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Echoes of Theophrastus' *De sensibus* in Books 4 and 1 of the Aëtian *Placita*

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Abstract: The hypothesis formulated by Usener and Diels that Theophrastus' *De sensibus* is a crucial source of relevant sections of the *Placita* is insufficiently supported by the evidence. Of the fifteen *Placita* chapters dealing with sense perception and cognition, only a few are related to the treatise.

Keywords: abstracts, Presocratics, Plato, chronology, updating, *Umlemmatisierung*.

1 Introduction

Theophrastus' *De sensibus*¹ is one of the sources of the tradition on which the account of sense-perception according to the Presocratics in the Aëtian *Placita* depends. Usener and Diels, as is well known, spoke of a single *Quelle*, which would have been modified by the process of abstraction and undergone further changes as the material was transmitted.² But their original hypothesis has to be formulated more modestly, as has been argued in some detail by Ax and Baltussen.³ David T. Runia and the present writer have been preparing a new edition with translation and commentary of the *Placita*.⁴ It may be of some interest to publish here in advance some of the results of the study of Book 4 and of Book 1 ch. 15.

A manuscript of *DS* must of course have been available for making the excerpts, and *Plac.* may therefore be included among the indirect witnesses for the text of *DS*. The manuscript tradition of *DS* is not particularly good, or the meaning of the original text may already have been quite difficult to make out in many

¹ Hereinafter *DS* for Theophr. *De sensibus*.

² For Diels' detailed comparison of the *Placita* with *DS* see *DG*, pp. 222–224.

³ Ax (1986), Baltussen (1993), (2000), (2006).

⁴ Hereafter I use *Plac.* for the Aëtian *Placita*. The text is that of our reconstructed version in a single column from the three witnesses ps. Plutarch (and his tradition), Stobaeus and Theodoret. For ease of comparison Diels' numeration of paragraphs is retained.

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places. Sometimes one has the impression that (a predecessor of) Aëtius, composing his terse abstracts, decided to cut a knot, or at least to limit his abstract to something that would make some directly appreciable sense, eventually helped by evidence available elsewhere, e.g. in Aristotle. In other cases he may have preserved a better reading of *DS* (see below section 5, comment on *Plac.* 4.16.3).

It is of some interest that colour is treated in Book 1 of *Plac.* (ch. 1.15), in one of the chapters on 'body' (σῶμα) and its properties (chs. 1.12–17, prominently beginning with ch. 1.12 Περὶ σωμάτων, *On bodies*), and not among the chapters dealing with sense-perception in Book 4, although in Democritus, Plato, Aristotle, and Theophrastus the study of colour is part of the study of sense-perception. In *DS*, the colour theories of Democritus and Plato play an important role. The shift from epistemology to ontology in Aëtius will have been caused by the position of the corporeal in Stoic thought. In ch. 1.15.1, colour is defined as 'the quality of a body that is primarily visible', but in a Stoicizing context qualities are corporeal. This reshuffling is evidence for the considerable distance between *DS* and *Plac.*, and may also explain the relative lack of direct echoes of *DS* in *Plac.* 1.15 as compared with *Plac.* 4.13–19.

Book 4 comprises 14 chapters on sense-perception and cognition, from 4.8 to 4.21. The 'Stoic' chapters 4.11 and 4.12, serving to make the tract more up to date, are of course entirely unrelated to *DS*. But the chapters on voice/sound, 4.19–20, should be included because voice is 'heard'. Of these 14 chapters only seven depend in some way on *DS*. We have seen that ch. 1.15 is to be added to these seven, so their sum total is eight.

I will look at the relevant paragraphs of the eight chapters involved one by one, namely of *Plac.* 4.9 on the reliability of sensations and impressions (including inner sensations), 4.13 on vision, 4.14 on mirror images, 4.16 on hearing, 4.17 on smelling, 4.18 on tasting, 4.19 on voice, and 1.15 on colours.⁵ Each time I will cite the *Plac.* text and its source in *DS*, sometimes followed by references to other relevant source texts and add brief comments.

2 Pleasure and pain

Two lemmata out of twenty in *Plac.* 4.9, Εἰ ἀληθεῖς αἱ αἰσθήσεις καὶ φαντασίαι, are related to an antecedent in *DS*. These twenty lemmata contain 19 name-labels,

⁵ I will not discuss ch. 4.5.12 'intellect and soul (are) the same', for which cf. e.g. Arist. *de An.* 1.2 404^a25–^b3, with Baltussen's note (1993), p. 222.

12 of which are of Presocratics: Pythagoras (twice),⁶ Xenophanes, Parmenides (twice), Anaxagoras (three times), Empedocles (three times), Zeno, Melissus, Leucippus, Democritus (three times), Diogenes, Metrodorus, and Protagoras. These are followed by four Academics and Peripatetics: Plato (twice), Academics (twice), Aristotle, and Heraclides, and three Hellenistic philosophers: Stoics (twice), Epicurus (four times), and Chrysippus.

Plac. 4.9.15 Ἐμπεδοκλῆς τὰς ἡδονὰς γίνεσθαι τοῖς μὲν ὁμοίοις (ἐκ) τῶν ὁμοίων κατὰ δὲ τὸ ἐλλεῖπον πρὸς τὴν ἀναπλήρωσιν, ὥστε τῷ ἐλλείποντι ἡ ὄρεξις τοῦ ὁμοίου· τὰς δ' ἀλγηδόνας τοῖς ἐναντίοις, ἡλλοτριῶσθαι γὰρ πρὸς ἀλλήλα ὅσα διαφέρει κατὰ τε τὴν σύγκρισιν καὶ τὴν τῶν στοιχείων κρᾶσιν.⁷

Empedocles (says) that the pleasures come about through the similars from the similars, but in accordance with what is lacking for the fulfilment, so that the desire for the similar comes about through what is lacking; the pains come about through the dissimilars, for foreign to each other is what is different as to composition and the blend of the elements.

Theophrastus *DS* 9 ἡδεσθαι δὲ τοῖς ὁμοίοις κατὰ τε (τὰ) μόρια καὶ τὴν κρᾶσιν, λυπεῖσθαι δὲ τοῖς ἐναντίοις.⁸ *DS* 16 ἀλλὰ μὴν οὐδὲ τὴν ἡδονὴν καὶ λύπην ὁμολογουμένως ἀποδίδωσιν, ἡδεσθαι μὲν ποιῶν τοῖς ὁμοίοις, λυπεῖσθαι δὲ τοῖς ἐναντίοις· “ἐχθρὰ” γὰρ εἶναι, διότι “πλεῖστον ἀπ’ ἀλλήλων διέχουσι” “γέννη τε κρᾶσει (τε) καὶ εἴδεσιν ἐκμακτοῖσιν”.⁹

DS 9 Pleasure is caused by things that are similar in their parts and mixture, pain by their opposites. *DS* 16 His explanation of pleasure and pain is inconsistent, for he makes pleasure come about by similars and pain by their opposites, since they are “enemies” because “they stand most distant from each other” “in origin, mixture and moulded forms.”

Comment. Diels *DG* 222 argues in favour of a clear link with *DS* 16, rightly endorsed by Baltussen (1993), p. 215.

Plac. 4.9.16 Ἀναξαγόρας πᾶσαν αἴσθησιν μετὰ πόνου.¹⁰

Anaxagoras (says) that each sensation occurs accompanied by stress.

Theophrastus *DS* 29 ἅπασαν δ' αἴσθησιν μετὰ λύπης.¹¹

Each sensation is accompanied by pain.

⁶ In this chapter, the name-label Pythagoras occurs both at 4.9.1 and 4.9.10.

⁷ Empedocles 31A95 DK.

⁸ Empedocles 31A86 DK.

⁹ Empedocles 31A86 DK including Empedocles 31B22 DK. I omit Theophrastus' criticism.

¹⁰ Anaxagoras 59A94.6–7 DK.

¹¹ Anaxagoras 59A92 DK.

Comment. According to this information Anaxagoras declared all sensations to be painful. This *placitum* is not mentioned by Diels or Baltussen, but is clearly reminiscent of the phrase in *DS*.

