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Theophrastus on Plato's Theory of Vision

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Abstract: In paragraphs 5 and 86 of the *De sensibus* Theophrastus gives a brief report of Plato's views on the sense of vision and its object, i. e. colour, based on the *Timaeus*. Interestingly enough, he presents the Platonic doctrine as a third alternative to the extramission and intromission theories put forward by other ancient philosophers. In this article I examine whether or not Theophrastus' account is impartial. I argue that at least some of his distortive departures from the Platonic dialogue are due to his Aristotelian inheritance, even though they do not always represent Aristotle's expressed views.

Keywords: Theophrastus, *De sensibus*, Plato, vision, colours, *sunaugeia*

Theophrastus discusses Plato's theory of vision in three paragraphs of the *De sensibus* (*DS*), namely in paragraphs 5, 86, and 91.¹ In paragraphs 5 and 86 Theophrastus gives an abbreviated account of the Platonic theory of the sense of vision and its object, namely colour, which is based principally on Plato's *Timaeus*,² while in paragraph 91 he criticises Plato's views on the subject. Intriguing though they may be, Theophrastus' critical remarks are not my topic here. Rather, I want to focus on Theophrastus' report of the Platonic doctrine of vision and ask the following obvious questions: Does Theophrastus present it in a reliable manner or does he distort it? And if it turns out that he does actually distort it, can we explain Theophrastus' tendentious account as the result of his Aristotelian inheritance?

No doubt I am not the first to ask these questions: George Stratton, in his comments on the *De sensibus*, John McDiarmid, Tony Long, Han Baltussen,

1 All references to Theophrastus' *De sensibus* are from Hermann Diels' edition in his *Doxographi Graeci* (1879, pp. 499–527).

2 It is not unlikely that Theophrastus was aware of Plato's similar definition of colour in the *Meno* (76D4–5), but I agree with Stratton (1917, p. 159 n. 11; see also, McDiarmid 1959, p. 59; Long 1996, p. 346) that his summary of Plato's doctrine of sense perception "seems to be drawn exclusively from the *Timaeus*".

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and Kelli Rudolph, in their scholarly books and articles, all raise the general issue of how closely Theophrastus follows Plato's *Timaeus*. In fact, it has been claimed, on the basis of the many similarities in the vocabulary and phraseology between the *De sensibus* and the *Timaeus*, that Theophrastus wrote his work having the Platonic dialogue "spread out before him" (Stratton 1917, p. 203 n. 203; McDiarmid 1959, p. 59). But it has also been argued, this time on the basis of the omissions and obscurities of Theophrastus' text, that there are occasions in which Theophrastus "either overlooked or rejected the evidence of the *Timaeus*" (McDiarmid 1959, p. 60). Finally, the suggestion has been put forward that the *De sensibus* may have been composed of notes or excerpts made from the *Timaeus* either by Theophrastus himself or by a pupil (Long 1996, p. 362; Baltussen 2000b, p. 130).

Although my study of the *De sensibus* paragraphs on Plato's theory of vision cannot settle the general issue concerning the overall composition of Theophrastus' text, in what follows I claim that Theophrastus does not give an impartial report, but a rather biased interpretation of the Platonic account of vision and its object. And the same holds with regard to the second question about the motivation behind Theophrastus' distortive departures from the Platonic doctrine. For it is true that the particular case of Theophrastus' reading of Plato's theory of vision cannot decide the general issue of an *interpretatio Aristotelica* throughout the *De sensibus*, which is the view introduced by McDiarmid (1959) but undermined by Baltussen (2000b, pp. 126–129). Still, in this article, I try to demonstrate that at least some of Theophrastus' diversions are due to his Aristotelian perspective, even though they do not represent Aristotle's expressed views.

I Theophrastus, *De sensibus* 5: Plato's theory of vision

I.1 The text and its composition.

Let me begin with Theophrastus' summary of Plato's account of vision in *DS* 5, as it is printed in the standard edition by Hermann Diels:

καὶ τὴν μὲν ὄψιν ποιεῖ πυρός (διὸ καὶ τὸ χρῶμα φλόγα τιν' ἀπὸ τῶν σωμάτων σύμμετρα μόρια τῆ ὄψει ἔχουσαν), ὡς ἀπορροῆς τε γινομένης καὶ δέον συναρμόττειν ἀλλήλοις ἐξιοῦσαν μέχρι τινὸς συμφύεσθαι τῆ ἀπορροῆ καὶ οὕτως ὄραν ἡμᾶς· ὥσπερ ἂν εἰς τὸ μέσον τιθεὶς τὴν ἑαυτοῦ δόξαν τῶν τε φασκόντων προσπίπτειν τὴν ὄψιν καὶ τῶν φέρεσθαι πρὸς αὐτὴν ἀπὸ τῶν ὀρατῶν. (Theophrastus, *DS* 5 500.8–13)

A couple of emendations are, I think, necessary:

1. David Sedley (1992, p. 30 n. 26) points out that the text of the first sentence is ungrammatical, so he repunctuates it and adds the connective <δὲ>:

καὶ τὴν μὲν ὄψιν ποιεῖ πυρός (διὸ καὶ τὸ χρῶμα φλόγα τιν' ἀπὸ τῶν σωμάτων σύμμετρα μόρια τῆ ὄψει ἔχουσαν, ὡς ἀπορροῆς τε γινομένης καὶ δέον ἐναρμόττειν ἀλλήλοις.) ἐξιοῦσαν <δὲ> μέχρι τινὸς συμφύεσθαι τῆ ἀπορροῆ καὶ οὕτως ὄραν ἡμᾶς.

I agree with him.

2. All the manuscripts have οὖν ἀρμόττειν instead of συναρμόττειν, which is Diels' own correction. The corruption from συναρμόττειν to οὖν ἀρμόττειν can of course be easily explained, but I prefer to read ἐναρμόττειν, since συναρμόττειν is nowhere to be found in the surviving Theophrastean works. On the other hand, there are eight occurrences of ἐναρμόττειν in the *De sensibus*³ and, among them, we find another occurrence of ἐναρμόττειν ἀλλήλοις, which also refers to the fitting into each other of the fire emanated from within the perceiving animals and the fire emanated from the visible objects.⁴

Hence, I think that *DS* 5 should read:

καὶ τὴν μὲν ὄψιν ποιεῖ πυρός. (διὸ καὶ τὸ χρῶμα φλόγα τιν' ἀπὸ τῶν σωμάτων σύμμετρα μόρια τῆ ὄψει ἔχουσαν, ὡς ἀπορροῆς τε γινομένης καὶ δέον ἐναρμόττειν ἀλλήλοις.) ἐξιοῦσαν

³ *DS* 7 500.19 and 27; 9 502.5; 12 502.27; 13 503.6 and 11; 14 503.13; 15 503.21.

⁴ *DS* 13 503.4–6: ἔπειτα ἐν αὐτοῖς τοῖς ἐμφύχοις τί μᾶλλον αἰσθήσεται τὸ ἐν τῷ ζῳφῷ πῦρ ἢ τὸ ἐκτός, εἴπερ ἐναρμόττουσιν ἀλλήλοις.

