Not bringing things to a standstill: Plato's *Theaetetus* on how (not) to speak about a world in which knowledge is perception



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A thesis submitted for the degree of

Doctor of Philosophy

Trinity 2019

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Abstract

This thesis is concerned with Theaetetus' definition of knowledge ('Knowledge is perception') and Protagoras' Measure Doctrine ('Man is the measure of all things') as discussed in Plato's *Theaetetus* (151e-187a). I shall argue that Protagoras' Measure Doctrine is best understood as a doctrine of *infallibilism*: all beliefs are true. I shall argue that Theaetetus' definition commits Theaetetus to *perceptual infallibilism*: all perceptual beliefs are true. Further, I shall argue that Protagoras' Secret Doctrine (152d-160c) underpins perceptual infallibilism by means of a process ontology: perceptual properties are processes involving objects and perceivers. I shall argue that this process ontology explains three key components of the Secret Doctrine: the Relationalist Thesis ('Nothing is one thing just by itself'), the Flux Thesis ('Nothing ever is, but things are always becoming') and the linguistic reforms (the rejection of 'to be' in favour of 'to become'). I shall provide a detailed analysis and criticism of the relativist interpretation, according to which the Measure Doctrine amounts to relativism about truth: each belief is true (not *simpliciter*, but) *in relation to the believer*. In particular, I shall argue that the refutation of the Measure Doctrine (170c-171c) targets infallibilism rather than relativism about truth. I shall argue that the refutation of the Radical Flux doctrine ('Everything is always changing with

every kind of change in every respect'; 179d-183c) hinges on the view that Radical Flux precludes universals from being instantiated. This view explains both the incompatibility between Radical Flux and Theaetetus' definition and the incoherence of Radical Flux. Further, I shall argue that neither Theaetetus nor Protagoras is committed to Radical Flux: the refutation targets proponents of Theaetetus' definition and of the Secret Doctrine who also endorse Radical Flux. Finally, I shall argue that the refutation of Theaetetus' definition (at 184b-187a) hinges on the view that perceiving does not—and knowing does—involve making true judgements.

Acknowledgements

I wish to thank my supervisors Michail Peramatzis and Luca Castagnoli for the many interesting discussions of my work. I wish to thank Francesco Ademollo, Lesley Brown, David Charles, Job van Eck, Gail Fine, Verity Harte, and Tamer Nawar for their incisive comments on drafts of my chapters and for stimulating discussions of my work. I wish to thank Nicholas Denyer and Gail Fine for examining my thesis. I am grateful to Merton College for their financial support and the wonderful community which I have had the privilege to be part of. Last but not least, I wish to thank my family and friends for their support.

Number of words

The thesis contains approximately 74,900 words.

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Introduction

This thesis is concerned with Theaetetus' definition of knowledge ('Knowledge is perception') and Protagoras' Measure Doctrine ('Man is the measure of all things: of the things which are, that they are, and of the things which are not, that they are not') as discussed in Plato's *Theaetetus* (151e1-187a8). I shall give accounts of Protagoras' Secret Doctrine (152d2-160c10; chapter 1), the refutation of Protagoras' Measure Doctrine (170c2-171c7; chapter 2), the refutation of the Radical Flux doctrine (179d4-183c3; chapter 3), and the refutation of Theaetetus' definition (184b3-187a8; chapter 4).

In chapter 1, I shall argue that Theaetetus' definition commits Theaetetus to Narrow Protagoreanism: each perceptual belief corresponds with how things are in relation to the believer. I shall argue that the Secret Doctrine underpins Narrow Protagoreanism by means of a process ontology: perceptual properties are processes involving an object and a perceiver. My account of the Secret Doctrine will focus on two key questions:

(1.) Do the Relationalist Thesis ('Nothing is one thing just by itself') and the Flux Thesis ('Nothing ever is, but things are always becoming') together form a coherent combination of views?

(2.) Why do the linguistic reforms reject the use of 'to be' ('*einai*') in favour of the use of 'to become' ('*gignesthai*')?