3 Vision

Four lemmata out of thirteen in *Plac.* 4.13, *Περὶ ὁράσεως, πῶς ὁρῶμεν, On vision, how we see*, are related to antecedents in *DS*. These thirteen lemmata contain 16 name-labels, 7 of which are of Presocratics plus Plato: Pythagoras Parmenides Alcmaeon Empedocles Leucippus Democritus.

Plac. 4.13.1 Λεύκιππος Δημόκριτος Ἐπίκουρος κατὰ εἰδώλων εἴσκρισιν οἶονται τὸ ὁρατικὸν συμβαίνειν πάθος.¹²

Leucippus Democritus Epicurus believe that the visual sensation is the result of the penetration of images.

Theophrastus *DS* 50–51 ὁρᾶν μὲν οὖν ποιεῖ τῇ ἐμφάσει· ταύτην δὲ ἰδίως λέγει· τὴν γὰρ ἔμφασιν οὐκ εὐθὺς ἐν τῇ κόρῃ γίνεσθαι κτλ. ... ὅλως δὲ ἀπορροὴν ποιοῦντα τῆς μορφῆς, ὥσπερ ἐν τοῖς *Περὶ τῶν εἰδῶν*, τί δεῖ τὴν ἀποτύπωσιν ποιεῖν; αὐτὰ γὰρ ἐμφαίνεται τὰ εἶδωλα.¹³ *DS* 80 ὁρᾶν δὲ φησι διὰ τὴν ἀπορροὴν καὶ τὴν ἔμφασιν τὴν εἰς τὴν ὄψιν.¹⁴

DS 50–51 He explains vision by reflection; this he describes in a particular way: the reflection does not occur directly in the pupil (etc.). ... In short, when, as in his *On Forms*, he posits an effluence of the form (sc. towards the eyes), why then has he to posit an imprint? (sc. in the air in between eyes and objects). For the images are reflected *sua sponte*.¹⁵ *DS* 80 He says that vision occurs by effluence (sc. from the objects) and reflection towards the eyes.

Cf. Epic. *Ep.Hdt.* ap. D. L. 10.46, Lucr. *DRN* 6.921–923, Alex.Aphrod. in *Sens.* 24. 18–21.

Comment. The doctrine of Leucippus and Democritus has here been reduced to that of Epicurus, famous for his theory of εἶδωλα. The name-labels Leucippus and Epicurus do not occur in *DS* (Epicurus as a matter of course). Adding “Epicurus” effectively neutralizes Theophrastus’ objection to Democritus’ complicated theory at *DS* 51 (for which see Rudolph 2011), not reproduced here. In terms of redaction ch. 4.13.1 is closer to Theophrastus’ extremely brief sentence at *DS* 80, where however no εἶδωλα are found. Theophrastus follows Arist. *Sens.* 2

¹² Leucippus 67A29 DK, Epicurus fr. 318 Usener.

¹³ Democritus 68A135 DK.

¹⁴ Democritus 68A135 DK.

438^a5–12. The theory has been downsized to the barest essentials; echoes of what is in *DS* are limited to εἰδώλων / εἶδωλα and to εἴσκρισιν / ἀπορροήν, ἐμφάσει (ἐμφαίνεται).

Plac. 4.13.4 Ἐμπεδοκλῆς καὶ πρὸς τὸ διὰ τῶν ἀκτίνων καὶ πρὸς τὸ διὰ τῶν εἰδώλων ἐκδοχὰς παρέχεται· πλείους δὲ πρὸς (τὸ) δεύτερον· τὰς γὰρ ἀπορροίας ἀποδέχεται.¹⁵

Empedocles provides evidence both with regard to (the view that we see) through rays and with regard to (the view that we see) through images; but more in relation to the latter, for he accepts the effluences.

Theophrastus *DS* 7 φησὶ τὸ μὲν ἐντὸς αὐτῆς (sc. τῆς ὀφθαλμοῦ) εἶναι πῦρ, τὸ δὲ περὶ αὐτὸ γῆν καὶ ἀέρα, δι' ὧν διέναι λεπτὸν ὃν καθάπερ τὸ ἐν τοῖς λαμπτήρσι φῶς. τοὺς δὲ πόρους ἐναλλάξ κεῖσθαι τοῦ τε πυρὸς καὶ τοῦ ὕδατος, ὧν τοῖς μὲν τοῦ πυρὸς τὰ λευκά, τοῖς δὲ τοῦ ὕδατος τὰ μέλανα γνωρίζειν· ἐναρμόττειν γὰρ ἑκατέροις ἑκάτερα· φέρεσθαι δὲ τὰ χρώματα πρὸς τὴν ὄψιν διὰ τὴν ἀπορροήν.¹⁶

DS 7 The interior (sc. of the eye) is fire, and what is around this is earth and water, through which it (sc. the fire), which is fine-textured, passes like the light in lanterns. The passages of fire and water lie alternately, and of these (passages) we know whites with those of fire and blacks with those of water, for these fit into these and those into those; the colours are borne along to the eyes by the (process of) effluence.¹⁷

Cf. Arist. *Sens.* 2 437^b23–438^a4, *GC* I.8 324^b26–32.

Some philosophers think that the last agent – the agent in the strictest sense – enters in through certain pores, and so the patient suffers action. It is in this way, they assert, that we see and hear and exercise all our senses. ... Such was the theory which some philosophers (including Empedocles) advanced ... (trans. Barnes 1984)

Comment. The point about the two views of Empedocles, extramission combined with intromission (and so of both sides of the main opposition of the *Plac.* chapter 'On vision'), derives from the first passage in Aristotle, quoted above; see Mansfeld – Runia (2009), vol. I, pp. 190–191. Baltussen (1993), pp. 217–18 allows for its influence – 'perhaps', he says – in combination with *DS* 7. Theophrastus too argues that Empedocles speaks both of the fire in the eye, and of the colours traveling to it as effluences fitting into the passages of the eye. O'Brien (1969), p. 140 argues that Aristotle's attribution of a visual ray to Empedocles is mistaken

¹⁵ Empedocles 31A90 DK.

¹⁶ Empedocles 31A86 DK.

¹⁷ For the colours see also *DS* 7 at section 9 below.

and says that “Theophrastus says nothing about fire leaving the eye as a factor in the act of vision”. But what he says at *DS* 7 is that “the fire *in* the eye (τὸ ... ἐντὸς αὐτῆς ... πῦρ) passes through (διεῖναι) the water and earth that surround it because it is fine-textured, just as the light in lanterns’. So he appears to agree with Aristotle. The *placitum* at 4.13.4 clearly reflects the contents of *DS*.

Plac. 4.13.11 Πλάτων συναύγειαν τοῦ μὲν ἐκ τῶν ὀφθαλμῶν φωτὸς ἐπὶ ποσὸν ἀπορρέοντος εἰς τὸν ὁμογενῆ ἀέρα, τοῦ δὲ ἀπὸ τῶν σωμάτων ἀντιφερομένου, τοῦ δὲ περὶ τὸν μεταξὺ ἀέρα, εὐδιάχυτον ὄντα καὶ εὐτρεπτον, συντεινομένου τῷ πυρώδει τῆς ὀψεως. αὕτη λέγεται Πλατωνικὴ συναύγεια.

Plato (says that we see) through co-illumination, the light from the eyes streaming out over a certain distance into the congeneric air, and the light travelling from bodies is borne in the contrary direction, while that in the air in between, which (sc. air) is easily diffused and flexible, extends itself together with the fiery element of vision. This is called Platonic co-illumination.

Theophrastus *DS* 5 τὴν μὲν ὄψιν ποιεῖ πυρός (διὸ καὶ τὸ χρῶμα φλόγα τιν’ ἀπὸ τῶν σωμάτων σύμμετρα μόρια τῇ ὀψει ἔχουσιν),¹⁸ ὡς ἀπορροῆς τε γινομένης καὶ δέον συναρμόττειν ἀλλήλοις ἐξιοῦσαν μέχρι τινὸς συμφύεσθαι τῇ ἀπορροῇ καὶ οὕτως ὁρᾶν ἡμᾶς.