<δὲ> μέχρι τινὸς συμφύεσθαι τῇ ἀπορροῇ καὶ οὕτως ὄραν ἡμᾶς· ὥσπερ ἂν εἰς τὸ μέσον τιθεὶς τὴν ἑαυτοῦ δόξαν τῶν τε φασκόντων προσπίπτει τὴν ὄψιν καὶ τῶν φέρεσθαι πρὸς αὐτὴν ἀπὸ τῶν ὀρατῶν.

And I translate it as follows:

Vision he connects to fire. (That is why he also considers colour to be a kind of flame coming from bodies, having its parts commensurate with vision – on the grounds that there is an effluence and they must fit into each other.) It <i. e. vision> proceeds from the eye up to a point and coalesces with the effluence, and that is how we see; as if he places his own view midway between the views of those who say that vision impinges <upon the visible objects> and of those <who say> that something is borne from the visible objects to vision <i. e. to the organ of vision>.

DS 5 seems to draw material from various *Timaeus* passages; in particular, Theophrastus combines Plato's theory of vision, as this is summarised in 45B2–D3, with the definition of colour in 67C4–7.⁵ In *Timaeus* 45B2–D3, Plato claims that there is a stream of fire particles issuing from our eyes which coalesces with daylight in such a way that they together form a single homogeneous and uniformly affected visual body extending from our eyes to the object we see. It thus constitutes some kind of extension of our visual organs and helps us to actively focus on and be, as it were, in touch with the visible object. Vision results because the effluence from the visible object, i. e. its colour, causes in this visual body changes that are transmitted to our eyes and, from there, to our soul. In *Timaeus* 67C5–7, Plato defines colour as a flame issuing from an object that has fire particles commensurate with those of the visual body, so as to produce the sense of vision.

But are these two Platonic passages, and thus Plato's theory of vision, consistent? Is it possible that the visual body extends all the way to the visible object, as it is suggested by the early passage, and at the same time a fiery effluence emanates from the visible object and meets the visual body, as it is suggested by the definition of colour? This issue of Platonic consistency has recently given rise to discussions among scholars, who are interested in the passive and active character of Plato's perceptual theory;⁶ but the same issue had already puzzled the ancient readers of the *Timaeus*, and Theophrastus seems to be chronologically the second on this list just after Aristotle.

⁵ Most scholars are in agreement on this issue, e. g. Stratton (1917), pp. 160–161 n. 15; Sedley (1992), p. 30; Long (1996), pp. 350–351; Baltussen (2000b), pp. 128–129. On the other hand, Rudolph (2018), pp. 155–159 defends an alternative position, according to which Theophrastus' report of Plato's theory of vision and its object depends on *Timaeus* 64D–E and 67C–68D.

⁶ See e. g. Grönroos (2001), pp. 31–35; Remes (2014).

1.2 Theophrastus' interpretation and its influence

In *DS 5* Theophrastus reports that, according to Plato, the visual stream emanating from our eyes consists of fire particles. He also reports that this visual stream proceeds from our eyes up to a point (μέχρι τινός), where it coalesces with the effluence from the visible object, i. e. its colour, which also consists of fire particles. No doubt Theophrastus' summary is brief. Indeed, it is extremely concise to the point of crediting Plato with a theory of vision that is “misleadingly crude”, as Long (1996, p. 351) characterises it, since it makes no reference at all to some of the important aspects of the Platonic doctrine. For instance, it omits the central role daylight plays in the sense of vision; it also overlooks the fact that vision occurs when the visual body, being changed by the effluence from the visible object, is transmitted back to the eye and affects the soul; finally, it does not present Plato's distinction between different varieties of fire (*Timaeus* 58c5–d1), that is, between the flame that burns and the fire particles that constitute the visual body as well as the effluence from the visible object.⁷ But can it be that Theophrastus' brief account is nevertheless accurate?

In the last sentence of *DS 5* (500.12–13) Theophrastus remarks that, by stating what he states, Plato places his theory midway (εἰς τὸ μέσον) between, on the one hand, the theories according to which we see because something from the eyes impinges upon the visible object and, on the other hand, the theories according to which we see because something emanates from the visible object. In other words, Theophrastus remarks that Plato places his theory between what we would nowadays refer to respectively as the extramission and the intromission theories of vision. But who are the ancient philosophers whom Theophrastus has in mind here as proponents of these theories? The Atomists, with their theory of images (εἶδωλα), could of course be counted among those who claim that we see because something emanates from the visible object; and Empedocles, too, with his theory of effluences (ἀπορροαί), could be included in the same category. As to those who claim, on the other hand, that we see because something from our eyes impinges upon the visible object, it has been suggested that it could be the Pythagoreans and Alcmaeon.⁸ I have nothing to add to all this. What is significant for my purposes, though, is to underline that Theophrastus phrases the last sen-

⁷ Baltussen (2000a), p. 231, however, notes that Theophrastus' addition of τιν' to φλόγα in his report of the Platonic definition of colour (*Timaeus* 67c5–7: ἃ σύμπαντα μὲν χροᾶς ἐκαλέσαμεν, φλόγα τῶν σωμάτων ἐκάστων ἀπορρέουσιν, ὄψει σύμμετρα μόρια ἔχουσιν πρὸς αἴσθησιν) “may qualify the special nature of the fire in the eye, viz. non-burning fire”.

⁸ See Beare (1906), p. 49 n. 3; Burnet (1908), p. 224; Stratton (1917), p. 161 n. 16.

tence in such a way so that Plato's theory is presented as a third alternative. Moreover, the last sentence clearly implies that this is not what Plato himself states, but how Theophrastus interprets the Platonic doctrine (ὡσπερ ἄν).

Does Theophrastus borrow this interpretation from Aristotle? There is no surviving treatise by Aristotle that discusses in a detailed manner Plato's theory of vision. Only in the *De sensu*, does Aristotle refer explicitly to the *Timaeus* doctrine that vision is due to light emanating from the eyes; it is, in fact, in this passage that he conflates Plato's theory with that of Empedocles, before he starts criticising both of them together:

If the visual organ were fire, which is the doctrine of Empedocles, a doctrine taught also in the *Timaeus*, and if vision were the result of light issuing from the eye as from a lantern, why should the eye not have had the power of seeing even in the dark? It is totally idle to say, as the *Timaeus* does, that the visual ray coming forth in the darkness is quenched. What is a quenching of light? That which, like a fire of coals or an ordinary flame, is hot and dry is, indeed, quenched by the moist or cold; but heat and dryness are not evidently attributes of light. And if they are attributes of it, but belong to it in a degree so slight as to be imperceptible to us, we should have expected that in the daytime the light of the sun should be quenched when rain falls, and that darkness should prevail in frost weather. After all, flame and ignited bodies are subject to such extinction, but experience shows that nothing of this sort happens to the sunlight. (Aristotle, *De sensu* 437^b11–23; trans. J. I. Beare, modified by J. Barnes)⁹

Contemporary scholars, however, have much disputed Aristotle's claim that Empedocles postulates a visual stream issuing from our eyes;¹⁰ and it is worth noting that Theophrastus' account of Empedocles' theory in the *De sensibus* does not imply it (Sedley 1992, p. 26). Moreover, although in *DS* 91 Theophrastus recognises a similarity between Plato's and Empedocles' theories of vision, this similarity is strictly limited to their understanding of the nature of colours as effluenc-