In relation to (1.), I shall argue that the Relationalist Thesis and the Flux Thesis form a coherent combination of views. I shall argue that the Relationalist Thesis expresses *ontic relationalism* with regard to perceptual properties: whether or not an object x has a perceptual property F is relative to each individual human; x may be F in relation to one human and not F in relation to another human. Further, I shall argue that the notions of *being* and *becoming* in the Flux Thesis should be understood as (respectively) *being** and *becoming**. The stone *is** white if and only if the stone is *impersonally* white: its whiteness is not subject to ontic relationalism. The stone is *becoming** white in relation to a given human if and only if the stone and the given human are involved in the process in which whiteness consists. I shall argue that the Flux Thesis rejects the view that the stone is* white in favour of the view that the stone is becoming* white.

In relation to (2.), I shall argue that the linguistic reforms reject the copula 'is*' in favour of the copula 'become*': 'is*' is the copula 'is' as used to express being*, whereas 'become*' is the copula 'become' as used to express becoming*.

In chapter 2, I shall criticize an influential relativist interpretation. According to this relativist interpretation, the Measure Doctrine amounts to *relativism about truth*: each belief is true—not *simpliciter*, but—*in relation to the believer*. I shall criticize several versions of this relativist interpretation. In doing so, I shall consider several accounts of what it means for a belief to be true *in relation to the believer*. I shall argue instead that the Measure Doctrine amounts to *infallibilism*:[1] all beliefs are true *simpliciter*. Further, I shall argue that Protagoras has a revisionary view of the truth conditions of beliefs in domains within the scope of his ontic relationalism (including all perceptual beliefs): such

[1]I borrow Fine's label for this position: Fine defends the infallibilist interpretation in Fine (1994), Fine (1996), and Fine (1998a). I shall refer to the reprinted papers in Fine (2003): respectively, Fine (2003a), Fine (2003b), and Fine (2003c).

beliefs are true *simpliciter* if and only if they correspond with how things are *in relation to the believer*. I shall show that, given Protagoras' revisionary account of truth conditions, Narrow Protagoreanism entails *perceptual infallibilism*: all perceptual beliefs are true *simpliciter*.[2] Further, I shall provide an account of the fact that Socrates sometimes claims that Protagoras holds that beliefs are true *in relation to the believer*. I shall argue that Socrates' claim only applies to all beliefs with revisionary truth conditions: Socrates' claim entails—in accordance with infallibilism—that the revisionary truth conditions of such beliefs obtain. Finally, I shall argue that the self-refutation argument targets infallibilism rather than relativism about truth.

In chapter 3, I shall focus on three key questions concerning the refutation of Radical Flux ('Everything is always changing with every kind of change in every respect'):

(3.) Why is Radical Flux supposed to be incompatible with Theaetetus' definition?

(4.) In what sense does the argument constitute a refutation of Radical Flux?

(5.) Does the Secret Doctrine entail Radical Flux?

In relation to (3.), I shall argue that the scope of Radical Flux is restricted to certain particulars: objects with perceptual properties and perceivers. I shall explain the incompatibility with Theaetetus' definition in the following way. Radical Flux implies that there are no instances of perceiving. That there are no instances of perceiving entails that the universal perception does not exist. However, Theaetetus' definition presupposes that the universal perception exists.

[2]Fine (2003a), p. 56, uses 'narrow infallibilism' for what I call perceptual infallibilism.

In relation to (4.), I shall argue that Radical Flux precludes universals in general from being instantiated: given that change is only possible if there are instances of universals, Radical Flux is incoherent.

In relation to (5.), I shall argue that the Secret Doctrine does not entail Radical Flux: neither Theaetetus nor Protagoras is committed to Radical Flux. I shall argue that the refutation targets radical proponents of Theaetetus' definition and of the Secret Doctrine: proponents of Theaetetus' definition and of the Secret Doctrine who endorse Radical Flux in addition.

In chapter 4, I shall propose an interpretation of the refutation of Theaetetus' definition. According to the refutation, knowledge is not perception: knowledge attains truth; perception, however, does not attain being, and attaining being is necessary for attaining truth. Further, that perception does not attaing being is supposed to follow from two premisses: (i) being and not being are *common properties* (*koina*): properties instantiated by the objects of multiple senses; (ii) any instance of thinking that some object x has a common property F is not an instance of perceiving. I shall answer two key questions:

(6.) What do attaining being and attaining truth consist in?