DS 5 Vision, he posits, is by fire (which is why colour, too, is a sort of flame from the bodies having parts that are commensurate with (the organ) of sight); he assumes that an effluence occurs and, because they (sc. the fire from the eye and effluence from the objects) have to be commensurate with each other, it (the effluence) proceeds to a certain point and (the fire) fuses with the effluence, and this is how we see.

Cf. Plu. *Quaest.Conv.* 626C ἡμεῖς δὲ τὴν Πλατωνικὴν φυλάττοντες ἀρχὴν ἐλέγομεν ὅτι πνεῦμα τῶν ὀμμάτων αὐγοειδὲς ἐκπίπτον ἀνακίρναται τῷ περὶ τὰ σώματα φωτὶ καὶ λαμβάνει σύμπηξιν, ὥσθ’ ἐν ἐξ ἀμφοῖν σῶμα δι’ ὅλου συμπαθεὲς γενέσθαι κτλ.

Comment. *Plac.* 4.13.11 is far clearer than what is in Theophrastus (for the latter cf. Long 1996, pp. 381–383 and Ierodiakonou 2019), so will rather derive from the *Timaeus* or from a better *Zwischenquelle* than from *DS*. See also Baltussen (1993), pp. 209–10. The Aëtian term συναύγεια is paralleled in Nemesius, a cousin writing of Aëtius: *NH* 7, p. 58.11–15. It is also paralleled in several late Byzantines. The related Aëtian term συναναγασμός is found only once beyond the *Plac.* tradition, namely at Plu. *de Facie* 929B. The relation of the *placitum* to *DS* is tenuous.

¹⁸ Cf. *infra* p. 163 for *Plac.* 1.15.4 and *Tim.* 67c.

Plac. 4.13.12 Ἀλκμαίων κατὰ τὴν τοῦ διαφανοῦς ἀντίληψιν (sc. ὁρᾶν ἡμᾶς).¹⁹

Alcmaeon (says that we see) through the perception of the transparent.

Theophrastus *DS* 26 ὀφθαλμοὺς δὲ ὁρᾶν διὰ τοῦ πέριξ ὕδατος· ὅτι δ' ἔχει πῦρ δῆλον εἶναι, πληγέντος γὰρ ἐκλάμπειν. ὁρᾶν δὲ τῷ στίλβοντι καὶ τῷ διαφανεῖ, ὅταν ἀντιφαίνει, καὶ ὅσω ἂν καθαρώτερον ἢ μᾶλλον.²⁰

DS 26 The eyes see via the water that surrounds (sc. the internal fire); and it is obvious that it (sc. the water) encloses fire, for when struck it throws sparks; and they see through the gleaming, i. e. the transparent, when it reflects light, and the greater the purity the better.

Comment. The terse *Plac.* 4.13.12 can only be properly understood by consulting its (in itself not crystal clear) antecedent in *DS*. We note the presence both times of the anachronistic Aristotelian concept of the “transparent in actuality”, introduced by Theophrastus to explain the word “gleaming”. The doxographer has omitted everything else, so the relation to *DS* is minimal.

Baltussen (1993), p. 219 points out that “Theophrastus’ treatment of Alcmaeon is far more elaborate than Aristotle’s and Aëtius”. Agreeing with Diels he also states that “all occurrences in Aëtius [sc. in Book 4] have their counterpart in” *DS*. This is correct for Book 4 (he excludes *Plac.* 4.2.2 for which cf. Arist. *de An.* I.2 405^a29–^b1), although the name-label Alcmaeon occurs remarkably often in the poorly transmitted Book 5.

4 Mirror images

A single lemma out of four is concerned in *Plac.* 4.14 Περὶ κατοπτρικῶν ἐμφάσεων *On reflections in mirrors*. These four lemmata contain 4 name-labels of Presocratics: Pythagoras, Empedocles, Leucippus, and Democritus.

Plac. 4.14.1 Ἐμπεδοκλῆς κατ’ ἀπορροίας τὰς συνισταμένας μὲν ἐπὶ τῆς ἐπιφανείας τοῦ κατόπτρου, πιλουμένας (Stobaeus, τελειουμένας ps. Plutarch) δ’ ὑπὸ τοῦ ἐκκρινομένου ἐκ τοῦ κατόπτρου πυρώδους καὶ τὸν προκείμενον ἀέρα, εἰς ὃν φέρεται τὰ ρεύματα, συµμεταφέροντος.²¹

Empedocles (says the mirror images come about) by the effluences that come together on the surface of the mirror and are compacted by the fiery stuff dis-

¹⁹ Alcmaeon 24A10 DK.

²⁰ Alcmaeon 24A25 DK.

²¹ Empedocles 31A88 DK.

charged from the mirror, which transports across with itself the air lying before it towards which the streams travel.

POxy 1609 col. ii + *PPrinc inv. AM 11224C*²² δοκῇ δὲ ἐκεῖ φα[ίν]εσθαι· οὐ | γὰρ ἐπ' ἐκείνου τοῦ κατόπτρου | ὁρᾶται, ἀλλ' ἡ ἀνακλάσις ἐπὶ | τὸν ὀρώντα. περὶ μὲν οὖν | τούτων ἐν τοῖς εἰς Τίμαιον (sc. ad *Tim.* 46a–c) εἴ[ρ]ηται· οὐ δεῖ δὲ 'εἴδωλον' τοιοῦτον ἀκούειν οἷον τὸ κατὰ Δημόκριτον²³ ἢ 'Επίκουρον²⁴ ἢ ὡς Ἐμπεδοκλῆς²⁵ | ἀπορροὰς φαίη ἂν ἀπιέναι | ἀπὸ ἐκάστου τῶν κ[ατ]οπτριζομένων καὶ τ[+ 9] | περιεουσας.

Comment. In his presentation of the evidence for the dependence of sections and lemmata of the *Plac.* (*DG*, p. 222), Diels refers to this paragraph as “cum Empedoclea doctrina egregie consentiens”. But there is no precise Theophrastean parallel, only *POxy 1609* + *PPrinc inv. AM 11224C*, fr. A, which became available to scholars only subsequently. Perhaps Diels had *DS* 7 in mind, ‘colours are conveyed to our eyes by means of effluence’ (ἀπορροήν), see above ad *Plac.* 4.13.12. There is of course sufficient evidence for the ἀπόρροιαί, e.g. Empedocles 31A89, 31A92 DK (Plato, *Meno* 76).

Choosing between ps.Plutarch's τελειούμενας and Stobaeus's πιλουμένας is not easy, but πιλουμένας may perhaps be preferred because of a partial parallel in Theophrastus' account of Democritus' (not Empedocles') theory of vision, where it is the air between the eye and the object (not effluences or images) that is compressed by them (*DS* 50 τὸν ἀέρα τὸν μεταξὺ τῆς ὄψεως καὶ τοῦ ὀρωμένου τυποῦσθαι συστελλόμενον ὑπὸ τοῦ ὀρωμένου καὶ τοῦ ὀρώντος; cf. Burkert 1977, p. 100, rather than Avotins 1980, pp. 434–44). According to Epicurus images are compressed by συνίζησις so as to fit into the eye, *Nat.* fr. 23.43.11–13 Arrighetti; see also Alexander of Aphrodisias(?) *Mant.* 135.9–10, *pace* Sharples (2008), p. 189. For compression in this context cf. also Plato *Tim.* 45B συμπλήσαντες. The fiery substance separated off from the mirror presumably is the returning fiery beam that originally came from the eye.

²² Comm. in *Alc.* col. ii ap. *CPF* III p. 57 + fr. A Democritus 4T + Empedocles 3T ap. *CPF* I.1**.

²³ Not in DK, Luria or Taylor.

²⁴ Not in Usener.

²⁵ Empedocles 31B109a DK.