⁹ ἐπεὶ εἴ γε πῦρ ἦν, καθάπερ Ἐμπεδοκλῆς φησὶ καὶ ἐν τῷ Τιμαίῳ γέγραπται, καὶ συνέβαινε τὸ ὄραν ἐξιόντος ὡσπερ ἐκ λαμπτήρος τοῦ φωτός, διὰ τί οὐ καὶ ἐν τῷ σκότει ἐώρα ἂν ἡ ὄψις; τὸ δ' ἀποσβέννυσθαι φάναι ἐν τῷ σκότει ἐξιούσαν, ὡσπερ ὁ Τιμαίος λέγει, κενὸν ἐστὶ παντελῶς· τίς γὰρ ἀπόσβεσις φωτός ἐστιν; σβέννυται γὰρ ἢ ὑγρῷ ἢ ψυχρῷ τὸ θερμὸν καὶ ξηρὸν (οἶον δοκεῖ τὸ τ' ἐν τοῖς ἀνθρακώδεσιν εἶναι πῦρ καὶ ἡ φλόξ), ὃν τῷ φωτὶ οὐδέτερον φαίνεται ὑπάρχον. εἰ δ' ἄρα ὑπάρχει μὲν ἀλλὰ διὰ τὸ ἡρέμα λανθάνει ἡμᾶς, ἔδει μεθ' ἡμέραν γε καὶ ἐν τῷ ὕδατι ἀποσβέννυσθαι τὸ φῶς καὶ ἐν τοῖς πάγοις μᾶλλον γίνεσθαι σκότον· ἢ γοῦν φλόξ καὶ τὰ πεπυρωμένα σώματα πάσχει τοῦτο· νῦν δ' οὐδὲν συμβαίνει τοιοῦτον.

¹⁰ On the different interpretations put forward by contemporary scholars concerning this issue, see Ierodiakonou (2005a), p. 26 n. 41.

es.¹¹ Besides, in *DS* 5, Plato's theory of vision, which undoubtedly assumes both a visual stream issuing from the eyes as well as effluences emitted from the visible objects, is placed on its own in Theophrastus' alternative third category, distinct from Empedocles' theory, and midway between the extramission and the intromission theories. It is, therefore, reasonable to infer that on this particular point Theophrastus' interpretation is not directly influenced by Aristotle.

Why does Theophrastus interpret Plato in this way? As Sedley (1992, pp. 30–31) convincingly argues, Theophrastus wants to justify his classification of Plato, which we find right at the beginning of the *De sensibus*, as a philosopher who explains sense perception on the basis of the like-by-like principle. For although it is true that Plato in the *Timaeus* explicitly mentions this principle when he talks of the coalescence of the visual stream issuing from the eyes with daylight, Theophrastus in his account adduces this same principle for another reason; that is, in order to explain the general character of Plato's theory of vision in terms of the coalescence of the visual stream issuing from our eyes with the effluences from the visible object. And it is precisely this coalescence that occurs, according to Theophrastus, somewhere between our eyes and the visible object. Indeed, Theophrastus' attempt to portray Plato as a like-by-like theorist clouds his judgement to such a degree, as Long (1996, p. 351) suggests, that he does not register the fact that the coalescence about which Plato talks in the *Timaeus* is of fire particles that are alike, i. e. those issuing from the eyes and those of daylight, whereas the coalescence that Theophrastus has in mind concerns fire particles that are merely commensurate, i. e. those issuing from the eyes and those issuing from the visible objects.

Aristotle does not classify previous theories of vision in the way Theophrastus does. There are of course passages in Aristotle's treatises, in which he introduces classifications of earlier philosophers on the basis of the like-by-like principle,¹² but in the particular case of vision Theophrastus is the first to use this principle and interpret Plato in such a way so that he can fit him accordingly in his classification. Hence, although Theophrastus' interpretation of the Platonic theory of vision is not directly influenced by Aristotle's own statements, the Aristotelian roots of Theophrastus' endeavour are obvious.

Was Theophrastus' interpretation influential in the history of the reception of Plato's theory of vision? Interestingly enough, the same interpretation of Plato's doctrine as a third alternative is to be found in Alexander of Aphrodisias' com-

¹¹ *DS* 91 527.6–8: περὶ δὲ χρωμάτων σχεδὸν ὁμοίως Ἐμπεδοκλεῖ λέγει· τὸ γὰρ σύμμετρα ἔχειν μόρια τῆ ὄψει τῶ τοῖς πόροις ἐναρμόττειν ἐστίν.

¹² See e. g. Aristotle, *De anima* II.4 416^a29–^b9; II.5 417^a18–20.

ments on Aristotle's *De sensu*. The Aristotelian passage (*De sensu* 2 438^a25–27), on which Alexander comments, criticises both those according to whom we see because something emanates from our eyes and reaches as far as the stars, as well as those who hold that we see because what emanates from our eyes goes out only a certain distance and blends there with something else. But although Aristotle does not refer to Plato by name, Alexander attributes the latter theory explicitly to him:

Of those who gave similar descriptions of how seeing is produced some thought that what comes out from the eyes is extended as far as the <body> being seen, as the mathematicians <think>, who say that we see by means of rays which come out from the eyes and are extended as far as the <bodies> being seen... Others say that the light that is sent out from the eyes proceeds as far as a certain point and then comes to be commingled with the light outside and seeing comes about when this light, which is established from both and fused together, impinges at its boundary on the eyes and announces the affection to the eye, as seems <to be the case> to Plato. (Alexander of Aphrodisias, *in De sens.* 27.26–28.15; trans. A. Towey)¹³

It seems, therefore, that both Theophrastus and Alexander follow an Aristotelian perspective in understanding Plato's theory as a less extreme case of an extramission theory, which Theophrastus clearly treats as a third alternative between the extramission and the intromission theories of vision defended by previous philosophers.

On the other hand, there are authors in late antiquity who do not adhere to Theophrastus' interpretation of Plato's theory of vision. The account of the *Timaeus* passages on vision that we find, for instance, in Alcinoüs' *Didaskalikos* (*The Handbook of Platonism*), seems to be much clearer and more precise, even though it has been misleadingly regarded as directly or indirectly influenced by Theophrastus' *De sensibus*:¹⁴

Having placed upon the face the light-bearing eyes, the gods enclosed in them the luminous aspect of fire, which, since it is smooth and dense, they considered would be akin

13 ἐπει δὲ τῶν ὁμοίως λεγόντων τὸ ὄραν γίνεσθαι οἱ μὲν μέχρι τοῦ ὀρωμένου ἡγοῦντο τὸ ἐξίον ἀπὸ τῶν ὀφθαλμῶν ἀποτεινέσθαι, ὡσπερ οἱ μαθηματικοί, οἵτινες δι' ἀκτίνων ἐξιουσῶν ἀπὸ τῶν ὀφθαλμῶν καὶ μέχρι τῶν ὀρωμένων ἀποτεινομένων ὄραν ἡμᾶς λέγουσι ... οἱ δὲ μέχρι τινὸς τὸ ἐκπεμπόμενον ἀπὸ τῶν ὀφθαλμῶν φῶς προϊέειν φασίν, ἔπειτα συμμιγῆς γίνεσθαι τῷ ἕξω φωτὶ καὶ τούτου τοῦ ἕξ ἀμφοῖν συστάντος τε καὶ συμφύοντος φωτὸς κατὰ τὸ πέρασ τοῖς ὀφθαλμοῖς προσπίπτοντος καὶ διαγγέλλοντος τὸ πάθος τῷ ὀφθαλμῷ τὸ ὄραν γίνεσθαι, ὡς Πλάτωνι δοκεῖ, ἀμφοτέρως φησὶ τὰς δόξας ἀτόπους.

