

EMPEDOCLES AND HIS ANCIENT READERS ON DESIRE AND PLEASURE

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A: What are Plato, Speusippus, and Menedemus up to? . . . What weighty thought, what line of argument are they now investigating? . . .

B: I can tell you about these fellows for sure, since at the Panathenaea I saw a group of youngsters in the exercise-grounds of the Academy and heard them speaking, indescribable, astonishing! They were propounding definitions about nature and separating into categories the forms of life of animals, the nature of trees, and the classes of vegetables. And in particular, they were investigating to what genus one should assign the pumpkin . . . One of the boys said it was a round vegetable; another that it was a grass; another that it was a tree. When a Sicilian doctor heard this, he dismissed them contemptuously as talking nonsense. (EPICRATES)¹

INTRODUCTION

RECENT decades have witnessed concerted re-examination of the ancient doxographical tradition.² This paper contributes to this

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¹ Fr. 10 KA.

² e.g. H. Baltussen, *Theophrastus against the Presocratics and Plato* [Theophrastus] (Leiden, 2000); W. Burkert, L. Gemelli Marciano, E. Matelli, and L. Orelli (eds.), *Fragmentsammlungen philosophischer Texte der Antike/Le raccolte dei frammenti di filosofi antichi* (Göttingen, 1998); H. Daiber, *Aëtius Arabus [Arabus]* (Wiesbaden, 1980); P. J. van der Eijk (ed.), *Ancient Histories of Medicine: Essays in Medical Doxography and Historiography in Classical Antiquity [Medical]* (Leiden, 1999); T. Göransson, *Albinus, Alcinous, Arius Didymus* (Göteborg, 1995); D. E. Hahm, 'The Ethical Doxography of Arius Didymus', in W. Haase and H. Temporini (eds.), *Aufstieg und Niedergang der römischen Welt*, II.36.4 (Berlin, 1990), 2935–3055; J. Mansfeld, 'Doxography and Dialectic: The Sitz im Leben of the "Placita"', in Haase and

trend of scholarship. It examines a set of Empedoclean doxographical passages in relation to a relevant set of Empedoclean fragments.³ The doxographical material purports to give Empedocles' views of desire, pleasure, and pain; the fragments include the concepts of desire, pleasure, and pain.⁴

Beginning most saliently with Hermann Diels's *Doxographi Graeci* and *Die Fragmente der Vorsokratiker*,⁵ scholars have studied doxographical material to elucidate philosophers or schools whose work is fragmentary or lost.⁶ This approach to doxography may be called 'reconstructionist'. Such reconstructionism is backward-looking. Somewhat analogously to the stemmatic method of textual criticism, it attempts to work through later accounts to a hypothetical archetype. Consequently, the interpreter's main concern is the reliability of the doxographical material.

Much of the research on the Empedoclean doxography for this paper was undertaken in a reconstructionist spirit. But one of the paper's central conclusions is that the doxographers tend to oversimplify and mislead. Thus, according to a reconstructionist agenda, the doxographical material largely lacks value. On the other hand, showing that the material has these defects certainly is valuable, in respect of reconstructionism generally and otherwise.

In contrast to reconstructionism, doxographical material may be studied from the perspective of reception. From the standpoint of the hypothetical archetype, receptionism is forward-looking. Its interest is how and why later philosophers, commentators, and doxographers proper interpret and report on their predecessors.

Temporini, *Aufstieg und Niedergang der römischen Welt*, 3056–229; id., *Heresiography in Context: Hippolytus' Elenchos as a Source for Greek Philosophy* (Leiden, 1992); id. and D. T. Runia, *Aëtiana [Aëtiana]* (Leiden, 1997); J. Mejer, *Diogenes Laertius and his Hellenistic Background* (Basle, 1978); G. Most (ed.), *Collecting Fragments* (Heidelberg, 1997); C. Osborne, *Rethinking Early Greek Philosophy: Hippolytus of Rome and the Presocratics [Rethinking]* (London, 1987); G. Cambiano (ed.), *Storiografia e dossografia nella filosofia antica* (Turin, 1986); W. W. Fortenbaugh (ed.), *On Stoic and Peripatetic Ethics: The Work of Arius Didymus* (New Brunswick, 1983).

³ Throughout I use the concept of doxography in a broad sense to refer to works and passages that refer to the ideas or quote passages from their predecessors. For instance, Plato contains doxographical material. This broad usage is merely an expository convenience.

⁴ I assume Empedocles composed a single poem *On Nature*.

⁵ *Doxographi Graeci [Dox.]* (Berlin, 1879); *Die Fragmente der Vorsokratiker [Fragments]* (Berlin, 1903; rev. edns. 1906, 1912, 1922).

⁶ For the prehistory to Diels's work and doxographical theory, see chs. 1 and 2 in Mansfeld and Runia, *Aëtiana*, 1–120.

Consequently, receptionism does not discard unreliable doxographical material, for unreliable interpretations are no less interpretations than reliable ones.

The opening paragraph of this paper speaks of examining Empedoclean doxographical material 'in relation to' Empedocles' fragments. The expression was chosen to welcome reconstructionist and receptionist interests. Although their aims are distinct, the work of reconstructionism and receptionism clearly overlaps; thus, the two approaches can be complementary. Indeed, the paper's negative reconstructionist results serve as positive points of departure for further examination along receptionist lines; discovery that a doxographical passage is misleading prompts the question why.

To some extent, receptionism has been undertaken in the course of the discussion. I say 'to some extent' because the project of an adequate receptionist interpretation is especially demanding.⁷ For example, envision a book-length study whose chapters were devoted to Plato's interpretation and use of Empedocles, Aristotle's, Theophrastus', and so on. Such a study would facilitate a deep explanation of, say, any one of Aristotle's Empedoclean opinions. Thus, from a receptionist perspective, the efforts of this paper to explain the doxographical material should be viewed as preliminary.

Finally, we may distinguish a third approach to doxography, an approach that to some extent combines reconstructionism and receptionism. Such an approach, which might be called 'dialogical', seeks to understand both the archetypal work, figure, or school and its descendants. This is the main difference between the dialogical approach and receptionism: the dialogical interpreter does not abandon the archetype, even though the doxographical tradition is errant. The dialogical approach precisely seeks to clarify by contrast the distinctiveness of the archetype and the descendants. This is akin to studying, for instance, the ancient economy in order to understand the modern economy and vice versa. This approach will be particularly fruitful when successors' interpretations of their predecessors are inaccurate. But that seems to be the rule in antiquity.

In sum, this paper examines, from several perspectives, a set of Empedoclean doxographical passages in relation to a relevant set of Empedoclean fragments. From a reconstructionist perspective, the paper assesses the reliability of the doxographical material. From

⁷ Osborne, *Rethinking*, is a good example of receptionist scholarship.

a receptionist perspective, it attempts to clarify the history of the doxographical material, specifically to identify significant contributions and to trace their lines and characters of influence. From a dialogical perspective, it attempts to clarify how the doxographical tradition diverges from the archetype and thus to elucidate by contrast the archetype and its heirs.

The following discussion is organized into two parts, each including several sections:

I. THE DOXOGRAPHICAL MATERIAL

1. Post-Aëtian doxographers on Empedocles on desire and pleasure
2. Aëtius' conjunction of Empedocles' views on desire, pleasure, and pain
3. Theophrastus on Empedocles on perception, pleasure, and pain
4. Complications in Aëtius' and Theophrastus' accounts
5. Aristotle and Plato on Empedocles on homogeneous elemental attraction
6. Speculation on Greek sources for Empedocles on appetite
7. Ibn Lūqā and pseudo-Plutarch's *Placita* 5. 28
8. Aëtius' Empedoclean opinions on appetite as botanical appetite
9. Aristotle's *On Plants* and Aëtius' Empedoclean opinion on botanical appetite
10. Conclusion to the doxographical material

II. EMPEDOCLES' FRAGMENTS

1. Some terminology and general remarks
2. Empedocles' fragments on the motivations of the roots
3. Empedocles' fragments on the motivations of stuffs
4. Empedocles' fragments on pleasure and pain
5. Conclusion to Empedocles' fragments

There follows a General Conclusion. The remainder of this introduction highlights the central claims and objectives of these sections.

Section I.1 uses pseudo-Plutarch 5. 28 and Stobaeus 1. 50. 31 to reconstruct the Empedoclean opinions on desire, pleasure, and pain from Aëtius' lost *Placita*. Section I.2 argues that Aëtius conjoined Empedoclean opinions on desire with Empedoclean opinions on pleasure and pain. The remainder of Part I attempts to reconstruct the two pre-Aëtian doxographical lineages of Empedocles' views of desire and of pleasure and pain.

Sections I.3–4 focus on the pre-Aëtian doxographical lineage of Empedocles' view of pleasure and pain. Section I.3 argues that

while Aëtius derives his Empedoclean opinion on pleasure and pain from Theophrastus' *On the Senses*, Aëtius interprets Empedocles' opinion on pleasure and pain differently from Theophrastus. Theophrastus primarily construes Empedocles' conception of pleasure and pain in terms of the structural conformity and non-conformity of perceptible effluences and perceptual pores; Aëtius construes Empedocles' conception of pleasure and pain in terms of elemental homogeneity and heterogeneity. I argue that Aëtius' transformation of Theophrastus' view is due to Aëtius' combination of Empedoclean opinions on desire with those on pleasure and pain. Section I.4, essentially an appendix to Section I.3, argues that Theophrastus' and Aëtius' respective views are in fact more complex than Section I.3 suggests. Theophrastus does discuss Empedocles' theory of perception in terms of elemental homogeneity and heterogeneity, and elsewhere in the *Placita* Aëtius attributes to Empedocles the view that perception occurs through the structural conformity of effluences and pores. Section I.4 suggests a way of integrating these complexities.

Sections I.5–9 focus on the doxographical lineage of Empedocles' views of desire. Section I.5 argues that Aristotle, following Plato, attributes to Empedocles a cosmological principle of elemental attraction according to which elementally homogeneous entities are attracted to one another. However, Aëtius' Empedoclean opinion on desire specifically refers to nutritional desire, i.e. appetite, and this is not reducible to the cosmological principle. Consequently, Section I.6 speculates on pre-Aëtian doxographical sources that might have applied the cosmological principle in formulating Empedocles' view of appetite. Aristotle himself, Theophrastus, Strato, and Meno are examined as possible sources; and while no evidence points conclusively to one of these authors, all the evidence points to the Peripatos.

The overarching objective of Sections I.7–9 is to suggest a more precise identification of the pre-Aëtian source of Empedocles' opinion on appetite. Section I.7 introduces a neglected source in the manuscript tradition of pseudo-Plutarch's *Placita*, Qusṭā ibn Lūqā's Arabic translation. Ibn Lūqā's translation helps emend corruptions in the Greek manuscripts of pseudo-Plutarch 5. 28. On the basis of the emendations and consideration of the broader context of pseudo-Plutarch 5. 28, Section I.8 argues that the Empedoclean opinion on appetite specifically derives from doxographical mate-

rial on appetite in plants. Subsequently, Section I.9 uses Nicolaus of Damascus' adaptation of Aristotle's *On Plants* to argue that Aëtius' Empedoclean opinion on botanical appetite derives from Aristotle's lost botanical treatise. The conclusion in Section I.9 thus confirms the speculations in Section I.6 that Aëtius' Empedoclean opinion on nutritional desire derives from the Peripatos.

Part II of the paper compares the results from the doxographical tradition with Empedoclean fragments in which the concepts of desire, pleasure, and pain occur. Section II.1 introduces some convenient terminology and makes some general remarks about Empedocles' conception of the cosmos and the place of desire, pleasure, and pain within it. One fundamental difference between Empedocles and his Peripatetic doxographers is that Empedocles attributes psychological states, including desire, pleasure, and pain, to the material elements of his cosmos, whereas for Aristotle such psychological capacities exist only among organically complex beings. Another fundamental difference is that Empedocles identifies Love and Strife, which are regarded as independent entities, as the principal sources of motivation in other beings, whereas Aristotle regards the $\psi\upsilon\chi\eta$ itself as the source of motivation.

Section II.2 focuses on the motivations of Empedocles' roots and argues that the roots have both positive and negative motivations, desires and aversions, to congregate with both homogeneous and heterogeneous roots. Thus, the doxographical tradition oversimplifies in attributing to Empedocles only the attraction of like for like. In addition to the motivational influences of Love and Strife on the roots, several fragments suggest that the roots have certain intrinsic kinetic tendencies and combinatorial dispositions. Section II.2 concludes with a discussion of these fragments and consideration of their relation to the influences of Love and Strife.

Section II.3 turns to the motivations of stuffs, i.e. elementally complex entities, and specifically focuses on fragments concerning appetite, albeit zoological rather than botanical appetite. I argue that appetite is not for an elementally homogeneous entity, but rather an elemental portion in which the stuff is deficient. The discussion includes an account of the disjunctive and conjunctive roles of Strife and Love in the digestive process.

Finally, Section II.4 argues that, contrary to Theophrastus' suggestion, Empedocles is not interested in pleasure and pain as mere sensations. Rather, so far as related concepts occur within the frag-

ments, Empedocles is concerned with the emotions of joy and suffering. Furthermore, Love and Strife are responsible for joy and suffering respectively, which means that, contrary to the doxographical tradition, Love is responsible for pleasure in so far as Love conjoins heterogeneous entities.

I. THE DOXOGRAPHICAL MATERIAL

I.1. Post-Aëtian doxographers on Empedocles on desire and pleasure

The doxographical material that purports to give Empedocles' views of desire, pleasure, and pain is divisible into two sets, post-Aëtian and pre-Aëtian. The post-Aëtian material comes from Stobaeus' *Anthology* and pseudo-Plutarch's *Placita*.

Stobaeus' *Anthology*, book 1, chapter 50, is professedly devoted to opinions concerning perception, the objects of perception, and whether perceptions are true. Sections 28–33 of chapter 50 concern pleasure and pain. Section 31 attributes the following opinion to Empedocles:

Ἐμπεδοκλῆς τὰς ἡδονὰς γίνεσθαι τοῖς μὲν ὁμοίοις τῶν ὁμοίων, κατὰ δὲ τὸ ἐλλείπον πρὸς τὴν ἀναπλήρωσιν, ὥστε τῷ ἐλλείποντι ἡ ὄρεξις τοῦ ὁμοίου. τὰς δ' ἀλγηδόνας τοῖς ἐναντίοις. [ἡ] ἀλλοτριούσθαι γὰρ πρὸς ἄλλα ὅσα διαφέρει κατὰ τε τὴν σύγκρισιν καὶ τὴν τῶν στοιχείων κράσιν.

Empedocles says that like things derive pleasures from like things and that (they aim) at a refilling in accordance with the deficiency. Consequently, desire is for that which is like because of that which is lacking. And pains occur because of opposites. For things that differ are hostile to one another in accordance with both the combination and the blending of elements.⁸

A similar passage occurs in pseudo-Plutarch's *Placita*, book 5, chapter 28. This chapter contains or rather once contained opinions pertaining to the question 'Whence in animals are desires and pleasures derived?'⁹ One opinion, Empedocles', has survived in the Greek tradition:

⁸ Diels attributes the Stobaeus passage to Aëtius (4. 9. 15) and includes it in Diels, *Fragmente*, at 31 A 95. The reference to Stobaeus occurs in Diels, *Dox.* 440; the attribution of the Stobaeus passage to Aëtius occurs in Diels, *Dox.* 398. Cf. [Galen], *Hist. phil.* 39.

⁹ Πόθεν αἱ ὄρεξεις γίνονται τοῖς ζῴοις καὶ ἡδοναί; (5. 28).

Ἐμπεδοκλῆς τὰς μὲν ὄρεξεις γίνεσθαι τοῖς ζῴοις κατὰ τὰς ἐλλείψεις τῶν ἀποτελούντων ἕκαστον στοιχείων. τὰς δὲ ἡδονὰς ἐξ οἰκείου κατὰ τὰς τῶν συγγενῶν καὶ ὁμοίων κράσεις, τὰς δὲ ὀχλήσεις καὶ τὰς (ἀλγηδόνας ἐξ ἀνοικείου).

Empedocles holds that desires occur in animals according to their deficiencies in those elements that complete each one. And pleasures come from what is congenial according to the blends of related and like (elements), while disturbances and (pains from what is uncongenial).¹⁰

The Greek text on which this translation is based contains problems, which I shall discuss in Section I.7. For the time being, this rendition, based on Diels's *Fragmente der Vorsokratiker*, should suffice.

Clearly, the contents of Stobaeus 1. 50. 31 and pseudo-Plutarch 5. 28 are similar; in fact they derive from a common source. Following Diels, this common source is conventionally identified as Aëtius' lost *Placita*. Pseudo-Plutarch's *Placita* is an epitome of Aëtius' *Placita*, and Aëtius' *Placita* is a major source for the material assembled in Stobaeus' *Anthology*. Drawing on the contents of Stobaeus 1. 50. 31 and Pseudo-Plutarch 5. 28, and without the benefit of perspective from the pre-Aëtian doxographical tradition or consideration of Stobaeus' *Anthology* or pseudo-Plutarch's *Placita* and their textual traditions, a first attempt to reconstruct Empedocles' opinions concerning desire, pleasure, and pain from Aëtius' lost *Placita* might run as follows:

- (A1) Desire arises through lack of a certain element and is directed at the element that is lacking.
- (A2) Pleasure arises through mixing of like elements.
- (A3) Pain arises through mixing of opposite elements.

(A1–3) might be conjoined and elaborated into the following account. Subjects of desire, pleasure, and pain are composed of a set of elements. The diminution in one of the elements evokes desire in that subject. The subject desires the kind of element whose quantity is diminished. Pleasure arises as the subject regains the elemental kind in which it is deficient. Precisely, pleasure arises because the portion of the regained element mixes with the diminished portion of the same kind of element. On the other hand, if a deficient subject obtains an elemental portion that is opposite in kind to the element in which it is deficient, pain arises. Precisely,

¹⁰ This is the text that Diels prints at *Fragmente*, 31 A 95.

pain arises because the portion of the acquired element mixes with the diminished portion of the opposite kind of element.

This interpretation of Aëtius' Empedoclean opinions on desire, pleasure, and pain is not intended to be accurate, only plausible on the mere basis of Stobaeus 1. 50. 31 and pseudo-Plutarch 5. 28, without the perspective of the pre-Aëtian doxographical tradition or further consideration of Stobaeus and pseudo-Plutarch. In fact, Aëtius' opinions are confused and oversimplified. This can be shown by directly comparing (A1–3) with Empedoclean fragments pertaining to desire, pleasure, and pain. I shall discuss those fragments in Part II. But there is good reason to believe that Aëtius' Empedoclean opinions on desire, pleasure, and pain were not directly based on an interpretation of Empedocles' poem *On Nature*, even though Aëtius must have had access to the poem. In other words, Aëtius' Empedoclean opinions on desire, pleasure, and pain, derive from earlier doxographers.

Over three hundred references to Empedocles occur in extant Greek literature between the time of Empedocles himself (fifth century BC) and Aëtius (first century AD).¹¹ Additionally, we know that many authors whose works are now lost discussed Empedocles. For example, Diogenes Laertius mentions or cites references to Empedocles from eighteen authors who had written by the first century AD: Aristotle, Theophrastus, Heraclides of Pontus, Hippobotus, Heraclides of Lembos, Timaeus, Hermarchus, Hermippus, Apollodorus, Satyrus, Favorinus, Neanthes, Alcidas, Hieronymus, Xanthus, Diodorus of Ephesus, and Demetrius of Troezen.¹² Most of these authors' works are lost or extremely fragmentary.

Among extant literature and presumably much that was written by lost authors such as those whom Diogenes lists, references to and discussions of Empedocles lack philosophical content. For

¹¹ TLG gives 324 references. To these should be added several from the Peripatetic *On Plants*, which is not part of the TLG database. I discuss the relevant references from *On Plants* in sect. I.8. The TLG search was based on explicit references to Empedocles, which were checked for completeness against the sources of the A and B fragments in Diels, *Fragmente*.