5 Hearing

All four lemmata of *Plac.* 4.16 Περὶ ἀκοῆς *On hearing*. These four lemmata contain 4 name-labels of Presocratics plus Plato: Alcmaeon Empedocles Diogenes. Diels *DG*, pp. 222–224 and Ax (1986), pp. 80–86 discuss the parallels in *DS* and elsewhere. What is important, as Ax points out, is that Theophrastean antecedents (name-label plus a tenet) are extant for all four lemmata. We may add that nothing comparable is found in Aristotle. That the lemmata have been modified in the course of transmission, or are somewhat garbled, is not surprising. The structure of the chapter is explained by Laks (1997), pp. 254–57 = (2007), pp. 45–48; note especially the diaeretic scheme on p. 50.

Plac. 4.16.1 Ἐμπεδοκλῆς τὴν ἀκοὴν γίνεσθαι κατὰ πρόσπτωσιν πνεύματος τῷ χονδρώδει, ὅπερ φησὶν ἐξηρτῆσθαι ἐντὸς τοῦ ὠτὸς κώδωνος δίκην αἰωρούμενον καὶ τυπτόμενον.²⁶

Empedocles (says that) hearing occurs when *pneuma* falls against the cartilaginous body which he says is suspended inside the ear, which is hanging and struck in the manner of a bell.

Theophrastus *DS* 9 τὴν δ' ἀκοὴν ἀπὸ τῶν ἔσωθεν γίνεσθαι ψόφων· ὅταν γὰρ (ὁ ἀήρ add. DK) ὑπὸ τῆς φωνῆς κινηθῇ, ἡχεῖν ἐντός· ὥσπερ γὰρ εἶναι κώδωνα τῶν ἴσων ἤχων (crucifixit Diels) τὴν ἀκοήν, ἣν προσαγορεύει 'σάρκινον ὄζον'.²⁷ κινούμενον δὲ παίειν τὸν ἀέρα πρὸς τὰ στερεὰ καὶ ποιεῖν ἤχον.²⁸

DS 9 Hearing comes about from noises in the interior, for when the air is moved by the sound, there is an echo inside; for hearing is like a bell of the equal sounds, which he calls 'fleshy twig'; when moved the air strikes against the solid parts (sc. of the air inside) and produces the echo.²⁹

Comment. Diels *DG*, p. 222 notes the resemblance of *Plac.* 4.16.1 to *DS* 9 (convenire videntur, sed cum misere haec corrupta sint, ascribere nolo). Ax (1986), p. 80 rightly argues that (*pace* Diels) the Empedocles lemma differs from the passage in Theophrastus more in wording than content. Baltussen (1993), p. 218 and (2006) points at the presence of κώδων in both texts (also cf. *DS* 21, κώδωνος), sure proof of at least partial dependence.

²⁶ Empedocles 31A93 DK.

²⁷ Empedocles 31B99 DK.

²⁸ Empedocles 31A6 DK.

²⁹ Translation not entirely certain.

Plac. 4.16.2 Ἀλκμαίων ἀκούειν ἡμᾶς τῷ κενῷ τῷ ἐντὸς τοῦ ὠτός· τοῦτο γὰρ εἶναι τὸ διηχοῦν κατὰ τὴν τοῦ πνεύματος ἐμβολήν· πάντα γὰρ τὰ κενὰ ἤχεϊ.³⁰

Alcmaeon (says) that we hear by means of the empty space inside the ear. For this is what resounds when *pneuma* enters; for all empty spaces resound.

Theophrastus *DS* 25 ἀκούειν μὲν οὖν φησι τοῖς ὠσίν, διότι κενὸν ἐν αὐτοῖς ἐνυπάρχει· τοῦτο γὰρ ἤχεϊν (φθέγγεσθαι δὲ τῷ κοίλῳ), τὸν ἀέρα δ' ἀντηχεῖν.³¹

DS 25 Now hearing, he says, is with the ears, because there is an empty space within them; this resounds (a sound is produced by the hollow), and the air resounds in response.

Comment. Diels correctly sees a strong resemblance of *Plac.* 4.16.2 with *DS* 25 (“optime consentiunt” *DG*, p. 223); Ax (1986), p. 80 agrees.

Plac. 4.16.3 Διογένης τοῦ ἐν τῇ κεφαλῇ ἀέρος ὑπὸ τῆς φωνῆς τυπτομένου καὶ κινουμένου.³²

Diogenes (says that we hear) when the air in the head is struck and moved by the sound.

Theophrastus *DS* 39 τὴν μὲν ὄσφρησιν τῷ περὶ τὸν ἐγκέφαλον ἀέρι· τοῦτον γὰρ ἄθρουν εἶναι καὶ σύμμετρον τῇ † ἀκοῇ (crucifixi, ἀκοῇ ms. probat Laks, ὁσμῇ coni. Schneider probant Diels *DG*, *FVS*, Stratton)· τὸν γὰρ ἐγκέφαλον αὐτὸν μανὸν καὶ φλεβία, λεπτότατον δ' ἐν οἷς ἡ <διά>θεσις (restituit Diels ‘ex usu Theophrasti’, θέσις ms. probat Laks) ἀσύμμετρος, καὶ οὐ μίγνυσθαι ταῖς ὁσμαῖς· ὡς εἴ τις εἴη τῇ κράσει σύμμετρος, δηλὸν ὡς αἰσθανόμενον ἄν. *DS* 40–41 τὴν δ' ἀκοήν, ὅταν ὁ ἐν τοῖς ὠσίν ἀῆρ κινηθεῖς ὑπὸ τοῦ ἔξω διαδῶ πρὸς τὸν ἐγκέφαλον. ... κινούμενον γὰρ τὸν ἐν τοῖς ὠσίν ἀέρα κινεῖν τὸν ἐντὸς.³³

DS 39 smelling occurs by the air about the brain; for this (air? brain?) is compact and commensurate with the hearing (? or: the smell)', etc. *DS* 40–41 ‘hearing occurs when the air in the ears, set in motion by the air outside, conveys (the sound?) to the brain. ... for the air in the ears, when moved, moves the inner (air).

Comment. Diels is optimistic about the resemblance between *Plac.* 4.16.3 and *DS* 40 (“bene respondet” *DG*, p. 223), but the Diogenes lemma, in Ax’s view (Ax 1986, p. 80), is much less close to Theophrastus’ version than Diels believed; similarly Baltussen (1993), p. 220. Laks (2008), p. 165 states that ‘des trois airs qui interviennent dans le processus de l’audition, le doxographe ne retient que les

³⁰ Alcmaeon 24A6 DK.

³¹ Alcmaeon 24A5 DK.

³² Diogenes 64A21 DK, T9 Laks.

³³ Diogenes 64A19 DK, T8 Laks.

deux extrêmes, le son et l'air cervical'. However, one notes that the doxographer's addition (or perhaps preservation from a better ms., so possibly a contribution to the *constitutio* of the text of *DS*) of φωνή "sound" is quite helpful. So some kind of dependence seems certain.

Plac. 4.16.4 Πλάτων καὶ οἱ ἀπ' αὐτοῦ πλήττεσθαι τὸν ἐν τῇ κεφαλῇ ἀέρα, τοῦτον δ' ἀνακλᾶσθαι εἰς τὰ ἡγεμονικὰ καὶ γίνεσθαι τῆς ἀκοῆς τὴν αἴσθησιν.³⁴

Plato and his followers (say that) the air in the head receives a blow, and this (air) is reflected onto the ruling parts, and so the perception of hearing arises.

Theophrastus *DS* 6 (de Platone) ἀκοὴν δὲ διὰ τῆς φωνῆς ὀρίζεται· φωνὴν γὰρ εἶναι πληγὴν ὑπ' ἀέρος ἐγκεφάλου καὶ αἵματος δι' ὧτων μέχρι ψυχῆς, τὴν δ' ὑπὸ ταύτης κίνησιν ἀπὸ κεφαλῆς μέχρι ἥπατος ἀκοήν.

Cf. Pl. *Tim.* 67A–B, Plu. *De E* 390B ἀὴρ δὲ πληγεὶς ἐν ἀκοῇ γίγνεται φωνὴ καὶ ψόφος, Alcin. *Did.* c. 19, pp. 173.42–174.2 H.

