of elemental change that would have to go on *ad infinitum*, in which case one might suppose the difficulty to be that eventually *all* of the original celestial matter would be replaced, but this cannot be right. Plotinus is perfectly capable of making *ad infinitum* arguments explicit (e.g. II.9.1.57; III.6.1.6; IV.7.9.10). Nor does it strictly speaking follow from the fact that the process goes on for ever that all of the matter is eventually replaced; the process of exchange could simply go back and forth between one portion of sublunar matter and one portion of celestial matter. Most importantly, the thesis is not theoretically desirable as it amounts to saying that the universe remains numerically identical as long as some portion (no matter how small) of celestial matter remains unchanged.

(4) Only Bréhier's translation avoids these problems:

(α) If [celestial fire] is extinguished and flows out from [the celestial region], other fire must be ignited.

(β) And if [the celestial region] partakes of any other [element], and this flows out from [the celestial region], then this, too, must be replaced.

On this reading, it is still an open question (until II.1.6–7) for Plotinus whether other elements are also present corporeally in the heaven. The idea is again that fire's leaving the heaven has been ruled out, but other elements might have the power to leave and fire could also leave by first being extinguished and changing into another element. In both cases the element would have to be replaced by its like: if fire extinguishes, other fire must be kindled; if another element like water were to descend, other water would be required. An unexpected consequence of this reading is

that the numerical persistence of the universe depends on the numerical persistence of the heavens (see note on ll. 29–30).

3.28 ἄλλου τινὸς ἔχοι καὶ ἐκεῖθεν ἀπορρέοι. All translations agree that *ἔχοι* and *ἀπορρέοι* must take different subjects. For *ἔχειν* + genitive, cf. 6.5–6.

3.29 ἄλλου. Theiler emends this to *ἄλλο*, which he takes to be the object of an understood *ἐξάπτεσθαι* (as in l. 27): 'it is necessary for another [fire to be ignited] in place of that one.' But the emendation is unnecessary if one does not insist on supplying *ἐξάπτεσθαι*. Then *ἄλλου* is the genitive object of *δεῖ*: 'another [element] is required in place of that one.'

3.29–30 ἀλλὰ διὰ τοῦτο οὐ μένοι ἂν τὸ πᾶν ζῷον τὸ αὐτό, εἰ καὶ οὕτως. Plotinus concludes that if the state of affairs described in ll. 26–9 were to obtain, the universe could not remain numerically the same. But what is it exactly that prohibits the universe from remaining numerically the same? As we saw in the note on ll. 26–30, interpretation (1), which would most readily explain the lack of numerical persistence of the universe, did not turn out to be viable. According to the present interpretation of ll. 26–9, Plotinus is describing a scenario in which celestial matter is flowing out of the heaven and being replaced. It is easy to see how this would entail the impossibility of numerical everlastingness of the *heavens*, since the heavens would be subject to external flux. But why does Plotinus conclude that the *universe* could not persist numerically? He must think that the numerical persistence of the heavens is a necessary condition for the numerical persistence of the universe.

It is also worth noting that interpretations (2) and (3) cannot escape this conclusion, or one similar to it. On interpretation (2), the persistence of the *heavenly bodies* would become a necessary condition for the persistence of the universe. According to (3) there is an everlasting exchange of matter between the sublunar and superlunar regions. Plotinus, however, has already clearly said that the continual generation and destruction of the *sublunar* elements does not affect the numerical identity of the universe (ll. 7–12). Thus, it must be the continued generation and destruction of the superlunar fire that prevents the universe from remaining numerically identical.

3.29–30 μένοι . . . τὸ αὐτό. Numerical persistence, cf. note on 1.19.

3.30 εἰ καὶ οὕτως. Although the precise content of this qualification is unclear, this is only because Plotinus would surely assent to any of three possible interpretations:

(1) 'even if ⟨the universe would remain⟩ similar', i.e. the same in form (Armstrong and Sleeman 288.49–51, 788.12–13);

(2) 'even if ⟨the universe would persist⟩ in this way', i.e. by virtue of the elemental exchange between the sublunar and superlunar regions (Beutler–Theiler, Harder, Kalligas);
(3) '(even) if this is how things were', i.e. even if one allows the two *protaseis* to be true (Bréhier and Ficino).

(3) is harmless, and it is easy to see how (1) and (2) amount to the same thing. If (2) the universe persists by virtue of the element exchange, and if the universe does not persist numerically (ll. 29–30), then (1) the universe can only persist in form. Thus, there is no need to force *οὕτως* into the sense of 'similar' as (1) does. (3) seems preferable on the basis of 6.16 and 6.26–7.

II.1.4

Argument of II.1.4 Plotinus ended II.1.3 with a weak argument against the flux of matter into the heavens that amounted to saying that any efflux of matter would destroy the numerical identity of the universe. But since the diachronic numerical identity of the universe is itself at issue in II.1, Plotinus is not entitled to use it as a premise in his argument against the influx or efflux of celestial matter. Thus, here he recognizes (ll. 1–4) that an argument is needed against the efflux and influx of celestial material that does not call upon the numerical identity of the universe (*οὐχ ὡς πρὸς τὸ ζητούμενον*, l. 1). The second topic that Plotinus says deserves examination—whether the celestial region and its contents are made exclusively of fire or whether the other elements are present as well (ll. 4–6)—also goes back to considerations raised in II.1.3 (see note on 3.26–30). Here he only flags the question, and does not return to it until II.1.6.

The rest of II.1.4 (ll. 6–33) argues for the numerical everlastingness of heaven and the universe. In each case Plotinus' argument relies on the power of the World-Soul. (In ch. 8 he argues for numerical everlastingness of the heavens without appealing to soul.) It is clear from ll. 10–11 that Plotinus begins by arguing for the everlastingness of the heavens, and from ll. 25–30 we can see that the end of the chapter is concerned with the everlastingness of the universe. This is the logical order of discussion, since as we saw in chapter 3 (3.26–30) the persistence of the heavens is a necessary condition for the persistence of the universe. The transition seems to occur at l. 16.

The numerical everlastingness of the heavens. Given the pure nature of the celestial body and in particular the overwhelming power that the World-Soul possesses in the heavens, nothing could escape from the heavens

(ll. 6–16). Plotinus offers some preliminary support for the claims he makes about the nature of celestial body and soul. Regarding the body, he simply appeals to Aristotle (ll. 11–13); a fuller account is presented in II.1.6–7. However, Plotinus derives the efficaciousness of the World-Soul in the heavens from his own hierarchical metaphysics (ll. 14–16).

The numerical everlastingness of the universe. The World-Soul also has the power to sustain the numerical identity of the universe for all time. Plotinus presents three arguments:

(I) The World-Soul is the strongest bond (ll. 16–25). What could prevent that which can hold the totality of things together for even some *limited* amount of time from doing so for *all* time? Plotinus dismisses two possibilities:

(a) If the order of the universe were unnatural, the World-Soul would have to make a great effort to keep it together, and it could not maintain this effort for ever (ll. 20–2).

(b) If there were some other force, mightier than the World-Soul, this could come along and overpower the World-Soul, just as one kingdom can conquer another (ll. 22–5).

(II) Since the universe has always existed, there is no reason to think that at some point in time it will cease to exist (ll. 25–30). One might object that the generation and destruction of the sublunar elements is enough to guarantee the universe's destruction. Plotinus disagrees: the universe persists numerically, as long as the World-Soul persists.

(III) The World-Soul will not change its mind (ll. 30–3). One might concede to arguments (I) and (II) that the World-Soul has the power to sustain the universe for all time, but still insist on the possibility that the World-Soul could *choose* not to use this power; it could simply change its mind and dissolve the universe. Plotinus' cosmology, however, renders this possibility insupportable: the World-Soul would never change its mind since its administration of the universe is not toilsome.

4.1–4 Ἀλλ' αὐτό γε ἐφ' ἑαυτοῦ . . . πάσχει ἀπορροήν. Plotinus realizes that in 3.26–30 he only gave a transcendental argument of the absence of flux from the heavens: If the universe really does remain numerically the same, then it must be the case that heaven suffers no external flux. Now he wants to consider this question all by itself (*αὐτό . . . ἐφ' ἑαυτοῦ*) and not in relation to (*πρὸς*) what is still under examination, i.e. whether the universe persists numerically for ever.

In II.1.3.25–6 Plotinus assumed that no efflux of celestial matter entails that there is no influx of celestial matter (no efflux → no influx, or influx

→ efflux). Here he flips the logical relation around: if something flows out from the heavens, then (ὥστε) there must also be influx (efflux → influx). From this it is clear that Plotinus thinks that there is celestial efflux *if and only if* there is celestial influx. However, in II.1 influx → efflux is the more important conditional since his strategy in II.1 as a whole is similar to his strategy in II.1.3: first argue that there is no efflux from heaven, and then conclude that there is no influx (cf. II.1.8.19–20).

4.2–3 κἀκεῖνα . . . τὰ ἐκεῖ ταχθέντα. The plural might lead one to believe, as Armstrong does, that Plotinus is interested in whether *the individual heavenly bodies* are subject to flux and need nutrition, but this does not fit the context. He is simply restating the question that received preliminary consideration in II.1.3.25–30 (see note on 3.26–30): is the heaven *as a whole* subject to external flux and therefore in need of nutrition? Thus, the plural expressions add nothing that is not already expressed in ἐκεῖθεν (l. 2) and should be translated conservatively (as Bréhier and Ficino do): the celestial *things* (which include not just the heavenly bodies but also their regions of travel which are constituted out of the same matter as the heavenly bodies themselves).

4.3 τῆς λεγομένης οὐ κυρίως τροφῆς. Plotinus shows his Aristotelian colours by announcing that even if exhalations did enter the celestial region and nourish the heavens, they would not strictly speaking be 'nourishment'.

Many of Plotinus' predecessors in natural philosophy believed that the heavens were sustained by emissions from the sublunar region—Gilbert (685, cf. 445 n. 1) goes so far as to call this 'the universal conviction among earlier and later thinkers' (though he excludes Plato, Aristotle, and the atomists, Herodotus (2.25) is meant to serve as an example of its universal appeal). Heraclitus clearly held such a doctrine (DK 22A 1 (9) and (11) as did Xenophanes (DK 21A 32, 33, and 40); Anaximenes might have (DK 13A 7 (5)). It should, however, be emphasized that we do not have any fragments that attest to the willingness of any of them to call this a process of *nourishment*. All this changes with the Stoics, where τροφή and τρέφεσθαι are repeatedly encountered in this connection (e.g. *SVF* 2.572 = Poseidonius, fr. 289; *SVF* 2.446, 612, 658). And such is also the case with Porphyry—in a passage (*AN* 11.1) that Gilbert (685 n. 5) calls 'generally Stoic'. Why, then, would Plotinus insist that such emissions would not count as nourishment?

There are a couple of passages in Aristotle that could lead one to a narrower conception of nourishment. His remark (*GC* 335^{a}11–13, cf. *DA* 434^{b}19–21), for example, that plants are not nourished by water

alone, but by water mixed with earth, led Alexander to conclude that no simple body could nourish anything all by itself and that only composite bodies (i.e. bodies composed of more than one element *type*) could be nourished (*In DS* 107.5–10, 18–108.6; cf. Philoponus, *In DA* 1–2 282.31–2). This could provide some reason to deny that celestial things are nourished by exhalations—if either the exhalations or the heavenly things themselves are not compounds. But this is probably not what Plotinus has in mind. Alexander's true concern is that the quality of solidity must be present in the nourishment and the nourished, and Plotinus maintains that solidity is present in the heavens; it is conferred on the heavens by cosmic sympathy, and there is no reason to think that exhalations could not gain solidity in the same way. The genuine source of Plotinus' narrow concept of nourishment is surely a passage in the *Meteo.* that we have already encountered:

> Therefore, all of those who take the sun to be nourished by moisture are ridiculous [. . .] For they say observable fire lives as long as it has nourishment, and moisture is fire's only nourishment; for they draw the likelihood of their doctrine from flame and assume that the sun acts in the same way—as if the part of moisture that is raised up reached the sun or as if the upward path of moisture were analogous to the generation of flame. But the cases are not similar. For the flame *comes to be* through the continuous exchange of moist and dry and is not *nourished* (for it so to speak never remains identical for any time); but it is impossible for this to happen with the sun, since if it is indeed nourished in the same way, as these men say, then clearly 'the sun is', as Heraclitus said, 'not only new each day but always continuously new'. ($354^{b}33$–$355^{a}15$; see note on 2.11)

Here Aristotle maintains that it is only by taking the behaviour of the heavenly bodies to be analogous to fire that one could be led to the belief that they are nourished. But even on this analogy, we are told, the heavenly bodies would not really be nourished, just as fire is not, because in order to be nourished a thing has to persist through the process of nourishment. It would seem, then, that Plotinus denies that the contents of the heavens could be nourished because he believes that they would not persist (numerically) through such an acquisition. But there are, of course, conditions for such a belief. By Plotinus' own principles of diachronic identity, since the heavenly bodies are ensouled they should be able to persist as the same living things for some time even if their bodies are in flux (see note on 3.7–9). This suggests that in ll. 2–3 Plotinus not only has specifically Heraclitus in mind but has taken over Aristotle's depiction of Heraclitus wholesale and means to contrast this view with his own (ll. 3–4). For even as Aristotle sees it, the constant regeneration of the

heavenly bodies could only take the place of nutrition if they were lifeless, since if they were alive, i.e. if they had a nutritive soul, they would surely persist and be nourished (*DA* 416[a]9–18; cf. Alexander, *DA* 34.7–14; Philoponus, *In DA 1–2* 278.32ff., 285.2–5 and Philoponus[?] *In DA 3* 595.33–6). The alternative, then, would be between the 'Heraclitean' position that the contents of heaven are lifeless and in flux and therefore always coming to be, and Plotinus' position that the contents of heaven are ensouled and not subject to flux. Thus, Plotinus' first step in his battle against the Heracliteans' account of celestial flux is to bid them to add soul to their account of the heavens (ll. 6–7). See note on 8.19–28.

4.3 ἅπαξ τὰ ἐκεῖ ταχθέντα. Although there was never any temporal beginning of the heaven, Plotinus continually uses temporal language to express some atemporal meaning. For this reason there is nothing in itself objectionable in translating *ἅπαξ ταχθέντα* quasi-temporally as Armstrong ('once established') and Beutler–Theiler ('after they have been placed (*hingestellt*) there once for all') do, especially since in l. 16 Plotinus unmistakably says something along these lines (*τῶν ἅπαξ ἐν αὐτῇ τεθέντων*). However, Plotinus' use of *τάσσειν* elsewhere in II.1–2 (cf. 8.2 and especially II.2.1.21–3) suggests a different, less temporal sense here: fire is *ordained* to be in the celestial region once for all (Bréhier).

4.4–6 καὶ πότερον . . . ὑπὸ τοῦ κρατοῦντος. The second question: Does the heaven consist exclusively of fire, or are rather all the elements present with fire predominating? In the latter case, the other three elements would be 'born up and suspended' (*αἰωρεῖσθαι καὶ μετεωρίζεσθαι*) in the heavens. Both words are probably meant to have connotations of force. Plotinus generally uses *αἰωρεῖσθαι* to refer to a constraining and haphazard motion (IV.3.24.13; IV.4.18.34; V.1.7.24; VI.4.7.14), and while this is the only occurrence of *μετεωρίζεσθαι* in the *Enneads* Plato's use of the term in *Tim.* 63c2 and *Phaedr.* 246d6–7 clearly gives it a sense of force. If there is a difference in sense, *μετεωρίζεσθαι* is probably more static and *αἰωρεῖσθαι* more kinetic (VI.6.3.23–4). More specifically, if the other three elements are present, they are born up and suspended *by* *τοῦ κρατοῦντος*. Most commentators (Armstrong, Beutler–Theiler, Bréhier, Ficino) take this to refer to the fire that predominates (*κρατοῦντος*) in the heavens, but I doubt that this is Plotinus' meaning ('predominate' is better given by *ἐπικράτειν*, as in 6.24). In II.1.3 Plotinus quickly concluded that the World-Soul can master (*κρατοῦσαν*, 3.22) any downward tendency that fire might have, but he seemed less certain whether it could do the same for the other three elements (see note on 3.26–30). And this is precisely the question that Plotinus is interested in here: Can the World-Soul

master (κρατοῦντος) the other three elements as well, and thereby bear them up and suspend them in the heavens? This reading is partially verified in 5.13—the final instance of κράτειν in II.1—where soul is the clear subject of κρατοῖτο, nor need the gender of τοῦ κρατοῦντος stand in the way; Schwyzer (1951: 515.20–5) provides a telling example of a neuter participle referring to a feminine subject: in IV.7.13.4–9 soul is referred in the neuter, and in ll. 9 ff. in the feminine. Sleeman also takes this to refer to soul in 578.36–7 but there is some tension between this passage and 49.36–9 and 653.42–3 where it is taken to refer to fire.

4.6–16 εἰ γάρ . . . αὐτῇ τεθέντων. Both of the above questions find their solution by considering the nature of soul and body in the heavens, but here Plotinus seems more focused on the first question. As we saw above (note on l. 3) Plotinus is anxious to refute a sort of Heraclitean position according to which the contents of heaven are lifeless and subject to flux and therefore constantly coming to be. He pleads that if anyone, even a Heraclitean, were to add soul to his account of the heavens, then the heavens' immortality would be obvious. The γάρ is probably explanatory and is best translated with 'now'.

4.7 τὴν κυριωτάτην αἰτίαν, τὴν ψυχήν. As a note in the margin of some manuscripts confirms, what is meant here is 'the cause of the immortality of the heaven'. Plotinus here again reveals his commitment to establishing soul as a more primary cause than body. See notes on 2.17–28 and 3.1 (συνεργὸν).

4.8 τῶν οὕτω σωμάτων καθαρῶν καὶ πάντως ἀμεινόνων. Cf. 7.34, 48; 8.2 and note on 5.9–14. At this point it is still an open question as to which elements are present in the heaven. Here we are only told that whichever bodies turn out to be there, they will be pure and thoroughly better. In the end, the only *body* that is strictly speaking present in heaven is fire; the other three elements are present only as qualities (to this extent Beutler–Theiler are not quite right when they remark that σωμάτων καθαρῶν refers to 'the elements, and not just fire'; see note on 7.10–19). With this, Plotinus articulates a Neoplatonic interpretation of the *Timaean* doctrine that all four elements are found in the heavens, an interpretation which is repeated in subsequent thinkers in late antiquity (cf. e.g. Simplicius, *In DC* 84.15 ff., Proclus *apud* Philoponus, *AP* 524.4 ff., and note on 3.18–20). Nowhere in the *Tim.* does Plato actually say that the superlunar elements are purer or better than the sublunar elements (though such a difference between sublunar and superlunar beings is to be found regarding their souls, see *Tim.* 41d); rather, for the construction of the bodies of sublunar living things, the gods are said simply

to 'borrow' elements from the universe (42e). 'Purity' was a widespread attribute of heavenly matter, whether that matter be fire or the fifth body (cf. e.g. Anaximander, DK 12A1; Aristotle, *Meteo* 339^{b}30, 340^{b}6–10; Theophrastus, *DI* fr. 4.; Philo, *De somniis* 1.21.4; Galen, *SVF* 2.1151). But that *the same four* elements are found in a purer state in heaven seems to go back to Plato's *Phaed.* (esp. 109b7–c1, d3–4, 111b5–6) and *Phil.* (30a–b; see Introduction, pp. 14–16). There are also strong echoes with *Epin*. 981e3–6.

4.9–10 ἐπεὶ καὶ ἐν τοῖς ἄλλοις . . . ἡ φύσις. Cf. III.3.5.3–8; V.1.10.23–4. It is an Aristotelian principle that nature uses the more honourable parts for the more honourable ends (but cf. *Rep*. 420c6–7), and Plotinus might even have *PA* 665^{b}20–1 in mind, perhaps in conjunction with 672^{b}19–24 where Aristotle adds that the upper parts of the human body are better than the lower—another point that Plotinus also adopts (III.2.8.2ff.), although by 'upper part' Aristotle primarily means the heart and Plotinus the head. See also *GA* 744^{b}12–27 where Aristotle uses the same principle to maintain that the sense organs (the more honourable parts) are formed from the purest material. This appears, in any case, to be a clearer case of Plotinus referring to the *Parts of Animals* than any of those listed in H–S's *index fontium*. Dufour helpfully points to *Tim*. 73b–d where marrow—an extremely important part of the body since the spirited and appetitive parts of soul are said to reside in it—is described as being composed of the best, i.e. 'unwarped and smooth' triangles.

4.10 πάγιον. *πάγιος*, which Plotinus uses only here, is the opposite of *εἰκός* (cf. Sextus Empiricus, *Adv. math.* 7.110–11): instead of a *weak* opinion, one would have a *solid* opinion.

4.11–13 ὀρθῶς γὰρ καὶ . . . πρόσφορον φύσει. Cf. 7.42. In ll. 6–11 Plotinus submits two claims that should lead one to a solid opinion on the heaven's immortality: that (1) the World-Soul is the most sovereign cause in the heavens, and that (2) the matter of the heavens is in some sense better than sublunar matter. Plotinus now offers some support for each of these claims, beginning with the second: (2) that the body in heaven is purer and altogether better than sublunar bodies Plotinus supports by appealing to Aristotle. In the *Meteo.* (340^{b}23 and 341^{b}22) Aristotle calls flame 'a boiling-over' (cf. *GC* 330^{b}25–9; [Ocellus] *On the Nature of the Universe* 17.15–22; Aëtius 1.3.20 (= DK 31A33); see 7.42). Aristotle, however, means to contrast flame not with aether (or superlunar fire), but with the 'fire' that makes up the *hypekkauma*. Philoponus (in his so-called later period) accepts Plotinus' reading of this passage (*AP* 526.13–17) despite the fact that (in his so-called earlier period) he clearly understood

that Aristotle was talking about the *hypekkauma* and not the heavens (*In Meteo.* 36.2–7). These lines anticipate the theory of celestial matter developed in II.1.6–7 in two ways: First, by only addressing the nature of fire and not the other three elements, Plotinus signals his eventual response to the question raised in ll. 4–6, that in some sense only fire is in the heavens. Moreover, Plotinus will ultimately himself distinguish sublunar fire from superlunar fire or corporeal light (7.24–8).

4.12 διὰ κόρον ὑβρίζον. This is Plotinus' own expression but the idea is Aristotelian. *κόρος* is a sort of excessiveness that is frequently a cause of *ὕβρις* (see LSJ on *κόρος* (A)). According to Aristotle flame is excessive in two senses. First, flame is an excess (*ὑπερβολή*) of heat (*Meteo.* 340^{b}23; *GC* 330^{b}25–9). But fire generally is also excessive in a more *hybristic* sense: it never stops consuming fuel, and in this sense there is no limit to its excessiveness (*DA* 416^{a}9–18).

4.14–25 τὸ δὲ δὴ μέγιστον . . . τὴν ψυχῆς φύσιν. Now Plotinus tries to offer some support for the former claim that (1) the World-Soul is the most sovereign cause: Soul, by its very nature, holds body together (see note on l. 17). Its power to accomplish this increases with its ontological status. That part or power of the soul that is proper to heaven has even more power to preserve its matter because of its ontological proximity to *Noῦς* (see note on 5.9–14). On account of this power, no matter can escape heaven, and heaven is everlasting.

4.14 τὴν ψυχὴν. This refers to the World-Soul, or more specifically that part or power of it that is proper to the celestial region. The issue (see ll. 2–4) is whether anything flows out of the *celestial* region into the sublunar region. Plotinus wants to show here that this part of the World-Soul has the power to keep its material contents in heaven. Moreover, we are told that anything placed in this soul cannot go out of being. This would be an absurd claim to make of the entire World-Soul as there are many sublunar things that go out of existence.

4.14 ἐφεξῆς τοῖς ἀρίστοις. *ἐφεξῆς* here has an ontological sense, i.e. next in the hierarchy of emanation (cf. III.9.3.6; IV.4.13.8; IV.8.7.22; V.6.4.14), but it also probably has some spatial sense (cf. IV.3.17.3–4). I suspect it was in part out of a desire to eliminate or to at least diminish this spatial sense that several scholars have suggested exchanging the participles, but that is unnecessary. See note on ll. 14–15 and Wilberding (2005). In the scheme of emanation, the celestial soul is, on the one side, next to the best things, i.e. the intelligible things (cf. IV.6.3.5–6), and on the other side, next to the sensible world (III.9.3.6). *τοῖς ἀρίστοις* probably refers to *Noῦς* alone. We are told at 5.5 that the celestial soul is said

to be *ἐφεξῆς τῷ δημιουργῷ*, and *Νοῦς* is often called the 'Demiurge' by Plotinus (cf. note on 5.2–5). Plotinus probably does not intend to include the One in *τοῖς ἀρίστοις*. The Intellect is the best part of the intelligible realm (IV.1.1.1–2 = IV.2.1.1–2 Armstrong), while the One is 'beyond' the best things in the intelligible realm (I.8.2.8; cf. also II.4.3.2–4). The use of the plural *τοῖς ἀρίστοις* to refer to *Νοῦς* is not surprising, given the Intellect's nature; it is unity in multiplicity, or as Plotinus calls it, *μία φύσις πολλά* (VI.2.4.31–2).

4.14–15 κινουμένην δυνάμει θαυμαστῇ κειμένην. The manuscripts offer *κινουμένην δυνάμει θαυμαστῇ κειμένην*, but there seems to have been general dissatisfaction with this. *κινουμένην* was erased in a couple of MSS (thus Bréhier's edition does not print it), and other MSS added *κινουμένην* next to *κειμένην* in the margin. H–S$^{1-2}$ retain *κινουμένην δυνάμει θαυμαστῇ κειμένην*, but H–S^{3} exchanges the participles, *κειμένην δυνάμει θαυμαστῇ κινουμένην*, citing a suggestion by Creuzer. Beutler–Theiler go even further: *κειμένην δυνάμει θαυμαστῇ χρωμένην*.

Exchanging the participles is not, however, an acceptable solution. This would give: 'seeing that soul is situated next to the best things and moves by a marvellous power . . . ' The problem with this is that the 'marvellous power' is important, not because it moves the soul, but because the soul uses it to prevent any matter from leaving the celestial region. Plotinus routinely ascribes to the World-Soul a power to act on matter in a certain way, namely to order it (II.9.2.15) and to make (II.9.8.25; II.9.17.18–19; II.9.18.16) and sustain (6.53) body—without the soul itself being affected (II.9.18.16; IV.3.6.22–3). The celestial part of the World-Soul is further credited with a 'marvellous power' to make the heaven one (V.1.2.38–40). This is, no doubt, the reason why Beutler–Theiler amend to *χρωμένην*: the soul *makes use* of this power. Ficino also gets close to the right sense: 'anima optimis proxima, mirabili potentia *praedita* sit'—the soul is *endowed* with a marvellous power (Creuzer (3.87) suggests on the basis of *praedita* that Ficino must have read *κοσμουμένην* for *κειμένην*, but this conjecture is unwarranted).

It is best, then, to keep the manuscript reading and to translate *δυνάμει θαυμαστῇ κειμένην* as: 'situated with a marvellous power' or 'placed there having a marvellous power' (cf. Plotinus' description of Intellect as *ἐνεργείᾳ κείμενος ἑστώσῃ* at II.9.1.29–30 and Armstrong's translation 'resting in a static activity'). The fact that the soul is *ἐφεξῆς τοῖς ἀρίστοις κινουμένην* does some work towards justifying why it is *δυνάμει θαυμαστῇ κειμένην*. See note 4.14 *ἐφεξῆς τοῖς ἀρίστοις*.