(7.) Second, how does it follow from premisses (i) and (ii) that perception does not attain being?

In relation to (6.), I shall argue that attaining being consists in *either* making a true judgement that some object x has some property F *or* making a true judgement that some object x does not have some property F. Attaining truth consists in making a true judgement. Further, attaining being and attaining truth are supposed to be equivalent.

In relation to (7.), I shall argue that any instance of thinking that some object x has some property F is an instance of thinking that x has the common

property of being. Further, any instance of thinking that some object x does not have some property F is an instance of thinking that x has the common property of not being. Given premisses (i) and (ii), this entails that perception does not attain being: attaining being entails *either* thinking that some object x has some property F *or* thinking that some object x does not have some property F.

Convention regarding internal references

When I refer to sections in the same chapter, I do not mention the number of the chapter. For instance, a reference to 1.1 in chapter 1 refers to chapter 1, section 1.1. When I refer to sections in a different chapter, I mention the number of the chapter in bold. For instance, a reference to **1**.1.1 in chapter 2 refers to chapter 1, section 1.1. Similarly, only when I refer to a footnote in a different chapter, do I mention the chapter.

Chapter 1

Protagoras on perception and the truth of all perceptual beliefs

Introduction

In section 1, I shall argue that the initial inquiry into Protagoras' Measure Doctrine (152a1-160c10) focuses on *Narrow Protagoreanism*:[1] if a believer believes on the basis of perception that things are a certain way, then they are that way *in relation to the believer*. (1.1 and 1.3) I shall argue that the qualifier ('in relation to the believer') in Narrow Protagoreanism presupposes *ontic relationalism* with regard to perceptual properties. According to ontic relationalism with regard to a property F, whether or not something is F is relative to each individual human: something may be F in relation to one human and not F in relation to another human. (1.2) In section 2, I shall give an account of the Relationalist Thesis ('Nothing is one thing just by itself') and the Flux Thesis ('Nothing ever is, but things are always becoming') in the introduction to the Secret Doctrine

[1] I agree on this with Fine, from whom I borrow the label: cf. Fine (2003a), II and Fine (2003b), II.

(152d2-e1). (2.1) I shall argue that the Relationalist Thesis expresses ontic relationalism with regard to perceptual properties. (2.2) Further, I shall argue that the Flux Thesis presupposes that perceptual properties are processes in the form of interactions between objects and perceivers. I shall argue that the Flux Thesis denies that things *are** F and asserts that things are *becoming** F. That x is* F means that x is *impersonally* F: F is not subject to ontic relationalism. That x is becoming* F means that x and a perceiver are involved in the process in which F consists. (2.3-4) In section 3, I shall corroborate my interpretation of the Flux Thesis in the light of two subsequent passages on, respectively, the nature of colours (153e4-154a3; 3.1-3) and on the 'Protagorean changes' an object undergoes when it is perceived differently by different perceivers (154b1-3; 3.4). Further, I shall give an account of the comparison Socrates makes between Protagorean changes and non-genuine, purely relational changes ('mere Cambridge changes'). (154b6-155d8; 3.5) I shall argue that both Protagorean changes and mere Cambridge changes are non-intrinsic, but that only Protagorean changes are genuine. In section 4, I shall argue that Protagoras' theory of perception (156a2-157c3) renders true Narrow Protagoreanism by a combination of two factors: (i) it renders perceptual properties subject to ontic relationalism; (ii) it renders perception an infallible criterion of which perceptual properties objects have in relation to the perceiver. In section 5, I shall give an account of the proscription of 'to be' ('*einai*') and the prescription of 'to become' ('*gignesthai*') by Protagoras' linguistic reforms (157a7-b7 and 160b5-c2): the proscription of 'to be' should be understood as a proscription of 'to be*' (the copula 'to be' as used to express being*), whereas the prescription of 'to become' should be understood as a prescription of 'to become*' (the copula 'to become' as used to express becoming*). Further, I shall argue that the reforms in effect pro-

scribe 'impersonal sentences' (sentences lacking the Protagorean complement 'in relation to *a*') and prescribe 'Protagorean sentences' (sentences with the Protagorean complement 'in relation to *a*'). The rationale behind the reforms is that—in the perceptual domain, the domain of the reforms—impersonal sentences do not, and Protagorean sentences do, express genuine propositions: the *impersonal propositions* that constitute the meaning of impersonal sentences are not genuine propositions, whereas the *Protagorean propositions* that constitute the meaning of Protagorean sentences are genuine propositions.