Comment. Long (1996), pp. 381–382 argues that Plato *Tim.* 67A–B is cited 'almost verbatim'. In *Plac.* 4.16.4 Plato's definition of hearing – not mentioned by Diels – is suggested according to Ax (1986), p. 81 vaguely 'und dazu mit fremder Begrifflichkeit' (sc. by naming τὰ ἡγεμονικά). Baltussen (2000), p. 233 speaks of 'a muddled simplification'. At *Tim.* 67B (cf. Alcin. *Did.* c. 19, p. 174.2 H.) and in *DS* 6 the recipient of the auditory sensation is the liver. Perhaps the plural τὰ ἡγεμονικά is short for τὴν αἴσθησιν καὶ τὸ ἡγεμονικόν (cf. *Plac.* 4.5.10 Πυθαγόρας τὸ μὲν ζωτικόν (sc. ἡγεμονικόν) περὶ τὴν καρδίαν, τὸ δὲ λογικόν καὶ νοερὸν περὶ τὴν κεφαλὴν).³⁵ The connection is indeed vague.

6 Smell

Both lemmata of *Plac.* 4.17 Περί ὀσφρήσεως, *On smelling*, are involved. These two lemmata contain two name-labels of Presocratics: Alcmaeon Empedocles. Diels *DG*, pp. 222–223 discusses the parallels in *DS*. Theophrastean antecedents (name-label plus a tenet) are extant for both lemmata. Nothing comparable is found in Aristotle.

³⁴ But cf. *infra* pp. 159–60, *Plac.* 4.19.1a *On voice*.

³⁵ Also Nemes. *NH* c. 6, p. 57.7–10, Ptolem. *Judic.* c. 15.3, p. 15.10 and. c. 16.1–2, p. 22.13–19 Lamert–Boer.

Plac. 4.17.1 Ἀλκμαίων ἐν τῷ ἐγκεφάλῳ εἶναι τὸ ἡγεμονικόν· τούτῳ οὖν ὀσφραίνεσθαι ἔλκοντι διὰ τῶν ἀναπνοῶν τὰς ὀσμάς.³⁶

Alcmaeon (says that) the ruling part is in the brain; one then smells with this part when it draws in odours through inhalation.

Theophrastus *DS* 25 ὀσφραίνεσθαι δὲ ρίσιν ἅμα τῷ ἀναπνεῖν ἀνάγοντα τὸ πνεῦμα πρὸς τὸν ἐγκέφαλον.³⁷

Comment. The central function of Alcmaeon's brain is also found in other sources, but is especially emphasized in *DS* and paralleled at *Plac.* 5.3.3, Ἀλκμαίων ἐγκεφάλου μέρος, "Alcmaeon (declares that the sperm is) a part of the brain," for which no antecedent in *DS* is extant. The attribution of a ἡγεμονικόν is a matter of later terminology, since the term simply became part of the philosophical *koinê*. Diels *DG*, p. 223, stating in general that "Alcmaeonis placita optime consentiunt," comparing *DS* 25 and *Plac.* 4.17.1 by means of a tabular quotation, still calls this terminology Stoic: "sed ne Stoicorum accomodationem desideres haec mihi confer." But his "optime consentiunt" is correct.

Plac. 4.17.2 Ἐμπεδοκλῆς ταῖς ἀναπνοαῖς ταῖς ἀπὸ τοῦ πνεύμονος συνεισκρίνεσθαι τὴν ὀσμήν· ὅταν γοῦν ἡ ἀναπνοὴ βαρεῖα γίνηται, κατὰ τραχύτητα μὴ συναισθάνεσθαι, ὡς ἐπὶ τῶν ρευματιζομένων.³⁸

Empedocles (says that) odour is introduced with the inhalations of the lung. But when breathing becomes heavy one no longer perceives it (along) due to obstruction, as happens in the case of those with lung infections.

Theophrastus *DS* 9 ὀσφρησιν δὲ γίνεσθαι τῇ ἀναπνοῇ· διὸ καὶ μάλιστα ὀσφραίνεσθαι τούτους, οἷς σφοδρὸτάτη τοῦ ἄσθματος ἡ κίνησις· ὀσμήν δὲ πλείστην ἀπὸ τῶν λεπτῶν καὶ τῶν κούφων ἀπορρεῖν.³⁹ *DS* 21 ἀτόπως δὲ καὶ τὸ περὶ τὴν ὀσφρησιν εἶρηκεν. πρῶτον μὲν γὰρ οὐ κοινὴν αἰτίαν ἀπέδωκεν· ἔνια μὲν γὰρ ὅλως οὐδ' ἀναπνέει τῶν ὀσφραινομένων. ἔπειτα τὸ μάλιστα ὀσφραίνεσθαι τοὺς πλείστον ἐπισπωμένους εὐθιες· οὐδὲν γὰρ ὄφελος μὴ ὑγιαίνουσιν ἢ μὴ ἀνεωγμένης πως τῆς αἰσθήσεως. πολλοῖς δὲ συμβαίνει πεπηρῶσθαι καὶ ὅλως μὴδὲν αἰσθάνεσθαι. πρὸς δὲ τούτοις οἱ δύσπνοοι καὶ οἱ πονοῦντες καὶ οἱ καθεύδοντες μᾶλλον ἂν αἰσθάνοιντο τῶν ὀσμῶν· τὸν πλείστον γὰρ ἔλκουσιν ἀέρα. νῦν δὲ συμβαίνει τοῦναντίον.⁴⁰

DS 9 Smell (he says) occurs by inhalation. That is why those in whom the movement of breath is most vigorous smell most acutely. And the strongest odour

³⁶ Diogenes 24A8 DK.

³⁷ Alcmaeon 24A5 DK.

³⁸ Empedocles 31A94 DK.

³⁹ Empedocles 31A86 DK.

⁴⁰ Empedocles 31A86 DK.

comes as an effluence from fine, light objects. *DS 21* The account he has given of smell is also absurd. For in the first place he did not give a universally applicable cause. For some animals which smell do not breathe at all. Next, it is silly (to say) that those who draw (breath) most vigorously are the best at smelling. For this is no use if the sense organ is diseased or not open for some reason. And many are impaired and do not perceive (i. e. smell) anything at all. In addition, those who are short of breath and those working hard and those who are asleep would perceive odours most effectively; for the draw most air. But in fact, the opposite is true.

Comment. Diels is right to be positive about the connection between *Plac.* 4.17.2 and *DS 21* (*DG*, p. 222). The remark about the effects of an infection echoes Theophrastus' criticism (*DS 21*), but turns it into a piece of positive doctrine.

7 Taste

Both paragraphs of *Plac.* 4.18 *Περὶ γεύσεως*, *On tasting*, are involved. These two lemmata contain 2 name-labels of Presocratics: Alcmaeon Diogenes.

Plac. 4.18.1 Ἀλκμαίων τῷ ὑγρῷ καὶ τῷ χλιαρῷ τῷ ἐν τῇ γλώττῃ πρὸς τῇ μαλακότητι διακρίνεσθαι τοὺς χυμούς.⁴¹

Alcmaeon (says that) flavours are distinguished by the wetness and warmth in the tongue as well as its softness.

Theophrastus *DS 25* γλώττῃ δὲ τοὺς χυμοὺς κρίνειν· χλιαρὰν γὰρ οὖσαν καὶ μαλακὴν τήκειν τῇ θερμότητι· δέχεσθαι δὲ καὶ διαδιδόναι διὰ τὴν μανότητα καὶ ἀπαλότητα.⁴²

Plac. 4.18.2 Διογένης τῇ ἀραιότητι τῆς γλώττης καὶ τῇ μαλακότητι καὶ διὰ τὸ συνάπτειν τὰς ἀπὸ τοῦ σώματος εἰς αὐτὴν φλέβας διαχεῖσθαι τοὺς χυμοὺς ἐλκομένους ἐπὶ τὴν αἴσθησιν καὶ τὸ ἡγεμονικὸν καθάπερ ἀπὸ σπογγίᾳς.⁴³

Diogenes (says that) through the porousness of the tongue and its softness, and because of the veins from the body being connected to it, the flavours are diffused and attracted to the perceptive faculty, that is, the ruling part, as from a sponge.