¹² Aristotle (D.L. 8. 52, 57, 74); Hippobotus (51, 69, 72); Timaeus (51, 54, 60, 63–6, 71); Heraclides of Lembos (51, 52, 53, 58, 60, 61); Apollodorus (52); Satyrus (53, 58, 59, 60); Favorinus (53, 73); Neanthes (55, 58, 72); Theophrastus (55); Hermippus (56, 69); Alcidas (56); Hieronymus (58); Xanthus (63); Heraclides of Pontus (67); Diodorus (70); Demetrius (74). The *Suda* attributes to Zeno of Elea a work on the interpretation of Empedocles, but I assume this attribution is mistaken; cf. J. P. Hershbell, 'Plutarch as a Source for Empedocles Re-examined', *American Journal of Philology*, 92 (1971), 156–84 at 156 and n. 3.

instance, several references to Empedocles occur among the fragments of Timaeus' *Histories*, but these are biographical and political. Among references that have philosophical content, most occur in Aristotle's corpus (134 references). The second most numerous, but much fewer, occur in Theophrastus' works (14 references). Apropos of (A1–3) in particular, Aristotle and Theophrastus are the only extant pre-Aëtian authors to speak of Empedoclean doctrines concerning desire, pleasure, and pain. This encourages the view that ultimately (A1–3) depend on other sources. Indeed, I shall suggest that (A1–3) ultimately derive from the early Peripatetic doxographical tradition. I shall also suggest that Plato influenced an aspect of the Peripatetic doxographical tradition on Empedocles.

1.2. Aëtius' conjunction of Empedocles' views on desire, pleasure, and pain

Before turning to the pre-Aëtian doxographical material, I want to clarify Aëtius' Empedoclean opinions further. I want to suggest that Aëtius himself conjoined Empedoclean doxographical material on desire, on the one hand, and pleasure and pain, on the other.

In 1. 50. 28–33 Stobaeus transmits the views on pleasure and pain of several other individuals and schools: Epicurus, the Peripatetics, Chrysippus, Anaxagoras, and 'others'. While sections 28–33 all concern pleasure and pain, sections 28–30 in particular form a coherent subset. Section 28 attributes to Epicurus the view that pleasures and pains are perceptual; section 29 attributes to the Peripatetics the contrary view that they are cognitive; and section 30 attributes to Chrysippus an intermediate position according to which generic pleasure is cognized, while specific pleasure is perceived. Thus, sections 28–30 can be viewed as responding to the question whether pleasure and pain are perceived or cognized. Diels, perhaps rightly, situates 1. 50. 28–30, along with a number of other sections in Stobaeus, within Aëtius' *Placita* book 4, chapter 9, under the rubric 'Whether perceptions are true'.¹³ At least, the question whether pleasure and pain are perceived or cognized is clearly relevant to the question whether perceptions are true. For example, at 1. 50. 17 Stobaeus attributes to Pythagoras,

¹³ Diels, *Dox.* 396. Note that Diels derives the basic structure of books and chapters of Aëtius' *Placita* from pseudo-Plutarch's epitome.

Empedocles, Xenophanes, Parmenides, Zeno, Melissus, Anaxagoras, Democritus, Metrodorus, Protagoras, and Plato the view that perceptions are false. Thus, if pleasure and pain are perceived, rather than cognized, they are false.

Granted this, Stobaeus' Empedoclean opinion at 1. 50. 31 is remarkable not only in that it says nothing about the relation between pleasure or pain and perception (*αἴσθησις*), but in that it relates a conception of pleasure and pain to desire. None of the other doctrines in 1. 50. 28–33 has anything to say about desire. In fact, there is only one other section in all of 1. 50 that contains a doctrine on desire; at 1. 50. 25 Stobaeus reports that according to Parmenides and Empedocles desire arises from a lack of nourishment. Diels also situates this section in Aëtius 4. 9 under the rubric 'Whether perceptions are true' and, precisely, immediately before the contents of Stobaeus 1. 50. 31—that is, before the Empedoclean opinion about desire, pain, and pleasure. This is very odd, especially since Photius informs us that chapter 46 of book 1 of Stobaeus' *Anthology*, which unfortunately does not survive, was devoted to the subject of nourishment and desire in animals (*περὶ τροφῆς καὶ ὀρέξεως τῶν ζώων*).¹⁴ As we have seen, pseudo-Plutarch's report at 5. 28 explicitly concerns desires in animals (*τὰς ὀρέξεις . . . τοῖς ζώοις*). Moreover, the immediately preceding section, 5. 27, concerns nourishment and growth (*περὶ τροφῆς καὶ αὐξήσεως*). In it, pseudo-Plutarch reports: 'Empedocles holds that animals are nourished through the settling of what is appropriate.'¹⁵ Consequently, Diels should have situated Stobaeus 1. 50. 25, the Empedoclean and Parmenidean opinion on desire and nourishment, in Aëtius 5. 27, which is devoted to the subject of nourishment and growth. Furthermore, Diels situates pseudo-Plutarch 5. 28 in Aëtius 5. 28 under the rubric 'Whence desires and pleasures are derived'. But surely some of the content of Stobaeus 1. 50. 31 belongs here as well.

Now since the contents of pseudo-Plutarch 5. 28 and Stobaeus 1. 50. 31 are similar, we must conclude that Aëtius himself, if not a late source of his, is responsible for conjoining the Empedoclean view of pleasure and pain, on the one hand, with that of desire, on the other. Moreover, we should assume that the location of this

¹⁴ Photius' catalogue is printed in C. Wachsmuth and O. Hense (eds.), *Ioannis Stobaei Anthologii libri duo priores qui inscribi solent Eclogae physicae et ethicae* [*Anthologium*] (Berlin, 1884) i. 3–10.

¹⁵ Ἐμπεδοκλῆς τρέφεται μὲν τὰ ζῶα διὰ τὴν ὑπόστασιν τοῦ οἰκείου. I discuss this opinion further below.

opinion in pseudo-Plutarch's *Placita* is more accurate relative to Aëtius' *Placita* than its location in Stobaeus' *Anthology*. That is to say, the contents of pseudo-Plutarch 5. 28 did not appear in Aëtius 4. 9 under the rubric 'Whether perceptions are true' but in Aëtius 5. 28 under the rubric 'Whence desires and pleasures are derived'.¹⁶

As we shall see, the possibility that Aëtius himself conjoined Empedoclean views on desire and on pleasure and pain is strengthened by the fact that the pre-Aëtian doxographical materials on the topics of desire, on the one hand, and of pleasure and pain, on the other, derive from distinct sources. The material on pleasure and pain derives from Theophrastus' *On the Senses*. The material on desire does not; indeed, its pedigree is much more obscure. I shall begin with the material in Theophrastus' *On the Senses*.

I.3. Theophrastus on Empedocles on perception, pleasure, and pain

Aëtius' Empedoclean opinions concerning pleasure and pain, but not desire, derive from Theophrastus' *On the Senses*. In that work Theophrastus categorizes Empedocles' views of perception under the division of those who explain perception according to the principle of likeness. Regarding pleasure and pain, Theophrastus reports:

[Empedocles says] that we experience pleasure [*ἡδεσθαι*] through things that are alike [*τοῖς ὁμοίοις*] in accordance with both their parts and blending [*κατὰ τε τὰ*]¹⁷ *μορία καὶ τὴν κρᾶσιν*, while we experience pain [*λυπεῖσθαι*] through things that are opposite [*τοῖς ἐναντίοις*]. (§ 9)¹⁸

And again:

[Empedocles says that we] experience pleasure [*ἡδεσθαι*] through things that are alike [*τοῖς ὁμοίοις*], and pain [*λυπεῖσθαι*] through things that are

¹⁶ Likewise, Stob. 1. 50. 25 is misplaced within Stobaeus' *Anthology* itself; it does not belong in a chapter devoted to perception, but in the lost chapter devoted to nourishment and growth (1. 46). Moreover, the content of Stob. 1. 50. 25 must derive from Aëtius' chapter on nourishment and growth, 5. 27.

¹⁷ G. M. Stratton, *Theophrastus and the Greek Physiological Psychology before Aristotle* (London, 1917), 74, follows G. Schneider (ed.), *Theophrasti Eresii quae supersunt* [*Theophrastus*] (Leipzig, 1818–21) ii. 617, in adding *τά*.

¹⁸ By *τε τὰ μορία καὶ τὴν κρᾶσιν* I take Theophrastus to mean that pleasure arises through a relation of two entities *a* and *b*, wherein the parts of *a* and *b* are alike and *a* and *b* blend.

opposite [τοῖς ἐναντίοις] . . . Moreover . . . kindred things [συγγενῆ] above all produce pleasure through contact, as he says . . . (§ 16)

Theophrastus hereby appears to supply later doxographers with the view that Empedocles held that pleasure arises through the blending of like elements, while pain arises through the blending of opposite elements.¹⁹ Yet whereas Aëtius and his followers speak of pleasure and pain as the blending of like and opposite elements, this is actually not the meaning of the Theophrastean passages cited. In his discussion of Empedocles' account of perception in *On the Senses*, Theophrastus primarily—I emphasize 'primarily', not 'only'²⁰—treats likeness and opposition in terms of structural conformity or nonconformity between perceptible effluences and perceptual pores.²¹ Theophrastus begins his account of Empedocles' theory of perception as follows:

Empedocles has a common method of treating all the senses. He says that perception occurs because (the effluences) fit into [ἐναρμόττειν] the pores of the particular perceptual faculty. (§ 7)

Subsequently, he claims:

For it is clear that what fits in [ἐναρμόττει], as he puts it, is what is alike [τὸ ὅμοιον]. (§ 10)

Thus, Theophrastus interprets structural conformity (ἀρμονία) between perceptible effluences and perceptual pores as likeness (ὁμοιότης).

We can understand Theophrastus' subsequent criticism of Empedocles accordingly:

¹⁹ In § 16 Theophrastus supports his account of Empedocles' views on pleasure and pain by reference to B 22. 5–6: 'hostile, they are most separate from one another, in birth and mixture and in moulded forms'. The verses continue: '[they are] entirely unfit to be together and (are) much pained'. Here it suffices to note that Empedocles is not speaking of the mixture of unlike elements, but of entities that are separate from and antagonistic to one another and, in particular, resistant to blending.

²⁰ The following section will suggest that Theophrastus' account of Empedocles' theory of perception is more complex.

²¹ A. A. Long, 'Thinking and Sense-Perception in Empedocles: Mysticism or Materialism?', *Classical Quarterly*, NS 16 (1966), 256–76 at 261, claims that although 'there is no necessary connection between like constituents and symmetry of pores (and effluences) . . . the distinction between the two forms of likeness would probably have been unnoticed (at the time that Empedocles composed his poem)'. I reject this suggestion on the grounds that it assumes that Theophrastus' interpretation of Empedocles is accurate.

[Empedocles'] explanation of pleasure and pain is inconsistent, for he ascribes pleasure to the action of like things, while pain he derives from opposites . . . Pleasure and pain are thus regarded . . . as perceptions or as occurring with perception; consequently, the perceptual process does not in every case arise from likeness. (§ 16)

Theophrastus claims that Empedocles is inconsistent because he presents a general account of perception in terms of the structural conformity of effluences and pores, yet he also explains the distinction between pleasure and pain in terms of likeness and opposition. Consequently, in the case of pain, the *perception* of pain must be explained according to the structural conformity of effluences and pores, but the perception of *pain* must be explained according to the structural nonconformity of effluences and pores.²²

Evidently, between Theophrastus and Aëtius a significant transformation in the reporting of Empedocles' opinions concerning pleasure and pain occurred. In the light of the disparity between Theophrastus and Aëtius, it is especially noteworthy that Aëtius' report on Empedocles' view of pleasure and pain is conjoined with an account of Empedocles' view of desire, whereas Theophrastus' *On the Senses* makes no mention of Empedocles' view of desire. Stobaeus transmits Aëtius' claim that according to Empedocles desire is for that which is like because of a deficit. As suggested in Section I.1, this means that desire is directed towards a kind of element in which the elementally homogeneous subject of desire is deficient. For convenience, I shall hereafter speak of elemental likeness as elemental 'homogeneity'. Consequently, Aëtius' conjunction of Empedocles' view of pleasure and pain with his view of desire plays an important role in Aëtius' opinion that the likeness involved in pleasure is elemental homogeneity, rather than Theophrastus' view, structural conformity of effluences and pores.²³

²² Incidentally, it is not clear to me that this is such a cogent criticism, within the terms of Theophrastus' own interpretation. One might respond that, say, all olfactory perception requires some conformity of effluences and pores. But pleasant smells occur when the conformity is precise, whereas unpleasant smells occur when the conformity is relatively imprecise.

²³ This claim also assumes that Aëtius' opinion is consistent with Stobaeus' in suggesting that the object of desire is like the subject of desire. I defend this assumption in sect. I.8. Note also that while Aëtius' conjunction of Empedocles' views of desire, pleasure, and pain produces an incoherent conception of pain, Theophrastus' account does not.

I.4. Complications in Aëtius' and Theophrastus' accounts

While Aëtius' and Theophrastus' accounts of Empedocles' conception of pleasure and pain diverge according to their distinct conceptions of likeness, elemental homogeneity, and structural conformity respectively, their accounts are actually more complicated than the preceding section indicates. Here, I discuss two complications with Theophrastus' and Aëtius' accounts respectively.

In discussing Theophrastus' account of Empedocles' theory of perception, I said that likeness and opposition are 'primarily', but not only, treated in terms of structural conformity or nonconformity between perceptible effluences and perceptual pores. Theophrastus' treatment of likeness in Empedocles' psychology is complex. Theophrastus also suggests that Empedocles' psychological theory, including the experiences of pleasure and pain, involves likeness understood as elemental homogeneity. In section 10 of *On the Senses* Theophrastus reports that Empedocles conceives of knowledge in terms of likeness:

[i] [Empedocles] also speaks of knowledge [*φρονήσεως*] and ignorance in the same way (as he speaks of perception).²⁴ For he says that knowing is due to like things [*τοῖς ὁμοίοις*] and being ignorant is due to unlike things [*ἀνομοίοις*], for in his view knowledge is the same as or close to perception. [ii] For after he enumerates how each (element) recognizes each [Theophrastus is here alluding to B 109], [iii] he concludes by adding that from these (elements) 'all things having been fittingly conjoined [*πάντα πεπήγασιν ἀρμοσθέντα*],²⁵ and by means of these they have knowledge and experience pleasure and pain [*ἡδοντ' ἢ δ' ἀνιώνται*]²⁶ [=B 107]. [iv] Therefore, it is principally by means of the blood that we know, for in the blood the elements [*στοιχεῖα*] are blended more fully than in our (other) parts.²⁷

After making the general point in [i] that Empedocles was committed to the view that knowledge, as well as perception, is based

²⁴ Note that Theophrastus is here indebted to Arist. *DA* 427^a22.

²⁵ I follow J. Barnes, 'Review of Wright' ['Review'], *Classical Review*, NS 32 (1982), 191–6 at 194, and B. Inwood, *The Poem of Empedocles [Poem]* (Toronto, 2001), 285, in taking Theophrastus' quotation to begin in mid-verse. I discuss this point in sect. II.4.

²⁶ I translate *ἀνιώνται* here following my interpretation of Theophrastus' interpretation of the verse. I suggest an alternative translation in sect. II.4.

²⁷ I have added roman numerals to facilitate exegesis.

on likeness, Theophrastus alludes in [ii] to the following verses of Empedocles' poem (B 109):

For it is with earth that we see earth; with water, water; with air, divine air; with fire, destructive fire; with love, love; and with grim strife, strife.

In [iii] Theophrastus cites fragment B 107. But since Theophrastus introduces B 107 with the words 'he concluded by adding' (*ἐπὶ τῷ ἐλεῖ προσέθηκεν*), and this follows the allusion to B 109, Heinrich Stein, followed by other commentators, proposes appending B 107 to B 109, viz.:²⁸

For it is with earth that we recognize [*ὁπίπαμεν*] earth; with water, water; with air, divine air; with fire, destructive fire; with love, love; and with grim strife, strife. . . . all things having been fittingly conjoined, and by means of these [*τούτοις*] they have knowledge and experience pleasure [*ἡδοντ'*] and pain [*ἀνιώνται*].

Granted this relation between B 109 and B 107, we can infer that Theophrastus interprets Empedocles' view of cognition as follows. Blood is responsible for cognition because the material elements, air, water, fire, and earth, that enter the blood through the perceptual pores are recognized by homogeneous elements that constitute the blood. Blood also recognizes Love and Strife—Theophrastus appears to believe Empedocles is claiming—in so far as Love and Strife inhere in the blood as well. Finally, Theophrastus' interpretation implies that Empedocles understands pleasure and pain like cognition, and this suggests that pleasure and pain arise through the conjunction of homogeneous elements. Consequently, Theophrastus' interpretation of pain in B 107 is inconsistent with the view, which he also attributes to Empedocles, that pain arises through the blending of opposites, for in that case opposition implies structural nonconformity. Furthermore, it is unclear how pain and pleasure can be understood analogously to cognition since pain and pleasure are not material elements that can contact one another.²⁹

Theophrastus' interpretation of B 109 and B 107 must be confused. I agree with David Sedley that Theophrastus' identification

²⁸ H. Stein, *Empedocles Agrigentus* (Bonn, 1852); M. R. Wright, *Empedocles: The Extant Fragments* (New Haven, 1981), 234; D. Sedley, 'Empedocles' Theory of Vision and Theophrastus' *De sensibus*' ['Vision'], in W. W. Fortenbaugh and D. Gutas (eds.), *Theophrastus: His Psychological, Doxographical and Scientific Writings* (New Brunswick, 1992), 20–31 at 28.

²⁹ The same problem may arise in the case of Love and Strife if Love and Strife are not material elements.

of structural conformity with likeness and his conflation of the likeness of structural conformity and the likeness of elemental homogeneity are a function of Theophrastus' 'Aristotelianism', that is, Theophrastus' '(imprisonment in) an over-schematized doxographical view, according to which Empedocles has *got* to come out as a like-by-like theorist'.³⁰

Theophrastus' view that Empedocles was committed to a theory of cognition based on likeness does derive from Aristotle. In *On the Soul* Aristotle writes:

All those . . . who looked to the fact that what has soul knows or perceives what exists, identify soul with the principle or principles of nature . . . Thus, Empedocles declares that soul is formed out of all his elements, each one itself being a soul; his words are . . . (*DA* 404^b8–12)

Aristotle now cites B 109. Again, in *Metaphysics Γ* Aristotle cites B 109 within the context of a series of criticisms of Empedocles. Aristotle claims that if, as Empedocles maintains, knowledge is of like by like, then god would be less intelligent than others: since strife does not inhere in god, god would fail to recognize and so lack knowledge of strife (1000^b3–9).

In short, Theophrastus' account of Empedocles' view of knowledge and at least some forms of perception, namely pleasure and pain, includes both conceptions of likeness, structural conformity and elemental homogeneity; and in the latter case, Theophrastus follows Aristotle.

Let us now turn to a corresponding complication in Aëtius' account. Although Aëtius' conjunction of Empedocles' views of desire and of pleasure and pain suggests that the likeness involved in pleasure is elemental homogeneity, Aëtius also elsewhere reports that for Empedocles perception involves the structural conformity of effluences and pores. The evidence for this comes from pseudo-Plutarch 4. 9:

Ἐμπεδοκλῆς Ἡρακλείδης παρὰ τὰς συμμετρίας τῶν πόρων τὰς κατὰ μέρος αἰσθήσεις γίνεσθαι τοῦ οἰκείου τῶν αἰσθητῶν ἐκάστη ἀρμόζοντος.

Empedocles and Heraclides claim that the particular perceptions (that is,

³⁰ 'Vision', 29, 31. Compare Sedley's contention (ibid. 29) that 'Theophrastus' conflating the fitting-in (= structural conformity) model with a like-by-like principle may (rest on) no more than . . . [a] false construal of B 109'. In fact, I am not sure that Sedley and I are wholly in agreement. We agree that Theophrastus conflates the fitting-in model with the likeness principle. The question is how Sedley understands Theophrastus' misreading of B 109.

perceptions of the particular senses) occur when there is commensuration [*τὰς συμμετρίας*] with the pores, when each proper object of perception fits in with the (appropriate) faculty of perception.³¹

It is questionable whether this passage can be reconciled with the passage in pseudo-Plutarch 5. 28. Here is one possibility. In contrast to seeing, hearing, and the functions of the other specific sensory modalities, experiencing pleasure and pain are common to all the senses. Thus, while pleasure and pain occur through elemental homogeneity, perception by means of specific sensory modalities occurs through structural conformity of effluences and pores. Thus, for example, the pain experienced in touching a burning coal may be explained, as a form of tactile perception, as involving structural conformity of pores and effluences, and, hedonically, as involving heterogeneous elements. This interpretation is also compatible with Theophrastus' claim that for Empedocles pleasure and pain either are perceptions or 'accompany perception' (*μετ' αἰσθήσεως*).

Finally, one may ask whether this charitable interpretation of Aëtius is accurate. The main difficulty is that it requires us to maintain that Aëtius either deliberately improved upon Theophrastus, perhaps in defence of a more coherent account of Empedocles, or that he improved upon Theophrastus rather accidentally.³² If the argument in Section I.2 is sound, that Aëtius himself conjoined Empedoclean opinions on desire and on pleasure and pain, then this provides some support for the claim that Aëtius was a rather active constructor of opinions. That, in turn, supports the view that Aëtius' improvement on Theophrastus was intentional. But corroborating this suggestion would require comparison of other Aëtian opinions with those of his predecessors.