1 Enter Measure Doctrine (152a-c)

1.1 Theaetetus' definition and Protagoras' Measure Doctrine

Socrates and Theaetetus are trying to answer the question 'What is knowledge (*epistēmē*)?' (145e8 ff.) Urged by Socrates to come up with a proposal, Theaetetus proposes the following definition: 'Knowledge is perception (*aisthēsis*).'[2] (TH) (151d3-e3)

Socrates responds to Theaetetus' proposal by claiming that Protagoras put the same point in a different way in asserting his Measure Doctrine (MD):[3] 'Man is the measure of all things: of the things which are, that they are, and of the things which are not, that they are not.'[4] (152a2-4) Socrates goes on to explicate the Measure Doctrine as follows:[5] 'Everything is for me the way it appears to me,

[2]Cf. 'οὐκ ἄλλο τί ἐστιν ἐπιστήμη ἢ αἴσθησις.' (151e2-3): 'Knowledge is nothing other than perception.' I follow the latest OCT edition: Hicken (1995).

[3]Cf. 'τρόπον δέ τινα ἄλλον εἴρηκε τὰ αὐτὰ ταῦτα.' (152a1-2): 'He said the same thing in a different way.'

[4]''πάντων χρημάτων μέτρον" ἄνθρωπον εἶναι, ''τῶν μὲν ὄντων ὡς ἔστι, τῶν δὲ μὴ ὄντων ὡς οὐκ ἔστιν."

[5]Alternatively, this is another statement of the doctrine made by Protagoras himself: this

and everything is for you the way it appears to you.'[6] (152a6-8) Socrates then discusses Protagoras' position with reference to an example involving conflicting appearances. (152b1-9) Sometimes the same wind is blowing and one of us is shivering, whereas the other is not shivering.[7] Socrates goes on to ask what we should assert about the wind according to Protagoras (152b6-11):[8]

> [**Text 1**][9]SOC: Now on that occasion, shall we assert that the wind itself, taken by itself, is cold or not cold? Or shall we accept it from Protagoras that it's cold for the one who is shivering, and not for the one who is not? THT: That seems plausible. SOC: Now it appears that way to each of us? THT: Yes.

I take it that the wind is supposed to appear cold to the one who is shivering and not cold to the one who is not shivering. Consequently, MD (as explicated by Socrates) does indeed entail that the wind is cold for the one who is shivering (as the wind appears cold to him) and not cold for the one who is not shivering (as the wind appears not cold to her). I take the general logical form of MD as explicated by Socrates (MD′) to be the following:

> MD′: $\forall x \forall F \forall a$ (If x appears F to a, then x is F for a).

In order to understand MD′, we have to answer the following three questions. (i) What does 'x appears F to a' mean? (ii) What does 'x is F for a' mean? (iii) What are the domains of the xs, the Fs, and the as? The hardest question is (ii): before addressing (ii), I shall first address (i) and (iii).

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depends on how we understand 'λέγει' (152a6): 'means' or 'says'. Cf. McDowell (1973) on 152a6-8.

[6] οἷα μὲν ἕκαστα ἐμοὶ φαίνεται τοιαῦτα μὲν ἔστιν ἐμοί, οἷα δὲ σοί τοιαῦτα δὲ αὖ σοί·

[7] Cf. 152b1-4. Socrates gives another example (152b3-4): one of us is shivering slightly, whilst the other is shivering heavily.

[8] ΣΩ. Πότερον οὖν τότε αὐτὸ ἐφ' ἑαυτοῦ τὸ πνεῦμα ψυχρὸν ἢ οὐ ψυχρὸν φήσομεν; ἢ πεισόμεθα τῷ Πρωταγόρᾳ ὅτι τῷ μὲν ῥιγῶντι ψυχρόν, τῷ δὲ μὴ οὔ; ΘΕΑΙ. Ἔοικεν. ΣΩ. Οὐκοῦν καὶ φαίνεται οὕτω ἑκατέρῳ;

[9] All translations are slightly modified versions of the ones in McDowell (1973).