14 Dillon (1993), pp. 143–145. On the other sources for the composition of *Didaskalikos*' account of Plato's *Timaeus*, see Whitaker (1989).

to the light of day. This flows out with the greatest ease through the whole of the eyes, but especially through the mid-part of them, which is the purest and most refined. This becomes blended with the external light, like to like, and produces the sensation of sight. For this reason, when at night the light departs or is obscured, the stream from within us no longer coalesces with the adjacent air, but is kept within, and smoothes out and dissolves our internal movements, and becomes an inducement to sleep; and that is why the eyelids close. (Alcinous, *Didaskalikos* 18; trans. J. Dillon)

That is to say, the author of the *Didaskalikos* mentions the principle of like-by-like in connection with the coalescence of the visual stream issuing from the eyes with daylight, just like Plato does, whereas Theophrastus does not even mention the role of daylight.

Similarly, Galen's presentation of Plato's theory of vision cannot be said to follow Theophrastus' report. For although he divides previous theories of vision into the two main categories that Theophrastus also uses, namely into the extramission and the intromission theories, he does not support the view that, according to Plato, what emanates from the eyes travels only up to a certain distance (*De placitis Hippocratis et Platonis* VII 5.1–7 452.30–454.9). More specifically, before he presents his own theory of vision, Galen rejects all intromission theories that presuppose something emanating from the visible object, be it corporeal or not. He then defends the extramissionist theory, and the Platonic influence is here clear, that we see because something emanates from our eyes, namely the innate *pneuma*, which strikes the surrounding air and at once forms together with it a unified homogeneous body that enables us to see. But although the innate *pneuma* plays a crucial role also in the Stoic theory of vision, Galen makes clear that he disagrees with the Stoics. According to him, the effect of the innate *pneuma* on the surrounding air does not create something like a walking-stick, as the Stoics claim, which extends all the way to the visible object, because for Galen it would be absurd to claim that the amount of innate *pneuma* issuing from the eyes is enough to reach a far away object. To explain better the effect of the innate *pneuma* on the surrounding air, Galen at *De placitis Hippocratis et Platonis* VII 5.1–7 454.10–16 uses the analogy of the effect of sunlight on the air; just like sunlight touches the upper limit of the air and transmits its power to the furthest distance, the innate *pneuma* from our eyes produces instantaneously by its first impact on the surrounding air – lit from above by sunlight – an alteration that spreads to the whole of it and assimilates it to itself.¹⁵

¹⁵ On Galen's theory of vision and his stance towards the Platonic and Stoic doctrines, see Siegel (1970), pp. 10–126; Boudon-Millot (2012); Ierodiakonou (2014) and *forthcoming*.

If then sight alone of the senses, when it perceives the sense object that moves it, uses air as a medium, not as a kind of walking-stick, but as a homogeneous part that forms one body with itself, and if sight alone has been given this exceptional ability, along with the ability to see by reflection, one may reasonably assert that it needed luminous *pneuma* flowing in from above which assimilates the surrounding air to itself upon encountering it and, as it were, striking it. (*De placitis Hippocratis et Platonis* VII 5.41 460.28–33; trans. Ph. de Lacy, slightly modified)¹⁶

By presenting his theory of vision in this way, Galen seems to understand and interpret Plato's theory as a precursor of his own.¹⁷ For although he does not adopt Plato's fire particles and replaces them instead with the innate *pneuma*, he seems to think that he adheres to the Platonic doctrine when he claims that the innate *pneuma* coalesces with daylight in such a way that it instantaneously assimilates the surrounding air, and thus endows it with the ability to see.

Hence, there seems to have been in antiquity two different readings of Plato's theory of vision: The Aristotelians offered an interpretation, according to which the visual body coalesces with the effluences from visible objects somewhere between our eyes and the objects we see, whereas Galen defended the view that what emanates from our eyes immediately assimilates the surrounding air to itself. Which of the two lines of interpretation can be said to be more accurate and reliable? This is not the topic of my article, here, but I find it quite plausible that Plato himself was not clear on this subject. Hence, it should not surprise us that Theophrastus interprets Plato's theory as he does, namely that the visual stream coalesces with what emanates from the visible object somewhere midway, whereas Galen offers a different interpretation, according to which it is the coalescence of daylight with the visual stream, or otherwise said, the assimilation of daylight to the visual stream, which plays the important role in the sense of vision.

16 εἴπερ οὖν ἡ ὄψις μόνη τῶν ἄλλων αἰσθήσεων αἰσθάνεται τοῦ κινουντος αὐτὴν αἰσθητοῦ διὰ μέσου τοῦ ἀέρος, οὐχ ὡς βακτηρίας τινός, ἀλλ' ὡς ὁμοειδοῦς τε καὶ συμφυοῦς ἑαυτῇ μορίου καὶ μόνη τοῦτ' ἐξάιρετον αὐτῇ δέδοται μετὰ τοῦ καὶ δι' ἀνακλάσεως ὄραν, εἰκότως ἐδεήθη πνεύματος ἄνωθεν ἐπιρρέοντος αὐγοειδοῦς, ὃ προσπίπτον τῷ περὶξ ἀέρι καὶ οἷον ἐπιπλήττον αὐτὸν ἑαυτῷ συνεξομοίωσει.

17 The only explicit statement to this effect is in Galen's *De placitis Hippocratis et Platonis* (VI 8.35 414.24–27), where he claims to have elsewhere shown that the *Timaeus* account of the production of mixed colours is correct in every respect. Also, it is worth noting that Galen is explicitly said to have followed Plato's theory of vision in Nemesius' *De natura hominis* 7 (58.14–15: Γαληνὸς δὲ συμφώνως Πλάτωνι περὶ τῆς ὄψεως ἐν τῷ ἑβδόμῳ τῆς συμφωνίας λέγει); and the same statement is later made by Meletius (*De natura hominis* 71.12–14).

The study of the later tradition shows that, whether or not Theophrastus' interpretation is more faithful to the Platonic theory of vision, it seems to have been rather influential, even though none of the late-antique authors copy Theophrastus slavishly. More specifically, in Aëtius' *De placitis*, Plato's doctrine is characterised by the notion of co-illumination or coalescence of light (συναύγεια), which is never used by Theophrastus, but describes the coalescence of the fire particles issuing from our eyes with those from the objects we see in the same way as Theophrastus does in *DS* 5, namely midway:

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.¹⁸ (Aëtius, *De placitis* 4.13.11 404.14–21; trans. J. Mansfeld)

And we find the same description of Plato's theory of vision in Nemesius' *De natura hominis*:

Plato, however says that it is a meeting of the light from the eyes, so far as it flows into the air that is homogeneous with it, and of the light travelling in the opposite direction from bodies, while the light in the air between, which is easily diffused and changed, extends away to the fiery element of sight.¹⁹ (Nemesius, *De natura hominis* 7 58.11–14; trans. R. W. Sharples and Ph. J. van der Eijk)

The term συναύγεια is defined in the Liddell-Scott-Jones Greek Lexicon as “the meeting of the rays of sight from the eye with the rays of light from the object seen”, but I think that it is more complicated to determine what exactly this meeting, coalescence, or fusing of light refers to in the context of Plato's theory of vision.