³¹ Stob. 1. 50. 42 has the same words with two qualifications. First, several additional names appear: Parmenides, Anaxagoras, Democritus, and Epicurus. Second, the last three words read: *ἐκάστου ἐκάστη ἐναρμόττοντος*. It may also be questioned whether Diels's location of this content in Aëtius 4. 9 is justified. Again, 4. 9 concerns the question whether perceptions are true. But the content of pseudo-Plutarch 4. 9 and Stob. 1. 50. 42 does not correspond to this question. Rather, Aëtius 4. 8, whose rubric is 'Concerning perception and perceptibles', seems to be the more appropriate location.

³² By 'improved upon' I simply mean presented a more coherent account, not that the account is also more accurate.

I.5. Aristotle and Plato on Empedocles on homogeneous elemental attraction

I turn now from the pre-Aëtian doxographical material on Empedocles on pleasure and pain to the pre-Aëtian doxographical material on Empedocles on desire. Aëtius' Empedoclean opinion on desire specifically concerns nutritional desire, that is, appetite. Granted this, it is difficult to identify a pre-Aëtian source for this Empedoclean opinion. Among our Greek sources, we have material on Empedocles' views on desire, on botanical nourishment, even a bit on digestion. The pseudo-Aristotelian *On Plants* attributes to Empedocles the view that plants are moved by desire (*ἐπιθυμία κινεῖσθαι*, 815^a16),³³ and this implies nutritional desire; however, no explanation of this appetite is given. Moreover, nothing from the Greek tradition of the doxographical material on these other topics, desire, botanical nourishment, or digestion, can straightforwardly be constructed into the doctrine on appetite. There is a lacuna here. Arabic sources will ultimately help illuminate the Greek tradition and fill, or at least partially fill, this lacuna. But, for expository and heuristic reasons, it will be valuable to begin by focusing exclusively on the Greek tradition.

First, consider the following analysis of Aëtius' Empedoclean opinion on appetite. Aëtius' Empedoclean opinion on appetite concerns the physiology of nutrition, precisely the view that appetite arises through nutritional deficiency and is directed towards that which is like its subject, where likeness implies elemental homogeneity. This nutritional principle is analysable into two components. One is nutritional deficiency as the cause of desire; the other is the homogeneity of the object and subject of desire. The first component may be particular to nutritional processes. The second is a species of what I shall call 'the cosmological principle of homogeneous elemental attraction'. The cosmological principle of homogeneous elemental attraction is the view that homogeneous elements are attracted to one another.

I shall begin my examination of the pre-Aëtian doxographical tra-

³³ The Greek phrase *ἐπιθυμία κινεῖσθαι* is a translation of the Latin phrase 'desiderio moveri'. As H. J. Drossaart Lulofs and E. L. J. Poortman note: 'this is an elaborate translation of a single Arabic substantive (*Nicolaus Damascenus*: *De plantis*. *Five Translations [Plants]* (Amsterdam, 1989), 246). I discuss the text and textual tradition of *De plantis* further in sect. I.9.

dition on Empedocles' views on desire by focusing on the principle of homogeneous elemental attraction. This Empedoclean principle occurs explicitly in Aristotle and implicitly in Plato. Aristotle refers to Empedocles' principle twice, both times in ethical works. In book 8 of *Nicomachean Ethics* he writes:

Some hold that friendship is a kind of likeness [*ὁμοιότητα*] and that like men are friends. Hence the sayings 'like to like' and 'birds of a feather flock together' . . . Others say 'two of a trade never agree' . . . Euripides says that ' parched earth loves the rain, and stately heaven when filled with rain loves to fall to earth'; and Heraclitus says that 'it is what opposes that helps' and 'from different tones comes the fairest tune' and 'all things are produced through strife'. But others, and especially Empedocles, say the opposite of this, that like desires like [*τὸ ὅμοιον τοῦ ὁμοίου ἐφίεσθαι*]. (*NE* 1155^a32–^b8)³⁴

Aristotle's *diairesis* of opinions concerning friendship according to the principles of likeness and opposition derives from Plato's *Lysis*. At *Lys.* 213 E 3–216 B 6 Socrates explores with Lysis the views that friendship is based on the attraction of like things and the attraction of opposites. Regarding the attraction of like things, Socrates cites the following verse from Homer's *Odyssey*: *αἰεὶ τοὶ τὸν ὅμοιον ἄγει θεὸς ὡς τὸν ὅμοιον* (17. 218). He continues:

And haven't you come across the writings of the very wise, which say the same thing, that of necessity like is a friend of like [*τὸ ὅμοιον τῷ ὁμοίῳ ἀνάγκη αἰεὶ φίλον εἶναι*], for it is these men who discuss and write about nature and the whole [*τοῦ ὅλου*]? (214 B 2–5)

Socrates' reference to the very wise who write about nature and the whole seems to allude particularly to Empedocles, for Empedocles uses the phrase *τὸ ὅλον* to refer to the cosmos in fragment B 2. 6.

Socrates subsequently describes the contrary view based on the attraction of opposites:

Dry desires wet, cold desires hot, bitter sweet, sharp blunt, empty full, and so on according to the same principle. For the opposite . . . is nourishment for its opposite; whereas like does not enjoy [*ἀπολαύσαι*] like. (215 E 5–216 A 1)

Clearly, in *Nicomachean Ethics* 8 Aristotle adopts Plato's division

³⁴ Cf. the following passage from the *Eudemian Ethics*: 'The natural philosophers also arrange the whole of nature [*τὴν ὅλην φύσιν*], taking as a principle the movement [*κίνησις*] of like to like. That is why Empedocles said that the dog sat on the tile, because the tile had the greatest likeness to the dog' (1235^a10–12; cf. *MM* 1208^b11–15).

in *Lysis* of conceptions of friendship and also desire according to likeness and opposition.

Granted this, it is unclear how we get from Aristotle's Empedoclean cosmological principle of elemental attraction to the nutritional principle in Aëtius. Between Aristotle and Aëtius there is no extant reference to Empedocles as a proponent of the cosmological principle. Presumably, either Aristotle's view influenced others who wrote on Empedocles on nutritional desire and thereby informed Aëtius, or some lost Aristotelian work itself discussed Empedocles on nutritional desire.

I.6. Speculation on Greek sources for Empedocles on appetite

Here, I entertain several possible sources for Aëtius' Empedoclean opinion on appetite, three relating to the Peripatetic tradition and a fourth relating to the medical doxographical tradition. The Peripatetic and medical traditions actually overlap since the Peripatetics were also involved in medical doxography. However, for expository reasons it is convenient to segregate the traditions.

Our first guess might be that Aëtius' Empedoclean opinion on appetite derives from Theophrastus. As we noted above, however, it clearly does not derive from Theophrastus' *On the Senses* since that work contains no account of Empedocles' view of desire. Alternatively, Theophrastus' *Physical Opinions* might have contained a discussion of nutrition, including appetite. However, there is no explicit evidence that it did. Indeed, nothing in Theophrastus' surviving works or fragments concerns Empedocles and desire.³⁵ Moreover, none of the works attributed to Theophrastus by ancient authors or in Diogenes Laertius' catalogue of Theophrastus' works is a reasonable candidate for the source of Aëtius' Empedoclean opinion on appetite.³⁶ Since it is widely believed that Theophras-

³⁵ Almost nothing in Theophrastus concerns desire. That which does can be found in Theophrastus' *Metaphysics* and relates to his critical considerations of Aristotle's view of the relation between the celestial bodies and the unmoved mover. Cf. also fr. 271 FHS&G (=53 Wimmer) and CP 2. 7. 2. 12.

³⁶ Catalogues and titles of Theophrastus' writings are assembled in W. W. Fortenbaugh *et al.*, *Theophrastus of Eresus: Sources for his Life, Writings, Thought, and Influence* (Leiden, 1992) i. 1–53. Ibid. ii. 125 gives two passages related to food and digestion among the Theophrastean testimonies. But the reference to Theophrastus in the first (Athen. 44 B–C, p. 340 in Fortenbaugh) seems to be based on Athenaeus' misunderstanding of Plut. 660 E (see n. 1), while the second (Plin. NH 28. 54, p. 341

tus' *Physical Opinions* is a major source for Aëtius' *Placita*, we still should not exclude the possibility that Aëtius' Empedoclean opinion on desire derives from Theophrastus. None the less, we need to consider alternatives.

Aristotle offers another avenue. In book 2 of *On the Soul* Aristotle briefly discusses nutrition (415^a22–416^b31). Therein he criticizes Empedocles' view of nutrition and growth in plants (415^b27–416^a18). Aristotle's criticism says nothing about Empedocles' view of desire or nutritional desire in plants or animals. Yet Aristotle concludes his treatment of nutrition in *On the Soul* by saying: 'We have now given an outline of the nature of nourishment; further details must be given in the appropriate place' (DA 416^b30–1). This reference to an appropriate place for a detailed discussion of nutrition is puzzling. Elsewhere in Aristotle's corpus there are references to a discussion of nutrition that has already occurred (backward references) and that will occur (forward references),³⁷ but there is no independent treatise dedicated to the subject. Moreover, none of the ancient catalogues of Aristotle's writings lists such a work. Of course, the references to a discussion of nutrition need not refer to an independent treatise; they could refer to discussions of nutrition within other works, in particular *On the Generation of Animals*.³⁸ However, although nutrition is sporadically discussed in the corpus, nothing qualifies as a sustained, detailed examination of the topic.

Pierre Louis has attempted to explain Aristotle's backward and forward references to discussions of nourishment by arguing that Aristotle composed one treatise on the subject early in his career, then planned to supplant the treatise with another that he ultimately never wrote, and the original treatise was lost before Aristotle's corpus was compiled and edited.³⁹ An alternative explanation is that the references to discussions of nourishment in Aristotle, whether made by Aristotle or editors of Aristotle, are to works composed

in Fortenbaugh) seems to be based on Theophrastus' *On Fatigue* (see the note on lines 2–3 in the critical apparatus on p. 124).

³⁷ *Meteor.* 381^b13; *De somno* 456^b5; *PA* 650^b10, 653^b13, 674^a20, 678^a19; *GA* 784^b2.

³⁸ For example, in his commentary on *On the Soul* Simplicius (116. 16 Hayduck) takes Aristotle's reference to a more detailed discussion of nutrition to refer to *On the Generation of Animals*. Likewise, in his commentary on *On Sense and Sensibilia* (79. 10–11 Wendland) Alexander claims that Aristotle has discussed nourishment in *On the Generation of Animals*. Cf. M. Nussbaum, *Aristotle's De motu animalium* (Princeton, 1978), 375–6.

³⁹ 'Le traité d'Aristote sur la nutrition', *Revue de philologie, de littérature et d'histoire anciennes*, 26 (1952), 29–35.

by other members of the Peripatos. James Lennox offers this suggestion in remarks on *PA* 650^b10,⁴⁰ citing Aristotle's references to discussions of plants, which may well refer to Theophrastus' works.⁴¹

Further, albeit limited support for Lennox's idea derives from Diogenes Laertius. Diogenes' catalogue of Strato's writings includes a treatise in one book entitled *On Nourishment and Growth*.⁴² This is the only Peripatetic work on the subject we know of. Perhaps some of the Aristotelian references to discussions of nourishment allude to this work. Unfortunately, no other reference to Strato's treatise survives.⁴³ Consequently, even granting that Aristotle's references to discussions of nourishment allude to Strato's work, the idea that Aëtius derived his claim about Empedocles on nutritional desire from Strato, and perhaps also used Strato for his opinions on nourishment and growth, must remain speculative.

Another possibility is that Aëtius' opinions on nutrition and nutritional desire derive from the medical doxographical tradition. There is some general and some specific support for this suggestion. Generally, most opinions attributed to doctors in Aëtius' *Placita* occur towards the end of book 5, where the Empedoclean opinions on nourishment and growth and on nutritional desire occur.⁴⁴ Furthermore, in some cases nutritional desire was discussed within discussions of nutrition in medical literature. Perhaps the most telling example is also the earliest. In chapter 39 of the Hippocratic *Diseases IV*, which may be dated to c.420 BC,⁴⁵ we find a conception of nutritional desire and even pleasure that resembles the views Aëtius attributes to Empedocles. The Hippocratic author, probably Hippocrates' son-in-law Polybus, relates desire and pleasure to his conception of physical health as equilibrium of the humours:

⁴⁰ 'The manner in which the parts grow at the expense of blood and indeed the whole question of nutrition will find a more suitable place for exposition ἐν τοῖς περὶ γενέσεως καὶ ἐν ἐτέροις.'

⁴¹ Aristotle: *On the Parts of Animals I–IV* (Oxford, 2001), 201.

⁴² D.L. 5. 59. Cf. Aristotle's statement at *GA* 784^b2: 'We must speak further of this explanation ἐν τοῖς περὶ αὐξήσεως καὶ τροφῆς.'

⁴³ None is included in Fritz Wehrli's edition, *Straton von Lamposakos* (Basle, 1950). Diocles Carystus fr. 51c. 4 attests that Strato held that disease arises from an excess of nourishment. But it is questionable whether this reference derives from Strato's *On Nourishment and Growth*.

⁴⁴ Cf. D. T. Runia, 'The *Placita* Ascribed to Doctors in Aëtius' Doxography on Physics' [*Placita*'], in van der Eijk (ed.), *Medical*, 189–250.

⁴⁵ Cf. I. M. Lonie, *The Hippocratic Treatises On Generation, On the Nature of the Child, Diseases IV [Hippocratic]* (Berlin, 1981), 71.

Now if we are in need [ἐνδεήσεται] of food or drink, then in this case the body too will draw from the sources (that store the various humours) until the humours are reduced below what is fitting [ἐλάσσον τοῦ καιροῦ]. At that point a man has the desire [ἰμείρεται] to eat or drink something of a nature to fill up [ἐπιπλήσει] that portion [μοίρην] and make it equal [ἰσώσει] to the others. This is why, even after we have eaten or drunk a large amount, we sometimes still desire [ἰμειρόμεθα] a food or drink and will eat nothing else with pleasure [ἡδέως], except the particular thing that we desire [ἰμειρόμεθα]. But when we have eaten and the humour in the sources and in the body is equalized [ἰσωθῆ] as far as possible, then the desire [ἴμερος] ceases. (39. 5)

In his commentary, Iain Lonie suggests that 'the author is simply giving his own physiological form to a theory of pleasure and pain [which] so far as we know . . . was first expressed by Empedocles'.⁴⁶ However, in support of the association of the Hippocratic claims with Empedocles, Lonie cites Aëtius' opinion at 5. 28. Obviously, it would be question-begging for us to endorse Lonie's claim. Consequently, we should say that the Hippocratic passage contains significant correspondences with Aëtius' opinion at 5. 28. Thus, I appeal to these correspondences only in support of the speculation that Aëtius' discussion of nutritional desire may derive from a medical doxographical tradition.⁴⁷

In considering the medical doxographical tradition upon which Aëtius might have depended, a good first guess is Meno's *Medical Collection* (ἰατρικὴ συναγωγή).⁴⁸ An immediate objection is that most of the doctors to whom Aëtius attributes opinions are contemporaneous with or post-date Meno's collection,⁴⁹ and this might tell against Aëtius' use of Meno's collection more generally. However,

⁴⁶ Lonie, *Hippocratic*, 298.

⁴⁷ Cf. the Hippocratic explanation of appetite in I. Garofalo (ed.), *Anonymi medici de morbis acutis et chronicis*, trans. B. Fuchs (Leiden, 1997), § 11. P. van der Eijk, *Diocles of Carystus* (Boston, 2000), ii. 70, suggests that the author's reference to Hippocrates alludes to the spurious *Acut.* 54, but I see nothing there to confirm this.

⁴⁸ It has been suggested that Meno's collection focused on pathological rather than physiological conditions such as healthy appetites and digestive processes (D. Manetti, 'Aristotle' and the Role of Doxography in the Anonymus Londinensis (Pbribr Inv. 137)', in van der Eijk (ed.), *Medical*, 95–141). If so, Meno's collection could not be Aëtius' source. But the view that Meno's collection discussed only pathological conditions lacks justification. The testimonies pertaining to Meno's collection, assembled in W. H. S. Jones, *The Medical Writings of Anonymus Londinensis* (Cambridge, 1947), 5–6, reveal almost nothing about the contents.

⁴⁹ Runia, 'Placita', ref.?

the authorities whose opinions on nourishment and growth and on desire and pleasure Aëtius cites, namely Parmenides, Empedocles, and Anaxagoras, are all Presocratic. Thus, the speculation that Aëtius used Meno for these opinions remains viable.⁵⁰

In sum, on the basis of the Greek tradition of the doxographical material alone, we can do no better than speculate on Aëtius' source for the Empedoclean opinion on appetite. Yet with respect to both the medical and the non-medical doxographical traditions, the evidence points towards the Peripatos.

1.7. Ibn Lūqā and pseudo-Plutarch's *Placita* 5. 28

Fortunately, our quest for the source of Aëtius' Empedoclean opinion on appetite need not end in speculative obscurity. Arabic sources illuminate the Greek doxographical tradition. We shall approach these by way of pseudo-Plutarch's *Placita* 5. 28. In Section I.1 I mentioned that in that passage, which is devoted to the question 'Whence in animals are desires and pleasures derived?', only one opinion, Empedocles', has survived in the Greek tradition. I presented an English translation of the opinion based on Diels's presentation of the Greek in *Fragmente*. The first part of the opinion, on Empedocles on desire, is unproblematic: 'Empedocles (says that) desires occur in animals according to their deficiencies in those elements that complete each one.' I rendered the second part, on pleasure and pain, as: 'And pleasures come from what is congenial according to the blends of related and like (elements), while disturbances and (pains from what is uncongenial).' This rendition is based on the following Greek of Diels's *Fragmente*:

(D) τὰς δὲ ἡδονὰς ἐξ οἰκείου κατὰ τὰς τῶν συγγενῶν καὶ ὁμοίων κράσεις, τὰς δὲ ὀχλήσεις καὶ τὰς ἀλλοτρήσεις ἐξ ἀνοικείου.

As Diels indicates, the Greek manuscripts break off after καὶ τὰς. However, Diels's presentation in *Fragmente* is misleading because problems in the Greek manuscripts begin immediately after τὰς δὲ ἡδονὰς. The manuscripts actually read:

⁵⁰ Several other medical treatments of nourishment pre-date Aëtius and could have contained doxographical material on nutrition and desire. Cf. the fragments of Phylotimus' *On Nourishment*, in F. Steckerl (ed.), *The Fragments of Praxagoras of Cos and his School* (Leiden, 1958), 109–20, and the so-called physiological section in the Anonymus Londinensis, esp. §§ 22 ff.

(E) τὰς δὲ ἡδονὰς ἐξ ὑγροῦ καὶ τὰς τῶν κινδύνων καὶ ὁμοίων κινήσεις, τὰς δὲ ὀχλήσεις καὶ τὰς.⁵¹

In *Doxographi Graeci*, published over twenty years before *Fragmente*, Diels inserts a crux after τὰς δὲ ἡδονὰς ἐξ and claims: 'corrupta archetypo oblitterato vix restitui possunt' (*Dox.* 440). Diels then offers the emendation and supplementation of (E) that yields (D). When Diels published *Fragmente* in 1903, he reproduced his rendition of pseudo-Plutarch's opinion from *Doxographi Graeci*, but failed to acknowledge that the corruption of the text begins immediately after τὰς δὲ ἡδονὰς ἐξ. Thus, *Fragmente* gives the false impression that οἰκείου κατὰ τὰς τῶν συγγενῶν καὶ ὁμοίων κράσεις conforms to the manuscript tradition.

It would be misleading to say that most scholars have agreed with Diels's assessment that (E) is corrupt and that they have followed Diels's reconstruction—but only because (E) or (D) is not treated in most works on Empedocles.⁵² Among those who do treat (E) or (D), Bollack is exceptional. Bollack acknowledges that (E) is incomplete, but he maintains that it is not otherwise corrupt. Thus, he criticizes Diels: 'La phrase [(E)] n'est malheureusement pas achevée dans les manuscrits. On a platement corrigé ce précieux témoignage . . .'⁵³ Bollack retains the text of (E) and suggests adding a phrase such as ἐκ πυρός after τὰς δὲ ὀχλήσεις to correspond to the function of ἐξ ὑγροῦ in the first clause;⁵⁴ viz.:

τὰς δὲ ἡδονὰς ἐξ ὑγροῦ καὶ τὰς τῶν κινδύνων καὶ ὁμοίων κινήσεις, τὰς δὲ ὀχλήσεις (ἐκ πυρός) καὶ τὰς . . .