⁴¹ Alcmaeon 24A9 DK.

⁴² Alcmaeon 24A5 DK.

⁴³ Diogenes 64A22 DK, T10 Laks.

Theophrastus *DS* 43 κριτικώτατον δὲ ἡδονῆς τὴν γλῶτταν· ἀπαλώτατον γὰρ εἶναι καὶ μανὸν καὶ τὰς φλέβας ἀπάσας ἀνήκειν εἰς αὐτήν· διὸ σημειᾷ τε πλεῖστα τοῖς κάμνουσιν ἐπ' αὐτῆς εἶναι, καὶ τῶν ἄλλων ζώων τὰ χρώματα μηνύειν· ὅποσα γὰρ ἂν ᾗ καὶ ὅποια, τοσαῦτα ἐμφαίνεσθαι.⁴⁴

DS 43 The best judge of pleasure is the tongue, for it is very soft, and fine-textured, and all the veins are connected with it; for this reason the majority of symptoms in case of illness are on it, and it reveals the colours of the other animals, for it shows all of them and in all their variety.

Cf. ps.Aristotle *Probl.* XXXIV.6 964^a4–5, *Probl.* X.19 892^b34–36.

Comment. Diels rightly notes the resemblance between 4.18.1 and Theophr. *Sens.* 25 (“concordant”, *DG*, p. 223). He also notes the resemblance between *Plac.* 4.18.2 and *DS* 43 (apta sunt Theophrasteis), though he again objects to τὸ ἡγεμονικόν as unwelcome Stoic influence (Stoicorum adulterium). What is of considerable importance is that genuine Theophrastean antecedents (namely, a name-label plus a tenet) are extant for both lemmata, though differing in proximity. *Plac.* 4.18.1 is indeed not far from *DS*, but 4.18.2 shows greater difference: Laks (2008), p. 166 observes well that “la fin de la notice [i. e. of 4.18.2] complète la présentation de Théophraste.” Nothing comparable is found in Aristotle.

8 Voice/Sound

Two paragraphs out of seven in *Plac.* 4.19 *Περὶ φωνῆς On voice*, are involved. These seven lemmata contain 5 name-labels, 3 of which are of Presocratics plus Plato: Anaxagoras Democritus.

Plac. 4.19.1a Πλάτων τὴν φωνὴν ὀρίζεται πνεῦμα διὰ στόματος ἀπὸ διανοίας ἡγμένον· **1b** καὶ πληγὴν ὑπὸ ἀέρος δι' ὧτων καὶ ἐγκεφάλου καὶ αἵματος μέχρι ψυχῆς διαδομένην.

1a Plato defines voice/sound as breath directed from the intellect through the mouth,

1b and as a blow by air through ears and brain and blood up to the soul.

Theophrastus *DS* 6 ἀκοὴν δὲ διὰ τῆς φωνῆς ὀρίζεται· **1b** φωνὴν γὰρ εἶναι πληγὴν ὑπ' ἀέρος ἐγκεφάλου καὶ αἵματος δι' ὧτων μέχρι ψυχῆς. *DS* 86 **1b** φωνὴν δὲ εἶναι πληγὴν ὑπὸ ἀέρος ἐγκεφάλου καὶ αἵματος δι' ὧτων μέχρι ψυχῆς.

⁴⁴ Diogenes 64A19 DK.

DS 6 He defines hearing by means of voice/sound; **1b** for voice/sound is a blow by air against brain and blood through the ears until the soul.

Cf. **1a** Pl. *Tht.* 206c–d, **1b** *Tim.* 67b, *Tim.* Loc. 58, p. 220.4–5 Thesleff, Alcin. *Did.* c. 19, pp. 173.42–174.4 H.

Comment. The shared term *ὀρίζεται* definition **1a** is quite different from Theophrastus' introductory words. But *πληγὴν ... ψυχῆς* in definition **1b** in *Plac.* is very close to Theophrastus, who himself clearly and very carefully excerpts Plato, although he seems to give “the erroneous impression that Plato takes hearing ... to be *itself a sound*” (Long 1996, p. 352, his emphasis). But *διαδιδομένην* is derived from Plato not from Theophrastus (Baltussen 2000, pp. 234–37). Note anyhow that *φωνή* also means “sound” in general. In our ch. 4.19, this is presented not only as produced, but also as received (heard). As a consequence, what in the original sources was formulated primarily as pertaining to spoken, or thought, *logos* (Plato, *Tht.* 206d, *Sph.* 263e – cf. **1a**), or to hearing (*Tim.* 67b – cf. **1b**), has been rephrased to suit a focus or heading pertaining to voice/sound; this occurs already in Theophrastus. See Ax (1986), p. 78, who aptly speaks of *Umlemmatisierung*, or ‘placing under a different heading’, but whose claim that in *Plac.* 4.19 *φωνή* denotes “voice” alone I cannot follow. In Plato and Theophrastus (and Arist. *de An.* II.8 419^b4–421^b6 as well as Lucr. *DRN* 4.524–579) voice/sound and hearing are mentioned together. But according to the standard Stoic theory hearing and voice are two distinct parts of the soul, which helps explain why they are dealt with in separate chapters in *Plac.*, at a certain distance from each other in a sequence conforming to that of listings of the Stoic parts of soul: *Plac.* 4.4.4: The Stoics say the soul is constituted of eight parts: five perceiving parts, (viz.) seeing (cf. *Plac.* 4.13–15), hearing (cf. 4.16), smelling (cf. 4.17), tasting (cf. 4.18), touching (*deest*); as sixth the speaking (part) (*ὁρατικοῦ ἀκουστικοῦ ὁσφρητικοῦ γευστικοῦ ἀπτικοῦ, ἔκτου δὲ φωνητικοῦ*).” The relation of 4.19.1a to *DS* is virtually inexistent.

Plac. 4.19.5 Ἀναξαγόρας τὴν φωνὴν γίνεσθαι πνεύματος ἀντιπεσόντος μὲν στερεμνίῳ ἀέρι, τῇ δ' ὑποστροφῇ τῆς πλήξεως μέχρι τῶν ἀκοῶν προσενεχθέντος καθὼ καὶ τὴν λεγομένην ἡχώ γίνεσθαι.⁴⁵

Anaxagoras (says) sound occurs when *pneuma* encounters solid air and, turning around because of the impact, is carried to the ears; in this manner the so-called echo also occurs.

⁴⁵ Anaxagoras 59A106 DK.

Theophrastus *DS* 28 ἀκούειν ... τῷ διικνεῖσθαι τὸν ψόφον ἄχρι τοῦ ἐγκεφάλου· τὸ γὰρ περιέχον ὅστουν εἶναι κοῖλον, εἰς ὃ ἐμπίπτειν τὸν ψόφον. *DS* 59 Ἀναξαγόρας ... περί τε φωνῆς ὅτι κίνησις τοῦ ἀέρος.⁴⁶

DS 28 Hearing occurs ... through the penetration of sound to the brain, for the enveloping bone into which the sound enters is hollow. *DS* 59 Anaxagoras ... on voice, that it is a movement of air.

Comment. Although an overall resemblance cannot be denied, the distance from Theophrastus is noteworthy (cf. Baltussen 1993, p. 221). Ax (1986), p. 82 emphasizes the distinction between ψόφος ‘sound’ in *DS* and φωνή ‘voice’ in *Plac.*, but as already noted, this reduction of the meaning of φωνή in the *Plac.* chapters is mistaken.

9 Colour

Three lemmata out of thirteen in *Plac.* 1.15, *Περὶ χρωμάτων On colours*, are involved. These thirteen lemmata contain 10 name-labels (and 3 anonymi), 5 of which are of Presocratics plus Plato: Pythagoreans (twice), Empedocles, Democritus. The relation of the chapter as a whole with *DS* is quite limited.