Since both Aëtius' and Nemesius' texts are late, Baltussen (2000a, p. 232) rightly points out that συναύγεια describes the Platonic theory in a “modernised” language, just like in the case of the use of the terms συναυασμός and συναυαζώ.²⁰ On the other hand, his suggestion concerning the meaning of

18 Πλάτων κατὰ συναύγειαν, τοῦ μὲν ἐκ τῶν ὀφθαλμῶν φωτὸς ἐπὶ ποσὸν ἀπορρέοντος εἰς τὸν ὁμογενῆ ἀέρα, τοῦ δὲ ἀπὸ [μὲν] τῶν σωμάτων φερομένου, <τοῦ δὲ περι> τὸν μεταξὺ ἀέρα εὐδιάχυτον ὄντα καὶ εὐτρεπτον συνεκτεινομένου τῷ πυρῶδει τῆς ὄψεως. αὕτη λέγεται Πλατωνικὴ συναύγεια.

19 Πλάτων δὲ κατὰ συναύγειαν τοῦ μὲν ἐκ τῶν ὀφθαλμῶν φωτὸς ἐπὶ ποσὸν ἀπορρέοντος εἰς τὸν ὁμογενῆ ἀέρα, τοῦ δὲ ἀπὸ τῶν σωμάτων ἀντιφερομένου, τοῦ δὲ περι τὸν μεταξὺ ἀέρα εὐδιάχυτον ὄντα καὶ εὐτρεπτον συνεκτεινομένου τῷ πυρῶδει τῆς ὄψεως.

20 Plutarch, *De facie in orbe lunae* 929B: συναυασμός; Aëtius, *De placitis* 3.1.6, 365.17–20: συναυασμός; Damianus, *Optica* 6.1–5: συναυαζούσας.

this term sounds at first confusing: In his article (2000a, p. 232) he claims that συναύγεια refers to the fusing of the light coming from the eyes with that coming from the visible object, whereas in his book (2000b, p. 100) he presents it as the fusing of the light coming from the eyes with daylight. But, of course, if we focus on the literal meaning of the noun συναύγεια, both these cases can be regarded as cases of the fusing of different kinds of light. In fact, both Aëtius and Nemesius seem to understand it as referring to the fusing of all three lights that are necessary for us to see an object; that is to say, συναύγεια refers in these texts to the coalescence of the light issuing from the eyes with daylight and, subsequently, with the light issuing from the visible object.²¹

So, although Aëtius and Nemesius are in line with the Theophrastean interpretation of Plato's theory of vision, according to which the light issuing from our eyes meets midway the light issuing from the objects we see, they both seem to be closer to Plato's account than Theophrastus, who does not even mention the role of daylight in vision. Hence, this small detail could be used as further evidence in favour of the view that the Aëtian passage does not really represent a rephrased version of Theophrastus' brief account.²²

21 The term συναύγεια is also found in Byzantine texts. Michael Psellos (1018–1076) uses it to summarise Plato's theory of vision and understands it, just like Theophrastus does, as the coalescence of light coming from the eyes with that coming from the visible objects (*De omnifaria doctrina* 89 and 108). Moreover, Psellos explicitly says that, according to Plato's account, effluences from the objects we see coalesce with those from our eyes at some point midway. On the other hand, the 13th century scholars, Nicephorus Blemmydes (*Epitome physica* 1193C–1196C) and Sophonias (*in De an.* 75.2–5; 77.12–24) understand it as the fusing of the light from our eyes with daylight, and present the theory involving συναύγεια as a third alternative theory of vision, although they do not attribute it to Plato. In fact, this third alternative theory, which is their preferred one, describes the coalescence of the light issuing from our eyes with daylight in a way very similar to the assimilation doctrine defended by Galen. It seems, therefore, that Psellos adheres to the Aristotelians' interpretation of the Platonic theory of vision, whereas Blemmydes and Sophonias are influenced by Galen. See Ierodiakonou (2019), pp. 168–73.

22 I am sympathetic to Baltussen's attempt to rebut Diels' idea that Theophrastus is the only source of the *De placitis*, but I disagree with him when he concludes that *De placitis* 4.13.11 bears "no resemblance to passages in Theophrastus" (2000a, p. 237). Baltussen (2000a, p. 233) suspects that "a condensed version of systematic nature previously existed in the source used" by Aëtius. See also, Mansfeld's contribution in this volume, pp. 146–167.

II Theophrastus' *De sensibus* 86: Plato's theory of colours

II.1 The text and its omissions

Let me next focus on the second passage in the *De sensibus*, in which Theophrastus presents Plato's theory of vision, and especially his theory of colours as objects of vision:

τὸ δὲ χρῶμα φλόγα εἶναι ἀπὸ τῶν σωμάτων σύμμετρα μόρια ἔχουσιν τῇ ὄψει· λευκὸν μὲν τὸ διακριτικόν, μέλαν δὲ τὸ συγκριτικόν ἀνά λόγον [δὲ] τοῖς περι τὴν σάρκα θερμοῖς καὶ ψυχροῖς καὶ τοῖς περι τὴν γλῶσσαν στρυφνοῖς καὶ δριμέσι, λαμπρὸν δὲ τὸ πυρῶδες λευκόν, τὰ δὲ ἄλλα ἐκ τούτων· ἐν οἷς δὲ λόγοις, οὐδ' εἴ τις εἰδείη χρῆναι λέγειν φησίν, ὧν οὐκ ἔχομεν εἰκότα λόγον ἢ ἀναγκαῖον· οὐδ' εἴ πειρωμένῳ μὴ γίγνοιτο, οὐθὲν ἄτοπον, ἀλλὰ τὸν θεὸν δύνασθαι τοῦτο δρᾶν. (Theophrastus, *DS* 86 525.19–26)

First, a textual remark: In line 525.23 all manuscripts read τὸ ἀερῶδες λευκόν, but Diels prints τὸ πυρῶδες λευκόν.²³ I agree with Diels for reasons that will soon become clear, and I suggest to translate *DS* 86 as follows:

Colour is a flame from the bodies which has parts commensurate with vision. White is what divides <vision>, whereas black is what compresses <it>, in an analogous way to hot and cold in the case of the flesh, and to astringent and pungent in the case of the tongue. Bright is the fiery white, and the rest <are mixed> from these. But in what proportions, he says one should not state, even if one knew them, since we do not have a likely or a necessary account of them. Nor is it at all surprising if on experiment the outcome is different, but god has the power to do this.