⁵¹ The text stops after καὶ τὰς. On this Diels, *Dox.* 440 n. 21, writes: 'spatium sesquialterius versus relinquunt BC'.

⁵² It is not discussed in G. S. Kirk and J. E. Raven, *The Presocratic Philosophers* (Cambridge, 1957); N. van der Ben, *The Proem of Empedocles' Peri Physios* (Amsterdam, 1975); J. Barnes, *The Presocratic Philosophers* (London, 1979); Wright, *Empedocles*; D. O'Brien, *Pour interpréter Empédocle* (Leiden, 1981); P. Kingsley, *Ancient Philosophy, Mystery, and Magic: Empedocles and Pythagorean Tradition [Mystery]* (Oxford, 1995); A. Martin and O. Primavesi, *L'Empédocle de Strasbourg* (Berlin, 1999); S. Trépanier, *Empédocles: An Interpretation [Interpretation]* (New York, 2004). It is included in E. Bignone, *Empédocle* (Rome, 1916), 384, who follows Diels: 'I piaceri derivano dall'azione del simile sul simile, e per compenso degli elementi che scarsegiano; donde in ciò che ne difetta, la tendenza al simile. Per azione dei contrari avviene invece il dolore; e sono avverse fra loro tutte le cose che sono dissimili per struttura e per mescolanza degli elementi.' It is referred to by O'Brien in *Empedocles' Cosmic Cycle [Cycle]* (Cambridge, 1969), 190, but is not rendered.

⁵³ *Empédocle* (Paris, 1965), iii. 469.

⁵⁴ I shall clarify the function of these phrases shortly.

Bollack translates:

Quant aux plaisirs, ils se produisent à partir de l'humide, de même que les transports qu'on éprouve dans les situations périlleuses et pour des causes du même genre, quant aux tristesses et aux . . . (*Empédocle*, ii. 202)

This approach is attractive because it leaves the text intact and attributes a *prima facie* plausible conception of pleasure to Empedocles. Bollack explains:

ἐξ ὑγροῦ: de l'eau ou du froid. Ce froid règne dans l'état précédant le plaisir (cf. ἐξ). Le corps demande alors un supplément de chaleur: le 'même' qu'il n'a pas . . . (Quant aux 'situations périlleuses') il s'agit sans doute de l'exaltation guerrière surmontant un sentiment de crainte: l'échauffement, pareil à celui du plaisir, succède alors au froid. Les sentiments belliqueux sont assimilés à des plaisirs dans cette classification homérique. (*Empédocle*, iii. 468)

Thus, Bollack suggests that (E) is valuable because it reveals that Empedocles' poem contained 'une étude des passions (et des apathies)'.⁵⁵ In other words, the report refers not simply to sensations of pleasure and pain, but to emotions of joy and grief. Regarding the concept of grief specifically, Bollack emphasizes that the word in (E) is *ὀχλήσεις*, not *ἀλγηδόνες* or *λύπαι*.

In support of his interpretation, Bollack appeals to Empedocles' fragment B 21. 3–5: 'the sun, bright to look on and hot in every respect, and the immortals which are drenched in heat and shining light, and rain, in all things dark and cold'. But this is feeble support. The relation between the content of B 21. 3–5 and Bollack's interpretation of (E) is obscure. Bollack might have found stronger support for his interpretation of (E) in DK 31 A 85:

Empedocles says that sleep occurs by a moderate cooling of the heat in the blood, and death by a total cooling . . . Empedocles says that death is a separation of the fiery from things whose combination was compounded for man . . . And sleep occurs by a separation of the fiery. (Aëtius 5. 24. 2; 5. 25. 4)

This testimony, at least, associates vitality with heat and its opposite with cold. Given this, Bollack might find support for the view that Empedocles associated vitality with pleasure and morbidity with pain.

⁵⁵ *Empédocle*, iii. 468–9.

But while Bollack's effort to preserve the manuscript reading is admirable, on grounds of both grammar and content his interpretation cannot be accepted. On Bollack's interpretation, *τὰς δὲ ἡδονὰς ἐξ ὑγροῦ* is an independent clause. Some verb must therefore be understood, e.g. *γίνεσθαι*: viz. *τὰς ἡδονὰς ἐξ ὑγροῦ γίνεσθαι*. The phrase *ἐξ ὑγροῦ* is familiar enough among the doxographical literature; it occurs elsewhere in the *Placita* and in Stobaeus as well as in Diogenes Laertius and Hippolytus. In all cases it appears to have an Aristotelian pedigree.⁵⁶ Pseudo-Plutarch reports that Thales maintains that all things have their origin *ἐξ ὑγροῦ*.⁵⁷ Similarly, Hippolytus reports of Hippo of Rhegium that soul comes into being *ἐξ ὑγροῦ*. The phrase *ἐξ ὑγροῦ* is used in these cases to describe water or moisture as the source from which all things or soul are derived. But this is clearly not the sense in which on Bollack's interpretation the phrase is used in the clause *τὰς ἡδονὰς ἐξ ὑγροῦ (γίνεσθαι)*. Rather, on this interpretation—and despite Bollack's own translation 'à partir de'—Empedocles is said to hold that pleasures arise out of water, in the sense that pleasures follow the replacement of the cold of water by the heat of fire. Surely, this is an extraordinary amount of information to pack into the phrase *ἐξ ὑγροῦ*.

On top of all this work to make sense of *ἐξ ὑγροῦ*, it is jarring to have to take *τὰς τῶν κινδύνων καὶ ὁμοίων κινήσεις* as an accusative of respect syntactically parallel to *ἐξ ὑγροῦ*. Furthermore, *κινήσεις* is an exceedingly vague word for the idea that Bollack reads in the text. By 'movements of dangers and the like' we are supposed to understand 'actions in which dangers and the like are overcome'. But can *κινήσεις* possibly be used with the genitive of separation to convey Bollack's idea? A search on TLG reveals that in fact there is no other instance of the phrase *ἢ τοῦ κινδύνου κινήσεις* in extant Greek literature through the sixth century AD.⁵⁸ Consequently, either we force an extraordinary interpretation out of a syntactically strained text or we admit that the text is corrupt. I maintain with Diels that the text is corrupt.

In viewing (E) as corrupt, Diels agreed with his predecessors

⁵⁶ [Plut.] 875 E 7 = Stob. 1. 10. 12. 6; D.L. 2. 9. 10; Hipp. *Haer.* 16. 2. 3. Cf. also Stob. 1. 40. 1. 202–3. See Arist. *Metaph.* Δ 25, 1023^a26–^b11.

⁵⁷ [Plut.] 875 E 7 = Stob. 1. 10. 12. 6.

⁵⁸ The closest case is: *τὸ ἀνδρα χαλκεία θορύβους αὐτῷ καὶ κινδύνους κινήσαι* (Theodoret, *Interpret. in xiv epist. Paul.*, 856. 2 Migne (PG 82)).

Gottlob Schneider and Simon Karsten. In a comment on his edition of Theophrastus' works, published in 1818–21, Schneider writes of (E): 'ubi verba disiecta et defecta sensu ex hoc loco restituere aliquatenus licebit: τὰς δὲ ἡδονὰς διὰ τὰς τῶν ὁμοίων κινήσεις, τὰς δ' ὀχλήσεις διὰ τὰς τῶν ἐναντίων.'⁵⁹ In his *Philosophorum Graecorum reliquiae*, published in 1838,⁶⁰ Karsten cites the lines from pseudo-Plutarch's *Placita* up to τὰς δὲ ἡδονὰς and writes: 'sed quae sequuntur, ut prorsus corrupta, omitto'. Then in a subsequent footnote Karsten offers his own tentative emendation and supplement: τὰς δὲ ἡδονὰς ἐξεργάζεσθαι κατὰ τὰς τῶν οἰκείων καὶ ὁμοίων κινήσεις, τὰς δ' ὀχλήσεις καὶ τὰς ἀλγηδόνας τοῖς ἐναντίοις.⁶¹ In short, Diels's rendition of (E) as (D) does not report the gospel truth, only an interpretation of it.⁶² This misleading impression can easily be rectified by re-editing to indicate that Diels emended and supplemented the text from τὰς δὲ ἡδονὰς ἐξ. But still, it is questionable how (E) should be reconstructed.

In justifying his rendition of (E) over those of Schneider and Karsten, Diels, in *Doxographi Graeci*, writes: 'propius a traditis abessent haec: . . .' (p. 440), and he refers to the passage from Stobaeus I. 50. 31:

Ἐμπεδοκλῆς τὰς ἡδονὰς γίνεσθαι τοῖς μὲν ὁμοίοις τῶν ὁμοίων, κατὰ δὲ τὸ ἐλλείπον πρὸς τὴν ἀναπλήρωσιν, ὥστε τῷ ἐλλείποντι ἡ ὄρεξις τοῦ ὁμοίου. τὰς δ' ἀλγηδόνας τοῖς ἐναντίοις: [ἦ] ἀλλοτριούσθαι γὰρ πρὸς ἄλλα ὅσα διαφέρει κατὰ τὴν σύγκρισιν καὶ τὴν τῶν στοιχείων κράσιν.

Granting Diels that Aëtius is the common source of Stobaeus and pseudo-Plutarch, if Stobaeus is to be the basis of a reconstruction of (E), presumably we should adhere even more closely to Stobaeus. For example, we might reconstruct (E) as:

(S) τὰς δὲ ἡδονὰς γίνεσθαι κατὰ τὰς τῶν ὁμοίων συγκρίσεις καὶ κράσεις, τὰς δὲ ὀχλήσεις κατὰ τὰς τῶν ἐναντίων (συγκρίσεις καὶ κράσεις).

But further light is thrown on the reconstruction of (E) from another piece of evidence, unavailable to Diels and unknown to more recent editors of Empedocles.⁶³ In his book-list *al-Fihrist*, com-

⁵⁹ *Theophrastus*, ii. 617.

⁶⁰ [*Reliquiae*] (Amsterdam), ii. 460.

⁶¹ *Ibid.* 461 n. 218.

⁶² In his 1971 Teubner edition Mau rightly places daggers around ὑγροῦ καὶ τὰς τῶν κινδύνων καὶ ὁμοίων κινήσεις.

⁶³ An exception is Kingsley, *Mystery*, who is aware of this source; however, he does not discuss (E) or (D), or Stob. I. 50. 31.

posed in AD 978, ibn an-Nadīm, a bookseller from Baghdad, mentions Qusfā ibn Lūqā as a translator of pseudo-Plutarch's *Placita*. Ibn Lūqā (d. AD 912) was a Christian doctor, philosopher, and astronomer originally from Baalbekk in Syria, with command of Arabic and Greek. During his stay in Baghdad, he translated into Arabic Greek texts he had acquired in Asia Minor.⁶⁴ Copies of ibn Lūqā's Arabic translation of pseudo-Plutarch's *Placita* came to light only in the thirties, forties, and fifties of the twentieth century.⁶⁵ In 1980 Hans Daiber published an edition of ibn Lūqā's *Placita* with facing German translation.

Our earliest Greek manuscripts for pseudo-Plutarch's *Placita* are centuries later than the text ibn Lūqā used: A=Par. 1671, AD 1296; E=Par. 1672, shortly after AD 1302; F=Par. 1957, s. xi; and M=Mosqu. 501, s. xii. In their discussion of the tradition of pseudo-Plutarch's *Placita*, Jaap Mansfeld and David Runia conclude that the source of ibn Lūqā's translation 'cannot be reduced to any other of our texts, whether in direct or indirect tradition . . .'.⁶⁶ Indeed, ibn Lūqā's source diverges from the rest of the Greek manuscript tradition in numerous noteworthy ways.⁶⁷

Regarding *Placita* 5. 28 and specifically (E), ibn Lūqā's text reads:

ammā l-ladhdhātu fa-innahā mina l-rutūbati min ḥarakāti l-tarbiyati l-mutashābihati fī l-jins, wa-ammā l-adhā fa-min qibali l-ashyā'i l-mukhālifati fī l-lamsi wa-l-mulāqāti.

As for pleasures, they come from moisture due to movements of growth that are similar in genus. As for pain, it arises due to opposite things coming into contact and mixing.⁶⁸

In contrast to the Greek manuscript tradition, in the Arabic translation the second clause, on pain, is complete. Moreover, the Arabic corresponds almost exactly with our reconstruction (S) based on Stobaeus: τὰς δὲ ὀχλήσεις κατὰ τὰς τῶν ἐναντίων συγκρίσεις καὶ κράσεις.⁶⁹

⁶⁴ This information derives from Daiber, *Arabus*, 5–6.

⁶⁵ *Ibid.* 75.

⁶⁶ *Aëtiana*, 161.

⁶⁷ Cf. *ibid.* 156–60.

⁶⁸ Daiber translates: 'Aber die Freuden entstehen aus der Feuchtigkeit infolge der in der Art sich gleichenden Wachstumsbewegungen [oder: infolge der Bewegungen des in der Art sich gleichenden Wachstums]. Der Ärger indessen entsteht infolge der Berühren und Zusammentreffen im Widerspruch stehenden Dinge' (*Arabus*, 245).

⁶⁹ There is one trivial difference: the Arabic word for 'pain', *l-adhā*, is singular, whereas the Greek is plural, τὰς ὀχλήσεις.

The first clause, however, is more problematic. First, it contains a grammatical ambiguity. The Arabic word for ‘similar’, *mutashābihati*, can modify either the word for ‘movements’, *ḥarakāti*, or the word for ‘growth’, *l-tarbiyati*. This is the case even though *ḥarakāti* is plural and *l-tarbiyati* is singular. My translation preserves this ambiguity. Second, the Arabic version conforms with the Greek manuscript tradition’s readings of ἐξ ὑγροῦ and κινήσεις. Third, the Arabic version contains nothing corresponding to τῶν κινδύνων in the Greek manuscript tradition. Rather, the Arabic version has *l-tarbiyati* (corresponding to the Greek τῆς αὐξήσεως), which has no equivalent in the Greek manuscript tradition. Fourth, the Greek manuscript tradition’s ὁμοίων does not agree with the Arabic *mutashābihati* because, as we have said, *mutashābihati* modifies either *ḥarakāti* or *l-tarbiyati*; however, ὁμοίων and κινήσεις are in two different cases, and ὁμοίων does not agree with τῆς αὐξήσεως in number. Fifth, the Greek also has two conjunctions καὶ . . . καὶ . . ., which correspond to nothing in the Arabic version. In the light of these five points, the Greek manuscript from which ibn Lūqā worked must have looked very close to the following:

(A) τὰς δὲ ἡδονὰς ἐξ ὑγροῦ κατὰ τὰς τῆς αὐξήσεως τῶν ὁμοίων κινήσεις, τὰς δὲ ὀχλήσεις κατὰ τὰς τῶν ἐναντίων συγκρίσεις καὶ κράσεις.⁷⁰

Let us now compare the problematic sections in the first clauses of (E), (S), and (A):

τὰς δὲ ἡδονὰς

(E1) ἐξ ὑγροῦ καὶ τὰς τῶν κινδύνων καὶ ὁμοίων κινήσεις

(S1) γίνεσθαι κατὰ τὰς τῶν ὁμοίων συγκρίσεις καὶ κράσεις

(A1) ἐξ ὑγροῦ κατὰ τὰς τῆς αὐξήσεως τῶν ὁμοίων κινήσεις

Comparison suggests the following points. First, γίνεσθαι should be left implicit. Second, κατὰ, rather than the first καὶ in (E1), is correct. Third, τῶν κινδύνων in (E1) is corrupt. I suggest συγκρίσεις instead. Fourth, the presence of τῆς αὐξήσεως in (A1) may be conceptually relevant to the remaining content—certainly more than τῶν κινδύνων—but its role in (A1) is still unclear. Fifth, κινήσεις may be a corruption of κράσεις or vice versa. Sixth, (A1) corroborates the presence of ἐξ ὑγροῦ in (E1), but ἐξ ὑγροῦ remains puzzling.

⁷⁰ Perhaps because ibn Lūqā could not make sense of the genitive phrase τῶν ὁμοίων in relation to τῆς αὐξήσεως and τὰς κινήσεις, he translated it with deliberate ambiguity, capable of modifying either *ḥarakāti* or *l-tarbiyati*.

Evidently, these considerations alone do not clarify how we should reconstruct the archetype of the Empedoclean opinion on pleasure in pseudo-Plutarch’s *Placita* 5. 28. But further help comes from considering the broader context of *Placita* 5. 28 and ibn Lūqā’s translation of material in that broader context.

1.8. Aëtius’ Empedoclean opinion on appetite as botanical appetite

Recall how pseudo-Plutarch’s report at 5. 28 begins:

Empedocles says desires occur τοῖς ζώοις according to their deficiencies in those elements that complete each one.

Compare this with Stobaeus:

Empedocles says that like things . . . (aim at) a refilling in accordance with the deficiency. Consequently, desire is for that which is like because of that which is lacking.

One difference between pseudo-Plutarch’s and Stobaeus’ formulations is that pseudo-Plutarch speaks of desires occurring τοῖς ζώοις, whereas Stobaeus does not identify the subjects of desire; Stobaeus merely speaks of like things (τοῖς ὁμοίοις). This raises the question whether Aëtius’ opinion referred specifically to ζῶα or rather to a broader set of entities. In particular, up to this point I have translated τοῖς ζώοις as ‘animals’,⁷¹ but is this what τὰ ζῶα means here? Could τὰ ζῶα be used here more broadly to mean ‘living things’?

The Peripatetic treatise *On Plants* reports: ‘Anaxagoras and Empedocles say that plants are moved by desire [ἐπιθυμία] and that they also experience perception and feel pain [λυπεῖσθαι] and pleasure [ἡδεσθαι]’ (815^a15–18). Indeed, the Peripatetic author reports: ‘Anaxagoras and Democritus and Empedocles have said that plants possess mind [νοῦς] and understanding [γνώσις]’ (815^b16–17). Compare these testimonies with Timaeus’ position in Plato’s eponymous dialogue.⁷² Timaeus rejects the attribution to plants of belief (δόξα), reasoning (λογισμός), and mind (νοῦς), but he too maintains that plants partake of ‘pleasant and painful perceptions’ as well as

⁷¹ Likewise in the question Πόθεν αἱ ὀρέξεις γίνονται τοῖς ζώοις καὶ αἱ ἡδοναί;

⁷² Cf. J. B. Skemp, ‘Plants in Plato’s *Timaeus*’, *Classical Quarterly*, 41 (1947), 53–60.

desires (ἐπιθυμίας) (77 B 5–6).⁷³ Furthermore, Timaeus deliberately refers to plants as ζῶα on the ground that anything that ‘partakes of life [τοῦ ζῆν] is entitled to be called a ζῶον’ (77 B 1–3).

Plato’s conception of plants as ζῶα follows a number of other Presocratics.⁷⁴ In contrast, in *On the Soul* Aristotle argues, against his predecessors, that plants lack the capacity for perception, let alone cognition (424^a32–b3).⁷⁵ Thus, as we move from the Presocratics to Aristotle, the set of entities that count as ζῶα shrinks and the psychological functions attributed to plants are reduced. If, then, Aëtius’ opinions are based on Peripatetic sources, if those sources follow Aristotle in denying perception and so on to plants, and finally if pseudo-Plutarch’s identification of the subjects of desire with animals correctly represents Aëtius’ opinion, then we can conclude that Aëtius’ opinion expressly concerned desire in animals and not plants. Indeed, this conclusion seems to be confirmed by the contents of Aëtius’ *Placita* 5. 26, which fall under the rubric ‘How plants grow and whether they are animals [πῶς ηὐξήθη τὰ φυτὰ καὶ εἰ ζῶα].’⁷⁶ The fact that Aëtius poses the question in this way indicates that he takes ζῶον to mean ‘animal’.

Yet in the case of Empedocles’ opinions on desire and plants in ζῶα at *Placita* 5. 28, the question remains complicated. Pseudo-Plutarch’s chapter 5. 26, devoted to the questions how plants grow and whether they are ζῶα, begins with the claim that Plato and Thales regard plants as ἔμψυχα ζῶα, whereas although Aristotle regards plants as ἔμψυχα, he denies that they are ζῶα. Pseudo-Plutarch, then, proceeds to give a lengthy account of Empedoclean opinions, beginning with the claim: ‘Empedocles says that trees were the first ζῶα to grow up from the earth.’⁷⁷ This at least permits the interpretation that the Empedoclean opinion on desire and

⁷³ Cf. *Theaet.* 167 B.

⁷⁴ The author of *On Plants* informs us that Anaxagoras also regards plants as ζῶα (815^b16); cf. *Plut.* 911 D, where the view is attributed to Democritus, Anaxagoras, and Plato; and D.L. 8. 28, where the view is also attributed to Pythagoras.