Diels *DG*, pp. 50 and 222, following his predecessors and of course with his theory of Theophrastus as the most important source in mind, argues that ὠχρόν (“ochre”, “yellow”) in § 3 Empedocles, § 7 Pythagoreans, and § 8 Democritus is corrupt. He is still followed by Ierodiakonou (2005), p. 11, who in n. 16 cites other followers of Diels. The original reading would have been χλωρόν (“green”), the last of the four primary colours according to Theophrastus on Democritus at *DS* 75–82. Since ὠχρόν occurs in all witnesses for § 3 plus §§ 7–8 and, if indeed it is a corruption, has to be an ancient one (“Aetius an librarius tam pertinaciter peccaverit nescio”); Diels does not introduce χλωρόν in the Greek text of the *DG*, flagging ὠχρόν with asterisks instead. At *PPF* (1901), 5A92 he keeps ὠχρόν too, but between the brackets he adds: “an i.q. χλωρόν cf. Galen. XV 554⁴⁷ at cf. Heraclit. fr. 10.”⁴⁸ As a matter of fact, ὠχρός is not attested later than χλωρός.⁴⁹ In *DS* 76, Democritus’ fourth colour is χλωρός, while in *Plac.* 1.15.8 it is ὠχρός (just as in

⁴⁶ Anaxagoras 59A92 DK.

⁴⁷ Gal. *HVA* 15.554.6–555.2 K., cf. *Hipp.Epid.* 17A.929.4–8 K., *Hipp.Prog.* 18B.31.1–2 K.

⁴⁸ Heracl. 22B10 DK at ps.Arist. *Mu.* 5 396^b11–15, cf. Plin. *Nat.* 35.50.

⁴⁹ See Ferrini (1999), p. 105 on the interchangeability of these two terms, and compare the entries χλωρός and ὠχρός in Kühn, Fleischer, *Index Hippocraticus* (1988–9).

§§ 7–8). This is evidence that the four-colours theory of the present chapter does not derive from the *De sensibus* unchanged.

Plac. 1.15.3 Ἐμπεδοκλῆς χρώμα εἶναι ἀπεφαίνεται τὸ τοῖς πόροις τῆς ὄψεως ἐναρμόττον· τέτταρα δὲ τοῖς στοιχείοις ἰσάριθμα, λευκόν, μέλαν, ἐρυθρόν, ὡχρόν.⁵⁰

Empedocles declared colour to be what is fitting for the passages of sight, and (there are) four, equal in number to the elements: white, black, red, ochre (i.e. yellow).

Theophrastus *DS* 7 τοὺς δὲ πόρους ἐναλλάξ κεῖσθαι τοῦ τε πυρός καὶ τοῦ ὕδατος, ὧν τοῖς μὲν τοῦ πυρός τὰ λευκά, τοῖς δὲ τοῦ ὕδατος τὰ μέλανα γνωρίζειν· ἐναρμόττειν γὰρ ἑκάτεροις ἑκάτερα. φέρεσθαι δὲ τὰ χρώματα πρὸς τὴν ὄψιν διὰ τὴν ἀπορροήν.⁵¹ *DS* 59 Ἐμπεδοκλῆς δὲ καὶ περὶ τῶν χρωμάτων καὶ ὅτι τὸ μὲν λευκὸν τοῦ πυρός, τὸ δὲ μέλαν τοῦ ὕδατος.⁵²

DS 7 The passages of fire and water lie alternately, and of these (passages) we know whites with those of fire and blacks with those of water, for these fit into these and those into those; the colours are borne along to the eyes by the (process of) effluence. *DS* 59 Empedocles discusses the colours too, and posits that white is a matter of fire and black of water.

Comment. The Empedoclean tenet in *Plac.* 1.15.3 that colours is what is fitting for the *poroi* of vision may derive from Arist. *GC* 1.8 324^b26–35 (Empedocles 31A87 DK), but perhaps more readily from the shorter accounts at Theophr. *DS* 7 and 59, cf. *DG* p. 222. But Diels, *DG* p. 222 correctly stipulates that the *four*-colour theory contradicts Theophrastus' account (so that it does not derive from the *De sensibus* unchanged), which at *DS* 7 and 59 for Empedocles mentions only *two*, namely the traditional primary colours black and white. Cf. Baltussen (1993), pp. 216–17, who also cites *GA* V.1 779^b15–21 as maybe closer to 1.15.3. See also Ierodiakonou (2005).

At *Plac.* 4.13.4, the chapter on vision (see section 3 above), two competing theories concerned with vision are attributed to Empedocles, namely that of visual rays stretching out to the objects and that of effluences reaching the eyes. In *Plac.* 1.15.3, the present lemma, the Greek tradition, which consists of ps. Plutarch (with ps. Galen's epitome) and Stobaeus and representing represents one side of this opposition, has "Empedocles (says) that colour is what fits the pores of the eyes," while the Arabic translation of Qusṭā ibn Lūqā, representing the other

⁵⁰ Empedocles 31A92 DK.

⁵¹ Empedocles 31A86 DK. Cf. *DS* 7 at section 2 above.

⁵² Empedocles 31A69a DK.

side, has “Empedokles war der Meinung, daß die Farbe etwas ist, worauf die Sehstrahlen fallen.” It is quite unlikely that this difference is due to a mistranslation on Qusṭā’s part, so represents a genuine reading, or rather tradition. Possibly the Aëtian lemma at 1.15.3 originally presented both views, just as at *Plac.* 4.13.11, and ps. Plutarch (with ps. Galen) and Stobaeus omitted one half, and Qusṭā the other. The first half of the *placitum* agrees with what is in *DS*, the four-colours theory of the second half, as noted, does not.

Plac. 1.15.4 Πλάτων φλόγα ἀπὸ τῶν σωμάτων σύμμετρα μόρια ἔχουσιν πρὸς τὴν ὄψιν.

Plato (says that colour is) a flame (emanating) from the bodies, which has particles commensurate with (the organ of) sight.

Theophrastus *DS* 5 τὸ χρῶμα φλόγα τιν’ ἀπὸ τῶν σωμάτων σύμμετρα μόρια τῇ ὄψει ἔχουσιν. *DS* 86 τὸ δὲ χρῶμα φλόγα εἶναι ἀπὸ τῶν σωμάτων σύμμετρα μόρια ἔχουσιν τῇ ὄψει· λευκὸν μὲν τὸ διακριτικόν, μέλαν δὲ τὸ συγκριτικόν.

DS 5 Colour is a sort of flame from the bodies having parts that are commensurate with the organs of vision. *DS* 86 white is piercing, black compressing.

Cf. Pl. *Tim.* 67c, 67e.

Comment. Plato’s doxa in *Plac.* 1.15.4 is a virtually verbatim reproduction of a sentence in *DS* 5 (and of the first phrase of *DS* 86). Theophrastus closely paraphrases *Tim.* 67c (at *DS* 86 adding a paraphrase of *Tim.* 67e), and preserves much of Plato’s wording (cf. Stratton 1917, p. 161; Baltussen 1993, p. 207). The *Plac.* paragraph omits the paraphrase of *Tim.* 67e and fails to inform us about Plato’s actual palette. What perhaps gives the Theophrastean origin away is the phrase “with the organ of sight” (πρὸς τὴν ὄψιν), a calque of Theophrastus’ τῇ ὄψει (twice), not of Plato’s ὄψει alone and of his “with perception” (πρὸς αἴσθησιν), cf. Baltussen (2000), p. 230, though πρὸς is closer to Plato than to Theophrastus. But the final position of πρὸς τὴν ὄψιν corresponds with that of Theophrastus’ τῇ ὄψει.