4.15–16 πῶς ἐκφεύξεταί . . . αὐτῇ τεθέντων. The soul's marvellous

power prevents any celestial element from changing into another element and thereby 'escaping existence'. Plotinus sometimes talks of prime matter escaping existence (III.6.13.22–3).

4.16–33 μὴ παντὸς δὲ . . . γίγνοιτο. At this point Plotinus switches from discussing the World-Soul's function in the everlastingness of the heavens to its function in the everlastingness of the universe. That the transition takes place here can only be deduced from the following considerations. In ll. 14–16 Plotinus must still be concerned with the heavens since in ll. 6-11 Plotinus claims that a conviction regarding the immortality of the heavens would emerge from reflection on the body and the soul of the heavens. He considers the body of the heavens in ll. 11–13. Thus, ll. 14–16 must concern soul's role in the everlastingness of the *heavens*. Further, by starting at the end of the chapter and working backwards, we can see that Plotinus' discussion of the universe must begin here. ll. 30–3 refers to a previous argument to the effect that the World-Soul could not change its mind and dissolve the universe. Likewise, ll. 25–30 clearly concern the universe's persistence as do ll. 19–25, as ll. 21–2 make clear: 'both in the nature of the universe and in the things that have been nobly placed (i.e. and in the heaven)'. This leaves ll. 16–18, and both *τὰ πάντα* in l. 18 and *γάρ* in l. 19 suggest that these lines, too, are about the entire universe. Despite this transition, Plotinus is still initially (ll. 16–25) interested in showing the World-Soul is the most sovereign cause (see note on ll. 14–25).

4.17 ἐκ θεοῦ ὡρμημένην. The World-Soul has a god as its starting point. Strictly speaking, this god is the hypostasis Soul, but in 5.5–6. Plotinus omits the hypostasis Soul and says the World-Soul comes from *Νοῦς* (see note ad loc.). For this reason it is stronger than any bond. By contrast our lower souls, by which our bodies are bound together, proceed from the World-Soul, that is to say that they are further down the ontological hierarchy (though our higher souls and the World-Soul are siblings; see note on 5.7 (*ἴνδαλμα*)). Consequently, their power to hold bodies together will not be as great (II.9.2.16; see Introduction, pp. 59–60). That souls have a power to hold bodies together is both a Platonic and a Stoic idea (see e.g. II.2.1.18, II.9.7.10ff. and IV.4.22.20–1; Alcinous, *Didask.* 14.4; Numenius, fr. 4b; Sextus Empiricus, *Adv. math.* 7.234 and 9.81; *SVF* 2.454 and 719. Cf. Aristotle, *DA* 410^{b}10ff., 411^{b}7–8. See Festugière, 2.216–17).

Talk of 'strongest bonds' calls to mind the *Tim.* where proportion is called the 'fairest' bond (31c1–3). Plotinus criticizes Plato's use of a mathematical bond (which recurs in the *Epin.* 991e5) to achieve physical

results (see 6.12ff.) and replaces it with this psychic bond. The *Tim.* also reports that the Demiurge's will is a still 'stronger and more sovereign' bond (41b5), and Plotinus might be thinking of the World-Soul as a proxy for God's will. Showing that God's will is sufficient to hold the universe together involves showing that the World-Soul has the power to hold the heavens together (see 1.31–40).

4.19 καὶ ὁποσονοῦν χρόνον. In the argument of ll. 19–20, the conclusion readily follows if one translates *ὁποσονοῦν* with 'however long'. Then we would get: If soul can hold the heaven together for as long as it wants, it would be strange for it not to do so forever. The problem with this is that it begs the question. We do not know that the World-Soul can hold the heaven together as long as it wants. Thus, the sense of *ὁποσονοῦν*, as at 1.36, must be 'however short', as Armstrong and Beutler–Theiler translate. But now we are left with another question: Why should it be the case that just because the World-Soul can hold the heavens together for *some* time, it can also do so for *all* time? After all, our souls can hold our bodies together for *some* time without being able to do so for *all* time. What, in other words, is so special about the way that the World-Soul holds the heavens together?

The answer has to be that the World-Soul holds the heavens together in the very strictest sense—*nothing* escapes. In this sense our souls do not hold our bodies together; they are rather always flowing. The idea, then, seems to be that a soul's ability to keep any matter from escaping a body for any time at all is a signal that the soul and the body, as it were, exist in perfect harmony, i.e. that the soul does not have to use any force to keep the body together. Plotinus concludes that if there is this degree of harmony, then the soul should be able to hold the body together for all time (see Introduction, p. 50).

4.20–5 ὥσπερ βίᾳ . . . φύσιν. Plotinus now suggests a couple of hypothetical reasons why the World-Soul might not hold the heavens together for all time. (*a*) The natural state of the heaven is one of dissolution so that the soul would have to bind it together by force. This would imply that the heaven's present ordered state is unnatural, and as Aristotle urged, what is unnatural cannot be everlasting (*DC* 286^{a}17–18; this is then taken up by later thinkers, see e.g. Alexander, *PS* 30.25–32.19 and Proclus, *In Tim.* 3.130.20–1). On Plotinus' view it would be strange (*ἄτοπον*) if this were the case because the harmony of body and soul required to keep any body from escaping indicates that the body is not in an unnatural state. (*b*) Although the present order of the heavens is natural, there might be some god that could forcibly dissolve them into an unnatural, disordered

state. Plotinus might be thinking of the *Tim.* where the Demiurge is said to have the power to dissolve the universe (32c3–4, 41a6–b6) but refrains from doing so because of his good will. Plotinus does not appear to meet this objection here. This might be because within the framework of his own cosmology, this objection cannot even get off the ground, since emanation is necessary (see V.8.12.20ff.). Elsewhere, he provides some arguments against those who deny the necessity of emanation (II.9.4.17ff.).

4.21–2 ἐν τῇ τοῦ παντός . . . καλῶς τεθεῖσιν. Plotinus claims that the natural coherence is found *both* in the universe as a whole *and* in the celestial region. The aorist participle here probably has the same meaning as the one in 4.16: 'the things that have been nobly placed', i.e. the things placed in the noble part of the universe—the heaven. Bréhier's 'la belle ordonnance', Armstrong's 'the noble disposition of things', and Beutler–Theiler's 'der schönen Ordnung seiner Teile' seem to overreach.

4.24 οἷον βασιλείας τινὸς καὶ ἀρχῆς. Dufour ingeniously suggests 'cette image renvoie peut-être à la mort de l'empereur Gallien, qui fut assassiné en 268, l'année même où le traité 40 a probablement été rédigé' (110). This may be, but it is more straightforward to take this as a critique of the Stoic idea of the cosmos as a *polis* (cf. *SVF* 2.525, 645, 1127ff.; 3.327). See also [Aristotle], *DM* 6 398^{a}6ff. (esp. 400^{b}6ff., and cf. Aristotle, *Meta*. 1075^{a}14) where [Aristotle] in Stoic fashion likens the universe to a city whose ruler is God but also emphasizes important differences between God and earthly rulers.

4.25–30 τό τε μήποτε . . . μεταβολῆς αἰτία. In addition to the principal hylomorphic argument, Plotinus adds as a second line of justification that what has no beginning should have no end. This is the converse of the received Platonic and Aristotelian axiom that what does have a beginning must have an end (see note on 1.1–2). Aristotle himself endorses the converse at *DC* 282^{a}25–6. Plotinus supports this with an appeal to something like the principle of sufficient reason: Why should something that has *always* existed all of a sudden cease to exist? Plotinus supplies two hypothetical reasons: Its ultimate constituent parts could wear out (Plotinus denies that this is possible); and even if its constituent parts do not wear out, they are constantly changing; and one might think that nothing whose parts are constantly changing can persist numerically for ever. To this Plotinus responds that the universe nevertheless persists because the cause of change persists (see note on l. 30).

4.25–6 ἤδη εἴρηται. The reference is unclear. It could simply be to II.1.1.1f., but more likely it is referring to the chronologically earlier II.9.

At II.9.3.12 ff. Plotinus explains that the sensible world is *γενητός* not in a chronological but in an ontological sense.

4.26 πίστιν . . . ἔχει. 'to give assurance' or 'to have persuasive power' (cf. III.7.5.5 and V.5.1.12).

4.30 ἡ τῆς μεταβολῆς αἰτία. What is the cause of elemental change? Aristotle pointed to the natural circular motion of the fifth body in the heavens as the source of all motion and change; more specifically, it is the motion of the sun along the ecliptic (*GC* 336^{a}31 ff., *Meteo*. 339^{a}23–4 and 346^{b}20–3). As the sun approaches and heats the atmosphere, moisture is evaporated and rises; when the sun recedes, it becomes moisture again and moves back down. Alexander clearly follows Aristotle in making the heavenly bodies the primary causes of sublunar elemental change (*De mix.* 225.28–34; *De fat.* 169.23–6; *In Meteo.* 6.17–19 and 72.7–8), as did others in late antiquity (Simplicius, *In DC* 405.3–4; Philoponus, *In Meteo.* 11.19–20 and *In GC* 289.19).

Plato, however, points to soul as the cause of all change and motion (*Laws* 896a5–b1 and 904c6–7; *Phaedr.* 245c5 ff. cf. *Phil.* 30c). Plato might see the heavenly bodies as being proximate causes of life and motion in the sublunar region (*Theaet.* 153d1–5), but since he denies that there is a fifth body in the celestial region that naturally moves in a circle, he must ultimately explain the motions of the heavenly bodies in terms of soul (*Tim.* 38c7 ff.). Platonists in late antiquity followed him on this (Proclus, *In Rep.* 2.358.20 ff. and Damascius, *In Phaed.* 1.465.1–2).

The Aristotelian answer is certainly open to Plotinus, since as we saw above (note on 3.26–30) the identity of the celestial region is a necessary condition for the identity of the universe. Nevertheless, Plotinus almost certainly means *ἡ τῆς μεταβολῆς αἰτία* to refer to soul. Soul is the subject of the lines that follow (ll. 30–1), and Plotinus has already twice called soul a cause—albeit of immortality and not of change (2.24 and 4.7). Elsewhere he more clearly endorses the Platonic doctrine that soul is the cause of all motion (e.g. IV.7.9.6 ff.). This, however, seems to raise a problem. If Plotinus means to say that the universe persists as long as *soul* persists, then he seems to be committed to making the identity of the soul the criterion for the identity of the entire universe. And if this is the case, why is he so concerned to show that there is no external flux, and especially that there is no external flux in the heaven?

The answer to this question must look something like this: In order for a composite of soul and body to persist numerically, three things are required: (i) the body must remain, at least formally (the body need not remain the same in number, i.e. its matter can be in flux); (ii) the soul

must persist numerically; (iii) the soul must remain united with the body. Flux becomes important because of (iii). Plotinus thinks that the presence of external flux signals a lack of harmony between the soul and the matter of the body. This lack of harmony prevents the soul from remaining united to the body *for all time*—eventually the composite must perish (though the soul, or some part of it, might persist). See note on 3.7–9.

4.30–1 ἡ δὲ μετάνοια . . . ἐστι δέδεικται. Aristotle (*DP* fr. 21 [Rose^3] (= *Fr.* 19c [Ross])) refuses to admit that the creator god could have a change of mind (*μετάνοιαν*) because the creator god should be completely *ἀπαθηϛ* (*DC* 279^{a}19–22; cf. *Meta.* 1073^{a}11, *DA* 430^{a}18) and this would be an affection to the soul. As Kalligas points out, Simplicius (*In DC* 289.1ff.) connects the argument in *DP* not only to the *DC* passage but also to Plato's *Rep.* 380d ff. where it is argued that for a god any change is a change for the worse.

Plotinus says that this has already been shown to be an empty suggestion, but the exact reference of *δέδεικται* is unclear. In II.9.4.17ff. Plotinus argues that if there is to be a change of mind, there is no reason why it should come later and not now. The suggestion could also be 'empty' because the coming to be of the sensible universe is not a product of decision or discursive thought; it is rather a necessary and automatic result of emanation (V.8.7; V.8.12.17ff.). In IV.8.2.42ff. Plotinus says (drawing on *Phaed.* 66c–d) there are only two reasons why a soul could be displeased with its association with a body: either the body is a hindrance to thought, or the body fills the soul with unfitting emotions. And he denies that these apply to the World-Soul and the souls of the celestial bodies (see also IV.8.2.16ff.). This is similar to what Plotinus intimates here, namely that a change of mind could only result if the *διοίκησις* of the universe were hard work. Perhaps, then, the *δέδεικται* refers to where Plotinus has shown that it is not, in fact, hard work (see note on l. 31).

4.31 ἄπονος. Cf. Plato, *Laws* 904a; Aristotle, *DC* 284^{a}15; [Aristotle], *DM* 400^{b}9–11; *SVF* 2.688. Plotinus repeatedly emphasizes that the World-Soul's direction of the universe proceeds without toil (e.g. II.9.18.16–17; III.2.2.40–2; IV.8.2.50f.). This is because the way the World-Soul directs the universe is different from the way our souls direct our individual bodies (II.9.7.7–8). One of the differences he indicates is that individual souls are *fettered* by their bodies, while the World-Soul is not fettered by the body of the universe. The World-Soul is, after all, responsible for binding body together in the first place (II.9.18.15–17), and it is absurd to think that the binder is bound by what he himself binds.

Plotinus is presumably expressing this same thought elsewhere when he says that the World-Soul 'does not come down', rather the body of the universe comes to it (III.4.4.5 f.; IV.8.2.38 ff.) or that the World-Soul does not 'turn toward' the sensible world (IV.3.12.8–12). Strictly speaking, however, Plotinus should say, as he does elsewhere, that only the higher part or power of the World-Soul does not come down or turn toward the sensible world (e.g. II.9.7.15–18; IV.8.2.32–3) and again that the lower part or power is indeed bound to body (II.3.9.31–4; cf. IV.3.14.13–15).

It is, of course, fair to ask what Plotinus means when he says that the World-Soul does not 'turn toward' the sensible world. After all, he clearly does want to insist that the World-Soul is in some sense immanent in the world. The answer lies in the way it is present in the world and in its manner of directing the world. Importantly, the World-Soul 'does not direct the sensible world by thinking discursively about it nor by amending it to itself, rather it orders it by contemplating with a wonderful power what is before itself' (II.9.2.14–15). This, we are told, is why the World-Soul can remain untroubled (*ἀπραγμόνως*, II.9.2.13). This is repeated in more precise terms in IV.8.8: the World-Soul orders the universe by means of its lower part, and it does so *ἀπόνως* because 'it does not do it by calculation, as we do, but by Intellect—just as art does not deliberate' (ll. 13–16). The entire World-Soul can be said not to turn toward the sensible world because, although its lower part is immersed in the world, its higher part is constantly directed toward the Intellect. Its management of the cosmos *automatically* follows from this contemplation. For this reason the World-Soul remains unencumbered by planning and deliberation (e.g. V.7.3.7–12). Importantly, by insisting on the absence of deliberation in the creation and maintenance of the sensible world, Plotinus incorporates a very Aristotelian theme into an otherwise Platonic picture. Whereas Plato in the *Tim.* describes the Demiurge as thinking and deliberating (e.g. *λογισάμενος* 30b1), Aristotle routinely emphasizes that nature does not deliberate (*Phys.* 199^{b}28, *DC* 287^{b}15 ff., *Meta.* 1032^{a}12 ff.). Since Plotinus further connects planning and deliberation to toil (e.g. II.9.2; IV.4.12; IV.8.8; cf. V.8.12.20 ff.), its management of the universe can be said to be *ἄπονος*. This connection might have its roots in Aristotle's *Meta.* 1074^{b}28–9, where Aristotle suggests that the act of continuously thinking is not toilsome (*ἐπίπονον*) for the unmoved mover and, as Kalligas suggests, in the *Epin.* 982c7–d3, where the movements of the celestial bodies are said not to involve constant decision making.

In addition to the World-Soul's freedom from deliberation, the behav-

iour of the celestial matter itself helps eliminate toil. As Aristotle urges, the World-Soul could not be without pain (ἄλυπον) if it had to *force* the celestial body to move as it does (*DC* 284ª27). Plotinus accounts for this by making the celestial fire 'easily led' (εὐαγώγῳ 2.18; see note on 5.9–14).

4.32–3 οὐδὲν . . . ἀλλοιότερον. ἀλλοῖόν τι can be euphemistic for κάκον τι (LSJ ἀλλοῖος). Thus, οὐδὲν ἂν ἀλλοιότερον αὐτῇ γίγνοιτο could be translated 'the soul would be no worse off' as Armstrong and Beutler–Theiler do. But a more literal translation like Bréhier's 'elle n'en éprouverait aucun changement' seems better for the following reasons. Sleeman does not indicate that Plotinus ever uses ἀλλοῖος in the former sense (61.42–8), and indeed, in the other three passages where Plotinus uses ἀλλοῖος (III.6.2.26; 3.25; 7.37), it clearly just means 'different'. Moreover, the latter translation lends itself better to the context. There is no reason for Plotinus to assure us that soul would not be worse off if there were no matter; presumably, none of his readers would have thought that to begin with—if anything they would presumably expect soul to fare better without matter. Rather, here Plotinus is concerned with refuting the suggestion that the soul would change its mind and cease holding the universe together. Thus, his point here is that the soul has nothing really to *gain* by separating itself from the universe; its activity is already without toil or harm. The same point is apparently made at II.9.7.24–7 and II.9.17.54–6. This proposal is, of course, strictly hypothetical. Body is a necessary product of soul (V.8.12.17 ff.), and as IV.3.13.12–14 suggests, even soul's διοίκησις of a living thing involves soul's producing (γεννώσης) body.

II.1.5

Argument of II.1.5 In ch. 4 Plotinus worked to produce a 'solid opinion' that the heaven as a whole is immortal. Yet, as he has repeatedly signalled, this is not sufficient: one must also explain why the parts of heaven, i.e. the heavenly bodies, persist numerically while the sublunar parts, i.e. living things, do not (1.38; 2.16–17). Here in ch. 5, Plotinus turns to this task. His basic strategy is to distinguish between what is responsible for creating and maintaining the heavenly bodies and what performs the same activities for sublunar living things.

Plotinus begins by citing Plato's explanation of why the superlunar parts of the universe persist and the sublunar ones do not: the former are made directly by the Demiurge, while the latter are made by the celes-

tial gods (ll. 2–5). Plotinus then translates this explanation into his own metaphysical vocabulary: the World-Soul comes directly after the Demiurge (*Noûs*), whereas the natures responsible for creating and maintaining sublunar living things are derived in turn from the World-Soul (ll. 5–8). Although these individual natures try to imitate the World-Soul, they are unable to achieve numerical everlastingness—both because of their own inadequacy (in comparison to the World-Soul) and because of the nature of sublunar bodies, elements, and place (ll. 8–14).

At this point Plotinus has explained why sublunar parts (living things) do not persist, but he has not given any positive account of the permanence of the superlunar parts (heavenly bodies). In ll. 14–17 he quickly argues *that* they persist, although he does not explain *how*. The explanation of their persistence must be abstracted from ll. 8–14 and 18–23.

In the final lines (ll. 18–23) Plotinus captures and answers a possible objection to the preceding account: Even if we sublunar living things cannot achieve numerical everlastingness *qua* composite living things with our *lower* souls, why couldn't we achieve it with our *higher* souls? Plotinus explains that the higher souls are primarily concerned with our well-being and not with our composite existence. It makes only a minimal contribution to our composite being, and even that is only made when the composite living thing has already come to be.

5.1 τὰ ἐκεῖ μέρη. The parts there, i.e. in heaven. These parts correspond both to *τὰ ἐνταῦθα ζῷα* and to *τὰ ἐνταῦθα στοιχεῖα* and thus include both the stars (and planets) and the physical elements that comprise these bodies and the regions between them.

5.2–5 φησὶν ὁ Πλάτων . . . θεμιτὸν φθείρεσθαι. Plotinus takes the starting point of his solution from Plato. In the *Tim.* the Demiurge himself is responsible for the production both of the World-Soul (which is described as residing primarily in the heavens (36c–d)) and of the World-Body, along with the celestial gods, i.e. the ensouled heavenly bodies (38c ff.), and the Olympic gods (40d–41a). However, he assigns the creation of the sublunar creatures to the generated gods because if he 'made these creatures come into existence and partake of life, they would have been made equal to gods' (41c2–3). That is why 'He himself was the creator of divine things, but the generation of the mortal things he commanded his engendered gods [i.e. the celestial bodies] to execute' (69c3–5). The Demiurge began the process himself by concocting the immortal part of our souls—mixing in roughly the same manner as he mixed the World-Soul, 'yet no longer in a uniform and invariable blend, but of a

second and third vintage' (41d6–7). The generated gods then created 'another form of soul' (69c7), i.e. the mortal parts, spirit (*θυμός*) and desire (*ἐπιθυμία*), and grafted them on to the immortal part (see Taylor, 498f. and Baltes, 1976: 48 n. 107). These gods then proceeded to create our bodies (44c4ff.). This genealogy is illustrated in Figure 1.

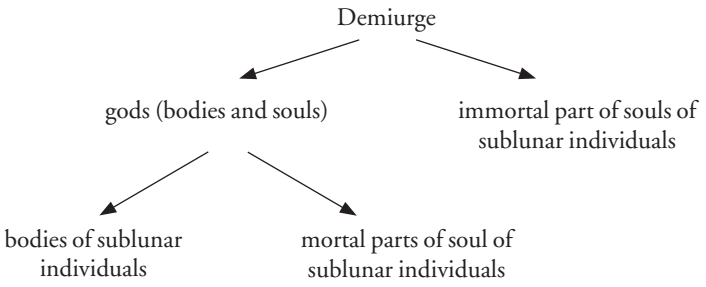

Fig. 1. Creation in the *Timaeus*

Thus, on the *Tim.* account, (1) human souls are inferior to the World-Soul in two respects: (*α*) the immortal part of a human soul, although mixed by the Demiurge himself, is not as pure as the World-Soul; (*β*) the human soul also contains two mortal parts created by the generated gods. Moreover, (2) human bodies are inferior to the bodies of the heaven and its stars and planets because they were made by the generated gods and are thus mortal.

5.4–5 γενόμενα δὲ παρ' ἐκείνου οὐ θεμιτὸν φθείρεσθαι. In the *Tim.* Plato says that the generated gods are technically dissoluble (*λυτόν*, 41b1); it is the Demiurge's *will* that makes them indissoluble (41a8). Yet, the Demiurge in some sense has no choice in the matter. Since the gods are well crafted, it would be base to let them perish (41b1–2), and it is not permitted (*θέμις*) for the Demiurge to do anything other than what is finest (30a6–7). Plotinus puts all of this together here (and cf. VI.4.10.28–9). Others did so as well: cf. Apuleius, *De Plat.* 1.8; Chalcidius' *In Tim.* chs. 23–5; Proclus *apud* Philoponus, *AP* 55.25ff., and *In Tim.* 3.224.32–225.13. As Baltes notes (1978: 64 n. 190), this idea was also often characterized as Aristotelian: whatever comes to be by the agency of some unmoved cause has an unending nature (cf. Aristotle, *Phys.* $259^{b}32$ff.).

5.5–6 τοῦτο δὲ ταὐτὸν . . . τὰς ἡμετέρας δέ. Plotinus now translates his exposé of the *Tim.* into his own ontology. He begins by implicitly

identifying the Demiurge with *Noûs*, as he does explicitly elsewhere on many occasions (II.3.18.15; IV.4.10.1 ff.; V.1.8.5; V.8.8.5 ff.; V.9.3.25–6). This is a traditional Platonic interpretation (see e.g. Numenius, fr. 20; Iamblichus, *De myst.* 8.3), even though, as is often noted (e.g. Beutler–Theiler, IIb, 511; O'Meara, 1980: 370 n. 23; Armstrong, 1940: 87), it is the World-Soul that often seems to perform the demiurgic functions (e.g. III.9.1.34–7; IV.3.6.1 ff.; IV.4.9.9; V.1.7.42–9; cf. V.1.10.29–30). This is probably what leads Porphyry to believe that Plotinus identifies the Demiurge not with *Noûs* but with the *ὑπερκόσμιος* or *ἀμέθεκτος ψυχή*, and that the *Noûs* itself is identified with the paradigm or *τὸ αὐτοζῷον* (see Proclus, *In Tim.* 1.306.31–307.4 = Sodano, fr. 41). Proclus argues that neither Plato nor Plotinus holds this view (ibid. 1.307.4–17; cf. 1.303.24–27). Proclus is certainly right about what Plato says in the *Tim.* since there soul is created by the Demiurge, and hence cannot be identified with him. However, in the *Epin.* (which Plotinus considered genuine, see Introduction, pp. 14–15) it is the *ψυχῆς γένος* that is said to be fit to *δημιουργεῖν* (981b7–8; cf. 988d4–5 and *Laws* 892a2 ff.).

The generated gods of *Tim.* 38c ff. and 40d ff. are identified with something called the 'celestial soul' (see note on l. 6). See Figure 2.

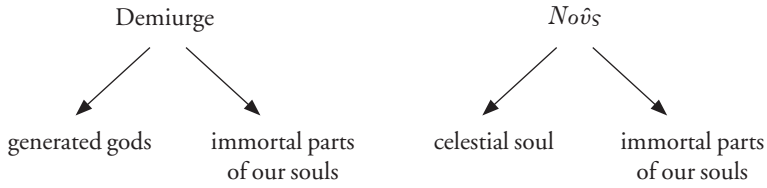

Fig. 2. A Comparison of Plato's Demiurge and Plotinus' *Noûs*

This much seems clear, but there is one problem. Since Blumenthal's influential article (1971*b*), the canonical account of Plotinus' psychogony has been that *Noûs* produces the hypostasis Soul (the so-called *Urseele*), which in turn produces both the World-Soul and the individual souls (cf. e.g. Helleman-Elgersma, 1980: *passim*; P. Hadot, 1990: 197–8; O'Meara, 1975: 102 n. 27 and 1993: 67; Gerson, 1994: 63; Szlezák, 1979: 176 n. 572; Atkinson, 1983: 42). Blumenthal's thesis was anticipated by Harder (Beutler–Theiler, vol. Ib, 461); Beutler–Theiler (vol. IIb, 469 and VI, 119); Pistorius, 1952: 84–90; and Deck, 1967: 33). This replaced an earlier interpretative tradition that identified the hyposta-

sis Soul with the World-Soul, see Kirchner, 1854: 71; Richter, 1867: 82; Zeller, 1855–65: 3b.592; Drews, 1907: 173ff.; Inge, 1923 vol. 1: 205; Bréhier, 1928: 63ff.; Armstrong, 1940: 84ff.; Rist, 1967: 113; and Dörrie, 1972: col. 942. Here, however, we find that the World-Soul and (higher) individual souls are next to the Demiurge, which, as we saw, is *Noûs*, and the language of 'being *next* to' does not leave any room for an intervening hypostasis Soul. There are other passages in the *Enneads* as well that describe the World-Soul as coming directly from *Noûs* (e.g. II.3.17.15–16 and II.3.18.9ff.). Blumenthal's explanation of these incongruities is that what gets called the 'World-Soul' 'may not always have the same upper limit' (1971*b*, 58). Sometimes, then, what Plotinus refers to as the World-Soul is meant to include the hypostasis Soul, but this strategy does not work here, since if the *οὐρανία ψυχή* includes not just the celestial soul (that is, the higher power of the World-Soul, see note on 5.6) but also the hypostasis Soul we would be left with the unacceptable conclusion that our higher souls bypass the hypostasis Soul and proceed directly from *Noûs*. If the canonical account is right, the Demiurge here must represent not just *Noûs* but also the hypostasis Soul, or perhaps we could say that *Noûs* does not always have the same lower limit.