⁷⁵ Cf. D. Murphy, ‘Aristotle on Why Plants Cannot Perceive’ [‘Aristotle’], *Oxford Studies in Ancient Philosophy*, 29 (2005), 295–339.

⁷⁶ The rubric occurs at pseudo-Plutarch 5. 26 and *Stob.* 1. 45, on which see Diels, *Dox.* 438–40, and in ibn Lūqā, on which see Daiber, *Arabus*, 242–3.

⁷⁷ *Stob.* 1. 45 has the opinions of Plato, Thales, and Aristotle verbatim, but the opinion of Empedocles is lacking. However, ibn Lūqā, translated by Daiber, has: ‘Empedokles glaubte, daß die Bäume vor den Lebewesen geworden sind . . .’ (*Arabus*, 243, emphasis added). Cf., however, the Empedoclean opinion at pseudo-Plutarch 5. 19, whose rubric is ‘Concerning the genesis of ζῶα, how they came to be and whether they are destructible’: ‘Empedocles (says that) the first genesis of animals

pleasure at 5. 28 includes plants. In fact, I want to argue for the stronger claim that Aëtius’ Empedoclean opinion at 5. 28 specifically concerns desire and pleasure in plants and that Aëtius derived the opinion from doxographical material on plants—regardless of whether Aëtius employs the opinion within a chapter on the question of the source of desire and pleasure in animals.

Aëtius’ *Placita* 5. 27 concerns nourishment and growth; the rubric at pseudo-Plutarch 5. 27 is *Περὶ τροφῆς καὶ αὐξήσεως*.⁷⁸ Observe that this rubric does not specify the subjects of growth and nourishment. In the Greek manuscript tradition of pseudo-Plutarch’s *Placita*, 5. 27 contains an Empedoclean opinion on nourishment and growth and then begins with one from Anaxagoras, *Ἀναξαγόρας τρέφεσθαι μὲν . . .* At this point the manuscript breaks off. The passage runs as follows:

Ἐμπεδοκλῆς τρέφεσθαι μὲν τὰ ζῶα διὰ τὴν ὑπόστασιν τοῦ οἰκείου, αὖξεσθαι δὲ διὰ τὴν παρουσίαν τοῦ θερμοῦ, μειοῦσθαι δὲ καὶ φθίνειν διὰ τὴν ἔκλειψιν ἑκατέρων τοὺς δὲ νῦν ἀνθρώπους τοῖς πρώτοις συμβαλλομένους βρεφῶν ἐπέχειν τάξιν. Ἀναξαγόρας τρέφεσθαι μὲν . . . (Diels, *Dox.* 440)

[i] Empedocles (says that) τὰ ζῶα are nourished through the settling down⁷⁹ of that which is akin [τοῦ οἰκείου] and that they grow through the presence of heat; they diminish and perish [μειοῦσθαι καὶ φθίνειν] through the lack of each one [ἔκλειψιν ἑκατέρων]. [ii] But humans of today in comparison with the first humans have the form of newborns. [iii] Anaxagoras (says that) . . . are nourished . . .⁸⁰

Ibn Lūqā’s text differs from that of the Greek manuscript tradition in several respects. First, ibn Lūqā begins with the Anaxagorean opinion [iii] and completes it:

Anaxagoras believed that animals [*ayawānāt*] are nourished from moisture [*bi-r-ruubat*] which each of their organs draws in during feeding and

and plants [τῶν ζῶων καὶ τῶν φυτῶν] did not at all consist of whole-natured forms . . .’ (Diels, *Dox.* 430; likewise ibn Lūqā, on which see Daiber, *Arabus*, 234–5).

⁷⁸ Diels, *Dox.* 440, represents the rubric at *Stob.* 1. 46 as *Περὶ τροφῆς*. In Photius’ catalogue in Wachsmuth and Hense, *Anthologium*, ? 5, it is listed as *Περὶ τροφῆς καὶ ὀρέξεως*. Evidently, *Stobaeus* conjoined opinions on nourishment (as well as growth) and desire.

⁷⁹ The Greek word ὑπόστασις refers to the process by which the elements of foods, disintegrated through digestion, are distributed to the appropriate organs or parts of the body.

⁸⁰ I have added roman numerals to facilitate exegesis.

nourishing. They grow when they acquire a lot of nourishment, but become weak and infirm when they lose a lot.⁸¹

Second, in ibn Lūqā's text the line about humans of today being like newborns in comparison with the first humans [ii] occurs immediately following the preceding quotation and thus is attributed to Anaxagoras, not Empedocles.⁸² Third, ibn Lūqā's rendition of the Empedoclean opinion [i] is, otherwise, identical to that of the Greek tradition, with the exception of one word. The Arabic has *bi-'r-ruubati*, which corresponds to the Greek *ύγροῦ*, rather than an Arabic word corresponding to *τοῦ οἰκείου*. Thus, ibn Lūqā's version translates:

Empedocles (says that) τὰ ζῶα are nourished through the settling down of moisture [τοῦ ὑγροῦ] and that they grow through the presence of heat; they diminish and perish [μειοῦσθαι καὶ φθίνειν] through the lack of each one [ἐκατέρων].⁸³

The phrase 'each one' (ἐκατέρων) can now be seen to refer to moisture and heat respectively. On this reading, moisture is responsible for nourishment in the sense of increase of bulk, while heat is responsible for vertical growth. The phrase 'each one'—that is, moisture and heat (rather than that which is akin and heat)—further confirms that *ύγροῦ* is the correct reading.

As we have seen, pseudo-Plutarch 5. 26 concerns the generation of plants and whether they are animals. A long Empedoclean opinion on this subject includes the following claims:

. . . Trees grow by being raised out by the heat in the earth . . . Fruits are excesses of water and fire in the plants. Those (plants) that are deficient in moisture because it is evaporated by heat in summer drop their leaves . . . Differences in flavours come from variations in the earth and seasons and from the plants drawing in different homoiomerics from their source of nourishment . . .

⁸¹ I am providing an English translation of Daiber's German (*Arabus*, 245): 'Anaxagoras glaubte: die Lebewesen werden durch die Feuchtigkeit ernährt, welche jedes ihrer Organe durch das Verzehren und in der Ernährung herbeizieht. Sie wachsen, wenn zu ihnen viel Nahrung gelangt, werden aber schwach und siechen dahin, wenn das, was von ihnen zerfällt, viel ist.' Thus—I note in passing—ibn Lūqā provides a new Anaxagorean testimony. This is noted by Daiber, *Arabus*, 515, but the passage is not included in, for instance, Patricia Curd's recent edition, *Anaxagoras of Clazomenae: Fragments and Testimonies* (Toronto, 2007).

⁸² I discuss [ii] separately at the end of this section.

⁸³ Daiber, *Arabus*, 245, translates: 'Empedokles glaubte, daß die Ernährung durch die Beständigkeit und das Bleiben der Feuchtigkeit (möglich) ist . . .'

Considering these claims in conjunction with the opinion at 5. 27, we can infer that plants grow vertically through the absorption of heat, derived from fire, and that they are nourished by moisture, derived from water. These inferences conform with ibn Lūqā's presentation of the Empedoclean opinions in 5. 27 that 'τὰ ζῶα are nourished through the settling down of moisture [τοῦ ὑγροῦ]⁸⁴ and that they grow through the presence of heat'. This conclusion, in turn, supports the conclusion that the Empedoclean opinion on nourishment and growth at 5. 27 pertains to plants.⁸⁵

Consequently, I suggest that we can make the following sense of the opinion at 5. 28. First, in view of the comparison of (E1), (S1), and (A1) from the preceding section, now considered in conjunction with our discussion of the broader context of pseudo-Plutarch in the Greek and Arabic traditions, we should render the clause pertaining to pleasure at 5. 28 as:

τὰς δὲ ἡδονὰς ἐξ ὑγροῦ κατὰ τὰς τῆς αὐξήσεως κινήσεις καὶ τῶν ὁμοίων συγκρίσεις.

Pleasures come from moisture in accordance with movements of growth and the blending of like elements.

Consequently, the first two clauses of the Empedoclean opinion at pseudo-Plutarch 5. 28 should be rendered:

Empedocles holds that desires occur in animals according to their deficiencies [ἐλλείψεις] in those elements that complete each one. And pleasures come from moisture in accordance with movements of growth and the blending of like elements . . .⁸⁶

The phrase ἐξ ὑγροῦ can now be understood as referring to the moisture that nourishes plants. As 5. 27 states, plants 'diminish and perish [μειοῦσθαι καὶ φθίνειν] through the lack [ἐκλείψιν] of each one [ἐκατέρων: again, heat and moisture]'. Thus, pleasure is conceived as a function of replenishing a lack of moisture. Moreover, the

⁸⁴ Not *τοῦ οἰκείου* as the Greek tradition has it.

⁸⁵ Of course, the doxographical tradition could have viewed Empedocles' position on growth and nourishment as pertaining to animals as well as plants, so long as the tradition admitted the reasonable point that blood is the moisture in animals analogous to water in plants. Thus, τὰ ζῶα in 5. 27 could be read to include plants and animals. But while this may be, the evidence for Empedocles' view of the role of heat and moisture in growth and nutrition derives from the opinion on plants, not animals.

⁸⁶ I temporarily postpone rendering the final clause on pain.

replenishment of moisture, which pleasure accompanies, occurs (in some unspecified way) in accordance with the process of growth. Perhaps this can be taken to mean that when plants absorb moisture, they do not merely increase in bulk, but their increase in bulk conforms to their vertical growth.

Let us now consider the rendition of the last clause of 5. 28 on pain. Ibn Lūqā's Greek text probably read: τὰς δὲ ὀχλήσεις κατὰ τὰς τῶν ἐναντίων συγκρίσεις καὶ κράσεις. This is similar to the final clause at Stobaeus 1. 50. 31:

(τὰς δ' ἀλγηδόνας τοῖς ἐναντίοις· [ἧ] ἀλλοτριοῦσθαι γὰρ πρὸς ἄλλα ὅσα διαφέρει) κατὰ τε τὴν σύγκρισιν καὶ τὴν τῶν στοιχείων κρᾶσιν.

Thus, pseudo-Plutarch's Empedoclean opinion on pain might be rendered in English as: 'pains come from the blending and mixing of opposite elements'. But if this is approximately correct, it is also problematic in the light of our preceding conclusion regarding the opinion on pleasure; for if pleasure arises not only from the blending of like elements, but from moisture in accordance with movements of growth, then one would expect some correlative point about pain: for example, pain arises from the blending of opposite elements, but also from lack of moisture or movements antithetical to growth. One explanation of this problem is that pseudo-Plutarch's Empedoclean opinion on pain is abbreviated. Indeed, pseudo-Plutarch generally abbreviates Aëtius. If so, however, then Stobaeus' report must also be abbreviated. This is, at least, consistent with Mansfeld and Runia's general conclusions regarding Stobaeus' method of excerpting.⁸⁷ But since Stobaeus' and ibn Lūqā's formulations of the Empedoclean opinion on pain are nearly identical, there should be a more reasonable explanation for why the opinion on pain does not precisely correlate with the opinion on pleasure.

A second explanation derives from the view, defended in Section I.2, that Aëtius himself was responsible for combining Empedoclean opinions on desire, on the one hand, and pleasure and pain, on the other. In doing so, Aëtius seems to have been under the influence of a familiar conception of pleasure related to desire-satisfaction. As we have seen, the Empedoclean opinion identifies desire as arising from a lack and pleasure as accompanying the remedy of the lack. The desire-satisfaction conception of pleasure is relatively easy to square with a conception of pleasure based on the blending

⁸⁷ *Aëtiana*, 270, item (3).

of like elements, since the remedying of a lack can be understood as supplying a deficient elemental portion with a replenishing homogeneous elemental portion. But the desire-satisfaction conception of pleasure squares less easily with a correlative conception of pain based on the blending of opposite elements. In this case, pain is understood to arise when, following desire, an elemental supply of one kind mixes with a deficient elemental portion of a heterogeneous kind. However, this conception does not explain the pain of lack itself, assuming, as the desire-satisfaction model typically does, that pain arises precisely from a lack. Consequently, the failure of precise correlation between pseudo-Plutarch's, and thus Aëtius', Empedoclean opinions on pleasure and on pain may reflect an inherent difficulty in Aëtius' combination of opinions on desire, on the one hand, and on pleasure and pain, on the other.

We now have good reason to believe that the Empedoclean opinion on desire at Aëtius' *Placita* 5. 28 concerns botanical appetite, regardless of whether the opinion was put to use to explain appetite in animals as well as plants. However, we still have not identified the source of this Empedoclean opinion. The main purpose of this section has been to show that the Empedoclean opinion on desire essentially concerns botanical desire and to emphasize the role of the Arabic tradition in illuminating this point. In the follow Section I.9 I suggest the identity of the source of Aëtius' Empedoclean opinion on desire. Before we turn to that discussion, however, one outstanding issue concerning pseudo-Plutarch's *Placita* 5. 27 deserves consideration.

Recall [ii] from pseudo-Plutarch's *Placita* 5. 27: 'But humans of today in comparison with the first humans have the form of newborns.' We have noted that in the Greek tradition, [ii] follows the Empedoclean opinion on nourishment and growth [i]; however, in ibn Lūqā's translation [ii] follows the Anaxagorean opinion on nourishment and growth [iii]. Two questions, thus, present themselves. First, to whom does [ii] belong?⁸⁸ And second, does the fact that [ii] concerns humans not complicate, if not undermine, the argument that the Empedoclean opinion [i] at *Placita* 5. 27 concerns botanical nourishment and growth?

The contents of [ii] are not consistent with any of the testimonies

⁸⁸ Cf. Daiber's remark: 'Die Rolle und Zugehörigkeit des Passus DIELS 440^a8-10 (in der arabischen Version am Schluß des Empedokles-Abschnittes) muß noch näher untersucht werden' (*Arabus*, 245).

or fragments of Empedocles or Anaxagoras.⁸⁹ Thus, it seems likely that [ii] belongs to another philosopher and that indeed it is misplaced in both the Greek and Arabic traditions. The most likely candidate as the proponent of [ii] is Anaximander, for testimonies attribute to him the opinion that the first humans emerged fully formed from fish or fish-like creatures;⁹⁰ accordingly, in comparison with the first humans, humans of today would look like newborns. At pseudo-Plutarch's *Placita* 5. 19, whose rubric is 'Concerning the generation of animals, how animals were generated and whether they are destructible', the Anaximandrian testimony is described of the first land animals (ζῷα), not humans specifically; however, in Censorinus and Plutarch it is described of humans.⁹¹ Since, most likely, [ii] is not an opinion of Empedocles or Anaxagoras and does not belong to *Placita* 5. 27, it should not further complicate our argument that the Empedoclean opinion on nourishment and growth at 5. 27, that is [i], concerns plants. Consequently, I now turn to the source of Aëtius' Empedoclean opinions on botany.

I.9. Aristotle's *On Plants* and Aëtius' Empedoclean opinion on botanical appetite

A work *On Plants* in two books is listed in Diogenes Laertius' catalogue of Aristotle's writings (5. 25). Alexander says that the work was lost,⁹² thus lost, at least to Alexander and his circle, by the late second century AD. Aristotle himself refers to such a work nine times, sometimes obliquely, sometimes directly.⁹³ Fragments from the work compiled by Rose are negligible.⁹⁴ However, as H. J.

⁸⁹ Unfortunately, it is not discussed in David Sedley's *Creationism and its Critics* (Berkeley, 2007).

⁹⁰ Censorinus, *De die nat.* 4. 7; Plut. *Quaest. conv.* 730D-E; cf. [Plut.] 5. 19.

⁹¹ It is also possible that [ii] derives from a lost Anaximandrian opinion from *Placita* 5. 21, 22, or 23, whose rubrics are 'At what time are animals formed in the womb?', 'From what elements are our specific parts composed?', and 'When does a human being reach maturity?' respectively.

⁹² ἔστι περὶ φυτῶν Θεοφράστῳ πραγματεία γεγραμμένη Ἀριστοτέλους γὰρ οὐ φέρεται (*In De sensu*, 86. 11 Wendland). I owe this reference to H. J. Drossaart Lulofs, 'Aristotle's *Περὶ φυτῶν*' ['Plants'], *Journal of Hellenic Studies*, 77 (1957), 75–80 at 75.

⁹³ *Meteor.* 339^a7, 359^b20; *Sens.* 442^b25; *De long. vit.* 467^b4 (direct reference); *De iuv.* 468^a31; *HA* 539^a20 (direct reference); *GA* 716^a1, 731^a29, 783^b20. I owe these references to Drossaart Lulofs and Poortman, *Plants*, 14 n. 1; however, their reference to *PA* 656^a2 f. does not seem to me a good one.

⁹⁴ Arist. fr. 267–78 Rose².

Drossaart Lulofs has argued, fragments from Aristotle's *On Plants* can be gleaned from the Aristotelian *On Plants*.⁹⁵

The treatise *On Plants* in the Aristotelian corpus has an extraordinary pedigree; it is a thirteenth-century Greek translation, perhaps by Maximus Planudes,⁹⁶ of a late twelfth- or early thirteenth-century Latin translation, by Alfred of Sarashel,⁹⁷ of an Arabic translation made some time before the ninth century, by Ishāq ibn Hunayn,⁹⁸ of a Syriac translation of uncertain date or authorship, of a lost Greek original by the Peripatetic Nicolaus of Damascus, who lived during the Augustan age and thus composed the work in the late first century BC or early first century AD.⁹⁹ Since the Syriac translation survives only in fragments,¹⁰⁰ the Arabic translation, as Drossaart Lulofs says, 'ought to be regarded as the central text on which all others depend'.¹⁰¹ The Arabic translation gives the following title: 'The Treatise on Plants by Aristotle: An Adaptation of Nicolaus'. Indeed, as Drossaart Lulofs has argued, Nicolaus' work is an adaptation of Aristotle's *On Plants*, which also heavily depends on Theophrastus' botanical works.¹⁰²

For our purposes, the most significant passages of the Syriac–Arabic–Latin–Greek work are the doxographical ones, which occur at the beginning of book 1. Nicolaus refers to botanical opinions of Empedocles, Anaxagoras, Democritus, and Plato.¹⁰³ While Theophrastus occasionally cites the botanical opinions of Empedocles, Anaxagoras, Democritus, and Plato in his own botanical works,¹⁰⁴ none of the botanical opinions attributed to these pre-

⁹⁵ Drossaart Lulofs, 'Plants'; Drossaart Lulofs and Poortman, *Plants*.

⁹⁶ Cf. Drossaart Lulofs and Poortman, *Plants*, 566, where Drossaart Lulofs alternatively suggests (567–8) Planudes' contemporary Manuel Holobolos.

⁹⁷ On Alfred's dates see *ibid.* 470–3.

⁹⁸ *Ibid.* 123.

⁹⁹ On the identification of Nicolaus as the author, see *ibid.* 9–11. Cf. H. J. Drossaart Lulofs, *Nicolaus Damascenus: On the Philosophy of Aristotle* (Leiden, 1965).

¹⁰⁰ Drossaart Lulofs and Poortman, *Plants*, 17–47.

¹⁰¹ *Ibid.* 115. In addition, we have a Hebrew translation from the Arabic made in 1314 by Qalonymos ben Qalonymos, a Hebrew epitome, and an anonymous Hebrew commentary on §§ 1–33, on which see *ibid.* 347–86.

¹⁰² Drossaart Lulofs, 'Plants', 77, indicates a number of borrowings from Theophrastus' *Historia plantarum*.

¹⁰³ In the Syriac fragments, see Drossaart Lulofs and Poortman, *Plants*, 56, 68, 70; in the Arabic, see 126, 128, 140, 142 (and cf. 218, 220); in the Hebrew, see 390, 448, 450, 452; in the Latin, see 517, 518.

¹⁰⁴ Empedocles at *CP* 1. 7. 1. 2, 1. 12. 5. 5, 1. 13. 2. 3, 1. 21. 5. 8, 1. 22. 2. 6; Anaxagoras at *HP* 3. 1. 4. 3, *CP* 1. 5. 2. 6; Democritus at *CP* 1. 8. 2. 2, 2. 11. 7. 7, 6. 1. 2. 7, 6. 1. 6. 1, 6. 6. 1. 5, 6. 7. 2. 1, 6. 17. 11. 7; Plato at *CP* 6. 1. 4. 2.