There is no doubt that in *DS* 86 we find Theophrastus' abridged report of the Platonian theory of basic and mixed colours in the *Timaeus* (67D2–68B1) as well as of

²³ Diels attributes this correction to Schneider, but Schneider's edition (1818, vol. I, p. 683) has τὸ ἀερῶδες λευκόν. Schneider also notes, though, that the term ἀερῶδες does not occur in Plato and the text here appears corrupt (1818, vol. II, p. 624: Sed in Platonis libris vocis ἀερῶδες vestigium nullum extat, et locus Theophrasti minus integer esse videtur). But it was actually Wimmer (1862, pp. XII and 32) who first corrected it to τὸ πυρῶδες λευκόν. Baltussen (2000a, p. 233 nn. 19 and 22) points out that the use of πυρῶδης in Aëtius' *De placitis* 4.13.11 (τῷ πυρῶδει τῆς ὄψεως) seems peculiar, because "it mostly occurs in meteorological contexts". However, he himself gives the Aristotelian example of the eyes that are called πυρῶδη with reference to Empedocles (*GA* 779^b15), and he overlooks the correction by Wimmer and Diels in Theophrastus' *DS* 86. Moreover, πυρῶδης is once used by Plato himself (*Critias* 116c2) and six more times by Theophrastus (*DS* 77 522.16; *Physic. opin.* 12.90; *De lapid.* 69.7; *Fragm.* 5 19.6; 6 12.3; 27.9).

Plato's claim concerning the impossibility of using an empirical method for the production of mixed colours (*Timaeus* 68B6–8 and 68D2–7).²⁴ Interesting though it may be, I do not want to focus here on Plato's twice repeated claim, but on how Theophrastus summarises the Platonic account of basic colours that runs as follows:

Now the parts that move from the other bodies and impinge on the visual body are in some cases smaller, in other larger than, and in still other cases equal in size to, the parts of the visual body itself. Those that are equal are imperceptible, and these we naturally call "transparent". Those that are larger compress the visual body while those that are smaller, on the other hand, divide it, and so are akin to what is hot or cold in the case of the flesh, and, in the case of the tongue, with what is sour, or with all those things that generate heat and that we have therefore called "pungent". So black and white, it turns out, are the affections therefrom <i.e. of those bodies which compress and divide the visual body>, which, though occurring in a different class, are the same <as these other affections>, but appear different for the reasons given. This, then, is how we should speak of them: white is what divides the visual body, and black is what does the opposite. Now when a more penetrating motion of a different kind of fire pounces on the visual body and divides it right up to the eyes, and forces its way through the very passages within the eyeballs and melts them, it discharges from those passages a glob of fire and water which we call a tear. The penetrating motion itself consists of fire, and as it encounters fire from the opposite direction, then, as the one fire leaps out from the eyes like a lightning flash and the other enters them but is quenched by the surrounding moisture, the resulting turmoil gives rise to colours of every kind. The effect so produced we call "dazzling", and that which produces it we name "bright" and "brilliant".²⁵ (Plato, *Timaeus* 67D2–68B1; trans. D. J. Zeyl, modified)

Since the approximately twenty-one lines of this *Timaeus* passage are reduced by Theophrastus to about four, it is not unexpected to detect in *DS* 86 many

²⁴ On different interpretations of Plato's account of basic and mixed colours, see Brisson (1999); Levidis (2002); Struycken (2003); Ierodiakonou (2005b).

²⁵ τὰ φερόμενα ἀπὸ τῶν ἄλλων μῦρια ἐμπίπτοντά τε εἰς τὴν ὄψιν τὰ μὲν ἐλάττω, τὰ δὲ μείζω, τὰ δ' ἴσα τοῖς αὐτῆς τῆς ὄψεως μέρεσιν εἶναι· τὰ μὲν οὖν ἴσα ἀναίσθητα, ἃ δὴ καὶ διαφανῆ λέγομεν, τὰ δὲ μείζω καὶ ἐλάττω, τὰ μὲν συγκρίνοντα, τὰ δὲ διακρίνοντα αὐτήν, τοῖς περὶ τὴν σάρκα θερμοῖς καὶ ψυχροῖς καὶ τοῖς περὶ τὴν γλώτταν στρυφνοῖς, καὶ ὅσα θερμαντικά ὄντα δριμύα ἐκαλέσαμεν, ἀδελφὰ εἶναι, τὰ τε λευκὰ καὶ τὰ μέλανα, ἐκείνων παθήματα γεγονότα ἐν ἄλλῳ γένηι τὰ αὐτὰ, φανταζόμενα δὲ ἄλλα διὰ ταύτας τὰς αἰτίας. οὕτως οὖν αὐτὰ προσρητέον· τὸ μὲν διακριτικὸν τῆς ὄψεως λευκόν, τὸ δ' ἐναντίον αὐτοῦ μέλαν. τὴν δὲ ὀξυτέραν φορὰν καὶ γένους πυρὸς ἑτέρου προσπίπτουσαν καὶ διακρίνουσαν τὴν ὄψιν μέχρι τῶν ὀμμάτων, αὐτὰς τε τῶν ὀφθαλμῶν τὰς διεξόδους βίᾳ διωθοῦσαν καὶ τήκουσαν, πῦρ μὲν ἀθρόον καὶ ὕδωρ, ὃ δάκρυον καλοῦμεν, ἐκεῖθεν ἐκχέουσαν, αὐτὴν δὲ οὖσαν πῦρ ἐξ ἐναντίας ἀπαντῶσαν, καὶ τοῦ μὲν ἐκπηδῶντος πυρὸς οἶον ἀπ' ἀστραπῆς, τοῦ δ' εἰσιόντος καὶ περὶ τὸ νοτερόν κατασβεννυμένου, παντοδαπῶν ἐν τῇ κικήσει ταύτῃ γιγνομένων χρωμάτων, μαρμαρυγὰς μὲν τὸ πάθος προσείπομεν, τὸ δὲ τοῦτο ἀπεργαζόμενον λαμπρόν τε καὶ στίλβον ἐπωνομάσαμεν.

omissions from Plato's account, as Baltussen rightly points out (2000b, p. 118). For instance, Theophrastus does not refer to Plato's notion of the transparent (διαφανές), although he does discuss it both in *DS* 26 and in *DS* 80 when he presents the relevant doctrines by Alcmaeon and Democritus respectively; in fact, the omission of the Platonic account of the transparent is rather surprising, since this notion plays an important role in the Aristotelian theory of vision. Needless to say, Theophrastus nowhere mentions any of the nine mixed colours whose production Plato presents in some length later on in the *Timaeus* (68B5–C7).

II.2 Plato's list of basic colours

In *DS* 86, after presenting Plato's definition of colour, which is very similar though not identical to that of *DS* 5,²⁶ Theophrastus lists three of Plato's basic colours, namely white (λευκόν), black (μέλαν), and bright (λαμπρόν). The definitions of white and black, as what divides and what compresses vision respectively, follow closely Plato's definitions (*Timaeus* 67E5–6); and the same holds for the analogy with the sense of touch and the sense of taste, which is also to be found in the relevant *Timaeus* passage (67D7–E2). What is puzzling, however, is what comes next; that is, the definition of the colour bright as “the fiery white”, and the omission of Plato's fourth basic colour, namely red (έρυθρόν: *Timaeus* 68B1–5). Contemporary scholars do not comment on the first point, but they do notice the second and try to explain it: Stratton (1917, pp. 212–213 n. 228) thinks that red is missing “from Theophrastus' account by some clerical blunder”, while Long (1996, p. 359) agrees with Stratton that we must assume here “a short lacuna in which Theophrastus mentioned this”; thus, both of them decide to introduce ellipsis points in Diels' edition after the definition of the bright.