5.5 ἐφεξῆς μὲν τῷ δημιουργῷ. Cf. 4.14.

5.6 τὴν ψυχὴν τὴν οὐρανίαν. Most scholars take this to be the World-Soul (Beutler–Theiler, IVb 399, 405; Szlezák, 1979: 191; Hadot, 1990: 54, 192). However, many scholars identify this as just the *transcendent* power or part of the World-Soul (e.g. Armstrong, 1940: 85; Zeller, 1855–65:3b.594; Romano, 1992: 286), that is to say that the *οὐρανία ψυχή* lies outside of both the sublunar *and* the superlunar regions. The reason for taking this to be only an upper portion of the World-Soul lies no doubt in Plotinus' description of the *ἴνδαλμα* that flows out of the *οὐρανία ψυχή*. It is tempting to take this *ἴνδαλμα* to be the lower part of the World-Soul, Nature, in which case the *οὐρανία ψυχή* could only be some higher part or power.

This interpretation of the *ἴνδαλμα*, however, is wrong (see note on l. 7), and several other considerations also show that *οὐρανία ψυχή* cannot refer only to the transcendent power of the World-Soul. It is true that *οὐρανός* can refer to the intelligible region, so that one could expect *οὐρανίος* sometimes to have the derivative sense of 'intelligible', which it certainly does have on occasion (e.g. V.8.3.33–4; cf. Hadot, 1990: 170–1), but Plotinus mostly uses it of the visible heavens, in opposition to the sublunar sensible world (II.1.2.8; II.3.14.7; III.1.6.14; IV.4.31.36; IV.4.37.17; VI.3.9.14; VI.3.10.27). Moreover, the course of thought in

II.1.5 demands that this soul be responsible for shaping and maintaining the celestial region of the sensible cosmos. This discussion is meant to answer the question posed in ll. 1–2: Why do the celestial things persist while the sublunar do not? Part of Plotinus' solution to this problem involves establishing that the soul in charge of the celestial region is more sovereign than souls that govern our bodies. Our lower souls are unable to imitate *τὴν ψυχὴν τὴν οὐρανίαν* fully because they are working with worse bodies (ll. 8–14); thus, the *οὐρανία ψυχή* must be using better bodies, but if it is using bodies at all it cannot be completely transcendent. Finally, the *οὐρανία ψυχή* appears here in place of the *Tim.*'s generated gods and is responsible for our individual souls, and in II.3.9.6–12 Plotinus describes this same entity as 'the moving gods', i.e. the stars. Clearly, then, this *οὐρανία ψυχή* is immanent in the visible heavens.

This raises several questions, the most pressing of which is to what extent this *οὐρανία ψυχή* is commensurate with the *οὐρανία ψυχή* in III.5.2–3 (and VI.9.9.28ff.). There Plotinus distinguishes between two 'Aphrodites' or souls (cf. VI.9.9.30). The first is called *οὐρανία* and is said to descend directly from Kronos (i.e. *Νοῦς* 2.20 and 27) to which it in turn directs its own activity (2.36–7). It 'remains above' (2.21), being 'in heaven' (2.18) and 'only there' (3.26); and cannot go down here (2.21–3); it is 'pure' and 'unmixed' (2.21 and 26) and has no share of matter (2.24). It is also called *χωριστὴν τινα ὑπόστασιν* (2.23) (but one must keep in mind that *ὑπόστασις* does not always mean one of the three hypostases—sometimes it can just mean 'reality'—in fact, the Erôs produced by this Aphrodite is also called a *ὑπόστασις*, 2.36–8). Finally, this soul also 'primarily illuminates the heaven' (3.22–3) and is the source of both our individual souls and the second Aphrodite (3.38). The second Aphrodite is called the World-Soul (3.27–8), belonging to the cosmos (3.30), and is next to and derived from the first Aphrodite (3.38).

On what is perhaps the standard line of interpretation, the *οὐρανία ψυχή* in III.5 is understood to be the third hypostasis (the Universal Soul or *Urseele*) while the second soul or Aphrodite is taken to refer to the World-Soul in its entirety (Beutler–Theiler, VIb.122 (§41); Hadot, 1990: 51ff.; Lacrosse, 1994: 46). Hadot (1990: 51–61, 169–75, 189–92) has produced an in-depth exposition of this view that deserves examination. He begins by isolating two possible references of *οὐρανία ψυχή*—the hypostasis Soul (*Urseele*) or the higher (part or power of the) World-Soul—and proceeds to argue that the former reference is correct (51). Both the hypostasis Soul and the higher World-Soul, Hadot admits, share many qualities that are attributed to the *οὐρανία ψυχή* here includ-

ing being transcendent and separate (52) and remaining immobile (53). However, there are, according to Hadot, some properties attributed to the *οὐρανία ψυχή* here that cannot be attributed to the higher World-Soul: (1) it is called 'simply or absolutely soul' (the higher World-Soul is the soul *of something*, namely the world) and (2) it is *directly* derived from *Νοῦς* (the higher World-Soul is derived *indirectly* from *Νοῦς* by means of the hypostasis Soul). Moreover, (3) Hadot adds that if *οὐρανία ψυχή* refers to the higher World-Soul, then Plotinus would be using the expression 'World-Soul' to refer only to the lower World-Soul, which Plotinus never does (55). Lastly, Hadot explains what it means to say that the hypostasis Soul 'primarily illuminates the heaven' by developing Plotinus' own analogy to *νοῦς* (III.5.3.25–6): *νοῦς* can be 'in us' while still remaining transcendent because it is we who lift ourselves up to it rather than it coming down to us. '[I]n the same manner', explains Hadot, 'the heaven, i.e. the soul of heaven, can be illuminated by the transcendent soul [*viz.* the hypostasis Soul] to the extent that the former turns towards the latter and participates in the contemplation of *Νοῦς*, which is the constant activity of that transcendent soul. In this sense, just as the transcendent *Νοῦς* is "ours", the transcendent soul is "celestial", not because it comes into the heaven but because the soul of heaven rises to it' (191). Hadot then concludes, correctly as I see it, that this 'soul of heaven' is what is referred to by *οὐρανία ψυχή* in II.1.5. Thus, for Hadot the *οὐρανία ψυχή* of III.5.2–3 is *not* identical to the *οὐρανία ψυχή* of II.1.5: the former refers to the hypostasis Soul, whereas the latter is the 'soul of heaven' which is according to Hadot 'probably identical' to the World-Soul (192). See Introduction, pp. 51–7.

5.6 καὶ τὰς ἡμετέρας δέ. Our higher souls, see note on ll. 18–20. Plotinus partitions our souls differently in different contexts. Often, as here, he employs a simple two-fold division into the higher and lower soul. Tripartite divisions are also common in the *Enneads*, though the divisions themselves can vary. Sometimes the division is Aristotelian (discursive, sense-perception (irrational), nutrition/growth (III.4.2; IV.9.3.10–29; V.2.2.4–10; VI.7.5–6)), sometimes Platonic (reason, spirit, desire (III.6.2.22ff.), and sometimes Neo-Platonic (undescended, discursive reason, lowest (II.9.2.4ff.; IV.3.12.1–8)). There is even one case of a four-fold division of soul: *καθαρῶς νοοῦσα*, *δοξαστική*, *αἴσθησις*, *γεννῶσα* (V.3.9.28–34). It is the higher (rather than the lower) soul that is properly said to be 'ours'.

5.7 ἴνδαλμα. Cf. II.3.18.10–13; III.8.4.15–16; III.8.5.1–16; IV.4.13.1–11; V.9.6.19; VI.2.22.29–35. Plotinus does not mean that this 'image' of

the World-Soul is an image in the sense that a portrait is an image of the person portrayed. For the immediate cause of the portrait is not the person portrayed, but rather the portraitist. It is rather an image in the sense of a reflection in a mirror or a shadow (IV.2.22.29–35; VI.4.10.1ff.). In these cases the original is directly responsible for the image, and the image cannot survive in the absence of the original. Thus, one of the virtues of this imagery is that it brings out the dependence of the lower soul on its continual contact with the higher soul (VI.4.9.37–45). Kalligas points out that this imagery is Gnostic, and Plotinus himself says as much in II.9.10.19–33 (see Jonas, 1963: 163–4).

Prima facie there are two good reasons for taking this *ἴνδαλμα* to be Nature, i.e. the lower part of the World-Soul (see note on l. 6): (1) Nature is often called an offspring or even an *ἴνδαλμα* of a higher soul (e.g. II.3.18.10–13; III.8.4.15; IV.4.13.1ff.); (2) Nature, like the *ἴνδαλμα* here, is said to create living things on earth. Romano (1992: 286) has perhaps produced the most detailed interpretation along this lines: Plotinus has taken Plato's distinction between the Demiurge who creates immortal things and the generated gods who create mortal things and recast it in terms of the two powers of soul, such that the higher, transcendent power of soul (*οὐρανία ψυχή*) produces immortal things whereas the lower, immanent power (*ἴνδαλμα*), Nature, produces mortal things. Such an interpretation, however, encounters unanswerable objections: as was argued in the note on l. 6, the *οὐρανία ψυχή* cannot be completely transcendent. A more specific problem for Romano's interpretation is that the *transcendent* part of the World-Soul could not be responsible for the production of *any* composite thing—be it mortal or immortal. Rather, Nature, the lowest part of the World-Soul, is in some sense responsible for the coming-to-be of *all* sensible substances. Far from being an offspring of the *οὐρανία ψυχή*, Nature must be included in it.

This leaves us with the pressing question of what exactly this *ἴνδαλμα* is. The answer must be that this is the individual soul, or more precisely, the lowest part of the individual soul. This is what Plotinus generally refers to as the 'vegetative soul' (III.4.2.23; III.4.4.12; III.6.4.38; IV.3.19.19–20 (= *τὸ αὐξητικόν*); IV.3.23.35–6; IV.4.27.12; IV.4.18 *passim*; IV.7.8[5].25; IV.9.3.21, etc.) but also sometimes as 'nature' (III.6.4.23; IV.4.13.21; V.9.6.20 (on which see Vorwerk, 2001: 93–4, and cf. Beutler–Theiler, 6.120). This part of the soul is in matter (III.6.4.32–3). Plotinus follows Aristotle in making this soul responsible for the processes of both generation and nutrition (Aristotle: *DA* B4; Plotinus: III.6.4.32–3; IV.3.23.35–6 and IV.9.3.23–9); it causes growth, increase, and other kinds of change

(III.6.4.38–41). In particular, this is the soul that Plotinus credits with making and forming an individual's body (IV.4.20.23–9; IV.4.14.8–10; IV.4.28.49–50; V.9.6.22). It does so by using the λόγοι contained within itself (IV.3.10.11–13; V.9.6.15 ff.). Each of the features deserves a more in-depth discussion than is possible here. That this is the reference of ἴνδαλμα here can be seen with the help of V.9.6. There Plotinus describes the *sperma* of a living thing as a composite of matter and form, and although he is not interested in the specific constitution of the matter (he suggests that the matter might be something moist), he says much more about the form of the *sperma*: 'the form is the *sperma* itself and the *logos*, identical to the generative kind of soul' (V.9.6.18–19; note that Armstrong's translation is misleading here, cf. Bréhier, Beutler–Theiler, and Vorwerk). All of the σπερματικοὶ λόγοι are contained in here, and each is undistinguished in the whole. Thus, the generative soul is the form of the *sperma*, and in a sense the *sperma* itself. Plotinus continues with a remark very similar to what we find here in chapter 5: he says that the generative soul is an 'ἴνδαλμα of some other, better soul' (V.9.6.19–20). Once again we are faced with a problem of reference: what is this 'other, better soul'? It is, perhaps, tempting to say that it is one's higher, undescended soul. This, after all, would seem to be in line with much of what Plotinus says about the *descent* of soul into body. Nevertheless, this does not seem to be what Plotinus has in mind. The 'better soul' in question appears rather to be the World-Soul. Plotinus repeatedly refers to a part of one's individual soul that comes from the universe or the World-Soul. All living things, we are told, have something (τι) of the universe in them, and this part of them is subject to cosmic sympathy and magic (IV.4.32.8 ff.). We are further told that this something is irrational (IV.4.37.11 ff.), and more specifically that it is an irrational part of the soul that originates in the World-Soul (IV.4.43.1–5). All of this goes hand in hand with several passages where Plotinus contrasts a higher individual soul with a soul that is 'from the universe' (IV.3.7.29–31; IV.3.27.1 ff.; IV.9.3.25–9). In IV.9.3 Plotinus makes some of the connections more explicit:

> The nutritive power [= the generative soul], if it comes from the universe, has also something from the World-Soul. But why doesn't the nutritive power also come from our soul? Because what is nourished is a part of a whole. (IV.9.3.23–5, Armstrong's translation slightly revised)

The ἴνδαλμα of the World-Soul, then, is the individual lower soul or nature; it is, after all, individual natures that are responsible for the production and maintainance of individual living things on earth.

It is reasonable to ask how this fits into Plotinus' understanding of the *Tim.*, and we should ask what in Plotinus' view is responsible for creating the superlunar *bodies*. Schematically, the *Tim.* cosmogony looks something like Figure 3.

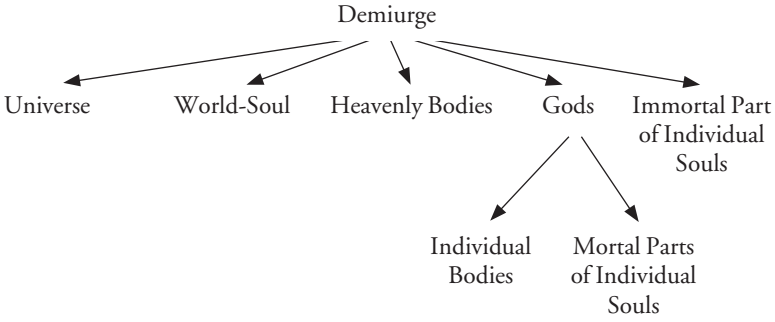

Fig. 3. Creation in the *Timaeus* 2

In the *Tim.* the Demiurge makes them himself (38c ff.), but Plotinus could hardly say that *Νοῦς* produces anything bodily. The only other candidates available to Plotinus in II.1.5 are the *οὐρανία ψυχή* and the *ἔνδαλμα*, but it cannot be the *ἔνδαλμα* because we are told that it is only responsible for making the things *on earth*. Thus, it must be the *οὐρανία ψυχή*—the World-Soul. More specifically, it is the lowest part of the World-Soul, Nature, since this is the only part or power of it that creates in matter. Thus, in II.3.17.17–18 Plotinus can say that the lower part of the World-Soul makes some things (i.e. the heavenly bodies) without hindrance. This gives us the schema in Figure 4.

5.7 **οἷον ἀπορρέον ἀπὸ τῶν ἄνω.** As Dörrie (1965: 83–5) shows, the rarity of Plotinus' use of expressions like *ἀπορρεῖν* and *ἀπόρροια* has much to do with their implications of diminishment: when *x ἀπορρεῖ* from *y*, *y* should be diminished. Thus, when Plotinus does use these words, he generally qualifies them with 'as it were' (*οἷον*), as he does here. *ἀπόρροια* from the heavens already had an established *physical* sense as the counterpart to *ἀναθυμίασις*: sublunar matter is evaporated into the heavens (*ἀναθυμίασις*), and superlunar matter flows out into the sublunar regions (*ἀπόρροια*; see Dörrie, 1965: 74). Plotinus expressly denies that there is *ἀπόρροια* from the heavens in this physical sense (8.3–4). The *ἀπόρροια* is rather psychic. The words *ἀπὸ τῶν ἄνω* take on a double meaning since

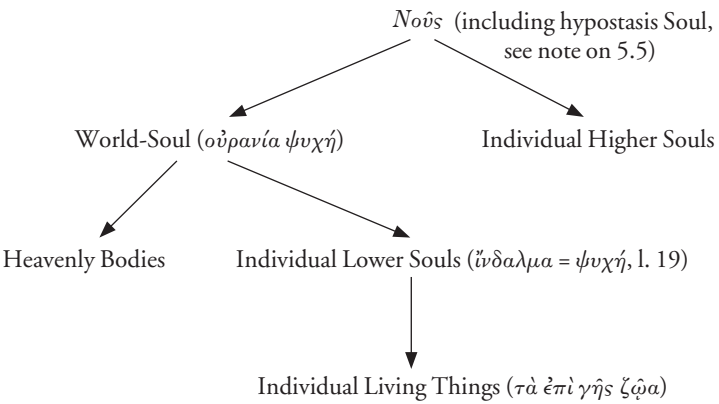

Fig. 4. Creation in the *Enneads*

the ἴνδαλμα is flowing out from things that are both ontologically as well as physically 'above' the sublunar sensible world (cf. IV.3.17).

Plotinus shifts from a singular to a plural here: 'from the celestial soul . . . from the things above' (cf. ll. 18–19). The 'things above' could refer to any of several candidates: the generated gods of the *Tim.* (which Plotinus identifies with the celestial soul); the celestial soul along with *Noûs* and the One; or the sense could be quite general, 'from above' (K-G II.i. 594ff.).

5.8 τὰ ἐπὶ γῆς ζῷα ποιεῖν. Individual natures create sublunar individual living things, but not in their entirety. If a human being can be said to consist of a body, a lower soul, and a higher soul, the individual nature does not make the higher soul (which is a product of the Demiurge) nor the lower soul (it *is* the lower soul). Rather, it makes the body, or perhaps we should say it makes the body such. The World-Soul also helps in this process. As Plotinus says in VI.7, the World-Soul provides preliminary sketches of living things that individual natures use as blueprints to complete their productions. This is just to say that the World-Soul furnishes the individual natures with their λόγοι—the form-principles of creation. Every individual nature contains these λόγοι indiscriminately in itself, and indeed they are present right from the start, when the generative soul exists as the form of the seed (V.9.6.9ff.).

5.8 ψυχῆς οὖν μιμουμένης τοιαύτης. Cf. 8.26. Individual generative

souls (or natures) imitate the creative activity of the World-Soul. The τοιαύτης shows that the ἴνδαλμα is not a single thing (e.g. the World-Soul's lower power, Nature) but rather a *kind* of soul, namely individual generative souls (cf. v.1.3.19–20 and Atkinson ad loc.). At 8.26 Plotinus explains how this imitation is expressed. The World-Soul preserves the heavenly bodies numerically. The individual natures cannot accomplish this, but they can imitate it by (1) replacing lost parts via their nutritive faculty and (2) creating a new individual via their generative faculty, thereby making the *species* everlasting. See note on 8.24–7. This imitation is thus of quite a different sort than that of *Tim.* 42e8 where the generated gods imitate the Demiurge.

Although Plotinus here only discusses the imitation that takes place between individual natures and the World-Soul, he sees imitation occurring at all levels of his ontological hierarchy: *Noῦς* imitates the One (II.9.2.2–4)—in fact all things try to imitate the One (V.4.1.25–6; VI.2.11.9–10); soul imitates *Noῦς* (V.5.3.20–1; VI.6.7.5); not only can we imitate the World-Soul and the stars' souls (II.9.18.30–1; cf. *Tim.* 47c2), but even things without φρόνησις can imitate the World-Soul (IV.2.2.49, where τὸ ἕν refers to the World-Soul); and in general sensible things imitate the intelligible things (IV.8.6.28; V.8.1.33–5; V.8.12.15; VI.3.8.32; VI.6.15.4; VI.6.17.32–3), but, of course, what is nearer to the intelligible imitates it better (V.3.7.33). It is worth noting that Plotinus says that both souls and sensible things imitate the intelligible region. This is because *Noῦς* is identical to the universal paradigm in which all the Forms are present. Souls imitate the subjective side of the intelligible region, *Noῦς*, while sensible things imitate the objective side (the Forms).

5.9–14 χείροσι σώμασι . . . προσεχῶς ἀρχούσης. Four factors contribute to the failed individual everlastingness of sublunar creatures:

(1) Worse bodies (χείροσι σώμασι), not simple bodies (these are referred to in (3)), but the complex bodies of individual living things. Although Plotinus sometimes says generally that the nature of all body, insofar as it partakes of matter, is itself base (I.8.4.1–2), he is also quick to say that there is no baseness in the heavens despite the presence of matter because the matter there is effectively mastered (I.8.5.30–4; II.9.8.34–6). The celestial bodies are indeed superior in size and beauty (II.9.13.14–15), but it is their capacity to cooperate with soul that is crucial (II.9.13.15 and note on 3.1). Because sublunar bodies are worse, individual lower souls must sink deeper into the universe to master them (κρατοῖτο, l. 13) and keep them from dissipating (IV.8.2.7 ff.).

(2) Worse place (ἐν τόπῳ χείρονι). Plotinus makes very clear that he

believes some places in the sensible universe are 'better' than others (e.g. III.3.7.1). More specifically, as he at one point (IV.3.17.3–4) says, 'heaven is the better part of the sensible region and borders on the last reaches of the intelligible'. Thus, when individual souls descend from the intelligible region into the sublunar sensible being, they first pass through the sensible heavens (IV.3.15.1ff.; IV.3.17.1ff.; cf. V.1.2.17ff.) so that the heavens become an intermediate point between the intelligible and sublunar regions (IV.3.12.29–30; IV.8.4.5–7).

The thesis that the intelligible borders upon the heaven can be traced back both to Plato who refers to the Forms as being in the 'place beyond the heavens' (*Phaedr.* 246d6ff.; and cf. Xenocrates, fr. 83) and especially to Aristotle who places his prime mover (called *Noῦs* at *Meta.* $1072^{b}18$–27, $1074^{b}15$–$1075^{a}10$) either at (*Phys.* $267^{b}6$–9) or outside of (*DC* $279^{a}18$–22 and *MA* 3–4) the heavens. In both cases Plotinus could find a precedent of something intelligible being on the one hand aspatial (regarding the prime mover, cf. *DC* $279^{a}17$–18; *Phys.* $266^{a}10$–11, $267^{b}17$–26; *Meta.* $1073^{a}5$–6) and yet in some sense being nearer to the heavens than to the sublunar region. Of course, the Plotinian position is made more complicated by his added assertion that the intelligible region is 'everywhere' (e.g. V.3.15.19; VI.4–5 *passim*; VI.7.13.33). See Wilberding (2005).

(3) Worse elements (*τῶν εἰς τὴν σύστασιν ληφθέντων οὐκ ἐθελόντων μένειν*). These are the simple bodies that compose the complex bodies referred to in (1). At II.3.17.23 Plotinus repeats this idea that nature makes living things out of worse matter. This worse matter is found only in the sublunar region, since the stars and the heavens are made of 'fairer and purer' materials (II.9.5.9–11; cf. IV.4.37.15–17). These superlunar elements are not of a fifth nature, as Aristotle maintained (see note on 2.13), but Plotinus has not yet explained in what way they are better than the sublunar elements. He will turn to this issue in chs. 6 and 7. In this respect Plotinus disagrees with Numenius who appears to have held that even the matter of the heavens was fundamentally deficient (Chalcidius, *In Tim.* ch. 299 = Des Places, fr. 52).

(4) Individual lower souls or natures are themselves deficient (*ὡς ἂν ἄλλης ψυχῆς αὐτῶν προσεχῶς ἀρχούσης*). Although Plotinus begins to explain their inability by attributing it to *external* factors (bodies, elements, and place), in ll. 13–14 he intimates that these souls are themselves deficient and that the World-Soul has more power to hold these bodies and elements together (cf. *δυνάμει θαυμαστῇ*, 4.15). This point is reiterated in II.3.17.18–20 where this inadequacy is attributed to form-

ing principles which are not primary, and in III.8.4.27–31 where it is attributed to weak contemplation.

5.14–17 τὸν δὲ ὅλον . . . ὁ οὐρανός. So far Plotinus has given reasons why sublunar parts, i.e. sublunar living things, cannot persist, but he has not yet provided a positive account of the persistence of the superlunar parts. He begins to do that here by arguing *that* they persist:

(1) If anything persists numerically for ever, then its parts must persist numerically for ever.
(2) The heaven as a whole persists numerically for ever.
(3) Therefore, the parts of the heaven, i.e. the celestial bodies, persist numerically for ever.

Plotinus argues for (2) in ch. 4 (cf. 4.10–11). (1) is practically tautologous if it is equivalent to saying: *x* cannot persist if *x*'s parts fail to persist *and are not replaced*. But that this is not Plotinus' meaning is made clear by his contrast to sublunar living things. Sublunar living things do not persist individually, but they do keep replacing themselves so that they persist in species. However, this sort of persistence is not sufficient. That is why Plotinus insists that sublunar living things (*τὰ ὑπὸ τὸν οὐρανὸν*) are not parts of heaven (ll. 16–17). Thus, (1) is far from tautologous; it amounts to saying: if *x* persists numerically, then *x*'s parts must also persist numerically. But this would seem to contradict his concession at 3.9–10 that individual human beings persist for a long time despite the flux of their parts. The idea must be that if anything is to persist individually *for all time*, there cannot be any variation among its parts. For this would signal a lack of harmony between its soul and body, which would in turn entail its eventual destruction (see Introduction, p. 50). This argument for the persistence of the celestial bodies is obviously much too quick, as Plotinus offers no positive explanation of *how* they perist. But it is clear what the building blocks of such an explanation must be: the stars and planets have better bodies, made up of better elements; they exist in a better place and are ruled by better souls.

Up to this point Plotinus has rather intimated that no parts can be everlasting—simply by virtue of the fact that they are parts (1.17–18 and note on 2.16). The basic problem with parts is that they are not self-sufficient; they must rely on other parts for nutrition (III.2.2.6–7; cf. IV.9.3.25). Thus, given his conclusion here that the parts of heaven persist (cf. III.2.4.6–8), we can anticipate his answer to the question he poses in 6.1 regarding the need for nutrition.

5.18–23 ἡμεῖς δὲ πλασθέντες . . . συλλαμβανομένη. In the last lines of ch. 5, Plotinus returns to explaining the impermanence of sublunar liv-

ing things. Here he spots a possible objection to his account: In ll. 13–14 he suggests that a more sovereign soul would do a better job keeping an individual's body together. As it turns out, each of us is indeed in possession of a higher, more sovereign soul. Why doesn't *this* soul help us persist as everlasting composites? Plotinus explains that our higher soul's primary concerns do not include our composite body. It is rather our lower souls that form our bodies (v.3.9.3–10; cf. IV.3.7.14–15; v.9.2.17–18; VI.9.1.17–19), or as Plotinus sometimes calls our lower souls, nature (IV.4.14.8–10; IV.4.20.25–9).