Aristotelian theorists in Nicolaus' *On Plants* derives from Theophrastus. This strongly suggests that this doxographical material from Nicolaus' *On Plants* derives from Aristotle's *On Plants*. In particular, Nicolaus refers to the views of Empedocles, Anaxagoras, Democritus, and Plato on the psychological capacities of plants. We cited several of these above. In brief, Empedocles and Anaxagoras are said to maintain that plants have perception and experience pleasure and pain.¹⁰⁵ Empedocles, Anaxagoras, and Democritus maintain that plants have reason and understanding.¹⁰⁶ Empedocles, Anaxagoras, and Plato attribute desire to plants.¹⁰⁷ And Anaxagoras maintains that plants are animals.¹⁰⁸ These opinions are then contrasted with the Aristotelian view that plants do not have these higher psychological capacities. Thus, it appears that one of the topics Aristotle discussed in *On Plants* was the range of psychological capacities of plants, and it appears that, presumably early in book 1, Aristotle discussed and criticized the views of his predecessors Empedocles, Anaxagoras, Democritus, and Plato on the subject. This well conforms to Aristotle's doxographical habits in his surviving works.

Finally, one doxographical passage in Nicolaus' *On Plants*, which I assume derives from Aristotle's *On Plants*, is paralleled in Aëtius 5. 26. The Empedoclean opinion at Aëtius 5. 26 begins: 'Empedocles says that trees were the first ζῶα to grow up from the earth, before the sun was unfolded around it and before night and day were separated.' The Arabic translation of Nicolaus' *On Plants* reports: 'the statement of Empedocles is excellent, namely that plants were generated when the world was incomplete'.¹⁰⁹

¹⁰⁵ In the Arabic in Drossaert Lulofs and Poortman, *Plants*, 127; cf. the Hebrew commentary at p. 449. In the Latin, the nonsensical name 'Abrucalis' occurs where 'Empedocles' should (p. 517; on this see p. 493). In the Syriac fragment (p. 71) only pleasure and pain are mentioned and the opinion is attributed only to Anaxagoras.

¹⁰⁶ In the Arabic, p. 129; likewise in the Syriac, p. 69, and Latin, p. 518.

¹⁰⁷ In the Arabic, pp. 127, 129; likewise in the Latin, p. 517; only Plato in the Syriac, p. 71.

¹⁰⁸ In the Arabic, p. 127; likewise in the Syriac, p. 71, and Hebrew commentary, p. 448, and Latin, p. 517.

¹⁰⁹ p. 220; in the Hebrew (p. 392) the author of the statement is unspecified; in the Latin it is, again, 'Abrucalis' (p. 525). Drossaert Lulofs and Poortman note (p. 269): 'The statement ascribed to Empedocles is similar to the quotation (or rather paraphrase) in Aëtius *Dox.* 5. 26. 4.' Compare also the following two passages. Ibn Lūqā's translation of Anaxagoras' opinion on nourishment at *Placita* 5. 27 runs: 'Anaxagoras believed that animals are nourished from moisture which each of their organs draws in during feeding and nourishing. They grow when they acquire a lot

In sum, the evidence suggests that some of the doxographical material on botany at Aëtius 5. 26, the Empedoclean and Anaxagorean opinions on nourishment and growth at 5. 27 (both of which, as I have argued, concern plants), and also the Empedoclean opinion on desire at 5. 28 (which again, as I have argued, concerns botanical appetite) derive from Aristotle's *On Plants*. This conclusion also squares nicely with our evidence from *Nicomachean Ethics* concerning Empedocles' cosmological principle of elemental attraction. If Aristotle's *On Plants* did discuss Empedocles' conception of botanical appetite, then presumably Aristotle's account would have been informed by Aristotle's view that Empedocles was committed to the cosmological principle.

I.10. Conclusion to the doxographical material

Figure 1 represents the doxographical tradition on Empedocles on desire, pleasure, and pain, according to the preceding results. The diagram distinguishes two pre-Aëtian doxographical lineages, one pertaining to Empedoclean opinions on desire, the other pertaining to Empedoclean opinions on pleasure and pain.¹¹⁰ The doxographical lineage on desire begins with Plato's *Lysis*, where the cosmological principle of homogeneous elemental attraction is implicitly attributed to Empedocles. This cosmological principle is also conceived as a principle of desire or motivation; in other words, it is conceived as a psychological principle. In this respect Plato is closer to Empedocles than Aristotle is. For instance, I have recently emphasized that in *Lysis* 'Plato develops the view that human φιλία is

of nourishment, but become weak and infirm when they lose a lot.' Nicolaus reports (p. 126): 'Anaxagoras naively asserts that plants are animals and that they feel joy and sadness, and he cites as proof the shedding of their leaves in due season.' The affinity I see in these latter two passages lies in the correlations between weakness and infirmity, sadness or pain, and the shedding of leaves. (Note also that 'he cites as proof the stretching of their leaves and twigs in their time towards moisture and their withdrawing from the opposite' is a variant of manuscript Δ, on which cf. the Hebrew, p. 448.)

¹¹⁰ The dotted line between Aristotle's *On Plants* and his *Nicomachean Ethics* is intended to acknowledge that Aristotle does not use himself as a doxographical source—an odd notion—but just that the Empedoclean cosmological principle in *Nicomachean Ethics* is an analytic component of the hypothetical Empedoclean nutritional principle of botanical appetite in *On Plants*. Likewise, the dotted line between ibn Lūqā's *Placita* and pseudo-Plutarch's *Placita* is intended to acknowledge that ibn Lūqā's *Placita* does not use pseudo-Plutarch's *Placita* as a doxographical source.

one, albeit for us humans especially important, instance of a much more general condition . . . *φιλία* is analyzed as a two-place relation whose participants (*φίλοι*) may or may not be humans.¹¹¹ For example, Socrates considers one theory in which the wet desires the dry and the cold desires the hot (*Lys.* 215 E).

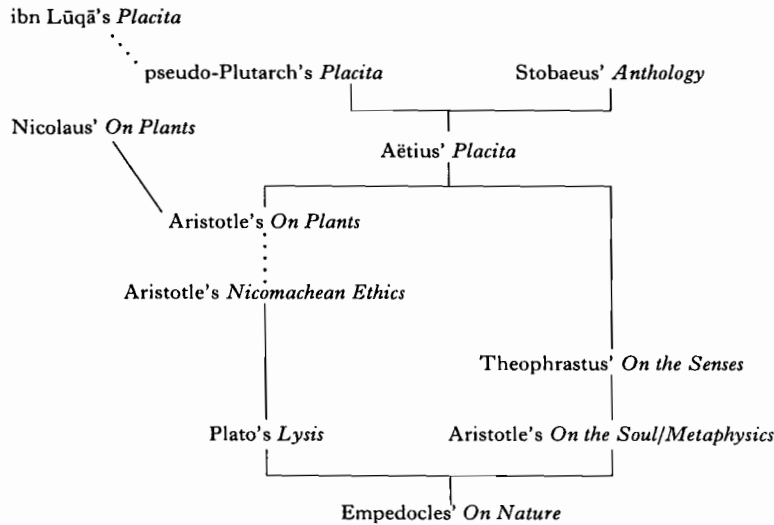


FIG. 1. Stemma of the doxographical tradition

In *Nicomachean Ethics* 8 Aristotle appropriates the cosmological principle of elemental attraction from *Lysis*, also deploying it in an examination of friendship and also within the Platonic framework of a dichotomy between conceptions of friendship based on likeness and opposition. Aristotle explicitly attributes the principle to Empedocles. In contrast to Plato, however, Aristotle himself would not have regarded the cosmological principle as a principle of desire, since Aristotle denies that entities more psychologically basic than animals have desires.

Ibn Lūqā's Arabic translation of pseudo-Plutarch's *Placita* helps illuminate the view that Aëtius' Empedoclean opinion on desire more specifically concerns appetite in plants. The Syriac–Arabic–Latin–Greek tradition of Nicolaus of Damascus' *On Plants* supports the view that the source of Aëtius' Empedoclean opinion on

¹¹¹ 'Φιλία in Plato's *Lysis*', *Harvard Studies in Classical Philology*, 103 (2007), 235–59 at 236–7.

botanical appetite is book 1 of Aristotle's lost treatise *On Plants*. Given this, Aristotle's account of Empedocles' conception of botanical appetite was presumably informed by Aristotle's own conception of Empedocles' commitment to the cosmological principle of homogeneous elemental attraction. Indeed, the cosmological principle is an analytic component of the nutritional principle. The nutritional principle supplements the cosmological principle with the interrelated concepts of deficiency and completion and the interrelated concepts of subjective and objective complements within a physiological system.

Strictly speaking, the doxographical lineage on Empedocles on pleasure and pain begins with Theophrastus' *On the Senses*; however, Aristotle's *On the Soul* significantly influences Theophrastus' treatment. In *On the Soul* Aristotle interprets Empedocles' fragment B 107 to imply that Empedocles was committed to a conception of knowledge and perception involving the elemental homogeneity of subject and object. Since B 107 speaks of knowledge as well as ἦδεσθαι and ἀνιάσθαι, Theophrastus applies Aristotle's interpretation of B 107 to these Greek concepts, concepts Theophrastus himself interprets, within the context of his discussion of the physiology of perception, as sensations of pleasure and pain.

This Theophrasteian interpretation of Empedoclean opinions on pleasure and pain is, however, only one of two in *On the Senses*, and a minor one at that. Theophrastus simultaneously maintains—still under the influence of Aristotle's schematization, although perhaps on the basis of his own interpretation of Empedocles—that Empedocles' conception of perception depends upon likeness. But here likeness is understood as structural conformity between effluences and pores. Furthermore, Theophrastus applies this interpretation to pleasure and pain so that pleasure is understood to arise through the structural conformity of effluences and pores, while pain arises through nonconformity. I doubt that Theophrastus regards these two interpretations of pleasure and pain as compatible, especially since he criticizes as itself inconsistent Empedocles' conception of pain based on structural nonconformity of effluences and pores. Still, in what survives, Theophrastus does not explicitly address the relation between the two interpretations.

Aëtius appropriates Theophrastus' conceptual framework for the interpretation of Empedoclean opinions on pleasure and pain based on likeness and opposition. Yet Aëtius understands likeness and

opposition here as elemental homogeneity, not as structural conformity or nonconformity of effluences and pores. Elsewhere in the *Placita* Aëtius also appropriates Theophrastus' Empedoclean account of perception as structural conformity between effluences and pores, but that account does not figure in Aëtius' Empedoclean opinion on pleasure and pain.

Aëtius himself appears responsible for uniting the doxographical lineages on Empedocles on desire or appetite and on pleasure and pain. One consequence of this unification is precisely the exclusion of the Theophrastean conception of Empedoclean pleasure as involving likeness understood as structural conformity of effluences and pores. This seems to be due to Aëtius' understanding of Empedocles' conception of pleasure according to a desire-satisfaction model and because the object and subject of desire are elementally homogeneous. Thus, pleasure arises through the restoration of a deficit, and that restoration involves the conjunction of homogeneous elements.

Two final points about the doxographical tradition. First, Figure 1 above is based on knowledge and hypotheses that are limited by the paucity of extant texts. For example, it has been thought that Theophrastus' *On the Senses* is a constituent of Theophrastus' *Physical Opinions*;¹¹² however, the jury remains out. If it were confirmed that *On the Senses* is one of the books of the *Physical Opinions* and if Theophrastus' *Physical Opinions* included sections on plants and their psychological capacities that were indebted to Aristotle's *On Plants*, our account and the accompanying diagram would change. More generally, the diagram should not be interpreted to suggest definitively that there were no intermediate sources between Aëtius and Aristotle's *On Plants*, on the one hand, and Theophrastus' *On the Senses*, on the other. For example, whether Aëtius derived Aristotle's Empedoclean nutritional principle directly from Aristotle's *On Plants* or from an intermediate source is unclear.

The second point concerns the role of *diareseis* based on likeness and opposition within the doxographical material. One such *diairesis* is explicit in the cosmological principle in Plato and Aristotle. Who knows whether some such *diairesis* informed Aristotle's discussion of appetite in *On Plants*? Another such *diairesis* is explicit in Theophrastus' doxography of theories of perception and knowledge. While Theophrastus' account of Empedocles' concep-

¹¹² This, for instance, is Balthussen's conclusion (*Theophrastus*, 245).

tion of cognition and perception is, in this respect, specifically indebted to Aristotle, no passage in the Aristotelian corpus confirms that Aristotle himself is responsible for initiating such a *diairesis* in doxography on perception and cognition generally. Likewise, no such evidence derives from Plato's dialogues. None the less, Plato's formative role in what may be called *diairetic* doxography should be appreciated. This role is confirmed by the *diairesis* in *Lysis* itself and the fact that Plato is responsible for the introduction of the *diairetic* method in dialectic generally.¹¹³

II. EMPEDOCLES' FRAGMENTS

II.1. Some terminology and general remarks

I begin the discussion of those Empedoclean fragments in which the concepts of desire, pleasure, and pain occur by introducing some terminology and making some general remarks about the place of desire, pleasure, and pain in Empedocles' cosmos.

Empedocles uses the word 'roots' (*ρίζώματα*) to refer to earth, water, air, and fire, the material elements of the cosmos (B 6. 1). The word 'root' only loosely corresponds to the doxographers' word 'element' (*στοιχείον*) since the word 'element' is used to refer to Love and Strife as well as to the roots. In contrast to the doxographers, I shall use the word 'principle' to cover the four roots plus Love and Strife.

It will be convenient to speak of 'radical portions' as well as 'roots'. By a 'radical portion' I mean 'a part of a root'. To some extent, this phrase is supported by Empedocles' own language at B 22. 1–2, where 'the gleam (of the sun), earth, sky, and sea' are described as 'fitted together with their own parts [*ἑαυτῶν μέρεσσιν*]'. Admittedly, the phrase 'radical portion' is somewhat misleading since Empedocles himself understands the four roots *qua* roots to be ingredients of things. As such, a root may be and usually is a portion of a complex. Consequently, the reader should understand that I am using the phrase 'radical portion' in contrast to 'radical mass', where, for instance, the Earth, understood as the aggregation of all earth in the cosmos, constitutes a radical mass of earth and thus the root earth in a fully unified state; earth as a radical portion

¹¹³ Cf. also the ontological *diairesis* at *Theaet.* 152 E.

would be any part or subset of this radical mass, from a handful to a mountain.

I shall distinguish desires and aversions as two motivational attitudes. The motivation of one entity to congregate with another, I shall call a 'desire'; the motivation of one entity to separate from another, I shall call an 'aversion'. I shall speak of an entity's desire for a heterogeneous entity as a 'heterogeneous desire', e.g. a portion of fire's desire to congregate with a portion of air. I shall speak of an entity's desire for a homogeneous entity as a 'homogeneous desire', e.g. a portion of fire's desire to congregate with another portion of fire.¹¹⁴ Accordingly, I shall also speak of heterogeneous and homogeneous aversions. For example, a portion of fire's motivation to separate from a portion of water is a heterogeneous aversion, while a portion of fire's motivation to separate from another portion of fire is a homogeneous aversion.

Now, some general remarks about the place of desire, pleasure, and pain within Empedocles' conception of nature. First, it must be emphasized that, in a way, the doxographers mislead us by the very fact that they suggest that Empedocles had opinions on the subjects of desire, pleasure, and pain. This is misleading in so far as Empedocles nowhere deliberately sets out to answer questions such as 'Whence do desires and pleasures derive?' While desire, in particular, plays a salient role within the cosmological and perhaps botanical and zoological aspects of Empedocles' poem, the distinction of desire, pleasure, and pain as explicit topics of ontological and psychological enquiry arises only later in the Greek theoretical tradition. Consequently, it is more accurate to speak less abstractly of the role that the concepts of desire, pleasure, and pain play within Empedocles' poem, Empedocles' understanding of these concepts, his commitments associated with them, and the contexts in which they are deployed.

For Empedocles, the roots are alive and divine. The roots are alive in so far as they have psychological functions, including motivation, emotion, and reason. In so far as the roots are ungenerated and indestructible, they are divine.¹¹⁵ In contrast, what we call biological kinds, in particular plants and animals, are not divine, but gener-

¹¹⁴ Strictly speaking, then, it makes little sense to speak of a root's desire for a homogeneous root.

¹¹⁵ I do not mean to suggest that this is the only characteristic of the roots that identifies them as divinities.

ated and destroyed within phases of the endless cosmic cycle. On the other hand, since plants and animals are composed of complexes of radical portions, they are alive and possess higher psychological functions. The relation between the psychological capacities of radical portions themselves and the heterogeneous complexes of radical portions that they constitute is, however, not examined in the fragments in a systematic way—although such relations are understood to exist and explained in some instances.

Empedocles certainly has a theory of perception, especially visual perception, but no fragments suggest that he had a particular interest in explaining pleasure and pain as sensations or dimensions of perception. In contrast, desire or rather motivation is a salient concept in his thought about the roots and compounds (assuming, as I do, that it is wrong and anachronistic to dismiss talk of motivations as mere metaphor). To take a pertinent point of contrast—in Aristotle's physical treatises,¹¹⁶ the examination of desire occurs within the context of explaining psychological functions and differentiating forms of life. In the sublunary sphere, *ψυχή* itself and higher psychological functions largely correlate with increasing organic complexity. For example, Aristotle grants plants *ψυχαί* and specifically the psychic functions of nutrition and growth; but he denies that plants have desire or perception, in part because they lack adequate capacity for thermoregulation.¹¹⁷ Moreover, Aristotle wholly denies *ψυχαί* to the basic material elements and homoiomerics.¹¹⁸

For Empedocles, interest in motivation seems to arise in the context of explaining change and the dynamics of the cosmos more broadly. The phenomena we group under kinematics and dynamics, on the one hand, and the psychology of motivation and behaviour, on the other, Empedocles largely does not conceive as subject to different forms of explanation. In addition, the sources of motivation in roots and complexes of radical portions are, for the most part, not conceived as intrinsic to subjects, in the sense that the *ψυχαί* of subjects are not conceived as their primary sources. Rather, the principles of Love and Strife, which are also divinities and conceived as ontologically independent from the roots, are the primary causes and sources of desire and aversion respectively. As such, Empedocles' conception of motivation has strong

¹¹⁶ I ignore the role of desire in the ethical treatises.

¹¹⁷ Cf. Murphy, 'Aristotle', 331.

¹¹⁸ Cf. *ibid.* 336–8.

affinities to the archaic conception of anthropomorphic divinities responsible for producing psychological states in humans and animals. Empedocles' conception of the elements and forces of nature is more anthropomorphic than Aristotle's, even while it is less so than Homer's.

In order to show how the doxographical tradition differs from the primary evidence for Empedocles' views on motivation and hedonic experience, I now turn to a critical survey of that evidence, beginning with the motivations of the roots.

II.2. Empedocles' fragments on the motivations of the roots

In Empedocles' fragments radical portions have heterogeneous desires. Indeed, Empedocles repeatedly speaks of Love as mixing and blending heterogeneous radical portions:

... at one time all coming together into one by means of love. (B 17. 7)

... from the blending of water and earth and aither and sun, the forms and colours of mortals came to be, which have now come to be, fitted together by Aphrodite . . . (B 71)

As Cypris, then, when she had moistened earth in rain, gave it fierce fire to strengthen, while preparing shapes . . . (B 73)¹¹⁹

Love does not merely blend heterogeneous radical portions, she influences the desires of heterogeneous radical portions so that these portions desire to blend and mix. For example, at B 21. 8 we read that the roots 'come together in love and are desired [*ποθείται*] by one another'. Consequently, the cosmological principle of the attraction of homogeneous radical portions—implicit in Plato, explicitly attributed to Empedocles in Aristotle, and an analytic constituent of Aëtius' opinion—is incomplete; in Empedocles' poem radical portions are described as having heterogeneous as well as homogeneous desires.

At least two fragments directly support the view that radical portions have homogeneous desires. In B 62. 6 fire is said to rise up, 'wanting to reach its like [*θέλον προς ὁμοίον ἰκέσθαι*]'. Similarly, in B 110. 9 things are said to 'desire to reach their own familiar kind [*ποθέοντα φίλην ἐπὶ γένναν ἰκέσθαι*]'. I suggest that 'things', the subject in B 110. 9, refers to the roots. In B 110 Empedo-

¹¹⁹ Cf. B 21, B 28, B 35, B 98, 101, 102.

cles is encouraging Pausanias to cultivate stable wisdom. Stable wisdom is understood to consist of certain mixtures. Empedocles cautions Pausanias that if his thoughts are distracted by worthless [*δελιά*] matters, the mixtures constitutive of wisdom will dissolve and the radical portions will disperse and reaggregate with their own kinds.