I, on my part, do not think that Theophrastus' omission of red as the fourth of Plato's basic colours is innocent and, in my opinion, one should try to explain this omission by considering it together with the bewildering definition of the colour bright. So, how are we supposed to understand the definition of the bright as the fiery white? For if Theophrastus treats the bright as a kind of white, then it cannot be said to be a basic colour. Also, what does it actually mean to say that the bright is the fiery white? For all colours and, for that matter, all basic colours are constituted in Plato's view of fire particles, and their differences depend on the different sizes of these particles; the colour bright, in particular, is constituted of fire particles that, according to the *Timaeus* passage just quoted, are smaller

²⁶ Note that in *DS* 86 Theophrastus defines colour as a φλόξ, whereas in *DS* 5 he defines it as a φλόξ τις; see also above, n. 7.

than the fire particles that constitute the colour white. This is, after all, the reason why I agree that it would be absurd in a Platonic context to keep the manuscripts' reading τὸ ἀερῶδες λευκόν, and I think that the emendation τὸ πυρῶδες λευκόν improves the text (*DS* 86 525.23); that is, it does not make sense to connect the bright with the element of air, since being a colour means that it consists of fire particles.

Hence, in order to give a satisfactory explanation of the definition of the colour bright, I make the following suggestion: In presenting the bright in *DS* 86, Theophrastus does not take into consideration the relevant passage from Plato's *Timaeus*, but is influenced by Democritus' account of this colour, an account which he himself gives in the *De sensibus* passages dedicated to Democritus' theory of vision:

On colours, he says that there are four simple ones. White is what is smooth. For whatever is not rough or shadowy or difficult to penetrate, anything like that is bright. Bright things must also have straight pores to let the light pass through... the brightest are those which have the most and the finest fire, while those which have less, thicker in texture, are redder, as the fine-textured is hot... Thus gold and bronze and similar colours come from red and white; they get their brightness from white and their reddish tinge from red.²⁷ (Theophrastus, *DS* 73–6 520.24–522.3; trans. C. C. W. Taylor)

These Theophrastean passages suggest that, according to Democritus, all white objects are bright due to their atomic surface structures that have straight pores, and thus let the light pass through. Also, Democritus seems to have claimed that both white and red objects have atoms similar to those of fire, but the brightest or whitest objects have many and very small such atoms while red objects have fewer and bigger ones. So, brightness for Democritus characterises all white objects; indeed, it characterises only white objects. The exclusive attribution of brightness to the colour white is further confirmed, in my view, by what Democritus is reported to have said about mixed colours; when objects of mixed colours are bright, for instance the colours gold and bronze, it simply means that they contain the colour white to some degree.

According to Theophrastus' report, therefore, Democritus treats the bright as a kind of white and, in particular, as a kind of white that has the most and the finest fire. Unfortunately, though, Theophrastus is our only ancient source on

²⁷ τῶν δὲ χρωμάτων ἀπλᾶ μὲν λέγει τέτταρα. λευκόν μὲν οὖν εἶναι τὸ λεῖον. ὃ γὰρ ἂν μὴ τραχὺ μηδ' ἐπισκιάζει μηδὲ δυσδίωδον ἦ, τοιοῦτον πᾶν λαμπρὸν εἶναι. δεῖ δὲ καὶ εὐθύτρυπα καὶ διαυγῆ τὰ λαμπρὰ εἶναι... λαμπρότατα μὲν γὰρ εἶναι τὰ πλείστον ἔχοντα καὶ λεπτότατον πῦρ, ἐρυθρότερα δὲ τὰ παχύτερον καὶ ἔλαττον... οἷον τὸ μὲν χρυσοειδὲς καὶ τὸ τοῦ χαλκοῦ καὶ πᾶν τὸ τοιοῦτον ἐκ τοῦ λευκοῦ καὶ τοῦ ἐρυθροῦ· τὸ μὲν γὰρ λαμπρὸν ἔχει ἐκ τοῦ λευκοῦ, τὸ δὲ ὑπέρυθρον ἀπὸ τοῦ ἐρυθροῦ.

this topic, and there are many difficulties in figuring out how we should understand the nature of Democritus' basic colours, and especially the bright as a kind of white.²⁸ But, at least, it should be clear from all this that contrary to Plato's *Timaeus*, in Democritus' view, the bright is not a basic colour.²⁹

Furthermore, Theophrastus states in the *De sensibus* not only that Democritus' basic colours are the colours white, black, red, and greenish-yellow (χλωρόν), he also stresses that Democritus is the only among previous ancient philosophers who postulates four basic colours:

First of all, there is a problem in positing several principles; the others posit only white and black, as the only simple ones.³⁰ (Theophrastus, *DS* 79 522.26–27)

My contention, therefore, is that in Theophrastus' view Plato postulates only two basic colours, namely white and black, just like Empedocles.³¹ A further argument in favour of this claim is that both Theophrastus (*DS* 91) and Aristotle (*De sensu* 2 437^b11–23) underline the Platonic dependence on Empedocles' theory of colours, without mentioning any difference concerning their doctrines on the number of basic colours. Besides, it is worth stressing that contemporary scholars still disagree about the basic colours presented in Plato's *Timaeus*, which certainly suggests that the relevant Platonic passages allow different interpretations. And it seems that in *DS* 86 Theophrastus, for his own reasons, offers us one such interpretation, according to which Plato's basic colours are just the white and the black.

To conclude, my study of the *De sensibus* paragraphs on Plato's theory of vision as well as on his account of basic and mixed colours confirms the generally accepted view that Theophrastus' report is extremely truncated and his approach is rather

²⁸ On different interpretations of Democritus' account of basic colours, see Baldes (1978); Maxwell-Stewart (1979); Struycken (2003). See also, Kelli Rudolph's contribution in this issue.

²⁹ An objection could be raised, though, that in *DS* 86 Theophrastus' text implies that the bright is a basic colour. For, after mentioning the white, the black, and the bright, Theophrastus states that the mixed colours are produced from these (τὰ δὲ ἄλλα ἐκ τούτων). The contested issue, here, is of course the reference of τούτων. Baltussen (2000b, p. 118) translates the phrase as "all other colours are derived from the extremes (i. e. white and black)", although this does not correspond to the text. But if the bright is a kind of white, τούτων can be understood as referring to the basic colours white and black as well as to the bright as a kind of white.

³⁰ Πρῶτον μὲν οὖν τὸ πλείους ἀποδοῦναι τὰς ἀρχὰς ἔχει τινὰ ἀπορίαν· οἱ γὰρ ἄλλοι τὸ λευκὸν καὶ τὸ μέλαν ὡς τούτων ἀπλῶν ὄντων μόνων.

³¹ I argue in favour of the view that Empedocles postulates only two basic colours, namely white and black, in Ierodiakonou (2005a).

narrow. It also confirms the suspicion, already expressed by contemporary scholars, that the *De sensibus*' oddities and obscurities cannot always be explained on the basis of textual problems or as copyists' mistakes. What I have tried to give, here, are some further examples of such oddities and obscurities that can be better understood if one treats Theophrastus' text as offering not a mere report of the Platonic doctrines, but an interpretation that is heavily "coloured" by his Aristotelian inheritance, even if it does not follow ground already covered by Aristotle himself.