5.18–20 ὑπὸ τῆς διδομένης . . . ἡ γὰρ ἄλλη ψυχή. Each individual has two souls (see note on l. 6). One soul, we are told, comes to us from the heavenly bodies (see note on ll. 18–19). This is a clear reference to *Tim.* 69c7 where the generated celestial gods create the two mortal parts of soul (see note on ll. 2–5). Thus, this soul is identical to the *ἴνδαλμα* in l. 7 (see note there). Line 8 (*τὰ ἐπὶ γῆς ζῷα ποιεῖν*) illustrates the generative and nutritive faculties of this soul, and II.3.9.6 ff. reveals that this soul is the locus of pleasures, pains, desires, anger, and in general of our moral characters. This is to say, it combines the lowest soul of Aristotelian psychology with the lowest two souls in Platonic psychology. It is this soul by which we are joined to our bodies. This is contrasted (*κατ' ἐκείνην . . . καθ' ἣν*) with another soul, i.e. our higher soul, 'by which we are ourselves'. This is the soul that was made by the Demiurge himself and is thus to be identified with *τὰς ἡμετέρας* [*ψυχάς*] in l. 6.

It is worth noting that the souls of the heavenly bodies are two-fold, just as ours are (II.3.9.34). Yet, these stellar lower souls must differ considerably from our own. Stars presumably have desires, fears, etc., since they are responsible for giving them to us (II.3.9.6 ff.) and just as with us, these passions do not affect their *εὐδαιμονία* since they are restricted to the *lower* soul (IV.8.2.38 ff.). However, the lower souls of stars presumably include neither a generative nor a nutritive faculty, since stars neither come to be nor require nutrition. This is, no doubt, the critical difference: our constitutions are ultimately due to an *ἴνδαλμα* that can only imitate everlastingness by means of nutrition and generation (see note on 5.8 *ψυχῆς οὖν μιμουμένης τοιαύτης*); not so with the heavenly bodies.

5.19 καὶ αὐτοῦ τοῦ οὐρανοῦ. With the genitive *καὶ αὐτοῦ τοῦ οὐρανοῦ* there is a question of whether we want to make it the co-object of *ὑπό* or *παρά*. Romano (1992: 286) sides with the former. Beutler–Theiler, Armstrong, Bréhier, Kalligas take it to be the latter. Ficino could go either way, but Creuzer's punctuation sides him with the former. On the former interpretation Plotinus would be saying that we are formed not just by

our lower soul, but by heaven itself. This is a thought that Plotinus also expresses elsewhere. At IV.9.3.25–9 he says that the perceptive power of soul does not need to shape (*πλάττειν*) the body since it 'has its shape from the Whole' (*ὑπὸ τοῦ ὅλου τὴν πλάσιν ἔχον*). By this Plotinus means that although individual lower souls form and nurture our bodies, they do so by means of *λόγου* that they have inherited from the World-Soul. On the latter interpretation Plotinus would be saying that our lower soul is derived both from the heavenly bodies and from the heaven as a whole. This idea is also echoed in other passages (IV.3.27.12; IV.4.37.11–15; VI.7.7.10–11). Here Plotinus might mean that the generative and nutritive soul comes from the World-Soul (see note on l. 7) whereas desires and dispositions would come from the stars (II.3.9.6 ff.).

5.18–19 τῶν ἐν οὐρανῷ θεῶν. This seems to refer back to *τῶν γενομένων παρ' αὐτοῦ θεῶν* of ll. 3–4, i.e. the generated gods of the *Tim.* Above Plotinus interpreted these gods to be the World-Soul. Thus, Plotinus could be saying that our lower soul is derived from the World-Soul. However, II.3.9.6–12 is important in this connection, since there Plotinus identifies these generated gods with the stars and explains that we get our lower souls from the stars:

> In the *Timaeus* the Maker God gives 'the principle of soul', but the moving gods (*οἱ δὲ φερόμενοι θεοί*) give the 'terrible and forceful passions, angers', desires, 'pleasures', and 'pains' in turn, and 'the other kind of soul' from which these affections arise. These words bind us to the stars from which we received soul (*παρ' αὐτῶν ψυχὴν κομιζομένους*) and which subject us to necessity when we come down here.

So *τῶν ἐν οὐρανῷ θεῶν* should at least include the stars and planets, and indeed, this is how Plato uses this expression at *Rep.* 508a4. Perhaps Plotinus sees our generative and nutritive faculties as being derived from the World-Soul (note on l. 7) while more character-oriented aspects of the lower soul would come from the stars (II.3.9.6 ff.).

These gods, sometimes called secondary gods (*δευτέρους*, III.5.6.22), are to be distinguished both from the primary, hypercosmic, intelligible gods (II.9.9.30–5; III.5.6.19–24; V.8.3.27–36; these are the individual Forms and/or intellects, see Atkinson, 1983: 81 and Beutler–Theiler, VI 147, §93) and from the daimons beneath them (III.2.11.6–9; III.5.6.9 ff.) which seem to have bodies of air (III.5.6.37; VI.7.11.67) or fire (6.54; III.5.6.38). The belief that the celestial bodies were gods was widespread in antiquity (cf. Boll, 1909*b*: 2408.67–2409; Gundel, 1929: 2444.58–2446.17 and 1950: 2112.1–2122.47). Although the

divinity of the heavenly bodies was denied by some Presocratic thinkers (e.g. Anaxagoras, Heraclitus, Democritus), it was affirmed by both Plato (*Tim.* 39e10–40b8; cf. *Epin.* 983e6–984a2) and Aristotle (e.g. *DC* 292^{b}32, *Meta.*1074^{a}30), and most subsequent thinkers followed them (the notable exception being the Epicureans). Plotinus often expresses his belief that the planets and stars are gods (I.8.5.30–1; II.3.9.7; II.9.9.30–2; III.5.6.18–19; IV.3.11.23–4; V.1.2.40–1; V.8.3.27–9; etc.).

5.20 ἡ γὰρ ἄλλη ψυχή. This other soul is the one that in ll. 5–6 is said to lie, along with the World-Soul, next to the Demiurge (see note on l. 6).

5.20–1 καθ' ἣν ἡμεῖς. Cf. IV.3.27.1–3. *ἡμεῖς* is a technical term in Plotinus (see Schwyzer 566.51–567.19; Beutler–Theiler 6.130–1, §60). In I.1.10.5–6 Plotinus explains that *ἡμεῖς* has two different senses; it refers either exclusively to the higher soul or to both this and the lower soul (*τὸ θηρίον*, cf. I.1.7.18–21). But *ἡμεῖς*, like *ζῷον*, refers more properly to the higher soul (I.1.7.17–21; II.3.9.10–16; IV.4.18.14–15). See note on l. 21.

5.21 τοῦ εὖ εἶναι. 'Being well-off' (*εὖ εἶναι*) is an expression that Plotinus sometimes (e.g. VI.9.6.27) uses as a synonym for 'living well' (*εὖ ζῆν*) or 'being happy' (*εὐδαιμονεῖν*). Plotinus devotes *Ennead* I.4 (46) to this topic. He argues that living well is achieved in the fullest sense when life in the fullest sense is attained (I.4.3.18 ff.), i.e. in the intelligible region (I.4.3.33–7). This is one reason why Plotinus says that it is by the higher soul, being in the intelligible region, that we achieve true happiness. The other reason has to do with the problems involved with making the lower soul responsible for one's happiness. The lower soul, described in ll. 18–20, is in some important sense connected to the World-Soul, i.e. the lower World-Soul or Nature, and for this reason is subject to necessity and cosmic sympathy (II.3.9.10–12; IV.3.7.25–7; IV.4.43). Thus, by making the higher soul the vehicle for one's happiness, external circumstances, both good and bad, do not affect one's happiness, but only one's being (*τὸ εἶναι*, I.4.7.1–3).

5.21 οὐ τοῦ εἶναι. One's *lower* soul is responsible for one's (composite) being in the sense that this soul moulds the body and is responsible for our [*viz.* our higher souls'] coexistence with bodies (ll. 18–20). That *composite* existence is meant is made clear in the following lines (see note on 5.21–2).

5.21–2 ἤδη γοῦν τοῦ . . . συλλαμβανομένη Plotinus' thought here is difficult to grasp. What, for example, does it mean for the higher soul to 'come' (*ἔρχεται*)? The obvious meaning, 'descend into body', seems unacceptable since Plotinus routinely says that the higher soul remains

above. Yet, Plotinus explains his meaning in the participial phrase: 'by using reason to contribute a little to its (composite) being'. That is to say, one can use reason to make decisions that help preserve one's composite existence, e.g. figure out what is healthy and do that. Since this sort of rational activity only gradually becomes available to one as one matures (cf. the Stoic view that reason fully manifests itself at the age of fourteen, *SVF* 1.149; 2.764; 3.17), it makes sense that Plotinus would say that one's body already exists before this activity is performed. NB: Helleman-Elgersma (1980: 413) believes that these lines describe the arrival of the rational soul in the foetus, though it is doubtful that Plotinus thought that the rational soul entered the body before birth (cf. Porphyry, *Ad Gaurum* 2.1).

5.22 μικρὰ. Neuter plural used adverbially of degree: 'to a small degree', or (to the same effect) as the object of *συλλαμβανομένη* (mid.).

5.22 λογισμοῦ. As Beutler–Theiler note, *λογισμός* refers to discursive reason. Our use of reason to help maintain our bodies is what distinguishes us from the World-Soul, which orders the universe without reason or planning (*μηδ' ἐκ λογισμοῦ*, IV.8.8.13–15). See note on ll. 21–2.

5.23 συλλαμβανομένη. Some manuscripts offer *συλλαμβανομένη* while others offer *συνεκλαμβανομένη*. Many earlier editions print the latter (e.g. H–S[1] and H–S[2], Armstrong, Bréhier), but *συνεκλαμβάνεσθαι* never occurs anywhere else in the *Enneads* and even elsewhere is quite rare. Beutler–Theiler emend the latter manuscript reading to *συνεισ-λαμβανομένη*, explaining that the *εἰς* (with crescent sigma) was corrupted into *ἐκ*, just as they see the reverse occurring with *ἐκφύγει* at V.3.17.22. However, the TLG (E) does not confirm a single instance of *συνεισλάμβανειν* in any form. Thus, it is best to adopt the former reading with Creuzer, H–S[3], Kalligas, and Sleeman (662.13–14). The sense of *συλλαμβάνεσθαι* also fits: the higher soul uses reason to *contribute to* or *assist* the lower soul in its governance of the body.

II.1.6

Argument of II.1.6 Plotinus reintroduces the questions first raised in 4.2–6: whether there is only fire in the celestial region and whether there is any efflux of celestial matter. The entirety of chs. 6 and 7 is devoted to the former question. The dialectical style of these chapters is easily recognized. Plotinus first raises a series of questions and objections before delivering in ch. 7 his considered theory.

The starting point of this discussion is the doctrine put forth in Plato's

Tim. (31b4–32c4) that the body of the universe is made up of all four elements: fire (so that it may be visible) and earth (so that it may be solid), as well as air and water (which act as means). Plotinus begins by separating and defending the initial thesis that fire and earth must be present. From this, he says, it would seem to follow that the stars, too, contain both fire and earth (ll. 2–6). Plotinus then offers some additional support for this conclusion. First, Plato himself seems to agree with it (ll. 6–8). Moreover, our senses tell us that the stars contain fire, and our reason tells us that if earth is required for solidity, they must also contain earth (ll. 8–12).

Plotinus then turns to the second part of the thesis and objects: Water and air, however, could not be present (*contra Tim.*). He gives two arguments for this objection:

(a) No water or air could exist in that much fire (ll. 12–14).

(b) There is no reason to think that two physical elements require two intermediate elements in order to combine.

  (i) In the *Tim.* it is argued that water and air are required because two (mathematical) solids, if they are to be put in ratio, require two means. However, Plotinus correctly objects that even if this is true of mathematical solids, it needn't be true of physical solids, i.e. of physical bodies like fire and earth (ll. 14–16).

  (ii) Moreover, experience tells us that no means are required to mix mud out of the two physical solids water and earth (ll. 16–17).

Reply to (ii): Perhaps water and earth can mix to form mud only because the other elements (fire and air) are *already* present in the water and earth. Plotinus concedes this much, even though, as he implies, one would expect the means to be added from the outside (ll. 17–21).

Beginning at l. 21 Plotinus begins to examine the initial thesis more critically. This thesis seems to imply that the elements are never found in a pure state all by themselves but are rather always mixed together (ll. 22–4). Plotinus attacks this apparent consequence by asking two questions:

(*a'*) What does earth require in order to exist?

  (i) Water. Earth seems to require water to bind it together (ll. 24–6). But it is unacceptable to say that on the one hand earth is something and then on the other to deny that it has any separate existence, asserting instead that it only exists together with other substances (ll. 26–9). The problem with this view is that it is apparently self-defeating: if earth cannot exist without water binding it, then there must be pure earth that the water binds (ll. 29–35).

(ii) Air. Nor does earth have any need of air in order to exist (ll. 35–6).

(iii) Fire. Nor does earth require fire in order to exist or even to be visible. If darkness is *per se* invisible, then its opposite, light, will be the cause of visibility (ll. 37–41). Thus, *fire* need not be present in earth—*light* is sufficient. After all, how else could cold things like snow be bright (ll. 41–3)? Of course, one might reply that fire was in it, made it bright and then withdrew . . . (ll. 43–4).

(*b*′) What requires earth in order to exist?

(i) Water. It is perhaps an open question whether water requires earth (ll. 44–5).

(ii) Air. It is surely strange to suggest that air requires earth, since the former is easily dispersed and the latter is solid (ll. 45–6).

(iii) Fire. The *Tim.* claims that fire needs earth in order to be solid, but solid in what sense? Fire obviously does not need earth in order to be continuous or extended in three dimensions (ll. 46–8). Nor does it seem to need earth in order to be physically solid, i.e. to have resistance, since *all* physical bodies should have this already (ll. 48–50). It is rather hardness that belongs to earth alone (l. 50), and hardness is not necessary for physical solidity. After all, it is not because they have taken on earth that liquids like gold are dense (ll. 50–2). In like manner, soul should be able to use its power to solidify pure fire, as the existence of fiery daimons should show (ll. 52–4). This might seem to upset the common belief that living things are composed of all four elements, but this belief can perhaps be restored by limiting it to terrestrial living things and insisting that it is unnatural for earth to exist in the heavens given their quick motion and bright appearance (ll. 54–60).

6.1–2 Ἀλλὰ πότερον πῦρ . . . νῦν σκεπτέον. Plotinus now poses again the questions he asked at the start of II.1.4. The difficulty here, as there, is to figure out what exactly the subject of these questions is. There are two possibilities: (1) the heavenly bodies, or (2) the celestial region (i.e. the bodies *plus* the area between them). Armstrong, Harder, Beutler–Theiler opt for (1), while Ficino, Bouillet, Bréhier, MacKenna, Kalligas, and Dufour go with (2). The two occurrences of τὰ ἄστρα in ll. 5 and 6 lend some support to (1), but this disappoints our expectations that Plotinus is concerned with the *entire* heaven (see note on 4.2–3). By the end of this

discussion it does become clear that Plotinus is indeed concerned with the celestial region in its entirety (see 7.46). However, if any part of the celestial region is entirely made up of fire, it would seem to be the celestial bodies, bright and visible as they are. For this reason Plotinus might be thinking more narrowly of the celestial bodies for most of chs. 6 and 7, but this is in service to a larger goal: if the celestial bodies can be shown to be not exclusively of fire, then the same has been shown of the celestial region as a whole.

6.2 δεῖται. The subject of δεῖται must be different from the subject of ἀπορρεῖ, as Armstrong, Beutler–Theiler, and Bréhier translate, since it is not what flows out but rather what has had something flow out from itself that requires nourishment.

6.2–6 τῷ μὲν οὖν Τιμαίῳ . . . φαίνεται ἔχοντα. Lines 2–16 are cited by Philoponus in *AP* 525.13–526.3. *Tim.* 31b4–32c4 argues that the body of the universe must consist of all four elements: earth, fire, air, and water. Earth is required if it is to be tangible and solid (31b5–6), and fire is required for it to be visible (31b5). It is argued that air and water must serve as means or intermediates in order to bind the fire and earth together (see note on l. 12). Consequently, all four elements must be present in each individual body (if a given body is to be visible it must *contain* fire). On the basis of this argument, Plotinus concludes that all four elements must be in the celestial region and in the celestial bodies (as does Simplicius, *In DC* 17.25–6, Philoponus, *AP* 514.13–16, Proclus, *In Tim.* 2.42.28 ff.). A problematic consequence is that no element can exist all by itself in separation from the other three (unless one is prepared to say that it is incorporeal). See note on ll. 21–4.

What the *Tim.*, in fact, says about the constitution of the celestial bodies is a little murkier (see Introduction, pp. 10–16). *Tim.* 40a2–3 only reports that the fixed stars and their sphere are made mostly out of fire. The Demiurge has at this point already fashioned the bodies of the wandering stars or planets, and there is no mention of their being made mostly out of fire (cf. 38c2 f.). In fact, there might even be some reason to think that at least the moon is not mostly of fire since, unlike the other heavenly bodies, eclipses show that it receives its light (at least in part) from the sun. After all, we are told: 'in order that there might be some clear measure of the relative swiftness and slowness by which the planets move across their eight circuits' the Demiurge created the sun 'so that it might shine as much as possible through all of heaven . . . ' (39b2–4, 5–6).

Furthermore, although Plotinus accurately recounts the fact that the stars are made mostly out of fire, he, as it were, spins it around a different

axis. The *Tim.* justifies why they are mostly out of fire rather than consisting equally of all four elements ('so that they might be as bright and fair as possible to see' (40a3–4)), but Plotinus justifies why they are only mostly fire rather than entirely of fire ('since the stars obviously have solidity', l. 6).

6.3 πρῶτον. Armstrong translates *πρῶτον* with 'primarily' so that earth and fire become the *predominant* ingredients in the body of the universe. This might turn out to be true if one takes the mathematical analogy of *Tim.* 31b8–32c4 literally as announcing the relative sizes of the elemental ensembles. That is to say, given that $p^3{:}p^2q = p^2q{:}pq^2 = pq^2{:}q^3$, if these four terms p^3, p^2q, pq^2 and q^3 each refer to the quantity or volume of one of the four elements such that the quantity of fire and earth are the extreme terms p^3 and q^3 (as Cornford (1937: 51) suggests), then it would be true that fire and earth taken together are the predominant ingredients in the universe, since $(p^3 + q^3) > (p^2q + pq^2)$ for all $p, q > 1$. However, this puts too much interpretative weight on the *πρῶτον*. It is far more likely that *πρῶτον* has the sense 'at the outset' or 'first' (as Beutler–Theiler, Bréhier, and Kalligas translate) and is meant to paraphrase Plato's own *ἀρχόμενος* in 31b7.

6.4 στερρὸν δὲ διὰ τὴν γῆν. In the *Tim.* the argument begins with *perceptible* qualities: visibility (*ὁρατόν*) and tangibility (*ἁπτόν*). Solidity (*στερεόν*) is used to mediate between tangibility and earth: 'nothing is tangible without something solid, and nothing is solid without earth' (31b5–6). The virtue of starting with perceptible qualities is that the argument is in some sense grounded in sensation. See note on ll. 8–12.

6.5–6 οὐ πᾶν, ἀλλὰ τὸ πλεῖστον πυρὸς ἔχειν. Both the *πᾶν* and the *τὸ πλεῖστον* are adverbial. For the *ἔχειν* plus genitive, cf. ll. 9, 12, and 3.28. Plotinus seems to be arguing against the Stoic view that the heavenly bodies are made up entirely out of fire. Cf. Chrysippus' (*SVF* 2.413.28) and Poseidonius' (fr. 17 E–K = fr. 312 Th.; cf. fr. 127–8 E–K = fr. 271ab Th.; fr. 129–30 E–K = fr. 298ab Th.) claim that the sun is pure fire, and Zeno's view that the heaven consists of creative fire (*SVF* 1.120).

6.6–8 καὶ ἴσως ὀρθῶς . . . γνώμην ταύτην. As Beutler–Theiler point out, Plotinus, like A. E. Taylor, distinguishes here, at least provisionally, between the character Timaeus and Plato with the result that not all of Timaeus' theories can be attributed to Plato (cf. Argument of II.1.7), but this raises the question of where Plotinus thinks Plato says *in propria persona* that this thesis regarding the presence of fire and earth in the celestial region is likely. Armstrong refers to 29b3–d3, Beutler–Theiler to several instances of *εἰκος* and *μῦθον* (29e2, 30b7, 44b1), but all of these are

passages where Timaeus is speaking. Perhaps Plotinus is thinking of Socrates' response at 29d4–5: *Ἄριστα, ὦ Τίμαιε, παντάπασί τε ὡς κελεύεις ἀποδεκτέον* ('Excellent, Timaeus, one must accept [your account] exactly as you command') where *ὡς κελεύεις* ('as you command') could refer back to *τὸν εἰκότα μῦθον* ('the likely story') at d2: one must accept it as a likely story.

However, this appears to be the only place where such a distinction clearly occurs. Usually, Plotinus sees the Timaeus character as Plato's mouthpiece (e.g. 7.19–22 (*Tim.* 39b4–5); II.2.2.24–6 (40a8–b2); II.4.10.10–11 (52b2); II.9.6 *passim*; III.6.11.1–3 (50c4–5); III.6.12.1ff. (47e3–53c3), etc.), and even here in chs. 6–7 this distinction only serves as a dialectical starting point. By the end of ch. 7 it is clear that Plotinus does think that Timaeus is presenting Plato's view (7.19–22). At most one can say that Timaeus' presentation of Plato's ideas is obscure and that one must dig deeper or, as Plotinus puts it, 'listen more closely' (7.1–2) to get at Plato's true meaning.

6.7–8 συνεπικρίναντος . . . τῷ εἰκότι. See note on ll. 6–8. *συνεπικρίνειν* is very rare, both in Plotinus and elsewhere. Plotinus uses it only once elsewhere, where it has the meaning 'to judge in addition' (I.6.3.3). *τῷ εἰκότι* is an instrumental dative, giving the literal translation: 'Plato also judges this opinion to be correct by appealing to likelihood', but this sense can be rendered more idiomatically with 'Plato also judges this opinion to be likely'. Of course, Plato's use of *εἰκός* in the *Tim.* intimates more than mere probability (see Witte, 1964), but these other senses need not be present here. Plotinus uses *εἰκός* in only three other passages. Twice it seems uncontroversial to translate it with 'probable' (IV.5.2.18f. and IV.3.14.5), but cf. III.6.12.11 where its meaning must lie closer to 'appearance'.

6.8–12 παρὰ μὲν γὰρ . . . ἂν ἔχοι. The *γάρ* seems to indicate that Plotinus is now explaining why Plato thought it likely that fire and earth are present in the heavenly bodies. This explanation has both an empirical and a rational side. First, sense-perception testifies that they are mostly or entirely fire. (1) Visually we can see that they are bright, which suggests the presence of fire. (2) We can also tactually feel their warmth (cf. IV.5.2.53–5, 4.11–13, and 7.25–6). From this we can infer that the heavenly bodies are mostly or entirely of fire. But (3) reason tells us that if it is accepted that solidity and earth go hand in hand, then they must also contain earth as well. Thus, we can conclude that the heavenly bodies are mostly fire but also contain some earth.

However, what one finds in the *Tim.* is very different. None of these

arguments is applied specifically to the heavens or the heavenly bodies. At 31b4 ff. Plato argues that if the universe as a whole is to be visible, it must contain fire, and if it is to be tangible it must be solid and thus contain earth. The differences between this and Plotinus' explanation are striking. Most notably, whereas Plato grounds each of the extreme elements in sense-perception, fire to visibility and earth to tangibility, Plotinus grounds only fire in sense-perception. Both visibility and tangibility serve to show the presence of fire. It is almost as if instead of the *Tim.*'s *χωρισθὲν δὲ πυρὸς οὐδὲν ἄν ποτε ὁρατὸν γένοιτο, οὐδὲ ἁπτὸν ἄνευ τινὸς στερεοῦ, στερεὸν δὲ οὐκ ἄνευ γῆς* (31b4–6), Plotinus read *χωρισθὲν δὲ πυρὸς οὐδὲν ἄν ποτε ὁρατὸν γένοιτο οὐδὲ ἁπτόν, στερεὸν δὲ οὐδὲν ἄνευ γῆς*. In addition, Plotinus applies these arguments directly to the heavenly bodies (see note on ll. 2–6). Dufour (32–3) rightly points to Cicero *ND* 2.40 (= *SVF* 1.504) where Cleanthes is reported to have argued in a similar manner that the sun is constituted completely of fire.

6.11 εἰ τὸ στερεὸν ἄνευ γῆς οὐκ ἂν γένοιτο. Plotinus provisionally accepts Timaeus' claim, but turns to examine it in 6.21f.

6.12 ὕδατος δὲ καὶ ἀέρος τί ἂν δέοιτο; Plotinus now turns to the second part of the *Timaeus*' doctrine, that water and air must also be present. As with his treatment of the first part of this doctrine, Plotinus is aware that in the *Tim.* it is argued that the *universe* must contain air and water, but he consciously applies this argument to the heavenly bodies (see note on ll. 2–6). Plotinus produces two arguments against the necessary presence of water and air in the heavens and heavenly bodies:

(a) No water or air could exist in that much fire.
  (i) No water could endure among so much fire (ll. 12–13).
  (ii) Nor could any air endure, as it would change into fire (ll. 13–14).

(b) There is no reason to think that two physical elements require two intermediate elements in order to combine.
  (i) Although it might be true that mathematical solids require two intermediates in order to combine harmoniously, there is no reason to think that this also applies to physical solids like fire and earth (ll. 14–16).
  (ii) We know empirically that no intermediates are required to mix mud out of earth and water (ll. 16–17).

(a) Aristotle supplies a comparable argument in *Meteo.* A3 340^{a}1–3: the heavens cannot be composed entirely out of fire. For, '[i]f both the [celestial] bodies and the intervals between these bodies were filled with fire, each of the other elements [i.e. the sublunar elements] would have

vanished long ago.' This is in fact an application of a principle Aristotle establishes in *GC* A10 $328^{a}24$–8 for active and passive bodies that are easily divisible: 'Many large portions, when mixed with few tiny portions, do not make a mixture, but an increase in what predominates. For the other one changes into the dominant. (Therefore, a drop of wine does not mix with a thousand litres of water; for its form is dissolved and it changes into the totality of water)' (and cf. *Phys.* Γ5 $204^{b}15$ ff.). Such a doctrine can also be found in the *Tim.* 56e–57a where it is expounded in terms of the triangles that make up the elements.

(b)(i) Argument against Timaeus' application of a mathematical argument to the physical world. In 31b8 ff. Timaeus gives the following argument for water and earth also being needed in the body of the universe to bind together the earth and fire: Proportion (*ἀναλογία*) is the 'fairest of all bonds' because it makes itself and the things it binds into the best possible unity, but of course a proportion requires intermediates. Square numbers (e.g. a^2, b^2) require one intermediate (ab) in order to combine proportionately (a^2:ab::ab:b^2), and solid or cubic numbers (e.g. a^3, b^3) require two intermediates (a^2b, ab^2) to combine proportionately (a^3:a^2b::a^2b:ab^2::ab^2:b^3). Since the body of the universe is solid and not square (i.e. three- and not two-dimensional), it requires two intermediates. Thus, both water and air are needed. To this Plotinus responds with the natural criticism that just because two mathematical solids (i.e. the solid numbers that represent their areas) require two intermediates, this does not imply that two physical solids behave similarly. This criticism, which Plotinus might have drawn from Xenarchus (Simplicius, *In DC* 25.11–13 and 42.6–8—see Introduction, 62 n.), is perhaps to be expected from Plotinus, who, like Aristotle, generally downplays the mathematical in nature (Porphyry's testimonial at *VP* 14.7–9 notwithstanding). Compare, for example, Plotinus proposed exegesis of the *Tim.*'s *ἀναλογία* at III.3.6.27–8.