Observe that in B 110 and in B 62 radical portions or roots are characterized as desiring to arrive at (*πρός . . .* or *ἐπί . . . ἰκέσθαι*) homogeneous radical portions. Neither B 62 nor B 110 nor any other fragment speaks of radical portions desiring to mix (*μειγνύναι*) or blend (*κεραυνύναι*) with homogeneous radical portions.¹²⁰ In other words, Empedocles uses *μίξις* and *κρᾶσις* to refer to conjunctions of heterogeneous entities. Among the surviving fragments, there is no distinct term for homogeneous conjunction. Hereafter I shall continue to use the words 'conjunction' and 'congregation' to cover both homogeneous and heterogeneous conjunction or congregation. The homogeneous desires of radical portions, then, are homogeneous desires for congregation or conjunction, but not for mixture or blending.

B 110 expands upon the idea that unattended mixtures of radical portions in the mind, if neglected, may dissolve, desiring to arrive at their own kind: 'for . . . all things have intelligence [*φρόνησιν*] and a share of thought [*νώματος*]' (B 110. 10). Wright comments: 'the basic *φρόνησις* . . . exhibited by earth, air, fire, and water is an awareness of another part like itself and a tendency to move toward it'.¹²¹ Thus, Wright suggests that radical portions have homogeneous desires. Moreover, he suggests that these homogeneous desires are, in some sense, intrinsic to the radical portions. Carl Müller—although not in commenting on this passage—also maintains that radical portions have motivations of self-love (*Eigenliebe*).¹²² But Müller's position differs from Wright's since Müller attributes this self-love to Love.¹²³ In other words, Müller does not suggest that such ho-

¹²⁰ At B 59. 1, where *δαίμων* is said to have mixed (*ἐμίσγητο*) with *δαίμων*, I understand Empedocles to be speaking of heterogeneous radical portions *qua* *δαίμονες*. Cf. Wright, *Empedocles*, 212; contrast O'Brien, *Cycle*, 325–36. B 22. 4 is a more complicated case, which I discuss below.

¹²¹ Wright, *Empedocles*, 260–1.

¹²² C. W. Müller, *Gleiches zum Gleichen [Gleiches]* (Wiesbaden, 1965), 27–39.

¹²³ 'Unter der Herrschaft des Neikos bricht diese Einheit auseinander. Zwischen das Artverschiedene legt sich trennend der Streit, und die *Liebe* muß sich auf die Freundschaft des Gleichartigen beschränken; sie wird zur *Eigen-Liebe*, was den völligen Zerfall des Alls in seine vier Elemente bedeutet' (ibid. 31).

homogeneous desires are intrinsic to radical portions. It is worthwhile to determine which view is correct.

While B 62 and B 110 provide evidence that radical portions have homogeneous desires, these fragments do not *per se* indicate that these homogeneous desires are intrinsic. The source of radical portions' homogeneous desires is, therefore, questionable. In considering this matter, it helps to distinguish the homogeneous desires of radical portions, whether or not intrinsic, from their heterogeneous aversions. Consider the following fragments:

And in wrath all (the roots) are distinct in form and separate. (B 21)

And at another time again all (the roots) being borne apart separately by the hostility of Strife. (B 26)

These fragments suggest that radical mixtures separate under the influence of Strife and thus that Strife influences radical portions' motivations to separate. Precisely, Strife is responsible for radical portions' heterogeneous aversions. Consequently, the conjunction of homogeneous radical portions must be explained by two motivations: the aversion due to Strife that motivates the radical portion to separate from heterogeneous radical portions and the desire to congregate with homogeneous radical portions. These two motivations are indeed distinct since in a cosmos in which only Strife's motivational influence existed, radical portions would be separated from heterogeneous radical portions, but would not also congregate with homogeneous radical portions. Such a universe might appear mottled and consist of randomly ordered and sized radical portions; there would be no guarantee that congregation of homogeneous radical portions would occur.

So, again, the question is whether the homogeneous desire is intrinsic, as Wright suggests, or due to Love and as such extrinsic, as Müller suggests. Müller supports his position by referring to B 22, which begins:

For all these things—the gleam (of the sun) and earth and sky and sea—are fitted together [*ἄρθμια*] with their own parts, which had become separated from them in mortal things.

Müller suggests that the word *ἄρθμια*, here used to describe the conjunction of radical portions, implies that Love is responsible for the conjunction of the homogeneous radical portions because the word *ἄρθμια* is used elsewhere among the fragments to refer

to the conjunctive activity of Love.¹²⁴ In support of this, Müller cites B 17. 23:

... by her [Love] they think loving thoughts and accomplish conjunctive [*ἄρθμια*] deeds.¹²⁵

This is strong evidence. Thus, I suggest that Wright is wrong: radical portions' homogeneous desires are not intrinsic; it is not the radical portion itself, but Love, albeit within the radical portion, that is responsible for the radical portion's homogeneous desire.

Granted this, the question whether homogeneous desires of radical portions are intrinsic may be posed again, but according to a different and weaker sense of 'intrinsic'. The homogeneous desire may not be intrinsic because its source is not the radical portion itself, but it may be intrinsic because its source is Love as *Eigenliebe*, homogeneous desire, that is ever-present in radical portions. There is good reason to think that radical portions' homogeneous desires are not intrinsic in this alternative sense either. If homogeneous desires were ever-present in radical portions and Love were responsible for these desires, then a radical portion's separation from homogeneous portions and conjunction with heterogeneous radical portions through the influence of Love would be impossible. In this case, Love would simultaneously be responsible for two conjointly unrealizable motivations: a homogeneous and a heterogeneous desire.¹²⁶ Consequently, when Love prevails upon a radical portion to mix, Love must then relinquish influence upon that radical portion's homogeneous desire. Thus, homogeneous desire is not intrinsic to a radical portion in this second sense of 'intrinsic' either. Homogeneous desire is not ever-present in radical portions.

From this it follows that there is an apparent asymmetry between the motivational influences of Love and Strife on radical portions. Dissolution of mixture requires a homogeneous desire, due to Love, and a heterogeneous aversion, due to Strife. But while the formation of mixtures requires heterogeneous desire due to Love, it does

¹²⁴ '[D]as Wort *ἄρθμος* [findet] sich an anderer Stelle als Bezeichnung für die "Werke" der *Liebe* angewandt' (*Gleiches*, 36).

¹²⁵ Müller also refers to B 91: '(Water) is more easily conjoined [*ἐνάρθμιον*] with wine, with oil it does not want to mix.' But since Love is not mentioned or vaguely implied in this fragment, it cannot be used to support the thesis. I discuss B 91 further below.

¹²⁶ I emphasize that this is different from Love's responsibility for a radical portion's desires simultaneously to mix and congregate with a radical mixture containing some homogeneous and some heterogeneous radical portions.

not require a complementary homogeneous aversion due to Strife. Indeed, Müller emphasizes: 'das Gleichartige kann sich nicht verfeinden'.¹²⁷ I would more cautiously say that there is no evidence in the fragments that radical portions are subject to homogeneous aversions.

Given the preceding account of the motivations of radical portions, it remains to consider a complication pertaining to the role of radical portions' intrinsic properties. At the culmination of Strife's influence, the cosmos is composed of concentric spheres of earth, water, air, and fire, thus ordered from the centre to the periphery. We have seen that this organization of the roots or their radical portions results from heterogeneous aversions due to Strife and homogeneous desires due to Love.¹²⁸ However, this organization of the concentric spheres cannot merely result from these extrinsic aversions and desires, for these extrinsic motivations alone do not explain this particular ordering of the concentric spheres. For instance, why at the apex of Strife's power should the cosmos not be composed of concentric spheres of air, water, fire, and earth, thus ordered from its centre to its periphery? To explain the order Empedocles proposes and which loosely corresponds to the present state of the world, geocentrically conceived, Empedocles appears to rely on the view that radical portions have intrinsic properties.

That roots or radical portions have intrinsic properties is explicit at B 17. 28: 'each [root] has a distinct prerogative [*τιμῆς*] and its own character [*ἦθος*]'. Empedocles' attribution of distinct *τιμαί* to the roots is an adaptation of traditional theological beliefs. Wright comments: 'Empedocles' description of the individual *timai* of the roots . . . recalls directly Homer's language on the . . . allotment

¹²⁷ Müller continues: 'denn wäre Haß gegen sich selbst, eine Vorstellung, für den Griechen ebenso absurd, wie ihm die Eigenliebe selbstverständlich und natürlich ist' (*Gleiches*, 30). But we have at least seen that in certain mixtures *Eigenliebe* is relinquished.

¹²⁸ Note that this implies a further cosmological asymmetry: at the apex of Love's influence, Strife is ostracized to the periphery of the sphere (B 35. 10; B 36); however, at the apex of Strife's power, Love should still inhere within the segregated concentric spheres. If Love were ostracized to the periphery in turn, then radical portions would lack homogeneous desires and thus a mottled universe would result. At B 35. 4 (cf. 17. 58 = ensemble a (ii), 19) Love is described as in the midst of the whirl (*ἐν δὲ μέσῃ φιλότῃστροφάλιγγι*), but the context of the verse does not imply that Love is constrained to the centre because Strife is at the apex of its power. (Alternatively, Empedocles may be inconsistent.)

of powers enjoyed by Zeus, Poseidon, and Hades.¹²⁹ Some of the specific intrinsic properties of the roots are described at B 21. 3–6:

. . . the sun, bright to look upon and hot in every respect . . . and rain, in all things cold and dark; and there flow from the earth things dense and solid.

Additionally, the Armenian translation of Philo's *On Providence* contains the following claim about an intrinsic property of aither:

Moreover, aither, being much lighter (than earth) moves all around it without diversion.¹³⁰

These passages encourage the view that the order of concentric spheres under the dominion of Strife is to be explained, among other things, by the relative weights of radical portions, with earth at the centre because heaviest and fire at the periphery because lightest.¹³¹ This interpretation of such intrinsic properties further complicates the account of the motivation of radical portions. For instance, do the intrinsic properties of radical portions imply that these portions have intrinsic kinetic tendencies, say, towards or away from the centre of the sphere? If so, should we also distinguish the intrinsic kinetic tendencies of radical portions from their intrinsic combinatorial dispositions? If so, how should we distinguish their intrinsic combinatorial dispositions from the influences of Love and Strife upon their mixings and dissolutions?

It is not clear to me how to resolve these questions, but I would like to consider several fragments relevant to them, beginning with B 91:

[Water is] more easily fitted to wine, but with oil it does not want [*ἑθέλει*] [to fit].

In explaining the ease and difficulty of fit among water and wine, on the one hand, and water and oil, on the other, Empedocles might appeal to the intrinsic properties of these substances. However, the use of *ἑθέλει* complicates this interpretation. The verb might, instead, encourage the attribution of the motivation of a radical portion such as that of water to the influence of Love or Strife upon it. In short, while water evidently has an aversion to mixing with

¹²⁹ Wright, *Empedocles*, 22, citing *Il.* 15. 187–93, 209.

¹³⁰ This translation, by Abraham Terian, is based on an Armenian prose translation of Philo's work (Inwood, *Poem*, 236–7).

¹³¹ Cf. Arist. *GC* 315^a11, and see O'Brien, *Cycle*, 34–6.

oil, it is unclear whether this aversion is due to intrinsic properties of water and oil or whether it is due to Strife.

Consider also B 22. 4–5:

In the same way [ὡς αὐτως], as many as are more apt to blend [κρήσιν ἐπαρκέα] have come to be loved by one another, made alike [ὁμοιωθέντ'] by Aphrodite.

The adverbial phrase ὡς αὐτως indicates that the account in B 22. 4–5 relates to a preceding account. The preceding account (B 22. 1–3), discussed above, concerns the conjunction of homogeneous radical portions in the great masses of the sun, sky, sea, and earth. As I suggested, following Müller, Empedocles' use of ἄρθμα in B 22. 1 indicates that Love is responsible for the conjunction of the homogeneous radical portions in these great masses. The phrase ὡς αὐτως, therefore, indicates that the contents of B 22. 4–5 refer to a different set of entities.¹³² I assume that the entities in question are mixtures, as my interpretation of κρήσιν above would suggest, and thus that they are non-elemental stuffs. Presumably, they are stuffs out of which, for instance, animals and plants are composed. I suggest that the claim that the radical constituents of such stuffs are 'more apt to blend' is a claim about the intrinsic properties of the radical constituents, as, for instance, water and wine are more apt to blend, whereas water and oil are less apt. But, as in B 91, it is difficult to draw a distinction between the intrinsic and extrinsic sources of the radical portions' motivations here. Indeed, at B 22. 5 Love is explicitly said to participate in the blending.

At B 22. 5 Love is also said to make the radical portions alike (ὁμοιωθέντ'). There are two other fragments in which the word ὁμοίος or its cognate is used. At B 62. 6, discussed above, a portion of fire is said to seek its like (ὁμοίον). In this case ὁμοιότης is understood in terms of the homogeneity of radical portions. At B 17. 35 Empedocles says of radical portions throughout the cosmic cycle: 'they become different at different times and are always perpetually alike [ὁμοία]'. In this case, ὁμοιότης is being contrasted with ἀλλοίωσις to convey the idea that although radical portions undergo certain changes during the cosmic cycle, their intrinsic properties remain the same. This use of ὁμοίος is, then, either identical or very close to the use of ὁμοίος in B 62. 6.

¹³² Consequently, my interpretation significantly differs from Müller's, on which see *Gleiches*, 36–8 n. 35.

In contrast, at B 22. 5 heterogeneous radical portions are said to become alike. Consequently, this use of ὁμοιότης cannot be identical to the other two uses. To explain the use of ὁμοιότης at B 22. 5, I suggest drawing a distinction between the intrinsic properties of a radical portion, which never change, and what may be called the 'expression' of these intrinsic properties, which can be affected by the radical portion's relation to heterogeneous radical portions. For example, the expression of heat of a radical portion of fire is limited when that portion is mixed with a portion of intrinsically cold water. I suggest that the ὁμοιότης or assimilation of the heterogeneous radical portions in B 22. 5 entails that the expressions of the intrinsic properties of the heterogeneous radical portions are suppressed when these portions become participants in mixtures. Rather than expressing their intrinsic properties, the heterogeneous radical portions constitutive of the mixture express what we might call emergent properties of the mixture. Since the emergent properties are products of the conjunction of the heterogeneous radical constituents, the heterogeneous portions are thereby conceived as becoming alike. In other words, in mixtures heterogeneous radical portions share a common expression.

This view, that mixtures involve constraint of the expression of certain intrinsic properties of radical portions, finds support at B 26. 2, where radical portions are said to 'decline [φθίνει] into one another'. Again, at B 26. 7 it is said that as radical portions grow together they 'become subordinated [ὑπένερθε]'.¹³³ In so far as the emergent properties expressed by mixtures differ from the intrinsic properties, which would otherwise be expressed by the constitutive radical portions, the declining and subordination of the radical portions within mixtures refers to constraints upon the radical portions' expression of their intrinsic properties.¹³⁴ An example illustrative of this condition may be derived from Katerina Ierodiakonou's discussion of Empedocles' view that the mixture of various proportions of two particular radical portions, brilliant

¹³³ I follow Inwood's translation (*Poem*, 231). S. Trépanier, 'Empedocles on the Ultimate Symmetry of the World', *Oxford Studies in Ancient Philosophy*, 24 (2003), 1–57, translates the Greek as 'subsumed', Wright (*Empedocles*, 181) as 'subdued'. See also O'Brien, *Cycle*, 320–1.

¹³⁴ Note that for Empedocles to be consistent, he must recognize a way in which this aspect of each root can be limited without jeopardizing the identity of the root. It seems to me he can. The juxtaposition of yellow and red dots may produce the appearance of orange; thus, the yellow dots fail to be perceived as yellow, yet they do not fail to be yellow.

fire and dark water, produces the full array of colours.¹³⁵ Part of Ierodiakonou's explanation refers to the fact that Greek painters, to whom Empedocles himself refers at B 23, often blended their colours, not prior to application, but in layered washes; for instance, they layered a blue over a yellow wash, rather than mixing blue and yellow and then applying the mixture to the surface. This is a good example of the way the expression of a single coloured layer is constrained and subordinated through its combination with another layer and, more generally, of the way the expression of intrinsic properties of radical portions becomes limited when those radical portions congregate with heterogeneous portions.

The preceding account of *ὁμοιωθέντα* at B 22. 5 relates to the problem of the motivations of radical portions as follows. We may now wonder whether a radical portion has an intrinsic motivation to express its intrinsic properties. If it does not, then a radical portion's motivation to express its intrinsic properties would appear to be due to Strife. In short, it is unclear, in this respect, what is responsible for the individuation of radical portions.

Finally, in closing this discussion of the motivations of the roots, I want to focus on the way Love is characterized as influencing the desires of radical portions. Aristotle himself might have understood the principle of homogeneous elemental attraction as a physical rather than a psychological principle since he viewed material elements as lacking *ψυχαί*. However, on the basis of Empedocles' fragments such a depsychologized conception of the motivations of radical portions is untenable. Empedocles' roots are living gods, not mindless matter. By 'living', I mean that the roots engage in functions of living things.¹³⁶ In particular, at B 110. 10 Empedocles says that '(all the roots) have thought and a share of understanding'. And at B 17. 9 the roots are said to 'have learnt [*μεμάθηκε*] to grow as one from many'.¹³⁷

B 17. 9 indicates that radical portions learn to mix through the influence of Love. The concept of learning (*μάθησις*) suggests rational persuasion. Indeed, numerous fragments associate persuasion

¹³⁵ K. Ierodiakonou, 'Empedocles on Colour and Colour Vision', *Oxford Studies in Ancient Philosophy*, 29 (2005), 1–37.

¹³⁶ Cf. Trépanier, *Interpretation*, 32: 'for Empedocles, "matter has mind." This panpsychic creed... immediately distinguishes his physics from its standard modern counterpart.'

¹³⁷ Cf. B 26. 8 and B 35. 14.

with reasoning.¹³⁸ Thus, Love influences the behaviour of radical portions, at least partly, through informing their understanding. But although Love rationally persuades radical portions to congregate, we hear nothing of Strife persuading radical portions when she influences their aversions. Thus, it appears that Empedocles understands the natures of desiderative influence and aversive influence differently. Indeed, it is questionable whether the aversive influence of Strife has a rational aspect at all. The fragments provide no evidence to make us think so. If this is correct, it suggests that the cosmic and microcosmic struggles between Love and Strife can be understood as struggles between rational persuasion and brute compulsion.

II.3. Empedocles' fragments on the motivations of stuffs

I turn now to the motivations of non-elemental entities. The topic is crucial for evaluating the doxographers' attribution to Empedocles of the view that desire arises through deficiency and more specifically of Empedocles' explanation of nutritional desire and physiology.

In addition to the homogeneous desires of radical portions, B 90 includes the congregation of non-elemental stuffs: 'Thus, sweet grasped sweet and bitter rushed to bitter, sharp approached sharp, and hot was borne to hot.'¹³⁹ B 90 derives from book 4 of Plutarch's *Dinner Conversations*. The guests are discussing the question whether a variety of foods is more easily digested than a single kind. Philinus has argued that a simple diet is more easily digested. Marcion retorts that in digestion the body naturally distributes the various components in the various foods to the various bodily parts as needed. The result, he says, is as Empedocles describes it. B 90 now follows, and Macrion continues: 'when the vital heat dissolves the compound, kindred things [*τὰ οἰκεία*] approach those of their own kind [*τοῖς συγγενέσιν*]' (663 B).

On the basis of Plutarch's use of Empedocles' verses to explain digestion, it may be assumed that the context in which the lines

¹³⁸ B 4. 2–3; 71. 1; 114. 3; 133. 3. Cf. B 35. 6, where, under the influence of Love, the roots are said to come together, 'not suddenly, but voluntarily [*βελημά*]'.

¹³⁹ From Plut. *Quaest. conviv.* 663 A; cf. Macrob. 7. 5. 17. While the hot or heat may be identified here with fire, sweetness, bitterness, and sharpness cannot be identified with individual roots.

occur in Empedocles' own poem is itself an account of digestion.¹⁴⁰ In addition, we have pseudo-Galen's and Galen's testimonies that Empedocles conceived of digestion as the rotting (σῆψις) of food:

How do Hippocrates, Eristratus, Empedocles, and Asclepiades say that concoctions of nourishment occur? . . . Empedocles by rotting [σῆψει]. (A 77=[Galen], *Def. med.* 99)

These men had an ancient custom of calling 'unrotted' [ἀσηπτα] what we call 'unconcocted'. (A 77=Galen, *In Hipp. Aph.* 1)

Empedocles evidently conceived of this aspect of the process of digestion as being akin to decomposition. Presumably he thought that the body must decompose food to make appropriate use of its basic constituents. In this respect, the so-called putrefaction of food in digestion appears to be akin to the work of Strife, separating complexes rather than conjoining simples.¹⁴¹

Wright agrees: 'It would seem that food is broken up by σῆψις in the stomach.'¹⁴² However, this is merely one aspect of the process of digestion, the decomposition of food. What of distribution of nutritional elements through the body? Wright continues: '[The decomposed food] then passes to the liver, where it is transformed into blood.'¹⁴³ The blood moves through the body and gives to each part what is necessary for nutrition and growth.' Support for the claim in the final sentence derives from the Greek tradition's rendition of pseudo-Plutarch 5. 27: '[According to Empedocles,] animals are nourished through the settling of that which is appropriate [διὰ τὴν ὑπόστασιν τοῦ οἰκείου].' The Greek word ὑπόστασις refers to sedimentation or the distribution, by separation, of a portion of a solution. τὸ οἰκεῖον presumably refers to the stuff or element that is distributed in the body as needed.