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Bibliography

- Baldes, Richard (1978): "Democritus on the Nature and Perception of 'Black' and 'White'", *Phronesis* 23, pp. 87–100.
- Baltussen, Han (2000a): "Plato in the *Placita* (Aëtius bk. IV): A Dielsian Blind Spot", *Philologus* 144, pp. 227–238.
- Baltussen, Han (2000b): *Theophrastus against the Presocratics & Plato. Peripatetic Dialectic in the De sensibus*. Leiden: Brill.
- Beare, John I. (1906): *Greek Theories of Elementary Cognition from Alcmaeon to Aristotle*. Oxford: Clarendon Press (Photomechanical reprint: New York: Thoemmes, 1995).
- Boudon-Millot, V. (2012): "Vision and Vision Disorders: Galen's Physiology of Sight". In: M. Horstmannshoff, H. King, C. Zittel (eds.): *Blood, Sweat and Tears – The Changing Concepts of Physiology from Antiquity into Early Modern Europe*. Leiden: Brill, pp. 551–567.
- Brisson, Luc (1999): "Plato's Theory of Sense Perception in the *Timaeus*: How it Works and What it Means". In: J. J. Cleary and G. M. Gurtler (eds.): *Proceedings of the Boston Area Colloquium in Ancient Philosophy*, vol. 13, Leiden: Brill, pp. 147–176.
- Burnet, John (1908): *Early Greek Philosophy*. 2nd edition, London: Adam and Charles Black.
- De Lacy, Phillip, ed./trans. (1980): *Galen. On the Doctrines of Hippocrates and Plato (Corpus Medicorum Graecorum V 4,1,2)*, vol. 2. Berlin: Akademie Verlag.
- Diels, Hermann, ed. (1879): *Doxographi Graeci*. Berlin: Reimer (4th ed., photomechanically reprinted from the sheets of the 1st ed. Berlin: De Gruyter, 1965).
- Dillon, John (1993): *Alcinous. The Handbook of Platonism*. Oxford: Oxford University Press.
- Grönroos, Gösta (2001): *Plato on Perceptual Cognition*. PhD dissertation in Philosophy, Stockholm University.
- Ierodiakonou, Katerina (2005a): "Empedocles on Colour and Colour Vision", *Oxford Studies in Ancient Philosophy* 29, pp. 1–37.

- Ierodiakonou, Katerina (2005b): "Plato's Theory of Colours in the *Timaeus*", *Rhizai* 2, pp. 219–233.
- Ierodiakonou, Katerina (2014): "On Galen's Theory of Vision". In: Peter Adamson, Rotraud Hansberger, James Wilberding (eds.): *Philosophical Themes in Galen, Bulletin of the Institute of Classical Studies* 114, suppl. vol., pp. 235–247.
- Ierodiakonou, Katerina (2019): "Byzantine Theories of Vision". In: Stavros Lazaris (ed.): *A Companion to Byzantine Science*. Leiden: Brill, pp. 160–176.
- Ierodiakonou, Katerina, forthcoming: "Galen in Dialogue with Plato and the Stoics". In: Matyáš Harvda and R. J. Hankinson (eds.): *Galen's Epistemology*.
- Levidis, A. V. (2002): "Why did Plato not Suffer of Color Blindness? An Interpretation of the Passage on Color Blending in *Timaeus*", in M. A. Tiverios and D. S. Tsiafakis (eds.), *Color in Ancient Greece. The Role of Color in Ancient Greek Art and Architecture*, Thessaloniki: University of Thessaloniki, pp. 9–21.
- Long, Anthony A. (1996): "Theophrastus' *De sensibus* on Plato". In: Keimpe Algra, Pieter van der Horst, David Runia (eds.): *Polyhistor. Papers offered to J. Mansfeld on the occasion of his sixtieth birthday*. Leiden: Brill, pp. 345–362.
- Mansfeld, Jaap (2019): "Echoes of Theophrastus' *De Sensibus* in Books 4 and 1 of the Aëtian *Placita*", *Rhizomata* 7, pp. 146–167.
- Maxwell-Stewart, P.G. (1979): "Democritus on the Colour White (Theophrastus, *De sensu* 73)", *Liverpool Classical Monthly* 4: pp. 197–198.
- McDiarmid, John B. (1959): "Plato in Theophrastus' *De sensibus*", *Phronesis* 4, pp. 59–70.
- Remes, Pauliina (2014): "Plato: Interaction Between the External Body and the Perceiver in the *Timaeus*". In: José Filipe Silva and Mikko Yrjönsuuri (eds.): *Active Perception in the History of Philosophy. From Plato to Modern Philosophy*. Dordrecht: Springer, pp. 9–30.
- Rudolph, Kelli (2019): "Democritus' Theory of Colour", *Rhizomata* 7, pp. 269–305.
- Rudolph, Kelli (2018): "Theophrastus and the Authority of the *De Sensibus*". In: Jenny Bryan, Robert Wardy, James Warren (eds.): *Authors and Authorities in Antiquity*. Cambridge: Cambridge University Press, pp. 139–161.
- Schneider, Johann Gottlob, ed. (1818): *ΘΕΟΦΡΑΣΤΟΥ ΕΡΕΣΙΟΥ ΤΑ ΣΩΖΟΜΕΝΑ*. Vol. I. *Theophrasti Eresii quae supersunt opera et excerpta librorum quator tomis comprehensa (De sensibus* on pp. 647–685); Vol. II. *Versionem Latinam librorum De historia et De causis plantarum, et plerumque libellorum physicorum continens. Cum curis posterioribus editoris (De sensibus* on pp. 616–625). Leipzig: F. C. G. Vogel.
- Sedley, David N. (1992): "Empedocles' Theory of Vision and Theophrastus' *De sensibus*". In: William W. Fortenbaugh and Dimitri Gutas (eds.): *Theophrastus: His Psychological, Doxographical and Scientific Writings*. New Brunswick: Transaction, pp. 20–31.
- Sharples, Robert W. and Philip J. van der Eijk, trans. (2008): *Nemesius. De natura hominis*. Liverpool: Liverpool University Press.
- Siegel, R. E. (1970): *Galen on Sense Perception*. Basel/New York: S. Karger.
- Stratton, George M. (1917): *Theophrastus and the Greek Physiological Psychology before Aristotle*. London: George Allen & Unwin Ltd.
- Struycken, Peter (2003): "Colour Mixtures According to Democritus and Plato", *Mnemosyne* 56, pp. 273–305.
- Taylor, C. C. W. (1999): *The Atomists: Leucippus and Democritus*. Toronto: University of Toronto Press.
- Towey, Alan, trans. (2000): *Alexander of Aphrodisias. On Aristotle On Sense Perception*. London: Duckworth.

- Whittaker, John (1989): "The Value of Indirect Tradition in the Establishment of Greek Philosophical Texts or the Art of Misquotation". In: J. N. Grant (ed.): *Editing Greek and Latin Texts*. New York: AMS Press, pp. 63–95.
- Wimmer, Christian (1862): *Theophrasti Eresii quae supersunt omnia*. Vol. III: *Fragmenta*. Leipzig: Teubner, pp. 1–34.
- Zeyl, Donald J. (trans.) (1997): *Plato. Timaeus*. In: John Cooper (ed.): *Plato. Complete Works*. Indianapolis: Hackett.