(b)(ii) Then, by appealing to empirical evidence, Plotinus offers a counter-example to the *Tim.*'s claim: earth and water can mix without any intermediate. He proceeds to offer a dialectical objection to his counter-example: It could be the case that earth and water only *appear* to mix without any intermediates, whereas in fact both earth and water already contain all four elements and are capable of mixing only in virtue of this (ll. 17–18). Plotinus is not really able to respond to this objection head on. He questions whether the four elements constituting the earth (or water) can simultaneously function also as bonds to the water (or earth) (ll. 19–20). After all, even if a birdhouse is constructed out of wood and nails, one cannot use these same nails to secure it to a tree. Yet for the sake

of argument he grants that it might just be only in virtue of the original presence of all four elements that the earth and water can combine and seems to let this objection stand.

6.14 στερεὰ. Note *στερεά* is contrasted with the *φυσικά* in l. 16. Plotinus, then, is using *στερεά* to refer to *mathematical* solids. See note on ll. 46–50.

6.20 ἤδη. The *ἤδη* almost has a consequential sense: since each element contains all elements, water and earth can *now* combine. Cf. K-G **2**.2.120: '*ἤδη* [. . .] wird [. . .] von dem gebraucht [. . .], was nunmehr (zufolge der vorausgegangenen Handlungen) geschieht.'

6.21–4 ἀλλ' ἐπισκεπτέον . . . ἐπικρατοῦν ἕκαστον. The *ἀλλ'* goes back to the *μὲν οὖν* in l. 2. At this point Plotinus digs in his heels and questions the initial thesis in the *Tim.* For according to that thesis, pure fire would not be solid, nor would pure earth be visible. And since the idea of invisible and/or unsolid elements sounds absurd, it would seem to follow that no element exists all by itself in a pure state (see note on ll. 2–6)—rather, every instance of e.g. fire contains the other three elements and is only called fire because fire predominates in the mixture (ll. 21–4). Philoponus also draws this conclusion from the *Tim.*'s thesis (*In GC* 228.8–19).

This position that no element exists in a pure state all by itself was not uncommon. Its most celebrated defender was Anaxagoras (e.g. DK 59B6), but there were also others, notably Numenius (Proclus, *In Tim.* 2.9.4–5 = fr. 51 Des Places) as well as Simplicius (*In DC* 17.20–5, 85.15–31, 605.2–20, cf. 616.10). According to Graeser (1972: 37–8) this is a Stoic thesis (*SVF* 2.561 and 721; Seneca, *NQ* 3.10.4). Since for the Stoics each element has only one characteristic property, the presence of other properties is explained by the presence of the other elements in them. Some of Aristotle's remarks come close to this view (e.g. *Meteo.* 382^{a}4–6) Alexander denies it (Alex. *PS* 62.13). Cf. [Alexander], *Mant.* 125.7–126.23, Timaeus Locrus 215.7–15, and Theophrastus *DI* fr. 8. This doctrine does not appear to be an explicit part of the *Tim.* At least we are told at 45d6 that neighbouring air is invisible *because it contains no fire* (but cf. 46d6–7 where all four bodies are said to be visible).

6.24–60 ἐπεὶ οὐδὲ . . . ἐκεῖ πυρός. Plotinus sets out to refute the theory that there are no pure samples of the elements and, by consequence, Timaeus' theory, since the latter entails the former. In order to accomplish this, Plotinus need only show that there is one element that can exist without the others. He does even more than this: he argues not only that (*a'*) earth does not need the other elements to exist (ll. 24–44; cf. 7.6–9),

but also that (*b*′) the other elements do not need earth to exist (ll. 44–60).
6.24–35 ἐπεὶ οὐδὲ . . . τοῦ ὕδατος. (*a*′)(i) Earth does not require water to exist. Although people say that water binds earth, it is absurd to say that earth cannot exist without water (see note on ll. 29–35). *ἐπεί* here has the sense of *γάρ*, cf. K-G 2.2. 461 n. 1.
6.25 φασι. Theiler includes ll. 25–6 as a so-called 'erschlossenes Fragment' in his collection of Poseidonius fragments (fr. 308 f.; the attribution is ultimately due to Reinhardt (cf. Theiler (1930: 154) where he refers to Reinhardt (1926: 387)). He also gives other references of this association: Plutarch, *Mor.* 952b (fr. 308a), Philo, *Opif. mundi* 38 (fr. 308b) and 131 (fr. 308c), Proclus, *In Tim.* 2.43.24 (fr. 308d) [cf. 2.26.31–3 and 3.321.25], and Stobaeus 1.468.24 (fr. 308e). Kalligas adds Macrobius 1.6.37. And see Simplicius, *In DC* 85.17 and 605.9–10. Graeser (1972: 37–8) agrees it is Poseidonian. The implicit subject of *φασι* is probably not limited to the Stoics, since the idea that water binds earth can be traced back much further through Aristotle (*Meteo.* 381^{b}31–2 and *GC* 335^{a}1–2; cf. Philoponus, *In GC* 278.24–6) to Empedocles (DK B19 and 34).
6.29 οὐδενὸς ἑκάστου ὄντος. Following Harder's translation: '⟨as if⟩ the individual ⟨element itself⟩ were nothing'.
6.29–35 πῶς γὰρ ἂν . . . τοῦ ὕδατος The argument runs as follows:

(1) Earth has no nature or essence of its own (i.e. there will be no pure earth), if no particle of earth can exist without containing water (ll. 29–31).
(2) But if this is so, there will be nothing for water to bind together (ll. 31–2).
(3) Thus, it is not the case that because water binds earth together there is no pure earth uncontaminated by water. On the contrary, if water binds earth, there *must* be some pure earth for it to bind (ll. 32–5).

6.31–5 τί δ' ἂν κολλήσειε . . . τοῦ ὕδατος If *Y* binds *X*, there must be some pure *X* that *Y* binds. There has to be something for a bond to bind together. If water is to bind earth together, there must already exist some earth, i.e. some pure earth, but in this case the theory is false. If, on the other hand, there is no pure earth, water will not bind anything together at all.

One could object that the water binds two *impure* portions of earth: If water binds two portions of earth, *A* and *B*, each of which already contains water, then Plotinus would presumably respond that the water in *A* must bind together two pure samples of earth, *C* and *D*. But one could reply that *C* and *D* are also impure. Plotinus would then presumably

respond that eventually this analysis will approach such small portions of earth that they will have to be pure, but his opponent need not concede this point. Plotinus' argument only succeeds for a particle-based theory of matter, but someone like Anaxagoras who holds that matter is infinitely divisible does not have to meet this demand and can thus go on maintaining that 'all things are in all things'.

6.35–6 ἀέρος δὲ τί . . . μεταβάλλειν; (*a*′)(ii) Earth does not require air to exist. The argument here is difficult, mostly due to the unclearness of *πρὶν μεταβάλλειν*. The idea seems to be that in order for earth's existence to require air, air would have change into another element. The intended change is either into water so that it could function as a binding agent (which would reduce this to case (*a*′)(i), see note on ll. 24–35), or into earth itself (on the principle that a small portion of *X* in a large portion of *Y* would change into *Y*, see ll. 14–15 and note on l. 12).

There is no clear indication that Plotinus is attributing to anyone the view that earth requires air in order to exist, yet the Stoics are potential candidates. The Stoics held that all things are held together by *πνεῦμα* (*SVF* 2.439 ff.). Strictly speaking, *πνεῦμα* is not mere air but a mix of air and fire (*SVF* 2.310, 442), but this did not stop the practice of using the term 'air' (*ἀήρ*) to refer to *πνεῦμα* (cf. [Alexander], *Mant.* 115.16–20). Plotinus himself does this at IV.7.3.27 (note the context: he is denying that 'air' could be responsible for the cohesion of the universe). Thus, Plutarch can ask 'why does earth, existing in its own right, require air to put it and keep it together?' and answer that 'air creates earth by contracting the matter . . . and making it dense' (*Mor.* 1085d–e = *SVF* 2.444, cf. *Mor.* 1053f = *SVF* 2.449). If, however, Plotinus had the Stoics in mind, it would be hard to know what sense to make of *πρὶν μεταβάλλειν*. For, according to the Stoics, the *πνεῦμα* does not change into another element at all; rather, a total blending (*κρᾶσις*) of the *πνεῦμα* and the matter occurs which preserves the nature of the *πνεῦμα* (Alexander, *De mix.* 217.32 ff. = *SVF* 2.473).

6.37–44 περὶ δὲ πυρὸς. (*a*′)(iii) Earth does not require fire in order to exist, nor in order to be visible. Plotinus' ultimate position on this issue is obscured by three details. First, although Plotinus makes a case here for earth's not needing fire, elsewhere he seems to say the opposite: 'Fire has the rank of form with respect to the other elements, being above them in place and finest of all bodies, since it is close to the incorporeal; it alone does not admit the others. But the others admit it. For it warms them, but it is not cooled; and it is coloured primarily, whereas the others receive the form of colour from it' (I.6.3.20–5; cf. Aristotle, *GC* 335^{a}18–21).

Secondly, Plotinus tries to deny that fire is required by distinguishing fire from light and insisting that all that is needed for visibility is light, but in the next chapter Plotinus calls light a species of fire (7.25–6). Finally, this argument ends with an hypothetical objection (ll. 43–4) that Plotinus does not answer. Despite these details there need not be any inconsistency. It is *corporeal* light that is called a species of fire. In addition to this there is also incorporeal light, the latter being an *ἐνέργεια* of the former. It is clear that this incorporeal light is *not* a species of fire, since Plotinus tells us that 'fire' is applied to them homonymously (7.27), which means that although they share the same name, they have different natures (see note on 7.27–8). Plotinus, then, probably has incorporeal light in mind here which he correctly distinguishes from fire. I.6 is a much earlier treatise where Plotinus might not yet have distinguished between corporeal light and incorporeal light. Nor does it necessarily say that the other three elements require fire—it only says that they admit of receiving fire. And Plotinus does not really need to respond to the final objection. It is enough for him that the hypothetical objector is willing to concede that bodies can be visible without fire *simultaneously* being present.

6.38 μὲν γὰρ. The *γάρ* is emphatic: 'Surely'.

6.39 παρὰ φωτὸς. Light, not fire, is necessary for visibility (cf. I.8.9.19–26; II.4.10.13–20). Plotinus follows the *Tim.* (45b) in holding that there is internal light in the eye (e.g. V.5.7.22–30), and follows Aristotle (*DA* 418ª29) in taking the proper object of vision to be colour (II.8.1.13), which he often describes as a kind of light (II.4.5.10–11; V.3.8.20). This similarity between the eye and colour makes the sympathy possible that is responsible for vision. See Emilsson, 1988: 42–62. Since corporeal light is a species of fire for Plotinus (7.25–6) and the light in question is distinguished from fire, he presumably has incorporeal light in mind here.

6.39–40 τὸ σκότος. Cf. Aristotle, *DA* 422ª20–1. The argument here seems to be that: since light's opposite, darkness, is intrinsically invisible, it is reasonable to take light to be responsible for visibility.

6.41–4 ἀλλὰ πῦρ γε . . . πρὶν ἀπελθεῖν. One *might* concede that light is a necessary condition of a body's visibility but still think that fire must be present in the body as well. In response to this, Plotinus calls attention to the problems inherent in saying that visibility requires fire be present in a thing. Cold things like snow present an obvious problem for those who want to maintain that things are bright because they contain fire. After all, how could something hot like fire survive in something so cold like snow (cf. note on 6.12, and *Phaed.* 103d5–6, 106a3–6)? The discussion of the origin of snow's whiteness goes back at least as far as Anaxagoras

(DK 59A97). Aristotle's answer is that snow is like a foam, a mixture of moisture and air, and this accounts for its colour (*GA* 735^{b}19 ff.; cf. *Meteo.* 347^{b}22 ff.; *DM* 394^{a}32 ff.). Plutarch (*Mor.* 691f and 695b) and Poseidonius (fr. 336b) give similar accounts.

6.43–4 ἀλλ' ἐνεγένετο . . . πρὶν ἀπελθεῖν. Plotinus seems to be entertaining a dialectical objection. The objector concedes that fire cannot be present in snow but nevertheless attributes snow's whiteness to fire by positing that prior to a thing's becoming snow, fire was in it, made it white, and then departed. Plotinus might be thinking of *Tim.* 59d4–e3 where ordinary (liquid) water is said to consist of both elementary water and elementary fire and that ice and snow result when this fire departs (no mention is made here of snow's whiteness). In any case, there is no need to respond to this objection since the objector has already granted Plotinus that there is a bright body, namely snow, in which fire is not present.

6.44–5 καὶ περὶ ὕδατος . . . γῆς λάβοι. (b′) The discussion turns to consider whether the other three elements require earth to exist. (b′)(i) Does water require earth to exist? The question appears to be rhetorical.

6.45–6 ἀὴρ δὲ πῶς ἂν λέγοιτο μετέχειν γῆς εὔθρυπτος ὤν; (b′)(ii) Does air require earth to exist? Plotinus suggests that the fact that air is easily dispersed (cf. IV.7.2.27–8 and Aristotle, *DA* 420^{a}8) speaks against the presence of earth. Proclus (*In Tim.* 2.12.21–3) captures the argument well: 'For what is solid and is able to offer resistance to touch [i.e. earth] is tangible, and what is easily dispersed (*εὔθρυπτος*) and does not admit of touch is in no way tangible.' Thus, if being solid is tantamount to being tangible, then being easily dispersed is tantamount to being intangible and there is no need for air to contain earth. Plotinus surely realizes that this argument is far from conclusive. Presumably one could respond that air contains minuscule portions of earth finely distributed throughout, and that it is the earth in the air that accounts for our ability to perceive that the wind is blowing.

6.46–50 περὶ δὲ πυρός . . . φυσικὸν σῶμα. (b′)(iii) Does fire need earth to exist? According to Theophrastus (*DI* Fr. 3) fire is unique among the elements because it alone requires one of the other elements as a substratum. With (b′)(i) water and (b′)(ii) air above, Plotinus did not specify what earth was meant to contribute to the elements, but here he does. Recall that in the *Tim.* (31b4–6) earth brings solidity and, transitively, tangibility. Yet Plotinus, as we have begun to see (note on ll. 8–12), reads the *Tim.* as attributing only solidity to earth and allotting both of the perceptible qualities, visibility and tangibility, to fire.

Like the English word 'solid', the Greek *στερεόν* or *στερεότης* can have

both a mathematical and a physical sense. In the mathematical sense a *στερεόν* (or *σῶμα*—Aristotle's preferred term for mathematical solids, as Plotinus recognized (VI.3.13.25)), like a line or surface, is a continuous magnitude (e.g. Aristotle, *Cat.* 4^{b}23–5, *DC* 268^{a}6–7; cf. VI.3.13.9–10) and is extended in three dimensions, i.e. divisible in all three directions (e.g. Aristotle, *DC* 268^{a}6–7, 274^{b}20; Euclid, *Elem* . 11 Def. 1; Apollodorus of Seleuceia *apud* Diogenes Laertius 7.135). Thus, one can say with Simplicius (*In DC* 7.8–9) that body is '*completely* continuous and extended (*πάντη συνεχὲς καὶ διαστατόν*)'. The physical sense of *στερεόν* simply adds to the mathematical definition a tactual element—Aristotelians add 'tangible (*ἁπτόν*)' (cf. Aristotle, *DA* 434^{b}12; Alexander, *In DS* 78.16 and *In Meteo.* 179.18–19). Aristotle would say they are tangible because they are necessarily characterized by contrary qualities like the hot, cold, dry, and moist and these are the proper object of touch (*DA* 423^{b}27–9). Later philosophers (Stoics and Epicureans) add 'resistant (*ἀντιτυπόν* or *μετ' ἀντιτυπίας*)' (cf. e.g. [Alexander], *Mant.* 125.15–16; Galen, *Incor. qual.* 483.14; Porphyry, *In Tim.* fr. 38). It goes without saying that the mathematical and physical senses were not always kept neatly apart. In physical treatises like Aristotle's *DC* and Apollodorus' *Phys.*, one can find mathematical definitions of body that make no mention of its tangibility, and one could argue that Plato in the *Tim.* abolished the distinction altogether by constituting physical bodies out of mathematical magnitudes (as did the Pythagoreans, see Aristotle, *Meta.* 1090^{a}30–2). Nevertheless, mathematical body was generally distinguished from physical body in these ways (cf. e.g. Xenocrates, fr. 146; Alexander, *In Top.* 89.2–3; [Alexander], *In Meta.* 725.14 ff.), and Proclus does a good job of summing up the difference: *φυσικὸν γὰρ ἄλλο στερεὸν καὶ μαθηματικὸν ἄλλο, τὸ μὲν ἀναφές, τὸ δὲ ἁπτόν* (*In Tim.* 2.13.3–4). And cf. VI.1.26.20–2; Simplicius, *In DC* 567.13–16; Philoponus, *In DA* 411.6–9.

According to the *Tim.* earth is responsible for solidity, but one must ask oneself (as Philoponus does at *In Meteo.* 41.25 ff.) what sort of solidity does it provide—mathematical or physical? Plotinus quickly dismisses the mathematical interpretation with some sarcasm (ll. 46–8). Understanding 'solidity' in this way would imply that fire is not *per se* extended, and this would contradict the geometrical theory of the elements according to which fire is a pyramid. Plotinus then turns to consider whether the *physical* sense of solidity is meant, as Philoponus (op. cit.), Alcinous (*Didask.* 19.5), and [Alexander] (*Mant.* 125.9) believed.

Compare this with Simplicius' (*In Cat.* 268.32–269.1) much fuller list

of the different senses of 'solid': (1) three-dimensional (as opposed to a surface or line); (2) firm (as opposed to unsound); (3) poorly divisible (as opposed to easily divisible). And this last category he in turn divides into (3)(*α*) hard (as opposed to soft) and (3)(*β*) dense (as opposed to rare).

6.47–8 τὸ συνεχὲς . . . τὸ διαστατὸν τριχῇ. Continuity and three-dimensionality are two features essential to all body, yet the omission of any more physical feature like tangibility (*ἁπτόν*) or resistance (*ἀντιτυπόν*, *ἀντερεισττικόν*) shows that a more mathematical conception of solidity is meant here. Thus, Beutler–Theiler's translation of *τὸ συνεχές* as *Kohärenz* (which Kalligas seems to follow) is wrong. Cf. 7.6–7 and the contrast between *μέγεθος* and *ἀντέρεισις* at IV.3.26.32–4.

6.47 παρ' αὐτοῦ. See note on 3.23.

6.48–9 ἡ δὲ στερεότης αὐτῷ, οὐ κατὰ τὴν διάστασιν τὴν τριχῇ, ἀλλὰ κατὰ τὴν ἀντέρεισιν. After dismissing the mathematical interpretation of 'solid' (ll. 46–8) on the grounds that fire is obviously *per se* solid in that sense, Plotinus turns to consider the physical interpretation: solidity in the sense of resistance. Again, Plotinus insists that fire should be *per se* solid in this sense, too, simply in virtue of the fact that fire is a physical body, since resistance is the distinguishing feature of physical bodies (VI.1.26.20–2; see note on ll. 46–50). In ch. 7 Plotinus will back away from the thesis that fire's resistance is achieved completely independently of earth. Although fire *qua* physical body is necessarily resistant, it nevertheless owes its resistance to earth. However, no earth is mixed in fire's constitution; rather, fire, as it were, borrows its resistance (i.e. solidity) from earth *via* the cosmic sympathy of the universe (see note on 7.10–19).

6.50 φυσικὸν σῶμα. *φυσικὸν* is usually translated 'natural' (Armstrong, Bouillet, Ficino), but given that Plotinus is pressing the distinction between *φυσικὰ σώματα* and *μαθηματικὰ σώματα*, 'physical' is more appropriate (Bréhier, Beutler–Theiler).

6.50 σκληρότης. G. H. Clark complains: 'the distinction between solidity and hardness is verbal . . . in these lines Plotinus is at his worst' (1949: 136 n. 3). He is quite wrong. Neither sense of solidity that Plotinus has distinguished is identical to hardness. That hardness is not extension in three dimensions is obvious, but neither is it resistance. Clearly, there are many casual contexts where *ἀντιτυπόν* or *ἀντερεισττικόν* is used synonymously for *σκληρόν* (e.g. Plutarch, *Mor.* 1111e; for a not so casual context, see Alcinous, *Didask.* 19.5), but here in chs. 6–7 both *ἀντιτυπία* (*ἀντέρεισις*) and *σκληροτής* function as technical terms. Hardness gets defined in several ways, but the standard definition is probably the Peri-

patetic one: 'not yielding into itself on its surface' (e.g. Aristotle, *DC* 299[b]13–14, *Meteo.* 382[a]11–12; Alexander, *PS* 112.20; Simplicius, *In DC* 571.21–2). Obviously, no matter how one defines hardness, its opposite will be softness, and this, as Philoponus explains (*In DA* 411.6–9), is completely different from the notion of resistance:

> By 'resistant' (*ἀντιτυπόν*) I do not mean the opposite of soft, i.e., what does not yield to touch, but rather every physical body that strikes or contacts touch (*τὸ προσπῖπτον καὶ θιγγάνον τῆς ἁφῆς*)—in contrast to the mathematical bodies that do not contact or oppose (*ἀντιβαίνει*) touch.

In short, while all physical bodies (including soft bodies) are resistant, not all physical bodies are hard.

The distinctness of these two concepts holds for Plotinus as well, although he does not exactly have the Peripatetic concept of hardness in mind. His claim that hardness belongs to earth alone is drawn directly from the *Tim.* At 59d6–7 Plato says that water 'is soft because, since its bases are less stable than those of earth, it yields'. The idea here is this: the geometrical form of water is the icosahedron, which is by nature less stable than earth's geometrical form, the cube. Plato provides some mathematical justification for this: (1) only the cube is constructed out of isosceles triangles which are (somehow) naturally more stable than scalene triangles (55e3–5); (2) the square faces (or 'bases') of a cube are naturally more stable than the triangular faces of the icosahedron (55e5–7). So at 59d6–7 Plato essentially says that earth is hard because the faces of its geometrical body are square, whereas all the other elements, because the faces of their geometrical bodies are triangular, are soft. Hardness, then, belongs to earth alone (and cf. 43c2). The following consideration should lend this position some intuitive force. If you construct a larger cube out of smaller ones (placing, say, 125 cubes—$5 \times 5 \times 5$—tightly next to one another), the resulting structure is rather stable and could probably bear a significant amount of weight on its upper surface. But if the same experiment is attempted with pyramids, octahedrons, dodecahedrons, or icosahedrons, the resulting structure—if it can be built at all—would be completely unstable and would likely collapse under any weight at all. It must be emphasized, then, that hardness applies better to compositions of elements than to the individual elements themselves. Individual elements (e.g. a single cube of earth or a single icosahedron of water) can be said to be hard or soft only in the sense that they have a disposition to yield, i.e. to move, when pressure is exerted on them.

Theophrastus (*DS* 83.5, 87.3–7) comes to quite similar conclusions

regarding Plato's conception of hardness and softness. First, he agrees that Plato's definitions of these concepts are different from those of Aristotle. For Aristotle softness is 'what yields in depth *without dislocation*', but in the *Tim.* it is what yields in the sense of 'particles exchanging places (*ἀντιμεθιστάμενον*)' (note Aristotle's own application of *ἀντιμεθιστάσθαι* to water, where he defines it as *μεθισταμένου ἄλλου ἄλλῳ μορίου*, *Meteo.* 386[a]22–5, 31–3). Moreover, since whether a body yields in this sense or not depends entirely on what sort of bases it has (Theophrastus mistakenly supposes that the *size* of the base is the issue), one is left with the (for Theophrastus absurd) consequence that 'water and air and fire are soft'.Earth alone is hard.

Yet, Plotinus never mentions hardness again in II.1, and in ch. 7 it is rather solidity in the sense of resistance that is attributed to earth (7.19 and 32). What quality, then, is proper to earth? The answer has to be both hardness and resistance, but each in a different way. Both are qualities that belong primarily to earth, but its resistance, as we shall learn in ch. 7, can be lent to other bodies *via* cosmic sympathy; not so with hardness. In order for a body to be hard, earth must be present in its constitution. Cf. *Tim.* 59b7–8 where the hardness of bronze is attributed to its containing 'a small and fine portion of earth'.

6.50–2 ἐπεὶ καὶ τὸ πυκνὸν . . . ἢ πήξεως. Iamblichus (*apud* Simplicius, *In Cat.* 267.27–268.11, 268.22–32) distinguishes two senses of density: (1) a body is spatially (*κατὰ θέσιν*) dense when its parts are arranged compactly; the opposite of this is spatial rarity where a body's parts 'stand apart from each other', as is the case with, e.g., sponges and woven articles. (2) Qualitative (*κατὰ ποιότητα*) density, by contrast, 'is substantial (*οὐσιῶδές*) and is present throughout' the body. Qualitatively dense bodies are heavy and poorly divisible. This is opposed to the qualitatively rare. It is not necessarily the case that a qualitatively rare thing's parts stand apart from each other; it is rather rare by virtue of its being light and easily divisible, as is the case with air and fire. This second sort of density is, according to Iamblichus, better called 'solidity'. Plotinus rejects this distinction. For him, all density is qualitative density (VI.1.11.24–8; Simplicius, *In Cat.* 269.2–6).

Clearly, not only is density distinct from hardness, it is not even meant to entail hardness. Nothing is hard just in virtue of being dense, since hardness belongs only to earth whereas even water can become dense (ll. 50–2). Aristotle (*Phys.* 217[b]16–20) also emphasizes that density does not always entail hardness. Lead, for example, is dense and therefore heavy, but not hard. As Philoponus (*In Phys.* 697.4ff.; and cf. *In*

GC 228.13–15) puts it, heaviness always follows density, but hardness follows it only for the most part (Simplicius gets this wrong, *In Phys.* 691.17ff.). Theophrastus (*Hist. plant.* 1.5.5; cf. 5.4.1 and *Caus. plant.* 4.12.4) suggests that hardness results sometimes from density and sometimes from earthiness, and this might be what Plato had in mind in the *Tim.* At 59b5 hardness is said to increase with density, but bronze is said to be harder because it contains some earth (59b7–8). Plotinus takes this a step further: hardness *never* results just from density; it results only from earth (although earthy bodies are also dense, IV.5.1.19–20). One is still left wondering how a *qualitative* notion of density differs from the quality of hardness. Perhaps hard (and thus earthy) things are brittle (Ficino suggests that earth's hardness is 'rough and dry'), whereas dense things need not be (gold is malleable).

Plotinus seems to be introducing density (*τὸ πυκνόν*) as a counterpart to solidity (in the sense of resistence—*ἀντέρεισις*). The idea is that if density can increase without the addition of earth, why shouldn't solidity be achievable without the addition of earth? (The *ἐπεὶ* in l. 50 has the sense of *γάρ* (K-G 2.2. 461 n. 1).) Nevertheless, I doubt that Ficino's proposal (Creuzer, ed. vol. 1, p. 173 = Ficino (1561) vol. 2, p. 1600) that solidity itself is achieved through density is true to Plotinus' thought. Solidity in the sense of resistance is achieved through cosmic sympathy, and solidity in the sense of hardness is achieved through the presence of earth in a thing's constitution.