But we have an interpretative problem: we are relying on pseudo-Plutarch's account of Empedocles' view of nutrition in the broad context of explaining Empedocles' conception of nutritional desire, although we have already found good reason to suspect the contents of pseudo-Plutarch's report of Empedocles' view of nutritional de-

¹⁴⁰ Cf. Plutarch's reference to Empedocles at 688A.

¹⁴¹ On this point, cf. B 121: 'And parching diseases and rots [σῆψεις] . . .', and ensemble d 2, where rotting ([ση]πο[μ]ένους) is associated with wretched necessity.

¹⁴² *Empedocles*, 231, with references to [Galen], *Def. med.* 99, xix. 372 K., and Plato, *Phaedo* 96A-B.

¹⁴³ Wright (*Empedocles*, 232) refers to *Simpl. In Phys.* 372. 5 Diels τὴν δὲ γαστέρα πέττουσαν, τὸ δὲ ἥπαρ ἐξαίματόν; and *Plut. Quaest. conv.* 683 E πολυαίματον τὸ ἥπαρ.

sire. Indeed, as we have seen, ibn Lūqā's translation suggests that the Greek should read τοῦ ὑγροῦ, not τοῦ οἰκείου. At this point, we should return to the fragments themselves. At B 98 we learn that blood and flesh derive from all the roots in nearly equal quantities. B 96 specifies the composition of bone. B 96 is particularly valuable since it suggests that Love (cf. ἀρμονίης) is responsible for the use of nutritional elements and precisely that Love mixes the nutritional elements into the existing, if partially deficient, mixtures that constitute the various stuffs that compose the body. For convenience I shall refer to these bodily stuffs as 'physiological stuffs'.

In sum, nutrition can broadly be understood as the decomposition of food into nutritional elements under the influence of Strife followed by a recomposition of the nutritional elements into physiological stuffs such as flesh, bone, and blood under the influence of Love. It makes sense to think that both destruction and reconstruction operate in the nutritional process, for nourishment involves the transmutation of one thing, a foodstuff, into another, a physiological stuff. Moreover, this account squares nicely with our discussion of the homogeneous and heterogeneous motivations of radical portions, thus also corroborating it as the correct account of Empedocles' explanation of nutrition.

The account does not, however, explain, at least not obviously, the nature of nutritional desire. In the light of the preceding, it is perhaps reasonable to speculate as follows. Assume that, for instance, thirst arises through the depletion of radical portions constitutive of physiological stuffs, in this case water. In one sense, then, a deficit of water evokes the desire for water. Thus, Stobaeus reports correctly: '(nutritional) desire is for that which is like because of that which is lacking'. Similarly, pseudo-Plutarch: 'deficiencies [ἐλλείψεις] in those elements that complete [ἀποτελούντων] each' animal. The concepts of deficiency and completion imply precisely that the subject and object of desire stand in a relation of mereological, if not more precisely quantitative, complementarity. Similarly, Stobaeus' formulation speaks of a 'refilling [ἀναπλήρωσιν] in accordance with the deficiency [τὸ ἐλλείπον]'.

A further question now arises. Assuming that physiological stuffs are subjects of desire, in accounting for nutritional desire on the basis of depletion it might seem rather paradoxical that strength of desire would increase with the diminution of the desiring subject. The desires of diminished stuffs should be weaker than those

of undiminished stuffs. Given our account of physiological stuffs *qua* mixtures as subjects of desire, the problem may be resolved as follows. Take the case of thirst again. Although thirst arises from a deficit of water, it is not the quantum of water in the body *per se* that desires its quantitative complement. Rather, some physiological stuff such as the blood or flesh is the subject of desire. Thus, although the stuff in question is dehydrated, the other elements constitutive of the mixture appeal through desire, so to speak, for hydration. Now if the body is starving, at some point physiological stuffs will naturally become weakened to the point that their motivational appeals for nutrition themselves diminish. But this is consistent with the experience of famine, with which the Greeks were certainly familiar.

II.4. Empedocles' fragments on pleasure and pain

Among Empedocles' fragments we hear a good deal about the miseries for which Strife is responsible: exile from the gods (B 11),¹⁴⁴ disease (B 1. 10),¹⁴⁵ unhappiness (B 9. 4),¹⁴⁶ ill will (B 26. 7), anger (B 37. 9), evil quarrels (B 38. 4),¹⁴⁷ and lamentations (B 124).¹⁴⁸ In contrast, we hear relatively little about pleasure or joy. At B 35. 13 the rush of Love is described as gentle (*ἡπιόφρων*). At B 17. 24 we are told that mortals refer to Aphrodite as Joy (*Γηθοσύνη*). At B 128. 1–6 we get a pleasant image of the worship of Aphrodite, in a sort of prelapsarian age, before animal sacrifice and the ascendancy of Strife:

[Humans then] had no god Ares or Battle-Din . . . (Instead, they worshipped) Queen Cypris . . . with pious images, painted pictures, and perfumes of varied odours, sacrifices of pure myrrh and fragrant frankincense . . . (B 128. 1–6)¹⁴⁹

¹⁴⁴ Cf. B 121, presumably a reference to earth, which is characterized as a joyless (*ἀτερπέα*) place.

¹⁴⁵ Cf. B 121. Strife is not explicitly said to be responsible for diseases in either of these fragments, but this is a reasonable inference.

¹⁴⁶ Cf. B 145.

¹⁴⁷ Cf. B 124.

¹⁴⁸ Again, strife is not explicitly said to be responsible for lamentations here. But this is a reasonable inference, especially in view of B 38. Cf. also B 118, which presumably refers to the *δαίμων*'s alienation from the gods.

¹⁴⁹ The fragment goes on to describe how Aphrodite's altar was not soiled with the blood of slaughtered animals. Cf. B 62. 7, which, in speaking of incomplete

On the basis of these fragments, we are perhaps entitled to infer that, among plants, animals, and humans—that is, during the zoological phases of the cosmic cycle—Strife is responsible for or plays a salient role in the suffering and pain of these entities, while Love is responsible for or plays a salient role in their joy and pleasure. Indeed, at the apex of Love's influence the cosmos is described as 'fixed in the dense cover of harmony, a rounded sphere, rejoicing [*γαίων*] in its joyous [*περιγηθεί*] solitude' (B 27). Granted this, Strife dissolves mixtures, whereas Love engenders them. Therefore, the doxographers' claim that according to Empedocles pleasure derives from the conjunction of elementally homogeneous entities, while pain derives from the conjunction of heterogeneous entities, is misguided.

One further fragment includes the concepts *ἡδεσθαι* and *ἀνιάσθαι* (words I leave untranslated for the moment) and deserves more careful consideration. In Section I.3 I introduced and discussed Theophrastus' treatment of B 107. Recall that in this fragment Empedocles claims: 'all things having been fittingly conjoined, and by means of these [*τούτοις*] they have knowledge and experience pleasure [*ἡδοντ*] and pain [*ἀνιώνται*]' . I previously translated *ἡδοντ* and *ἀνιώνται* as 'experience pleasure' and 'experience pain'—in other words, as referring merely to sensations or perceptual states of pleasure and pain. This translation conforms to Theophrastus' own conception of B 107 and is supported by the fact that Theophrastus' discussion of Empedocles occurs within a treatise on the physiology of perception.¹⁵⁰

Yet it is doubtful that Empedocles would have so understood *ἀνιάσθαι* and *ἡδεσθαι* in B 107. More likely, he used these verbs to mean 'suffer distress' and 'enjoy or take pleasure in (something)', in other words, as emotional states and not merely sensations. Two considerations encourage this interpretation. First, there is no reason to think that at the time Empedocles composed his poem Greek thinkers had distinguished or been theoretically motivated to distinguish pleasure and pain as perceptual states from pleasure and

animals, says that they do not yet show any 'lovely [*ἐρατόν*] frame of limbs'. This suggests that completely formed animals have lovely limbs and thus that Aphrodite fashions attractive creatures. On this, cf. B 64.

¹⁵⁰ Theophrastus' own conception of perceptual pleasure and pain (cf. *Sens.* 31–2) seems consistent with, if not identical to, Aristotle's, viz. the *ἐνέργεια* of the natural state, which occurs when the perceptual organ, in its optimal condition, is activated by the optimal perceptual object, under optimal environmental conditions.

pain as emotions. Second, the verbs ἀνιάσθαι and ἡδεσθαι are consistently used in other archaic texts to mean ‘suffer distress’ and ‘enjoy or take pleasure in (something)’.¹⁵¹ We should therefore translate B 107 as follows:

. . . all things having been fittingly conjoined, and by means of these [τούτους] they have knowledge and experience joy and suffer distress.

Further support for this rendition of B 107 is the association of ἀνιάσθαι and ἡδεσθαι in this fragment with cognition. As Inwood, following Barnes, has suggested, Theophrastus begins his quotation, ‘(out of these things) all things having been fittingly conjoined’, in mid-verse; the words ‘out of these things’ (ἐκ τούτων), which immediately precede the quotation, are Theophrastus’ own.¹⁵² ‘These things’ (τούτων) refers to the six principles or rather portions of them, which, as Theophrastus suggests, are constitutive of the blood and thereby enable cognition of like by like. Thus, as we also noted, many scholars have followed Theophrastus and placed B 109 (‘. . . with earth . . . we recognize earth; with water, water . . .’) before B 107. I had also noted Theophrastus’ comments on B 107: ‘Therefore, it is principally by means of the blood that we know [φρονεῖν], for in the blood the elements [στοιχεῖα] are blended more fully than in our (other) parts.’ Indeed, in B 98 blood is characterized as composed of more or less equal quantities of radical portions, and B 105 claims that ‘human understanding [νόημα] is blood around the heart’. Consequently, it is reasonable to follow Theophrastus’ suggestion that understanding occurs by means of blood because blood contains all of the elements of things that are to be understood.¹⁵³

Now, at B 17. 21 Empedocles’ exhortation to Pausanias to behold Love with his mind (νόω), not with his eyes (ὄμμασιν), encourages

¹⁵¹ For instance, consider the uses of ἀνίαν in Hom. *Il.* 2. 291; *Od.* 1. 133, 2. 115, 3. 117, 15. 335; Thgn. 655, 991. Uses of ἡδεω are less common in archaic literature (e.g. Anacr. 148), but, as LSJ indicates, in classical literature (e.g. Hdt. 1. 69, 3. 34; [Aesch.] *PV.* 758; Ar. *Eq.* 623, 696; *Soph. Phil.* 715, 1314) the verb is used, in various constructions, to convey the idea of enjoying or taking pleasure in something, not simply experiencing a sensation of pleasure.

¹⁵² There is a lacuna of 14 letters in MS P preceding πάντα πεπήγαον ἀρμοσθέντα. Karsten, *Reliquiae*, followed by Diels, *Fragmente*, adds ἐκ τούτων from Theophrastus and then supplies γάρ. Inwood (*Poem*, 285), following Barnes (‘Review’, 194), takes ἐκ τούτων to be Theophrastus’ words and simply leaves a lacuna.

¹⁵³ I emphasize that the nature of such understanding remains obscure. R. Kamtekar, ‘Empedocles on Knowledge by Likes’ (under review), has proposed a novel interpretation of B 110 and Empedocles’ conception of knowledge by affinity.

the view that Empedocles conceives of Love, and presumably Strife, as objects of understanding, rather than objects of perception. Note that Heraclitus and in particular Parmenides provide Empedocles with precedents for such an epistemological distinction, and that Melissus, Zeno, and Democritus are examples of other fifth-century thinkers who recognize such a distinction.¹⁵⁴ In the light of this, I suggest that the concepts ἡδεσθαι and ἀνιάσθαι at B 107. 2 are understood not merely as perceptual states, but as richly emotional states more closely allied to cognition than mere perception.¹⁵⁵

II.5. Conclusion to Empedocles’ fragments

Examination of the doxographical material that purports to give Empedocles’ opinions on desire, pleasure, and pain in relation to Empedoclean fragments in which related concepts occur suggests the following central conclusions. First, regarding the topic of desire, in the doxographical material desire occurs between homogeneous elements; in the fragments desire occurs between heterogeneous and homogeneous roots or radical portions. Thus, the doxographical material simplifies and misleads. Second, the fragments suggest that it is sensible to distinguish two types of motivation, desire and aversion, corresponding to the influence of Love and Strife respectively. The doxographical material gives no indication of this.¹⁵⁶ Third, the fragments indicate that most, if not all, desires are extrinsic, both in the sense that Love, not the roots, is responsible for desires and in the sense that neither homogeneous nor heterogeneous desires, for which Love is responsible, are ever-present in radical portions. Again, the doxographical material

¹⁵⁴ Cf. J.-C. Picot, ‘Les cinq sources dont parle Empédocle’, *Revue des études grecques*, 117 (2004), 393–446, which argues for a novel epistemological interpretation of B 143, according to which the five sources (κρημάτων πέντε) are the five senses from which wisdom may be derived.

¹⁵⁵ I do not mean to suggest that in B 107. 2 Empedocles claims that all ἡδεσθαι and ἀνιάσθαι derive from the mind; I simply mean that Empedocles here uses the concepts of joy and suffering as mental. (Granted this, it still remains unclear how joy and distress are to be understood. Perhaps joy is a response to the recognition of Love, its manifestations and effects, while distress is accordingly a response to the recognition of Strife. Yet in order to clarify these emotions, we need a better explanation of the cognition of Love and Strife themselves.)

¹⁵⁶ Note, however, that Aristotle at least recognizes that Empedocles conceives of Love as responsible for aggregating and Strife for segregating things, for at *Metaph.* 985^a he criticizes Empedocles for inconsistency on this point.

is silent on this point. Fourth, the fragments indicate that radical portions have intrinsic combinatorial dispositions and kinetic tendencies. This may imply that the roots or radical portions have some intrinsic motivations, but that is unclear. The principle of homogeneous elemental attraction in the doxographical material may be said to overlap with the notion of intrinsic properties; however, the doxographers precisely do not distinguish between extrinsic and intrinsic sources of motivation in the cosmological principle. Fifth, the fragments indicate that homogeneous elements do not mix or blend, but simply congregate. In contrast, the doxographical material suggests that homogeneous elements mix or blend. Moreover, the doxographical material does not distinguish between mixture or blending, on the one hand, and congregation or conjunction that does not involve mixture or blending, on the other. Sixth, the surviving fragments mainly concern the motivations of roots, not stuffs, or organisms. This is probably a function of the surviving evidence rather than of Empedocles' own interests. No doubt, the roots play a central role in Empedocles' poem, but Empedocles' poem clearly had considerably more to say about animals, plants, and their physiological and psychological processes. As we have seen, the doxographers inform us that Empedocles' poem contained content on nutrition, including appetite, and that appetites were attributed to plants. This is a genuine contribution of the doxographical tradition to our understanding of Empedocles' poem. In Section II.3 our discussion of the motivations of stuffs, which included the physiology of nutrition and appetite, primarily focused on examples from and considerations specific to animals. But, again, this is a function of the surviving fragments; there is very little among the fragments alone from which to reconstruct an account of the psychological functions of plants. Finally, although evidence for an Empedoclean account of nutrition is slight, on the basis of the doxographical evidence plus the material concerning motivation in the fragments, it is possible to reconstruct some aspects of a plausible account: the object of nutritional desire is not merely an elemental portion, but one in a certain quantity; and the subject and object are not necessarily elementally homogeneous.

Regarding pleasure and pain, first, the fragments suggest that, broadly speaking, Love is saliently responsible for harmonious conditions and to that extent for pleasure, while Strife is correlatively responsible for inharmonious conditions and thus for misery

and suffering. However, this does not imply, as the doxographical material claims, that pleasure arises through the blending of homogeneous elements,¹⁵⁷ while pain arises through the blending of heterogeneous elements. Second, the fragments do not suggest that Empedocles was interested in the physiology of hedonic experience. This is Theophrastus' misinterpretation. In particular, in B 107 ἡδεσθαι and ἀνιάσθαι refer to the emotions of joy and distress, not simply to the sensations of pleasure and pain.

GENERAL CONCLUSION

I began this paper by distinguishing three approaches to doxography: reconstructionism, receptionism, and the dialogical approach. Regarding reconstructionism, this study's results corroborate the work of many scholars, beginning most significantly with Harold Cherniss,¹⁵⁸ who argue that Aristotle's accounts of the Presocratics are misleading. Since Diels, scholars have generally been more sympathetic to Theophrastus.¹⁵⁹ But, at least with regard to the doxographical material examined here, this attitude appears questionable. Consequently, the reconstructionist project is fraught with obstacles, some insurmountable. In the absence of primary evidence to serve as a touchstone, I incline towards the harsh verdict of, for example, R. D. Dicks, who criticized as extravagant Charles Kahn's reconstruction of Anaximander's astronomy on the basis of Theophrastus.¹⁶⁰ Similarly, in the case of Empedocles' views of desire, pleasure, and pain, those few scholars who have treated this cluster of topics have relied on the doxographical material uncritically and been misled by Diels.¹⁶¹

Some may find this negative conclusion regarding reconstruc-

¹⁵⁷ Again, the doxographers do not distinguish between congregation and blending.

¹⁵⁸ *Aristotle's Criticism of Presocratic Philosophy* (Baltimore, 1935).

¹⁵⁹ Most recently, see Baltussen, *Theophrastus*.

¹⁶⁰ D. R. Dicks, 'Solstices, Equinoxes, and the Presocratics', *Journal of Hellenic Studies*, 85 (1965), 26–40, esp. 35–39 and n. 60.

¹⁶¹ Cf. W. K. C. Guthrie, *A History of Greek Philosophy*, i (Cambridge, 1962), 242; Bollack, *Empédocle*, iii. 469; Wright, *Empedocles*, 234–5. In addition, one finds passing references to DK 31 A 95 as an accurate representation of Empedocles' thought. I have already mentioned Lonie, *Hippocratic*, 298. Cf. B. Nikolsky, 'Epicurus on Pleasure', *Phronesis*, 46 (2001), 440–65 at 445, with reference to DK 31 A 95 at n. 21. I too was misled by Diels's rendition (*Trials of Reason: Plato and the Crafting of Philosophy* (Oxford, 2008), 65).

tionism unacceptable. But it should at least cast a cloud over their hopes of rescuing the earliest philosophical-scientific thought from oblivion. However, it is only when the study of doxography is bound to the reconstructionist agenda that such results must be received negatively. Doxographical studies need not be bound in this way. For example, it is increasingly appreciated that the commentators of late antiquity make rich philosophical contributions of their own.¹⁶² Generally speaking, the study of the reception of Presocratic philosophy is a fruitful enterprise, and much work remains to be done.¹⁶³

David Runia, commenting on the questions of the sources and reliability of just books 4 and 5 of Aëtius' *Placita*, writes: 'a limited section of this huge task has been carried out, the rest remains to be done'.¹⁶⁴ As we await the second volume of Mansfeld and Runia's *Aëtiana*, I hope, in Sections I.5–9 of this paper, to have shed a little more light on the pre-Aëtian doxographical tradition. In doing so, I hope also to have underscored the value of non-Graeco-Roman sources. In general, greater collaboration between Hellenists and Arabists is needed.

Finally, as far as I know, a professedly dialogical approach to doxography is novel. Of course, such an approach is only feasible where a substantial body of both primary and secondary materials exists. Thus, Empedocles provides an excellent field for enquiry. But Heraclitus, Parmenides, and perhaps Xenophanes and Anaxagoras offer additional opportunities for dialogical study.¹⁶⁵ And of course this paper has examined only a small set of Empedoclean doxographical passages.

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¹⁶² I have in mind the work of the Ancient Commentators on Aristotle Project.

¹⁶³ Again, Osborne, *Rethinking*, deserves mention. Cf. also e.g. J. Palmer, *Plato's Reception of Parmenides* (Oxford, 1999), and R. Polito, *The Sceptical Road: Aenesidemus' Appropriation of Heraclitus* (Leiden, 2004).

¹⁶⁴ 'Placita', 227.

¹⁶⁵ Cf. D. T. Runia, 'Xenophanes on the Moon: A Doxographicum in Aëtius', *Phronesis*, 34 (1989), 245–69.

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