Plac. 1.15.8 Δημόκριτος φύσει μὲν μηδὲν εἶναι χρῶμα, τὰ μὲν γὰρ στοιχεῖα ἄποια, τὰ τε ναστὰ καὶ τὸ κενόν· τὰ δὲ ἐξ αὐτῶν συγκρίματα κεχρῶσθαι διαταγῇ τε καὶ ῥυθμῷ καὶ προτροπῇ, ὣν ἡ μὲν ἐστὶ τάξις, ὃ δὲ σχῆμα, ἡ δὲ θέσις· παρὰ ταῦτα γὰρ αἱ φαντασίαι. τούτων δὲ τῶν πρὸς τὴν φαντασίαν χρωμάτων τέτταρες αἱ διαφοραί, λευκοῦ, μέλανος, ἐρυθροῦ, ὠχροῦ.⁵³

Democritus (says that) no colour exists by nature, for the elements are without quality, being the solids (i.e. atoms) and the void. But the compounds formed from these are coloured by ‘turning’, by ‘rhythm’ and by ‘inter-contact’,

53 Democritus 68A125 DK.

of which the first means order, the next shape and the last position. For it is on the basis of these that the impressions (on the senses arise). Of these colours that relate to the impression (on the senses) there are four differentiations, white, black, red, yellow.

Theophrastus *DS* 60–61 Δημόκριτος δὲ πάντα (sc. τὰ αἰσθητά) πάθη τῆς αἰσθήσεως ποιῶν. ... Δημόκριτος μὲν οὖν οὐχ ὁμοίως λέγει περὶ πάντων, ἀλλὰ τὰ μὲν τοῖς μεγέθεσι, τὰ δὲ τοῖς σχήμασιν, ἔνια δὲ τάξει καὶ θέσει διορίζει. ὥστε δόξειεν ἂν ... ἐναντίως τῇ ὑποθέσει λέγειν.⁵⁴ *DS* 63 τῶν δὲ ἄλλων αἰσθητῶν οὐδενὸς εἶναι φύσιν, ἀλλὰ πάντα πάθη τῆς αἰσθήσεως ἀλλοιουμένης, ἐξ ἧς γίνεσθαι τὴν φαντασίαν. ... σημειῖον δ' ὡς οὐκ εἰσὶ φύσει ... *DS* 73–76 τῶν δὲ χρωμάτων ἀπλᾶ μὲν λέγει τέτταρα. λευκὸν μὲν οὖν εἶναι τὸ λεῖον. ... τὸ δὲ μέλαν ἐκ τῶν ἐναντίων ... ἐρυθρὸν δ' ἐξ οἶωνπερ καὶ τὸ θερμόν ... τὸ δὲ χλωρὸν ἐκ τοῦ στερεοῦ καὶ τοῦ κενοῦ συνεστάναι μεικτὸν ἐξ ἀμφοῖν ... τὰ μὲν οὖν ἀπλᾶ χρώματα τούτοις κεχρηῆσθαι τοῖς σχήμασιν.⁵⁵

Simplicius in *Phys.* 29.15–19 (= **Theophrastus** *Phys. Op.* fr. 8 Diels, 229 FHS&G) Δημόκριτος ὁ Ἀβδηρίτης ἀρχὰς ἔθετο τὸ πλήρες καὶ τὸ κενόν ... ὡς ἄγαρ ὕλην τοῖς οὖσι τὰς ἀτόμους ὑποτιθέντες τὰ λοιπὰ γεννώσι ταῖς διαφοραῖς αὐτῶν· τρεῖς δὲ εἰσιν αὐταί· ῥυσμὸς τροπὴ διαθιγῆ, ταῦτόν δὲ εἰπεῖν σχῆμα καὶ τάξις καὶ θέσις.⁵⁶

Cf. Arist. *Sens.* 4 442^b10–12, *GC* I.2 315^b33–316^a1, *Met.* A.4 985^b4–17.

Comment. It is certain that Democritus' doxa in § 8 does not derive from *DS* 73–75 alone. It is “at most a faint echo” of *DS* according to Baltussen (1993), p. 224–25. The presentation of atomist principles is based on Arist. *Met.* A.4 985^b4–17 and Theophr. *Phys. Op.* fr. 8 Diels (possibly, for the sentence may be by Simplicius citing Aristotle). Note some interesting changes of primary key terms: ῥυθμῶ, διαταγῇ, προτροπῇ instead of διαθιγῆ, ῥυσμῶ, τροπῇ, but with the same explanatory substitutes τάξις ‘order’, σχῆμα ‘shape’ and θέσις ‘position’ as in Aristotle and Theophrastus. These three substitutes, plus as a fourth (or rather a first), ‘size’ (μέγεθος), are also listed at Theophr. *DS* 60: “he (sc. Democritus) distinguishes some (sense-data) by their sizes, others by their shapes, and several by their order and position” (τὰ μὲν τοῖς μεγέθεσι, τὰ δὲ τοῖς σχήμασιν, ἔνια δὲ τάξει καὶ θέσει διορίζει). But here the original Democritean terms, or varieties thereof, are lacking. The denial of the existence of colour at the level of the individual atom is anticipated both at Arist. *GC* I.2 315^b33–316^a1 “he denies that colour exists, for colouring, he says, is due to position” (χροιὰν οὐ φησιν εἶναι· τροπῇ

⁵⁴ Democritus 68A135.

⁵⁵ Democritus 68A135.

⁵⁶ Democritus 68A38 DK.

γὰρ χρωματίζεσθαι), and Theophr. *DS* 60 “he makes them states of the perceptive faculty” (ὁ μὲν γὰρ (sc. τὰ αἰσθητά) πάθη ποιῶν τῆς αἰσθήσεως). For different atomic shapes in this context according to Aristotle see *Sens.* 4 442^b10–13 = 68A126 DK. Theophr. *DS* 61 rubs in the purported contradiction in Democritus between colours as on the one hand sense-data and on the other as one of the consequences, as he believes, of varieties at the level of uncompounded atoms, namely of size and shape. A similar point is made by Aristotle at *Met.* Γ.5 1009^b7–17, though less specifically. The same purported contradiction is spelled out in § 8 of *Plac.* 1.15, which in this respect is therefore somewhat closer to Theophrastus' account.

Note that ‘shape’ not only pertains to individual atoms but also to compounds. The shape of a compound depends on the shape of the majority of the atoms of which it is composed. Individual atoms cannot be perceived, so even shape and size are only perceptible through their effects in compounds. But this is by the way. The connection of the *placitum* with *DS* is only partial.

10 Conclusion

Of the Presocratics mentioned by Theophrastus in *DS*, only Heraclitus (who has only a token presence) and Clidemus are absent in the chapters of *Plac.* discussed above. Of the others (including Plato) discussed in *DS*, Empedocles is the favourite in the *Plac.* chapters with eight mentions, followed by Democritus with six, Plato with five, Anaxagoras and Diogenes with four, Parmenides with two, and Alcmaeon with one. But in *DS*, where Plato and Democritus get most of the attention, the proportions are different. Pythagoras/Pythagoreans, prominently present in our *Plac.* chapters with six mentions, Leucippus, present with three mentions, and Xenophanes, Zeno, Melissus, Metrodorus, and Protagoras, with one mention each, are beyond Theophrastus' canon in *DS*. Even on this limited scale, the picture gels with Aëtius' focus on early philosophers (also note that Leucippus becomes rather a favourite with him) and interest in up to date Neopythagoreanism.⁵⁷

We have seen in section 1 above that there are 14 chapters on sense-perception and cognition in Book 4, to which a single chapter, 1.15, in Book 1, should be added. Of these 15, no more than eight chapters can be linked to the *DS*. These eight chapters, viz. *Plac.* 4. 9 on sensations and presentations (20 lemmata), 4.13

57 See the evidence in Jeremiah (2018), pp. 299, 310–319, 326, 328, and 357.

on vision (13), 4.14 on mirror images (four), 4.16 on hearing (four), 4.17 on smelling (two), 4.18 on tasting (two), 4.19 on voice (seven), and 1.15 on colours (13), number 53 lemmata. Of these 53 lemmata, no more than 20, minus a single entire one and two half ones, are to some extent derived from *DS*, since no connection to the *DS* could be established for *Plac.* 4.14.1, 4.19.1a and 1.15.3b. Thus, we are forced to fall back on eight chapters out of 26, and on 17 lemmata plus twice half a lemma out of 53. Of the 15 *Placita* chapters dealing with sense perception and cognition, only few turn out to be related to Theophrastus' treatise.

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