6.51 τῷ χρυσῷ ὕδατι ὄντι. Metals were often considered to be liquids, no doubt because they liquefy when heated. Cf. Plato, *Tim*. 59b1–4; Aristotle, *Meteo*. 378[a]32–3 and 389[a]7; Seneca, *Quest. Nat*. 3.15.2–3. Gold is dense, cf. Plato, *Tim.* 59a–b; Plutarch, *Mor.* 665f and 1005d; Porphyry *In Cat.* 134.4–6. A similar lesson can be learned from Aristotle's *Meteo.* where he teaches that solidity is achieved by a process of heating or cooling and not by augmenting the substance with earth (cf. *Meteo*. 378[b]12ff.; cf. 385[b]7, *GC* 336[a]4, *GA* 743[b]28–9 and 783[b]1, *Meta*. 1042[b]28).

6.52 πῦρ δὲ ἐφ' αὑτοῦ. Fire 'all by itself' (K-G 2.1. 498 and cf. l. 23). Graeser's comment (1972: 23–4) that this 'pure fire' is both different in species from and superior to both flame and superlunar fire (i.e. corporeal light) is without foundation. Plotinus seems rather to have the superlunar fire in mind here.

6.53 ψυχῆς παρούσης. The World-Soul is meant.

6.53 συστήσεται. Armstrong translates this 'attain existence', but *συνίστημι* can also have the sense 'to make solid or firm; to make congeal' (cf. LSJ *συνίστημι* V) which seems more appropriate given the context.

Aristotle, for example, often uses *συνίστημι* in this sense (e.g. *GC* 336[a]4 and *GA* 743[b]28–9). Thus, soul, by its presence, increases fire's solidity and resistance. Cf. IV.7.4.30–3: 'The soul produces different effects in different living things, and even opposite effects in the same thing; it solidifies (*πηγνῦσα*) some things and liquefies others, makes some dense and others rare, and makes things black and white, light and heavy.'

6.54 καὶ ζῷα δὲ πύρινά ἐστι δαιμόνων. Heinemann (1921: 91) wants to delete this line as a later addition: 'der Satz . . .[hat], wie man leicht sieht, mit dem Ganzen keinen anderen Zusammenhang, als daβ er die Erläuterung eines Dämonenfreundes zu den vorhergehenden Worten darstellt', but he is wrong to say that there is no connection to what precedes. Plotinus just appealed to the power of soul to help motivate the belief that fire could gain a solid constitution without earth being present, and now he is justifying that appeal by adding that there are in fact fiery living things.

The belief in the existence of fiery daimons has three likely Platonic roots: (1) *Tim.* 39e–40b which describes a theory of correspondence between elements and living things: for each of the four elements there must be a class of living things. As Olympiodorus observes (*In Meteo.* 301.16–25), Aristotle seems to oppose Plato's correspondence doctrine between elements and living things at *Meteo.* 382[a]6–9 where he says that no animals live in air or fire (birds, as Alexander remarks (*In Meteo.* 199.23–4), come to be not in the air but on the earth), but at *GA* 761[b]16–32 this correspondence doctrine is found alive and well (on these passages, see Lameere, 1949). For other statements of this correspondence doctrine, see VI.3.9; *SVF* 2.686; Iambl. *Theol. arith* 34.10; Michael of Ephesus, *In GA* 160.1ff.). Nevertheless, in the *Tim.* the living things corresponding to fire are not daimons but stars.

(2) In the *Epin.* (981d6ff. and 984d2ff.) there are not four but five elements; a region of aether has been added between air and fire. It is again claimed that corresponding to each of these elements there is a kind of living thing, and again fire corresponds to the stars. But daimons are said to correspond to aether (984e1). Plato, however, never commits himself to the doctrine that the bodies of these living things are made up exclusively of the respective element; they are rather *mostly* constituted by that element (cf. *Tim.* 40a2–3, *Epin.* 981d7–e1). Finally, (3) Dodds (1963: 315 n. 3; cf. 319 n. 1) suggests that *Laws* 898e8ff. might have served as such a source, where in order to explain how the celestial bodies are moved by souls, an intermediate body of fire or air is posited. Cf. Philoponus, *In Phys.* 829.18.

Demonology is widespread in Neo-Platonism (see Zintzen (1976); Nasemann (1991: 154 ff.)). Let it suffice to say that, for Plotinus, daimons receive an intermediate position between god and man; while the heavenly bodies in the superlunar region are gods, the daimons belong to the sublunar region (III.5.6.19) and have bodies of either fire or air (III.5.6.37 ff.). It is also worth noting that while Porphyry does accept the existence of fiery daimons, he is quick to add that they are not 'resistant' unless they also partake of earth (Proclus, *In Tim* 2.11.10-18 = Sodano fr. 43).

6.55 τὸ πᾶν ζῷον ἐκ πάντων τὴν σύστασιν ἔχειν. As H–S^3 notes, the *τὸ* is to be taken together with *ἔχειν*. The sense of *κινεῖν* here is 'to upset' or 'to call in question' (LSJ *κινέω* A.II.1), cf. Aristotle, *DC* 271b11: *τὰ μέγιστα κινεῖ τῶν μαθηματικῶν*. What we shall call in question is the doctrine that every living thing is composed of *all* the elements, because Plotinus is trying to motivate the belief that soul can *συνιστάναι* (i.e. provide *σύστασις* for) fire without any other element being present. This doctrine is an implicit consequence of the *Tim.*'s theory that every body, in order to be visible and tangible, must contain all four elements (31b4 ff.; cf. 42c6–d1; 42e8–9), and explicitly stated in the *Epin.* 981d3–e2 (and cf. *Protagoras* 320c–d; *Philebus* 29a). But it also seems to follow from Aristotle's theory of perception according to which each of the four elements is assigned to one of the senses (earth is assigned to both touch and taste, since taste is a sort of touch), and some commentators mention it in this connection (Theophrastus, *DS* 23.6–7; Themistius, *Para. DA* 34.15–17, 73.22–6; Sophonias, *Para. DA* 99.31–2). Thus, Themistius can remark: 'But if someone should posit fiery or airy bodies, it becomes difficult to distinguish the five sensations and organs that each uses' (*Para. DA* 73.24–6).

6.55–6 ἢ τὰ ἐπὶ γῆς τις ἐρεῖ. *τὰ ἐπὶ γῆς* are the *living things* on the earth. Cf. Chrysippus (*SVF* 2.413.23–6): *τὰ ζῷα καὶ τὰ ἐπὶ γῆς πάντα* are made of all four elements, but the moon of only two, fire and air, and the sun of only one, fire.

6.56–60 γῆν δὲ εἰς . . . πυρός. Plotinus concludes by pressing that it is unnatural for any earth to be in the celestial region. He presents two reasons for this: (1) earth's sluggish nature makes it implausible that the celestial revolutions would carry around earthy bodies (IV.4.22.26 and IV.4.26.9; cf. Alexander, *In Meteo.* 116.31 ff.) and (2) earth's nontransparent nature would detract from the brightness of the heavenly bodies (IV.5.1.19–20 and IV.5.6.32–3; cf. Alexander, *DA* 45.9, and note on 7.19–24). He could have added that earth is the element least tailored to participate in soul (IV.3.17.6–8).

II.1.7

Argument of II.1.7 In ch. 6 Plotinus argued that despite what the *Tim.* seems to say it is not really the case that any and every body contains all four elements. Now he is concerned to show that he and Plato are really in agreement on this. According to Plotinus, if one listens closely, Plato says three things (ll. 1–2):

(I) Solidity *qua* resistance belongs to the universe (ll. 2–3). This is for two reasons:
  (a) so that the earth can act as a base of support for all that is upon it (ll. 3–4), and
  (b) so that the living things upon it are themselves necessarily solid in this sense (ll. 4–6).

(II) The element earth is *perse* continuous. Earth receives some illumination, levity, and cohesion from the other three elements (ll. 6–9).

(III) However, even though earth does have these qualities from the other elements, it is not because the other three elements are present in earth as constituent parts (nor does earth have to be present in the superlunar region). Rather, these properties are transferred *via* the cosmic sympathy that obtains in the universe (ll. 10–19).

As evidence for this reading of Plato, according to which there is no earth in heaven, Plotinus cites some texts where Plato, as Plotinus sees it, is making clear that the sun is exclusively of fire (ll. 19–24). This leads to a discussion of the different species of fire and earth, which Plato observes but which tend to be ignored. It is this semantic space between Plato and ordinary language that is partially responsible for the mistaken interpretation examined in ch. 6. This discussion has three parts:

(I′) A catalogue of the different species of fire and earth (ll. 24–33).
  (*a*) Fire. There are at least two species of fire (ll. 24–30): (i) sublunar fire, i.e. flame and (ii) superlunar fire, i.e. corporeal light. One must not confuse (ii) with (iii) incorporeal light, which is not fire at all.
  (*b*) Earth. Different things are also meant by 'earth', one of which is simply solidity (ll. 30–3).

(II′) A meteorological theory that explains why *de facto* sublunar fire does not mix with superlunar fire (ll. 33–43).

(III′) A description of the superlunar fire, and how it varies both in the different heavenly bodies and in the intervals between them (ll. 43–9).

7.1–2 τοῦ Πλάτωνος λέγοντος. Plotinus now filters Plato's true meaning out of the *Tim.* and presents it here. This runs until l. 19 where we find the first full stop in the Greek text. Thus, *λέγοντος* governs all of ll. 2–19 (whence the repeated use of infinitives). This exegesis can be broken up into three parts (*μέν* (l. 2) . . . *δέ* (l. 6) . . . *δέ* (l. 10)—see Argument of II.1.7).

7.2–6 ἐν μὲν τῷ παντὶ κόσμῳ . . . ἔχῃ. (I) The first thing that Plato reportedly says is that the one sort of solidity, namely resistance (cf. 6.48–50), must exist in the cosmos. One would expect that the reason for this is simply that resistance is found throughout the cosmos—i.e. wherever there is a physical body (6.50). Yet the two reasons Plotinus supplies (for Plato) are quite different. Neither reason gives any indication that resistance is to be found outside of the earth and the terrestrial creatures.

(a) There must be resistance in the universe so that the earth, seated in its centre, might be a steady base for the creatures that stand upon her. Ficino, Bréhier, and Beutler–Theiler all translate *βεβηκόσιν* with verbs of motion, but Armstrong is right that the perfect is better rendered with 'stand' (K-G 2.1. 148, cf. *DC* 307^{a}8). Nevertheless, it is significant that Plotinus chose the perfect of *βαίνω* rather than the perfect of *ἵστημι*. Plotinus is going after a thought that Aristotle discusses in his treatises on animal movement:

> . . . the animal that moves always changes by supporting itself on whatever underlies it. Therefore, if what underlies gives way too quickly for the animal which is making a move upon it to be able to support itself, or if in general what underlies does not have any resistance (*ἀντέρεισιν*) for the moving animals, then nothing upon it will be able to move itself. (*IA* 705^{a}7–12)

Aristotle also makes clear that in the case of animal motion, this underlying thing is the earth (*MA* 699^{a}25–6). Plotinus is making essentially the same point here but more generally: resistance is needed not just for things to be in motion but even for them to be stationary. As Baltes (1972: 106) points out, it looks as if Plotinus is nearly quoting Timaeus Locrus, *Nat. mundi* 215.7–15, where the earth is said to be both *ἐν μέσῳ ἱδρυμένα* and a *ῥίζα* and *βάσις* of all the other elements (which all require earth in order to exist).

(b) There must be resistance in the universe so that the creatures on earth might necessarily have resistance, too. This is just the other half of (a). If the earth is to offer resistance to the creatures standing or moving upon it, then these creatures must themselves be receptive to this resist-

ance, which is to say that their bodies must be resistant. Otherwise, no interaction would occur.

Thus, the primary rationale for the existence of resistance in the cosmos is found in the terrestrial. This is not to be found in the *Tim.* It can only be inferred from the *Tim.* that the earth is in the centre of the universe (62d12–63a2; cf. 40b8–c1 and *Phaed.* 108e4ff.), and that the element earth is, as Timaeus Locrus (216.6–12) puts it, ἑδραιότατον because of its cubic form (55e1–3, 59d6–7). See Baltes, 1972: 106–19.

7.3 **τὸ ἀντίτυπον ὄν.** 'Solidity, i.e. resistance'. In 6.46–50 Plotinus distinguished two sorts of solidity, mathematical and physical. Here he makes explicit that Plato means the latter (ἀντιτυπία = ἀντέρεισις). Yet the sense of physical solidity or resistance here must be narrower than at 6.49. There, 'resistance' was being used in its broadest sense, according to which *all* physical bodies are resistant. Here, however, that sense of resistance is not sufficient. Air, for example, is resistant in *that* sense, but air could not function as a 'solid foundation' for the terrestrial things to stand on. Plotinus seems rather to have a more specific form of resistance in mind, namely hardness; this is resistance *par excellence*. See note on ll. 6–7.

7.6–7 **ἡ δὲ γῆ τὸ μὲν εἶναι συνεχὴς καὶ παρ' αὐτῆς ἔχοι.** (II) The second point that Plato makes (when one listens carefully) is that earth possesses *per se* the property of being continuous (and receives other properties from the other three elements). This sentence is difficult for two reasons.

First, the finite verbs ἔχοι and ἐπιλάμποιτο are problematic. Since this sentence is governed by the λέγοντος in l. 2 we should expect infinitives. For this reason, Beutler–Theiler take ἡ δὲ γῆ τὸ μὲν εἶναι συνεχὴς καὶ παρ' αὐτῆς ἔχῃ (subjunctive instead of optative) to be a third component of the ἵνα-clause, but much speaks against this. They are forced to change ἔχοι to ἔχῃ and to bracket ἐπιλάμποιτο δὲ ὑπὸ πυρὸς. Clearly ll. 6–9 express a single thought, namely what earth has of itself and what it 'borrows' from the other elements. Thus, either all of ll. 6–9 is part of the ἵνα-clause, or none of it is. And the infinitives μετέχειν and κουφίζειν speak for its not being a part of it. Moreover, the τε . . . τε makes clear that there are only *two* parts to the ἵνα-clause, and it would be hard to say what sense could be made of the statement that there is resistance in the cosmos *in order that* the earth might be continuous.

The second problem has to do with the meaning of συνεχής and its relationship to ἀντιτυπία and σκληρότης. We encountered τὸ συνεχὲς παρ' αὐτοῦ already at 6.47, where it appeared to be a mathematical con-

cept that referred to the genus of lines, surfaces, and solids. It is, however, hard to imagine that Plotinus now wants to say that *this* is proper to earth. He must mean something else here. Beutler–Theiler (whom Kalligas follows) suggest that *συνεχής* means 'coherence'. Yet this cannot be right, either, since we are specifically told that *water* provides for the earth's coherence (*μὴ κωλύεσθαι συναγωγήν*, ll. 8–9). Perhaps Plotinus means that the element earth is continuous in the following sense. Earth molecules, being cubes, can be stacked side-by-side and on top of one another to form a larger, *continuous* body. This is not true of the other geometric solids. If this is what Plotinus means, it would resolve some of the tension with ch. 6 where Plotinus says that it is *hardness* that belongs only to earth (6.50). For the Platonic conception of hardness is defined in terms of parts not exchanging places, and earth's hardness in this sense follows, as we saw, from earth's being of such a sort that it could be stacked continuously (see note on 6.50–2).

This leaves the question of the connection of being *συνεχής* to being *ἀντιτυπόν*, but this has already been answered. For the *ἀντιτυπόν* in l. 3 is resistance *par excellence*, i.e. hardness (see note on l. 3), and we have just seen how hardness results from continuity. Thus, Plotinus' theory on earth and its relation to the other elements can be summarized as follows: the element earth, thanks to its cubic form, is *per se* continuous (ll. 6–7) in the sense elucidated above. This continuity accounts for its hardness, i.e. its resistance *par excellence*. The other three elements receive from earth (*via* cosmic sympathy) a derivative form of resistance, i.e. solidity (ll. 19 and 32)—not hardness but the resistance that belongs to all physical bodies.

7.7 **ἐπιλάμποιτο δὲ ὑπὸ πυρός.** Cf. Proclus, *In Tim.* 2.49.7–9.

7.7–9 **μετέχειν δὲ . . . ὄγκους.** In the *Tim.* it is not the contribution of properties that makes water and air necessary (as is the case with fire and earth); rather, their necessity is mathematical—they must function as intermediates (*Tim.* 31b8–32c4). Here, however, water's contribution is cohesion (*μερῶν πρὸς μέρη μὴ κωλύεσθαι συναγωγήν*, ll. 8–9; cf. 6.24–6) and air lightens the earth (l. 9; cf. 6.35–6). That water must be present for cohesion is a Stoic thesis (see note on 6.25). The source of the thesis that air lightens earth is less clear; perhaps it is derived from the *Tim.* where air is said to carry (*φέρειν*, 43c3) and push (*ὠθεῖν*, 58e5, 59a2) or perhaps it is derived from the Stoic view that the lightness of air and fire counterbalances the heaviness of earth and water (*SVF* 1.99; 2.555). This shift in responsibility—from functioning as mathematical intermediates to providing properties—is consistent with Plotinus'

rejection of the *Tim.*'s mathematical argument at 6.14–17. Yet even if Plotinus had admitted the mathematical argument, some reinterpretation such as this would be required, since Plotinus does not want to allow the concrete sublunar elements to exist in the superlunar region. Proclus also sees air and water as providing properties: air delivers fineness, transparency and cohesion; water binds and provides uniformity and smoothness (*In Tim.* 2.43.23–5 and 2.50.10–12).

7.7 **μετέχειν δὲ.** H–S$^{1–2}$ have *μετέχειν δὲ*, but H–S^{3} replaces this with *ἔχοι δέ*, transposed from l. 8. Kalligas, however, points out that *ἔχοι* has no conceptual advantage over *μετέχοι* (elements can be said to *μετέχειν*, see l. 14, 6.46 and VI.3.7.33), and for this reason emends to *μετέχοι δέ*. Beutler–Theiler, who think that this is still part of the *ἵνα*-clause (see note on ll. 6–7), find both the infinitive and the optative unacceptable and emend to *ἔχῃ δέ*. Yet there is no real reason not to retain the infinitive *μετέχειν*, which all the manuscripts have. *μετέχειν*, like *κουφίζειν* in l. 9, is governed by the *λέγοντος* in l. 2. True, there is a somewhat abrupt shift from the optatives *ἔχοι* and *ἐπιλάμποιτο* to the infinitive *μετέχειν*, but such abruptness is not eliminated simply by changing *μετέχειν* to *μετέχοι* or *ἔχοι*; one would also have to change *κουφίζειν* to *κουφίζοι* (and *ἀέρα* to *ἀήρ*)—which is unacceptable.

7.7–9 **πρὸς τὸ ⟨τὸ⟩ μὴ αὐχμηρὸν ἔχειν τε καὶ μερῶν πρὸς μέρη μὴ κωλύεσθαι συναγωγήν.** As H–S^{3} explains, the *πρὸς τό* also governs the *κωλύεσθαι*. The manuscripts almost unanimously offer: *πρὸς τὸ μὴ αὐχμηρὸν ἔχοι δὲ καὶ . . .*, but there is near universal agreement that the *ἔχοι δὲ* cannot be retained, though H–S^{1} and Bréhier try to salvage it. Beutler–Theiler and Kalligas excise it; H–S$^{3–5}$ transpose it to l. 7 (see note on l. 7). We are obviously reduced to guesswork here, but it is possible to make sense of the text without excisions and transpositions. There is some manuscript support for the infinitive *ἔχειν* which H–S^{2} and Armstrong print. Obviously, the *δέ* is out of place, but *τε*'s can easily be corrupted into *δέ*'s (cf. e.g. 8.11 and 12). This suggests that the original text read: *πρὸς ⟨τὸ⟩ τὸ μὴ αὐχμηρὸν ἔχειν τε καὶ . . .* The first *τό* governs the verbs *ἔχειν* and *κωλύεσθαι*; the second *τό* goes with *μὴ αὐχμηρόν*: 'in order to have the quality of not being dry and not to prevent the joining of parts to parts'. As inelegant as the repetitious *τὸ τό* appears, Plotinus often writes like this (cf. 3.12 and I.4.2.13; IV.5.2.29; VI.4.10.28; VI.8.7.38; and Kirchner's proposed emendation at 6.55), and it is easy to see why one of the *τό*'s might have disappeared (as occurred in Porphyry, *Ad Gaurum* 9.1, see Kalbfleisch's note '*τὸ* vor *τὸ* gestrichen'). Cf. Proclus, *In Tim.* 3.321.25.

7.9 ἀέρα δὲ κουφίζειν. Cf. Poseidonius, fr. 271c Th.

7.9 γῆς ὄγκους. Cf. *Tim.* 60e4. Here, as in 6.35–6, Plotinus contrasts the levity of air with the weightiness of earth. There he used this contrast to make the presence of air in earth implausible, but here he uses the same contrast to emphasize that there is something that earth *per se* lacks and must receive from air.

7.10–19 μεμίχθαι δὲ τῷ . . . τὴν πυρότητα. (III) The third article that Plotinus claims is to be found in Plato's *Tim.* is the doctrine of cosmic sympathy. Although this doctrine is clearly Stoic, there is some dispute as to its exact origins. There is certainly a full-fledged theory of cosmic sympathy in Poseidonius, but it is less certain to what extent he was drawing on Chrysippus (*SVF* 2.441, 473, 475, 546, 912, 1013). It is Poseidonius, in any case, from whom Plotinus is thought to have derived his own doctrine of cosmic sympathy (Theiler, 1982: 152, and Beutler–Theiler VI 167 (§132); Rheinhardt, 1953: 655.43–6).

Cosmic sympathy begins with a vitalistic conception of the universe—the cosmos is a single and continuous living thing (Poseidonius: fr. 23 E–K = fr. 347 Th. and fr. 99a E–K = fr. 304 Th.; Plotinus: see note on 1.26). By virtue of this vitalistic conception, it can now be claimed that spatially separated entities can affect one another (IV.4.32.13ff.; IV.5.8.1ff. VI.5.10.34ff.), just as trauma to one hand can affect the behaviour of the other. For Poseidonius the explanatory value of cosmic sympathy seems to be limited to two cases: (i) simultaneous activity of distant objects, e.g. the motion of the ocean is in sympathy with that of the moon (fr. 217.32 E–K = fr. 26 Th; fr. 219.18 E–K = fr. 313 Th.; for other examples see fr. 106 E–K = fr. 379 Th.), and (ii) consecutive activity of distant objects, which explains divination, astrology and magic (Poseidonius: fr. 7, 26–7, 106–13 E–K and fr. 371a–380b Th.; Plotinus: II.3.7–8, IV.4.26 and 40). Plotinus takes this theory a step further by asserting that cosmic sympathy can also account for the transference of qualities (ll. 10–19) or powers (IV.5.3.20–1) from one object to another. Cosmic sympathy plays an important role in his theory of perception (IV.5.3; see Emilsson, 1988: 48ff.), and here we see Plotinus using it to explain how superlunar fire can be qualified by certain sublunar properties without the respective sublunar elements being present in the heavens.

7.11–12 καὶ τὸ πῦρ . . . τοῦ πυρὸς. Fire enjoys something from earth in the same way that earth enjoys something from fire; namely, neither contains the other in its constitution but each receives some part of the other through the community in the universe. Thus, not only is earth not mixed into the constitution of superlunar fire, but no fire needs to

be mixed into the constitution of earth, either. Earth receives only the brightness of fire: *καὶ τὴν γῆν πυρὸς τὴν λαμπρότητα* ll. 16–17. As a marginal note in the manuscript puts it: 'each of the elements partakes—not of one another as wholes—but of one of their qualities.' Nevertheless, Plotinus seems to think that the sublunar elements are *de facto* mixed into each others' constitutions: at l. 38 he explains that the reason why sublunar fire never passes into the superlunar region is that it carries earth along with itself. Cf. [Aristotle], *DM* 397^{b}27–30.

7.14–15 κατὰ τὴν ἐν κόσμῳ κοινωνίαν ὄν. 'being subject to the community in the cosmos'.

7.17–19 καὶ τὸ συναμφότερον . . . πυρὸς φύσιν. *τὸ συναμφότερον*, *γῆν*, and *τὴν πυρὸς φύσιν* are all subjects of *ποιεῖν* (H–S$^{3-5}$, Beutler–Theiler, Kalligas; *pace* Armstrong, Bréhier, Ficino).

7.17 τὴν δὲ μίξιν. The mixture in question is one in which *a* participates (*μετέχειν* l. 7, *μετέσχεν* l. 14) in *b* and which is to be contrasted with the sort of mixture in which *b* is present in *a*'s constitution (*μεμίχθει ἐν τῇ συστάσει*, l. 10), i.e. in which *a* is constituted from both itself and *b* (*γενέσθαι ἐξ ἀμφοῖν*, ll. 13–14).

7.19 τὴν στερεότητα ταύτην καὶ τὴν πυρότητα. Gollwitzer's emendation of the manuscripts' *πυκνότητα* makes good sense and has been adopted in modern editions (Beutler–Theiler, H–S$^{3-5}$, Kalligas, though not Armstrong who uses H–S^{2}). The problem with *πυκνότητα* is that in 6.50–2 *πυκνότης* is said to be achieved by an element all by itself and without the help of earth. *πυρότης* is also found at II.6.1.34. Here Plotinus again associates earth with solidity (cf. l. 32). The 'fieriness' of fire is presumably its brilliance (l. 17).

7.19–24 μαρτυρεῖ δὲ καὶ . . . πυρὸς εἶναι. In ll. 2–19 Plotinus proposes an interpretation of Plato's *Tim.* which would let the heavens consist solely of fire. This interpretation stands in opposition to what Plotinus took to be the *prima facie* meaning of *Tim.*'s account (cf. note on 6.6–8). Therefore, Plotinus now introduces some of Plato's own words in order to show that they are closer to his interpretation than to the *prima facie* account. There are a total of three citations:

(1) Plato says of the sun: 'God kindled a light' (cf. note on 7.20–1).
(2) Plato calls the sun: 'brightest' (cf. note on 7.22).
(3) Plato calls the sun: 'whitest' (cf. note on 7.23).

This in itself is obviously weak evidence for attributing to Plato the theses spelled out in ll. 2–19. (1) offers Plotinus some textual ground: it is not by mixing the four elements together that the Demiurge is said to produce the sun; rather, he 'kindled a light'. (2) and (3) appeal to the intuition that

any earth whatsoever in a thing would detract from the thing's brightness; a particle of earth would block the light behind the particle, and if the earth were somehow blended into the fire one would expect the totality of fire to be dimmed as a result. Therefore, the brightest thing has to be pure fire (cf. Theophrastus, *DI* fr. 30 *ὅσῳ δὴ καθαρωτέρα, τοσούτῳ μᾶλλον* (*scil. φωτίζει*) and note on 6.56–60). One expects the objection that there is *de facto* no pure fire, and thus even the brightest thing has some earth in it. Plotinus clearly thinks that Plato means the brightest *possible* thing and not just the *de facto* brightest thing. In this connection it is worth noting that Cornford also thinks that there is pure fire, though not in the heavenly bodies; rather, daylight and the light that proceeds from the eyes (1937: 152 and 247).

7.20–1 φῶς ἀνῆψεν ὁ θεὸς περὶ τὴν δευτέραν ἀπὸ γῆς περιφοράν. Cf. *Tim.* 39b4–5: *φῶς ὁ θεὸς ἀνῆψεν ἐν τῇ πρὸς γῆν δευτέρᾳ τῶν περιόδων, ὃ δὴ νῦν κεκλήκαμεν ἥλιον*.

7.22 λαμπρότατόν. Cf. *Theaet.* 208d2, *Rep.* 616e9 and [Aristotle], *DM* 400[a]8.

7.23 λευκότατον. The only occurrence of *λευκότατος, -η, -ον* in the Platonic corpus is at *Rep.* 617a3, but there it is not the sun (the planet in the seventh whorl) that Plato calls *λευκότατον*, but the planet in the third whorl, namely Jupiter (see Gundel, 1950: 2058.32–8, and Halliwell, 1988: 180). Although Plotinus mistakenly takes this to refer to the sun, it does not affect the train of argument: Plato calls some heavenly body 'most white', and this seems to rule out the presence of earth.

7.24–5 τῶν εἰδῶν αὐτοῦ τῶν ἄλλων. (I′)(a) In the *Tim.* Plato says that there are very many species of fire (57d4 f. and 58c5; cf. Theophrastus, *DI* fr. 9 *τὸ πολυειδὲς πυρός*), and specifically mentions three kinds at 58c (cf. 82a): flame (*φλόξ*), embers (*διαπύρος*), and light (*φῶς*). The former two are routinely recognized as kinds of fire (e.g. Theophrastus *DI* fr. 3 and 34; *SVF* 2.426–7 and 612; Proclus, *In Tim.* 2.8.22–3). Aristotle seems to take flame to be fire *par excellence* (*GC* 331[b]25–6), yet he distinguishes flame from what might be called 'elemental fire' which is the substance found in the *hypekkauma* (*Meteo.* 340[b]22 ff. and 345[b]25). For Aristotle flame is burning smoke and is thus not pure fire but contains air and earth (*GC* 331[b]25–6 and *Meteo.* 388[a]2); later Aristotelians would emphasize the presence of air in flame (Theophrastus, *DI* 3; Alexander, *In Meteo.* 116.31 ff. and 218.29) and contrast this with the earthy character of embers (*ἄνθραξ*, Theophrastus, *DI* 3 and 37; *SVF* 2.426–7). It is, no doubt, this impurity that led many subsequent Peripatetics to reverse Aristotle's position and maintain that flame is only

loosely speaking fire ([Alexander], *Mant.* 138.3ff.; Themistius, *Para. DA* 60.12ff.; Philoponus, *In DA* 83.18–19; 87.10–12) and that true fire is rather the element found in *hypekkauma* (Philoponus, *In Meteo.* 23.14ff., 34.4–6, 56.23ff.). The three-fold division of fire that includes both of these two plus light is generally taken to be Platonic (Simplicius, *In DC* 16.20–1 and 85.7–9; *In Phys.* 615.28). Aristotle also talks of species of fire (*DC* 268^{b}28–9), and he even mentions this trifold division at *Top.* 134^{b}29 although, as Alexander recognized (*In Top.* 402.21ff.), he did not actually accept it. For Aristotle, light is not fire nor a body of any kind (*DA* 418^{b}14–15; cf. [Alexander], *Mant.* 138.3ff. = *SVF* 2.432). Thus, one often encounters some indecision among later authors as to whether light should count as a kind of fire (e.g. Theophrastus, *DI* 3). Platonists sometimes characterize light as 'pure' or 'true' fire (Atticus, fr. 8.1, and Proclus, *In Tim.* 3.112.4ff.), and if it was taken to be fire at all it was the finest (λεπτομερής, Empedocles, DK 31 B84; Aristotle *Top.* 134b33–4; Poseidonius, fr. 298b Th.). The three species of fire in Timaeus Locrus (217.15) are surprising: flame, light, and rays (αὐγή).

7.25–6 τὸ φῶς ὅ . . . προσηνῶς. Plato says, according to Plotinus, that the celestial region is made up of a particular species of fire, namely light. This, of course, is not to be found in the *Tim.*, but it does seem to have established itself as an interpretation. Simplicius, in any case, agrees that for Plato the heavens are constituted of light which, unlike fire, does not move upwards (*In DC* 67.1–5; and cf. Proclus, *In Tim.* 2.47.9–10 and 3.129.6). As for the gentle warmth of light (cf. 8.11ff.; II.3.2.2–3; II.3.12.18–19; IV.4.31.36–7), Plotinus' textual basis is probably Plato's account of daylight at *Tim.* 45b2ff.: 'Such fire as has the property, not of burning, but of yielding a gentle (ἥμερον) light, they contrived should become the proper body of each day' (Cornford trans. NB: Taylor (1928: 277) takes this as a description not of daylight but of ocular light). Yet, although Plato here does call light 'gentle' and contrasts it with 'burning' fire, he does not say it is gently *warm*. Nevertheless, Plotinus has good reason to judge Plato's celestial fire to be warm. The warmth of all fire is accounted for by its geometric figure (61d5ff.)—a figure which even light must have insofar as it is a species of fire. Yet, it is far from a foregone conclusion that the celestial body is warm. Aristotle explicitly denies this in the *Meteo.* (341^{a}12–17), since for him having a property (e.g. hot) for which there is an opposite (e.g. cold) is incompatible with being indestructible (*DC* 270^{a}13–23), and this view was very influential among later thinkers (Philoponus, *In Meteo.* 39.28; Simplicius, *In DC* 442.11–12; cf. Olympiodorus' two arguments for the thesis, *In Meteo.*

33.19 ff.), even among Platonists (Proclus, *In Tim.* 2.10.11–13 and 3.47.16–17).

Philoponus is surely right when he says that Plotinus here has 'vital fire' in mind as the substance of the heavens (*AP* 526.15; cf. 518.20–2, Numenius, fr. 58, and Proclus, *In Tim.* 3.128.30–129.4). Vital (*ζωτικόν*, *ζῳογόνον*, *γόνιμον*) fire, which is sometimes called 'primal fire' (*SVF* 1.98; Alexander, *In Top.* 376.22 ff.), provides the sort of heat that aids generation, whereas the heat of other sorts of fire is destructive (*φθαρτικόν*) and servile (*διακονικόν*). This distinction, which according to Hahm (1977: 198 n. 18) is first found in Xenophon, *Mem.* 4.7.7, is central to both Aristotelian biology (*GA* 737^{a}1 ff.) and Stoic cosmology, which contrasts undesigning (*ἄτεχνον*) with designing (*τέχνικον*) fire such that the former converts fuel into itself whereas the latter causes growth and preservation (*SVF* 1.120; cf. *SVF* 1.504, 2.423). For both Aristotle and the Stoics this productive fire was indeed warm, and this probably informed Plotinus' thinking (cf. Graeser, 1972: 23–4). Cf. III.2.2.25–6 where Plotinus contrasts *φίλα* and *προσηνῆ* with *ἐχθρὰ* and *πολέμια*.

7.26 τοῦτο δὲ τὸ φῶς σῶμα εἶναι. Plotinus maintains that there is both corporeal and incorporeal light. There are some bits of text outside of the *Tim.* which (if taken out of context and finagled in the right way) might have prompted one to believe that there are two types of light: the Eleatic Stranger mentions 'two-fold light' (*διπλοῦν φῶς*) at *Soph.* 266c; Socrates refers to 'the true light' which is distinct from the light we know at *Phaed.* 109e7; Socrates describes shadows 'made from a different sort of light, compared to the sun' at *Rep.* VII 532c2–3. Cf. Philoponus' distinction between 'the light that has its being in the sphere of the sun that is formative and constitutive of the sun's nature' and 'the light that is diffused in the air' (*AP* 16.25 ff.; cf. *In Cat.* 52.17–19 and 171.4–8).

7.27–8 τὸ ὁμώνυμον . . . ἀσώματον εἶναι. Usually, when Plotinus speaks of light he means incorporeal light (I.6.3.18; IV.5.6–7; VI.4.7.31–2), but here he distinguishes corporeal light from incorporeal light. Both are called 'light' homonymously, that is to say, they have only the name in common; the account of their substance is different (Aristotle, *Cat.* 1^{a}1–2; cf. Plotinus' Aristotelian use of 'homonymous' at I.2.3.26 and III.6.12.16–21). Corporeal light is namely fire, whereas incorporeal light is not (cf. note on 6.37–44). This distinction is also discussed in IV.5.6–7 where corporeal light here is equivalent to the luminous body (*σῶμα φωτεινόν*) there. Beutler–Theiler (2b 555) are right to remark that Plotinus' definition of light is Aristotelian in form but not in sense. Aristotle defines light as the *ἐνεργεῖα* of the transparent (*DA* 418^{b}9–10,

419[a]11), i.e. of the *medium*, but for Plotinus light is the *ἐνεργεῖα* of the luminous body (IV.5.7.33–4), i.e. of the *source* (cf. Philoponus, *AP* 21.6–8). See note on ll. 24–5.

7.29 ἄνθος ἐκείνου. *ἐκείνου* refers to corporeal light which is a species of fire. *πυρὸς ἄνθος* is found frequently in the *Chald. Orac.* (frr. 34.2, 35.3, 37.14, 42.3; cf. 130.4) and cf. Emperor Julian, *Hymn to King Helios* 134a. Plutarch (*Mor.* 934b7) also includes *πυρὸς ἄνθος* in a passage from the *Iliad* (9.212), an alternative version of our text which was known to and rejected by both Aristarchus (ad loc.) and Eustathius (*On Homer's Iliad* 2.704.10 ff.).

7.29–30 στιλπνότητα. Cf. Alexander, *In Meteo.* 141.27; *SVF* 2.638.18.

7.30 τὸ ὄντως λευκὸν σῶμα. i.e. corporeal light (the celestial body).

7.30–3 ἡμεῖς δὲ τὸ γεηρὸν . . . τιθεμένου. (I′)(b) Different senses of earth (cf. IV.4.22.25 and VI.3.9.7). At *Tim.* 60b6–61c2 Plato distinguishes several kinds of earth: stone (60c6), earthenware (60d2), soda (60d8), salt (60e1), glass and fusible stone (61b7–c1), and wax and incense (61c2). Plotinus, however, wishes to attribute to Plato the view that *solidity* is a species of earth, and he is likely drawing on the Aristotelian tradition here. Aristotle refers to species of earth in several places (*DC* 268[b]28–9; *Meteo.* 338[b]25, 388[a]25–6), though it is unclear what species are meant since Aristotle considers most of the species listed by Plato to be compounds of earth and water. Nevertheless, Alexander (*In Meteo.* 2.32–4) gives a confident exegesis: there are at least two species of earth; one is porous and spongy (*ὕπαντρόν τε καὶ χαύνην*), the other is solid and compressed (*στερεάν τε καὶ πεπιλημένην*). (Cf. Philoponus' criticism of this interpretation (*In Meteo.* 6.37 ff.) and Olympiodorus' modification of it (*In Meteo.* 11.19–23). Simplicius (*In DC* 16.19–20) offers a wholly different interpretation: the species of earth include sandy earth, stony earth, lumpy earth, white or black earth, etc.) Plotinus might have drawn his interpretation of solidity as a *species* of earth from Alexander. He might also be thinking of *Phaed.* 109a9 ff. where Socrates describes 'the earth being pure in the pure heaven' (109b7–8, cf. note on 8.2) and this is 'the genuine earth' (110a1). Plotinus complains that in contrast to this variety of earth-species, his contemporaries generally only call a single thing 'earth', namely the element which we can perceive with our senses, is cold and dry, has colour, etc.

7.33–43 τοῦ δὴ τοιούτου . . . ἐναυγάζεσθαι. (II′) Plotinus now delivers a meteorological account of why sublunar fire does not mix with superlunar fire: since superlunar fire (corporeal light) is naturally seated in the celestial region, it will not move down into the sublunar region (see

ch. 8). Thus, if sublunar fire were to mix with it, the former would have to rise up into the celestial region. But several considerations show that this is impossible: (1) in order to reach the celestial region, the fire must traverse the ensemble of air, and in such a large quantity of air flame is extinguished (cf. note on 6.12); (2) earth is always mixed into the constitution of flame, and the weight of the earth prevents the flame from reaching celestial heights. For these reasons sublunar fire cannot reach the heaven; rather, it rarifies the air and either is drawn back downwards by the earth mixed into its constitution or else remains in the upper atmosphere but is no longer self-luminous and must be illuminated by another.

This meteorological theory shares with Aristotle's an unwillingness to allow sublunar fire (or any other element) to pass into the celestial region—a phenomenon advocated by Presocratic and Hellenistic natural philosophers—yet there are important differences between the two theories. Aristotle (*Meteo.* 341^{b}6ff.) distinguishes two kinds of exhalations (ἀναθυμιάσεις) from the earth: dry and moist. The dry (and warm) exhalation makes its way up to just beneath the celestial region where it becomes part of the *hypekkauma*, the ensemble of so-called fire which is really just a warm and dry substance. It is commonly called fire because it is so inflammable, being ignited by even the slightest motion. Motivating this picture of an extremely caustic stratum beneath the celestial region is Aristotle's view that the heavenly bodies are themselves neither luminous nor warm. What we perceive to be the light and warmth of the heavenly bodies is in fact produced in the *hypekkauma* by friction generated by the movement of these bodies (*Meteo.* 340^{b}4ff.). Plotinus has no full-blown theory of exhalations, and for him the ensemble of fire is not the *hypekkauma* but rather the heaven itself. Hence, he is concerned to show, not how anything resembling fire gathers in its appropriate place just beneath the heavens, but how sublunar fire cannot reach fire's natural place in the heavens. Moreover, Plotinus' heavenly bodies do give off light and warmth, so there is less need for an inflammable sublunar stratum. Just beneath the heaven is the ensemble of air—air that is very rare. This layer of rare air is perhaps meant to constitute by itself a stratum of aether which is itself a sort of air (*Tim.* 58c6–d2; cf. *Crat.* 410a–c and Proclus, *In Tim.* 3.112.13–16) and which in the *Epin.* is said to be situated between air and the celestial fire (984d8–e4, see Introduction, p. 15). See note on ll. 41–2.

7.34 **φῶς . . . τὸ καθαρώτατον.** 'The purest light'. This might be a simple reference to incorporeal light which would be purest in the sense of being unmixed with body. This seems to be what Proclus suggests (*In*

Rep. 2.76.15–16 and *In Tim.* 2.8.22–5; cf. Plato, *Phaedr.* 250c4). However, it seems that Plotinus rather wants to say that incorporeal light can itself vary in purity: *all* fire gives off incorporeal light, but celestial fire (i.e. corporeal light) emits the *purest* incorporeal light. This raises the question: how can something *incorporeal* vary in purity? The answer is found at IV.5.6.31–3 where Plotinus says that the presence of earth in air makes the incorporeal light present in air itself impure. Thus, the purest incorporeal light is the light emitted by the heavenly bodies in the superlunar region. By contrast, the incorporeal light in the sublunar region—even if its source is ultimately a heavenly body—is no longer pure. As Hermias (*In Phaedr.* 127.15–17) puts it: 'the light in the sun is light itself and pure light, but the light of the sun in the air, you might say, is a lesser light—not because it is mixed with its opposite (sc. darkness), but because it is not as it was in the heaven.' Similarly, Philoponus, *In Meteo.* 43.16–17. For Plato, cf. *Rep*. 616b6 and *Tim*. 45c2.

7.35 ἱδρυμένου. Cf. l. 3.

7.38 ἀνελθοῦσάν τε μετὰ γῆς. Sublunar flame is with earth—not just in the sense that it 'borrows' solidity from earth but that earth is part of its constitution. Thus, it appears that despite Plotinus' resistance to this thesis in ch. 6, he does in fact hold that the sublunar elements are always impure: each sublunar element is always accompanied by the other three. The point of ch. 6 was to prepare the way for saying that the other three elements need not accompany *superlunar* fire. Cf. IV.5.6.32 where earth is said to be mixed into the air, and IV.4.22.25 where earth is said to be constituted of all the elements. Theophrastus (*DI* 5) also contrasts the fire of the sun to sublunar fire and says that the latter is earthy. Cf. note on 3.14–16.

7.40, 43 ἐκεῖ . . . ἐκεῖ. The first *ἐκεῖ* refers to the stratum just beneath the heavens, the second refers to the heavens themselves (cf. note on 3.14).

7.41–2 τὸ λαμπρὸν μὴ ἔχειν ὅσον εἰς τὴν ζέσιν. Aristotle calls fire 'a sort of boiling' (*οἷον ζέσις*, *Meteo*. 340^{b}23) and flame 'a boiling of dry air' (*πνεύματος ξηροῦ ζέσις*, 341^{b}22)—a characterization of flame that Plotinus has already cited at 4.12. Here Plotinus is working to distinguish the nature of the substance just beneath the celestial region from that of flame, just as Aristotle does at *Meteo*. 340^{b}21–7: whereas flame is a sort of boiling, the nature of the *hypekkauma* is simply hot and dry. For Plotinus, flame has a sort of boiling radiance, i.e. it is bright of itself, while the upper air is only radiant to the extent that it can be illuminated by the sun—hence the brightness of the sky during the day. Presumably, however, when Plotinus says that the upper air 'does not have enough

radiance to boil' he means simply that it is not necessarily blazing, as flame is; he does not wish to rule out its *capacity* to be ignited. Plotinus would likely have maintained that comets and meteors were sublunar phenomena due to some sort of inflammation in this stratum, as such an explanation was more or less characteristic of ancient meteorology (Capelle, 1935: 346.17–19).

7.43–9 **τὸ δὲ φῶς ἐκεῖ . . . καὶ τὸ πόρρω.** (III′) Plotinus concludes his discussion of the elements with a description of the superlunar fire (corporeal light). All of the heavenly bodies as well as the intervals between them are made of this same light, yet all of these vary in appearance: the heavenly bodies differ in both colour and size (ll. 43–5), and the interval between them is practically invisible (ll. 46–9).

7.43–5 **τὸ μὲν ποικιλθὲν . . . ἐργάσασθαι.** Some of the celestial light is used for the planets (including the sun and moon) and stars. This light is variegated in proportions. That is to say (with Ficino), it is distributed in various proportions into the different celestial bodies which then vary in both colour and size. Talk of the heaven's variegation (or adornment or embroidery) is widespread: Plato, *Rep.* 529c7 (*τὰ ἐν τῷ οὐρανῷ ποικίλματα*), *Epin.* 977b3 ([*ὁ οὐρανὸς*] *ποικίλλων αὑτόν*), *Tim.* 40a6–7 (the sphere of fixed stars is a *κόσμον ἀλητινὸν πεποικιλμένον*), cf. 55c5–6; Hierocles, *In aureum carmen* 23.2; Porphyry, *Περὶ ἀγαλμάτων* 10.16; Proclus, *In Tim.* 2.43.17 and 3.119.3–4; Cornutus, *ND* 49.18–19.

7.44 **ἐν λόγοις.** As Philoponus recognizes (*In Meteo.* 31.4–6), one of the advantages to Plato's placing all four elements in the heaven is that this allows for an easy explanation of the qualitative differences, e.g. in colour and luminosity, found among the celestial bodies. Thus, Plotinus, by denying that the other three elements are in the celestial region, must find another way to account for these differences. His solution is to derive them from the variation in the 'proportions' of the superlunar fire. But what does it mean to say that superlunar fire (corporeal light) is found in different proportions? *Prima facie*, it would seem to suggest that there is either void or some other (sublunar) body in the heavens. This problem recalls an equally baffling statement of Aristotle's in the *Meteo.* (340^{b}7–9) to the effect that the celestial region, which is presumably made up exclusively of the fifth body (but cf. Thorp 1982), varies in purity. Alexander (*In Meteo.* 12.33–13.11) provides an influential interpretation of this passage that avoids positing any void or sublunar element in the heaven:

> Nothing has been mixed in with the divine body, nor is this [passage] indicative of any mortal body [being present in the heavens]; rather, the heavenly body is

indestructible and divine in its entirety. Yet, there are some differences in it by which one of the celestial bodies is of a different sort than another, e.g. the one is luminous (*λαμπτὸν*) and the other is less so. This is just like what happens with the four [elemental] bodies: coldness belongs more to water than to earth, but it is not by being mixed with heat that the earth is less cold than water; and earth is drier than fire, but it is not because fire is mixed with moisture that it is less dry; and fire is hotter than air, but it is not because it is mixed with coldness that air is less hot than fire; and air is softer (*μᾶλλον ὑγρὸς*) than water, but it is not because it is mixed with something solid that water is less soft than air (for then no body would be simple). And one has to think of the differences of the divine body in the same way.

Alexander's solution (which both Philoponus (*In Meteo.* 31.7–16) and Olympiodorus (*In Meteo.* 28.19–26) explicitly adopt) is to point out that if two bodies are both essentially *p* and yet one is more *p* than the other, this need not imply that the difference in *p*-ness is due to any contamination. He wishes to suggest, then, that the celestial body can vary in its essential properties, e.g. one body can be more luminous than another, without this being due to the presence of sublunar elements: there are simply qualitative differences in the celestial body itself (Olympiodorus, ibid. 28.25. NB: There is some difficulty here concerning Alexander's example of the *luminosity* of Aristotle's fifth body, cf. note on ll. 33–43).

Plotinus, like Alexander, refuses to allow sublunar elements or void into the heaven, but his explanation of these qualitative differences is intractably terse: the differences are produced (*ἐργάσασθαι*) because the light is variegated in proportions (*ποικιλθὲν ἐν λόγοις*). Yet, given Plotinus' familiarity with Alexander, it makes good sense to use the latter's explanation to fill in some of the details of the former's: the proportions in question, then, would be proportions of *qualities*. More specifically, it is the proportions of the quality of *fineness* that appear to be central, since l. 47 emphasizes that celestial fire can vary in fineness. Thus, the constitution of some heavenly bodies is finer than that of others, and this accounts for differences in colour. See note on l. 47–8.

7.45 **χρόαις.** Plato's *Rep.* 616e ff. (on which see Bidez (1935) and Brumbaugh (1951); cf. *Epin.* 987c) reports the following scale of colours for the wandering stars: Mercury, second whitest; Venus, yellowish; Sun, brightest; Mars, red; Jupiter, whitest; Saturn, yellowish. There is a good deal of disagreement among the various Greek accounts of the colours of the planets due in part to the ambiguity of Greek colour words which served to denote both hue and brilliance (cf. Sorabji, 1972: 294) but also due to a desire to use as many colours as possible. Thus, for Vettius

Valens (1.4) the moon is green; for Porphyry (*On Ptolemy's Tetrabiblos*, p. 199) Jupiter is bluish. Nevertheless, one could say that the following catalogue is largely representative: Moon, silver; Mercury, pale; Venus, yellow; Sun, gold; Mars, red; Jupiter, (gray-)white; Saturn, yellow (Boll, 1916: 20–2) and Gundel (1950: 2105.68–2106.17). The stars in the fixed sphere were also reported to be coloured (Boll, 1916: 15–19).

7.46–9 τὸν δ' ἄλλον . . . καὶ τὸ πόρρω. The intervals between the heavenly bodies are also made of corporeal light, yet we do not see this light. Plotinus gives two reasons for their imperceptibility. (1) It is due in part to the character of the light itself: it is finer and more transparent than the corporeal light that makes up the heavenly bodies (ll. 46–8). Yet, these intervals are not *per se* invisible; (2) if they were not so far away we would witness their brilliance (ll. 48–9). Though the Milky Way is clearly visible, Plotinus might have thought, as Aristotle did (*Meteo*. A8), that it was a sublunar phenomenon (cf. Gundel, 1910: 567.57–570.10). Proclus gives similar reasons when explaining why the fire in the upper reaches of the ensemble of air cannot be seen (*In Tim.* 3.112.10–13). Cf. *SVF* 2.668.

7.47–8 λεπτότητι τοῦ σώματος καὶ διαφανείᾳ οὐκ ἀντιτύπῳ. The adjective 'non-resistant' modifies both 'fineness' and 'transparency' and, as ll. 48–9 make clear, should be understood relatively. Compare Proclus' statement that a very fine body does not offer resistance (*μὴ ἀντερείδειν*) to our eyes (*In Tim.* 3.112.12). Likewise, fine bodies are transparent (Aristotle, *GA* 780^{a}27–8; Alexander, *In DS* 26.21–2; IV.5.1.21). Thus, the fineness of the body accounts for its transparency and lack of resistance to our eyes.

Plotinus is basically working with two groups of nearly coextensive terms. In the first group falls: solid, dense, resistant, and visible; in the second group: non-solid, fine, non-resistant, and transparent. Density (*πυκνότης*) is properly contrasted with rarity (*μανότης*, *ἀραιότης*), and fineness (*λεπτότης*) with coarseness (*παχύτης*). Plotinus, however, neglects the notions of rarity and coarseness throughout II.1 and appears rather to contrast density with fineness, but this is understandable. Aristotle, after all, often identified the two pairs of opposites (*DC* 303^{b}22–4; Simplicius, *In Phys*. 150.26–7). Moreover, the likely means of distinguishing between these pairs is not available to Plotinus. For, as Philoponus explains (*In GC* 214.22–30), fineness and coarseness are qualitatively what rarity and density are quantitatively (spatially). But, as we saw (note on 6.50–2), Plotinus considers rarity and density themselves to be *qualitative* concepts. Thus, both the heavenly bodies and the intervals between

them possess the qualities of solidity, density, resistance, and visibility, but the latter have the qualities to a lesser extent. As Proclus puts it, 'the spheres [i.e. intervals] have a finer and more transparent nature (*οὐσίαν*), while the stars are more solid' (*In Tim.* 3.128.28–30).

7.48 ὥσπερ καὶ τὸν καθαρὸν ἀέρα. No air is completely pure as all the sublunar elements are mixed together (see note on l. 38). Presumably, 'pure air' here refers only to clear air—air that is not dusty, misty, foggy, etc.

7.48–9 πρόσεστι δὲ τούτοις καὶ τὸ πόρρω. Kirchhoff's emendation (*προσέτι δὲ τούτοις καὶ τῷ πόρρω*) seems unnecessary. Perhaps Plotinus would say that it is not so much the distance as the impurity of the great stretch of air that separates us from the heavens (IV.5.7.10–13). Cf. Heraclitus (DK A1 141.34–5) and Aristotle's statement that only the fixed stars twinkle because of the greater distance (*APo* 78ª37–8 and *DC* 290ª18–21).

II.1.8

Argument of II.1.8 In this chapter Plotinus returns to three questions raised earlier in II.1: (I) Is there any efflux from heaven? (ll. 1–16; cf. 4.2–4); (II) What is the natural motion of the celestial body? (ll. 16–19; cf. 3.13–20); and (III) Does the heaven require any nourishment? (ll. 19–28; cf. 4.2–3).

(I) After having clarified the nature of the heavenly body in chs. 6 and 7, Plotinus can now conclude his defence of the claim that there is no efflux from heaven. If there is to be an efflux from heaven, the celestial fire would have to move downward either (*a*) naturally or (*b*) by force. (*a*) No fire moves downward naturally, and (*b*)(i) nothing in heaven would force it down (ll. 3–5). (*b*)(ii) Nor could anything in the sublunar region force it down. For if any sublunar body were to force the heavenly body downward it would be the body that borders on the heaven—and this is either (*α*) air or (*β*) fire (ll. 7–8). Plotinus quickly dismisses the possibility that (*α*) air could accomplish this (l. 8), and proceeds to argue that (*β*) fire could not accomplish it either (ll. 8–15). Plotinus gives two reasons why (ll. 8–9):

(*β′*) Fire is not suited for acting on the heavenly fire. Plotinus defends this claim in two ways. First, (*β′*)(i) whatever sublunar fire remains in the upper reaches of the air is much weaker than the flames found on the earth's surface and for this reason could not affect the heavenly body (l. 11). Secondly and more generally, (*β′*)(ii) fire acts by heating, and this means that fire cannot act on

the celestial body. For if fire were to destroy the heavenly body, it would have to warm it and thereby put it in an unnatural state. But the celestial body is immune to such a danger because it is intrinsically warm (ll. 11–15).

(β″) Fire cannot even come into contact with superlunar fire. By the force of the earth that it carries along with itself it will change direction and start moving downward before the heavenly body could be affected (l. 10).

He concludes that there is no need to posit a fifth body in the heaven (as Aristotle did) in order to secure the heavens' everlasting persistence.

(II) The natural motion of the heavenly body is circular, but this need not entail that the element that makes up heaven is anything other than corporeal light (l. 16). For it has not been established that corporeal light naturally moves in a straight line (ll. 16–18). Rather, it is natural for the heavenly bodies either to remain at rest or to move in a circle (ll. 18–19). Rectilinear motions could only belong to them if they were subjected to force (l. 19).

(III) The celestial things do not require any nourishment (ll. 19–20). If one reasons from sublunar bodies to conclusions about superlunar bodies, one might think that superlunar bodies also need nourishment. This method of reasoning, however, is misleading since the cases are not analogous. There are several important differences: (*a*) they do not have the same soul holding them together (l. 21); (*b*) they do not reside in the same place (l. 22); (*c*) only sublunar bodies are in flux (ll. 22–3). (*c*) is a consequence of (*a*) and (*b*) (ll. 24–7). The superlunar bodies, however, are not *absolutely* unchanging, like the intelligible things, since they do move (ll. 27–8).

8.1–16 Τούτου δὴ μείναντος . . . ἵνα μένῃ. (I) Plotinus returns to the question raised in 4.2–4 regarding the possibility of matter flowing out of heaven. Now that he has established that there is no earth, water, or air in the superlunar region, he can wrap up his argument against celestial efflux.

8.1 τοῦ τοιούτου φωτὸς. Corporeal light, i.e. superlunar fire.

8.2 τέτακται. Cf. 4.3.

8.2 καθαροῦ ἐν καθαρωτάτῳ. Cf. Plato, *Phaed.* 109b7–8: *αὐτὴν δὲ τὴν γῆν καθαρὰν ἐν καθαρῷ κεῖσθαι τῷ οὐρανῷ* (= Celsus, *The True Doctrine* 7.28.19–20; cf. note on 7.30–3); [Aristotle], *DM* 400ª6: *⟨ὁ θεὸς⟩ ἄνω καθαρὸς ἐν καθαρῷ χωρῷ βεβηκώς, ὃν ἐτύμως καλοῦμεν οὐρανόν*. See notes on 4.8 and 5.9–14.

8.2–3 τίς ἂν τρόπος ἀπορροῆς ἀπ' αὐτοῦ ἂν γένοιτο; Plotinus begins by answering the question of whether there is any outflow with another question: What manner of outflow could there be? In what follows he responds to this question by systematically eliminating every possible manner of outflow. The manner of outflow is either (*a*) by nature or (*b*) by force. It is not (*a*) [ll. 3–4]. If it is (*b*), it is due to either (i) a superlunar cause or (ii) a sublunar cause. It is not (i) [ll. 4–5]. If it is (ii), it is due to either (α) air or (β) fire [ll. 7–8]. It is neither (α) [l. 8] nor (β) [ll. 8–15]. Therefore, there is no outflow from heaven.

8.2–3 ἂν . . . ἂν. Doubled *ἄν*. Orth suggested amending the second *ἄν* to *ἄνωθεν*, but such cases of doubled *ἄν*'s do occur in Plotinus, cf. Schwyzer (col. 517.41–3): 'Irrealis und Potentialis erscheinen im Hauptsatz üblicherweise mit *ἄν*, selten sogar mit doppeltem *ἄν* (IV.7.3.25)' and e.g. VI.8.12.23.

8.3–4 οὐ γὰρ δὴ . . . τοιαύτη φύσις. (*a*) Plotinus eliminates this possibility without argument: this sort of fire (corporeal light) does not naturally flow down. Sublunar lunar flame, by contrast, does seem to flow down naturally insofar as it is mixed together with earth (see note on 7.38). Certainly, no Platonist or Peripatetic would have demanded an argument for the claim that fire does not naturally move down, but a Stoic might have. According to Stoic elemental theory, all four elements have a natural inclination to move toward the centre of the universe (*SVF* 2.550; Cicero, *ND* 2.115; see Lapidge, 1978: 177; Furley, 1999: 446).

8.4–5 οὐδ' αὖ τί . . . τὸ κάτω. (*b*)(i) There is nothing in the heaven that would forcefully push it down. Certainly no one heavenly body could force another down, since the former would then itself be moving downward and it would have to do so either naturally (which is impossible) or by force (which leads to a regress). Alternatively, one might think that some celestial god or the celestial soul itself, by some change of mind, could disperse the celestial region into the sublunar region, but Plotinus has already considered and rejected this possibility (4.22–5, 30–3; II.9.4).

8.5–7 πᾶν δὲ σῶμα . . . τὸ μόνον. Plotinus already argued in ch. 4 that there is no efflux from the celestial region, but there the argument was vitalistic: the *celestial soul* prevented any possible efflux. Here Plotinus presents an argument that deals with the celestial body simply *qua* body; no consideration has yet been given to the fact that it is ensouled, nor will soul enter into the argument in ll. 7–15. Plotinus here briefly reminds the reader of the importance of soul which played a key role in previous arguments for the lack of flux from the heavens (see notes on 2.17–28; 3.18–19, 20, 22; 4.14, 15–16).

8.7–8 τό τε γειτονοῦν εἴτε ἀὴρ εἴτε πῦρ εἴη. (*b*)(ii) If one of the sublunar things is to force the heavenly body down, it must be one of the things that border on the heaven—either (*α*) air or (*β*) fire. In addition to their proximity, investigation is perhaps limited to air and fire because these were generally considered to be the active elements, earth and water being passive. More strictly speaking, it is the four qualities that characterize the elements that are active and passive: the hot and the cold are active; the moist and the dry are passive (Aristotle, *Meteo.* 378^{b}10ff. and *GC* 329^{b}24ff.; Alexander, *In DS* 73.4ff.; *SVF* 2.416). The characterization of the four elements as active and passive is derived from their relation to these qualities. On peripatetic theory each element is characterized by two qualities: fire, hot and dry; air, hot and moist; water, cold and moist; earth, cold and dry (*GC* 330^{b}3–5; e.g. Alexander, *In Meteo.* 180.2–4). Thus, one might expect each of the elements to be *both* passive *and* active, yet Aristotelians and Stoics agree that each element is characterized more properly by one of its qualities than by the other (*SVF* 2.580; see Gilbert, 1907: 243f.). In *GC* Aristotle concludes that fire is more properly characterized by the hot, air by moist, water by cold, and earth by dry (*GC* 331^{a}3–6), which would suggest that fire and water are the active elements. However, in the *Meteo.*, water is associated more with moisture than coldness (e.g. 382^{a}3–4; cf. *Phys.* 204^{b}27–8). There is, then, some inconsistency between *Meteo.* and *GC* (cf. Joachim, 1922: 219), but the later tradition follows the *Meteo.*'s trail. As Alexander puts it, air contains moisture but is not informed (εἰδοποιεῖσθαι) by moisture and for this reason is not passive (*In Meteo.* 199.22–3, 202.19–20; but cf. Olympiodorus, *In Meteo.* 275.32–5). Thus, fire and air were widely held to be active elements, earth and water to be passive (*SVF* 2.418, 439, 440, 444; Philoponus *In DA* 187.24–6; Simplicius, *In DC* 400.21ff.; Olympiodorus, *In Meteo.* 303.26–7; cf. Sophonias, *Para. DA* 36.3–5). Ptolemy, too, gets close to this view by characterizing earth and water as 'largely passive', air and fire as 'both active and passive', and aether as 'only active' (*On the Criterion and the Hegemonikon* 19.16–19). Nevertheless, fire was in some sense held to be more active than air (cf. Alexander, *In Meta.* 31.24–6). Fire alone, for example, has the 'active power' to change other elements into itself (Olympiodorus, *In Meteo.* 18.12–18).

Plotinus appears to be a little hesitant about whether the outmost sublunar stratum consists of fire or air. At 7.40–1 he signals a similar uncertainty: 'and flame there, *if it lasts* . . . ' But this hesitation is more likely to be terminological than theoretical, and mirrors Aristotle's theory in two respects.

First, even Aristotle, whose theory clearly includes a *hypekkauma*, remains flexible regarding the terminology suitable for the *hypekkauma*. It is 'what we conventionally call fire, although it is not fire' (*Meteo*. 340^{b}22); 'the part of the air which is warm and dry' (340^{b}26–7); 'as it were, fire' (*οἷον πῦρ* 340^{b}32); 'fire' (e.g. 341^{a}2–3); 'the warm and dry body which we call fire (for the genus common to every smoky division is without name. Nevertheless, because this sort of body is the most naturally inflammable, one must use these designations)' (341^{b}14–18); 'the outermost part of what is called air has the power of fire' (345^{b}32–3).

Secondly, on Aristotle's theory it is not entirely clear whether the *hypekkauma* is meant to be an entire, continuous stratum like the strata of the other elements. On the one hand, some of his statements suggest that the *hypekkauma* is just like the other elements' strata: whole and continuous. Also, his account of the light of the sun and stars seems to require the *hypekkauma* to be whole and continuous. Yet Aristotle's explanations of shooting stars, 'goats', and 'torches' in *Meteo*. A4 seems to rule out the possibility of the *hypekkauma*'s being a continuous stratum. Each of these phenomena is, according to Aristotle's account, a result of the *hypekkauma* being kindled by the motion of the heaven and is called either a 'shooting star' or 'goat' or 'torch' 'depending on the position and size of the *hypekkauma*' (341^{b}24–5)—in particular, the *hypekkauma* may extend 'only lengthwise' (341^{b}27). The idea here seems to be that there is a 'pocket' of inflammable body, call it '*hypekkauma*', which is then ignited by either heavenly motion or sublunar pressure (341^{b}35–342^{a}1). If, however, the *hypekkauma* were a continuous stratum, there would be no shooting stars and such; rather, the fire would spread to cover the entire sky. See notes on 7.33–43 and 41–2.

8.8 ἀὴρ μὲν τί ἂν ποιήσειε; (*b*)(ii)(*α*). Plotinus dismisses this possibility without much ado, even though air was generally considered an active element (see note on ll. 7–8). Plotinus might have air's inability to change other elements into itself in mind—an ability that only fire possesses (see note on ll. 7–8), and perhaps he thinks that air's true powers are levity (7.9) and softness (7.16) which are unlikely tools for pushing fire downward. Further, any efficaciousness that the air just beneath the heavens has is no doubt hampered by its fineness (7.40). Nevertheless, Plotinus appears to overlook a possible Stoic argument. For the Stoics air exemplifies coldness (*SVF* 2.580; Poseidonius, fr. 300 Th.; Galen, *De simplic. medicam.* 2.25; cf. Theophrastus, *DI* fr. 26; Cicero, *ND* 2.26; see Gilbert, 1907: 244 n. 1). Consequently, just as Plotinus argues (ll. 8–15) that sublunar fire cannot affect the heavens because the latter are already

warm, the Stoics could conceivably argue that air, being cold, could affect the warm body of the heavens.

8.8–15 πυρὸς δὲ οὐδ' ἂν . . . θερμαίνεσθαι γίνεσθαι. (*b*)(ii)(*β*). Plotinus begins his elimination of the final alternative. This he does by giving two reasons (οὐδ' . . . οὐδ'): (*β′*) fire is not suited for acting on the heavenly fire; (*β″*) fire cannot even come into contact with superlunar fire. (*β′*). *πυρὸς δὲ οὐδ' ἂν ἓν ἁρμόσειε πρὸς τὸ ποιῆσαι*. Gollwitzer's universally accepted emendation from the manuscripts' *πυρὸς δὲ οὐδ' ἂν ἐναρμόσειε* . . . The *ἕν* refers to a *kind* of fire (Armstrong, Harder), not to a property of fire (*pace* Beutler–Theiler).

8.10–11 τῇ ῥύμῃ τε γὰρ . . . τοῖς ἐνθάδε. Plotinus now offers two arguments (*τε* . . . *τε*): the first supporting (*β″*), and the second supporting (*β′*). Each of these arguments appears to apply to a different kind of sublunar fire—the prior argument to flame, and the latter argument to whatever fire is in the upper air. To support (*β″*), Plotinus submits: *τῇ ῥύμῃ τε γὰρ παραλλάξειεν ἂν πρὶν παθεῖν ἐκεῖνο*, and there seem to be two possible translations of this. Armstrong (similarly Beutler–Theiler) translates 'the heavenly fire would be carried on by its momentum to another place before anything could happen to it', but it is hard to imagine that any plausible argument is buried in this remark (despite Theophrastus, *DI* fr. 35). For on this reading, sublunar fire cannot contact superlunar fire because, given two portions of fire—one of sublunar fire (fire_{sub}) which at time *t* has not quite reached heaven yet, and one of superlunar fire ($\text{fire}_{\text{super}}$) which at *t* is situated directly above fire_{sub}—by the time fire_{sub} reaches heaven, $\text{fire}_{\text{super}}$ would have moved on. This is, of course, an inadequate argument because heaven is a *continuous* sphere of fire and even if fire_{sub} does not make contact with that particular portion, it will arrive at *some* portion.

A better argument is offered by the alternative translation: '[the sublunar fire] would change direction by its [downward] force before that [heavenly fire] could suffer anything.' This translation would be more obvious if the text offered *ῥόπη* instead of *ῥύμη*. This is the only occurrence of *ῥύμη* in Plotinus, and perhaps it is a corruption of what was originally *ῥόπη*, which occurs as many as five times in Plotinus (II.1.3.22, III.3.4.47, IV.8.5.26, and for some editors at III.2.4.38 and 39). Importantly, *ῥόπη* already occurred at II.1.3.22 with the meaning 'downward inclination', being synonymous with *νεῦσις* (cf. *SVF* 2.450). In any case, on this translation Plotinus is simply appealing to a point he already made at 7.38–9: 'since [flame] goes up together with earth it is cast down, not being able to pass to the above [*viz.* to heaven].'

8.11 ἔλαττόν τε τοῦτο ἰσχύον τε οὐκ ἴσα τοῖς ἐνθάδε. Plotinus offers some support for (*β′*): (i) The fire in the upper air does reach the heaven but cannot affect it because it is so much weaker than flame. *ἐνθάδε* (here)—*ἐκεῖ* (there) is a common antithesis which Plotinus generally uses to contrast the sensible world to the intelligible world (e.g. I.2.1.47; I.2.6.9; II.6.1.9; II.9.16.18 f.; IV.8.4.34; VI.3.5.1; etc.). But here in II.1 and II.2, *ἐκεῖ* usually means 'superlunar region' or 'heaven' (cf. note on 3.14), and so we might expect *ἐνθάδε* to refer to the entire sublunar region (in fact, Plotinus uses several different terms to refer to the sublunar region: *ὧδε* (3.13, and see note there), *ἐνταῦθα* (5.1; 5.3; 5.12; II.3.9.12; etc.), *ἐπὶ γῆς* (5.8; 6.56; II.3.2.8; II.3.12.13; etc.), *τῇδε* (8.20, 8.23, 8.24); see note on 3.13). But in this case the translation would run: 'this [superlunar fire] is less powerful and not equal to the sublunar fires', which cannot be right. It is better, then, to take *ἐνθάδε* to refer to just the lower part of the sublunar region (cf. 7.40 where *ἐκεῖ* refers to the upper portion of the sublunar region) and to translate: '[the fire in the upper sublunar region] is less powerful and not equal to the [flames] on the earth's surface.' So here, as above (l. 10), Plotinus is simply appealing to observations he has already made, namely that 'flame is a sort of "boiling" and a fire that, as it were, runs wild because of its excessiveness' (4.12) and that flame 'hastens only so far—to its extinction since it meets a great quantity of air . . . with the result that flame, if it remains, slowly goes out and becomes softer' (7.37–40). Thus, the *οὐκ* at 8.11 makes good sense and should not be deleted with Beutler–Theiler.

8.11–15 εἶτα καὶ . . . θερμαίνεσθαι γίνεσθαι. Plotinus now develops (*β′*)(ii) a more general argument against the possibility that sublunar fire could affect the heavenly body. In order to get some part of the celestial region to move down, sublunar fire would have to destroy (*φθαρήσεται*, l. 13) the celestial fire thereby changing it into some other element (e.g. water) that moves downward (cf. III.6.8.6–8). However, if fire were to destroy the heavenly body, it would have to act on it, i.e. warm it, and by warming it put it in an unnatural state. But the celestial body is immune to such a danger because, being intrinsically warm (see note on 7.25–6), a warm state is not unnatural to it (ll. 11–15). Cf. I.2.1.31–6, *Tim.* 57a3–5, Porphyry, *In Cat.* 99.8 ff., Simplicius, *In DC* 99.18 ff.

8.15–28 οὐδὲν δεῖ τοίνυν . . . νοητά, εἴρηται. Plotinus begins listing his conclusions for II.1:

(I) The heavens do not require another body (i.e. Aristotle's fifth element) in order to persist numerically (ll. 15–16).

(II) The heavens do not require another body (i.e. Aristotle's fifth element) in order to move naturally in a circle (ll. 16–19).

(III) The heavens do not require nourishment (ll. 19–28).

Since the heaven suffers no loss, it does not require another body (i.e. Aristotle's fifth substance) in order to persist numerically. The lack of flux signals a harmony between the soul and body that testifies to its numerical everlastingness. See note on 5.14–17.

8.16–19 οὐδ' αὖ, ἵνα κατὰ φύσιν ἡ περιφορά . . . βιασθέντων. (II) The heaven does not require a fifth element in order to move naturally in a circle. Aristotle had argued that the heavens cannot be made out of the four sublunar elements, since the formers' motion is circular and the latters' rectilinear. This led him to introduce a fifth substance which does move naturally in a circle (*DC* A1–4; see Introduction, pp. 25–32). The motion has to be natural, because what is not in a natural state cannot last forever (see note on 3.18–20). Plotinus has for the most part already shown in 3.14–20 that circular celestial motion is natural (see note on 3.18–19 and Introduction, pp. 62–8). In ll. 17–19 he concludes his argument by emphasizing that rectilinear (upward or downward) motion is *not* natural in the heavens. Rectilinear motion is natural only for the elements in the sublunar region. See note on ll. 17–19.

8.17–19 οὐ γάρ πω . . . βιασθέντων. There is often some initial difficulty in determining the references of Plotinus' pronouns, and here this difficulty is increased by his shifting from the singular *αὐτῷ* (l. 18) to the plural *αὐτοῖς* (l. 19). There are two possible interpretations:

(1) The *αὐτῷ* in l. 18 refers to fire, and the *αὐτοῖς* in l. 19 refers to the elements. In this case Plotinus is saying that it has not been shown that fire's natural motion is rectilinear. In fact, no element naturally moves in a straight line; rather, the natural movement of every element is either to rest (earth, water, air) or to move in a circle (fire). This resembles a theory of elemental motion that was developed by Xenarchus (Simplicius, *In DC* 20.10ff.) which distinguishes between true elements and elements that are still in the process of becoming. The former, because they are in their proper places, are in a natural state (*κατὰ φύσιν ἔχοντα*, 20.22; *ὄντι κατὰ φύσιν*, 21.36) and are real (*ὄντα*, 22.12,15) and proper (*κυρίως*, 22.4,6) elements. The latter, by contrast, are not yet in their proper places and for this reason are not yet in a natural state and are still in a process of coming to be (*γινόμενα*, 22.5,12,15. Cf. Aristotle's statement that an element's motion towards its natural place is a movement *toward its form*, *DC* 310^{a}33–^{b}1). Since all four elements either remain at rest or move in a circle when they are in their proper places, one can conclude that the *true*

elements do not naturally move in a straight line; rather, they either rest (earth, water, air) or move in a circle (fire) (ibid. 22.16–17).

Simplicius and Proclus both attribute some such theory to Plotinus as well. Importantly, Proclus only attributes to Plotinus the thesis that 'every body, when in its proper place, either remains at rest or moves in a circle' (*In Tim.* 2.11.27ff. and 3.114.31–3). Simplicius adds that straight motion only belongs to the elements while they are still in a process of coming to be (ibid. 20.12). Neither explicitly credits Plotinus with the position that rectilinear motion is *not* natural, although Proclus does derive this conclusion from the above thesis (ibid. 2.11.5–6). The textual basis of this attribution has traditionally (Moraux, 1967: 1434.9; Diehl, 1904: 11; H–S ad loc.; Festugière (1966–8) ad loc.) been thought to be II.2.1.19–25:

> If circular motion is said to belong to a body, how can this be, given that every body including fire moves in a straight line? Perhaps it moves in a straight line until it comes to its ordained place. For as it is ordained, it seems both to rest naturally and to be conveyed to the place where it was ordained to be. Why, then, having come there, wouldn't it remain at rest (*μένει*)? Is it because fire's nature is to be in motion? If, then, it didn't move in a circle, it would be scattered by moving straight. Therefore, it must move in a circle.

In these lines, however, Plotinus at most says that straight motion belongs to fire only when it has not yet achieved its natural place, and to this much even Aristotle could agree. Here, however, Plotinus is far from saying that only rest and circular motion are natural for the elements. First, he is not talking about *all* the elements at all, but only about fire, and even regarding fire, he does not deny that its upward motion is natural. On the contrary, he says this upward motion is 'ordained' (II.2.1.21–3), and he defines 'nature' as 'what is ordained by the World-Soul' (II.2.1.38–9). It seems much more likely that Proclus and Simplicius have these lines of ch. 8 in mind and are reading them in the manner suggested above. It has been shown in the Introduction (pp. 64–5), however, that Plotinus does not think that the rectilinear motions of the elements are *forced*; they, too, are natural.

(2) The correct interpretation must be that *αὐτῷ* refers to the heaven (cf. *τῷ οὐρανῷ*, ll. 15–16), and *αὐτοῖς* refers to the heavenly bodies (cf. *τὰ ἐκεῖ*, l. 20). It has not been shown that it is natural for the heaven to move in a straight line; rather, the natural motion of the heavenly bodies is either to move in a circle or to remain at rest. This is the translation offered by most scholars (Armstrong, Bouillet, Bréhier, Ficino, Harder,

Beutler–Theiler, Kalligas). This understanding of the pronouns certainly has more solid roots in the text; the only problem with it is that one must explain why Plotinus would say that the heavenly bodies might naturally *remain at rest* (*μένειν*). Perhaps Plotinus is thinking of a celestial phenomenon that the Greeks called *στηριγμός* in which a planet, as part of its retrogradation (on which see Cornford, 1937: 110f. and Gundel, 1950: 2082.62–2085.27), would appear to stand still. As Theon of Smyrna explains: 'a *στηριγμός* is the appearance of a planet as it for the most part stops (*ἑστῶτος*) and remains at rest (*μένοντος*) with respect to one of the fixed stars' (*Expositio rerum mathematicarum* 148.1–2). Yet even this is just the appearance of rest.

8.19 αἱ δ' ἄλλαι βιασθέντων. The rectilinear motions would only belong to the heavenly bodies if they were forced.

8.19–28 οὐ τοίνυν οὐδὲ τροφῆς . . . εἴρητα. (III) The heavenly bodies do not require nourishment. 'Nourishment' here is being used in a loose sense (see note on 4.3). Plotinus clearly believes that only bodies that suffer corporeal loss or efflux require nourishment. Thus, here he concludes, as he did at 3.25–6, that since there is no efflux one should not say that there is any influx or nourishing process going on.

8.20–1 οὐδὲ ἀπὸ τῶν τῇδε περὶ ἐκείνων ἀποφαντέον. Cf. Aristotle *Meta*. 1010[a]25–8. At 1.37–8 Plotinus demanded some explanation why the sublunar living things are everlasting only in form or species, while the superlunar living things are numerically everlasting. Here he gives a three-point explanation:

(*a*) They do not have the same soul holding them together. Sublunar living things are held together by their lower souls (*τὸ φυτικόν*), whereas the heavens and the heavenly bodies are held together by the celestial soul. The former do not have the power that the latter has to hold things together for all time (ll. 24–7; 4.14–16; 5.13–14; see notes on 5.8 and 5.9–14).

(*b*) They do not reside in the same place. The superlunar region itself contributes in a way to the everlastingness of the heavens (see note on 5.9–14).

(*c*) The phenomenon that makes nourishment necessary, namely efflux, is absent from the celestial region. This is the ultimate reason why there is no nourishment in the heavens; (*a*) and (*b*) (along with bodies and the elements in the heavens, see note on 5.9–14) are in fact reasons why there is no efflux from heaven, which in turn explains why there is no nourishment. The absence of celestial flux was shown in ll. 1–15.

8.23–4 τήν τε μεταβολὴν τῶν τῇδε σωμάτων ἀφ' αὑτῶν μετα-

βάλλειν. *τήν τε μεταβολὴν τῶν τῇδε σωμάτων* refers to the flux to which sublunar bodies are subject. By undergoing flux, sublunar bodies are 'changing away from themselves', i.e. their bodily natures become different. The nature of the universe, by contrast, regardless of how much elemental change goes on, is not altered (3.7–9; cf. 4.29–30).

8.24–7 ἄλλης ἐπιστατούσης φύσεως . . . φύσιν. Plotinus explicates his previous remark (l. 21) that the sublunar things are not held together by the same soul as the sublunar things. The bodies of sublunar living things are held together or ruled (*ἐπιστατούσης*) by a nature different from that which rules over the bodies of celestial living things. The former are held together by their nutritive souls (see note on 8.20–1) which cannot keep their bodies together. All this nature can do is imitate the everlasting 'nature before it', i.e. the celestial soul (5.8–9), via two of the nutritive soul's proper activities: nutrition (whereby it replaces the lost parts of a given living thing's body; the body does not persist numerically but is rather always 'in becoming') and generation (whereby it creates new living things so that the living thing persists not numerically but in species). Cf. Aristotle, *DA* 415^{b}3–7; Plato, *Symp.* 207aff.

8.25–6 κατέχειν. Cf. II.2.1.18; II.2.2.2; II.9.7.31.

8.27–8 τὸ δὲ μὴ ὡσαύτως πάντη, ὥσπερ τὰ νοητά, εἴρηται. Cf. note on 2.4–5. In the course of explaining why only sublunar living things require nourishment, Plotinus used the standard Platonic distinction between being and becoming: whereas the celestial soul keeps the heavenly things in being, the nutritive souls of sublunar living things can only keep them in becoming (see note on 8.24–7). This distinction between being and becoming is, however, usually reserved for differentiating the intelligible world from the sensible world, and Plotinus, aware of the potential misunderstanding, emphasizes that the 'being' of the celestial things is not the same as the 'being' of the intelligible things. The former do not remain 'absolutely the same' (*ὡσαύτως πάντη*) since they are corporeal and therefore subject to time and change (cf. Plato, *Rep.* 529b3ff.). The movements of the heavenly bodies as well as phenomena such as eclipses easily illustrate Plotinus' point. The Forms, however, are perfectly the same and are not merely everlasting but eternal, i.e. outside of time and change (III.6.6.19–20; IV.4.2.16; VI.7.13.47–51; cf. e.g. *Tim.* 27d6ff.).

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