Let me start with (i): what does 'x appears F to a' mean? Here I shall follow Fine in drawing three useful distinctions.[10] As Fine points out, the Greek verb 'to appear' ('*phainesthai*') can be used in a factive sense (for instance, in a statement which would be rendered in English as 'The wind is clearly cold': that this statement (made by me) is true entails that the wind is, in fact, cold) and a non-factive sense (for instance, in a statement which would be rendered in English as 'The wind appears to be cold': that this statement (made by me) is true does not entail that the wind is, in fact, cold).[11] Like Fine, I take MD′ to use 'to appear' in a non-factive sense. Further, as Fine points out, the Greek verb 'to appear' can be used non-doxastically and doxastically.[12] I can sincerely assert that the partly submersed oar *appears* bent without thereby committing myself to the belief that the partly submersed oar is bent. I can also sincerely assert that the wind *appears* cold, thereby expressing my belief that the wind is cold. Like Fine, I take MD′ to use 'to appear' doxastically. Fine draws a further distinction between two ways of using 'to appear' doxastically: to make statements about what one believes on the basis of perception (for instance, in a statement which would be rendered in English as 'The stone appears white to me') and to make statements about any belief whatsoever (for instance, in a statement which would be rendered in English as 'Plato's argument appears valid to me').[13] As Fine points out, this final distinction gives rise to two ways of understanding MD′, respectively Narrow Protagoreanism and Broad Protagoreanism:[14]

[10]Cf. Fine (2003a), II and footnote 6 thereto and Fine (2003b), II and footnote 4 thereto.

[11]Cf. Fine (2003a), footnote 6: Fine gives as examples 'It is apparent that the wind is cold' and 'The wind appears to be cold.' Fine uses the term 'veridical' for what I call factive.

[12]Cf. Fine (2003b), footnote 4. I use Fine's two examples.

[13]Fine (2003b), p. 161, gives the following examples: 'It appears red to me' versus 'The argument appears sound to me.'

[14]Cf. Fine (2003a), II and Fine (2003b), II.

Narrow Protagoreanism (NP): $\forall x \forall F \forall a$ (If a believes on the basis of perception that x is F, then x is F for a).

Broad Protagoreanism (BP): $\forall x \forall F \forall a$ (If a believes that x is F, then x is F for a).

The distinction between NP and BP is relevant to question (iii): what are the domains of the xs, the Fs, and the as? It is clear that the domain of the as consists in all humans in the case of both NP and BP: *man* is the measure. The domain of the Fs depends on whether we interpret MD′ as NP or BP: in the case of NP, the domain of the Fs consists in all perceptual properties; in the case of BP, the domain of the Fs consists in all properties. Let us stipulate that *perceptual objects* are objects with perceptual properties. In the case of NP, the domain of the xs consists in all perceptual objects. In the case of BP, the domain of the xs consists in all objects.

Initially (at 152b1 - 160c10), the discussion focuses on NP, and NP remains a dominant theme throughout the discussion of MD (152a1-183c3).[15] Moreover, when Socrates claims that Theaetetus (in proposing TH) and Protagoras (in asserting MD) put the same point in different ways, I take Socrates to mean that TH commits Theaetetus to NP: I shall turn to the connection between TH and MD later in this section.[16] In the remainder of this chapter (which focuses on 152a1-160c10), I am only concerned with NP. I shall discuss BP in chapter 2.[17] Let me now turn to question (ii): what does 'x is F for a' mean? In terms of Socrates' example, what does 'the wind is cold for Socrates' mean? Here it is useful to distinguish between an ontic and an epistemic interpretation. I favour the ontic interpretation.

[15] 152c1-3, 161d2-3, 171e1-3, 178b2-7, and 179c2-5 draw attention to the distinction between NP and BP. Cf. Fine (2003a), footnote 9.

[16] Cf. 1.2.3.

[17] In **2**.1.

1.2 'The wind is cold for Socrates': the ontic interpretation versus the epistemic interpretation

1.2.1 Ontic interpretation

On the ontic interpretation, Protagoras' claim that the wind is cold for Socrates presupposes an ontological view of how the wind does or does not have the property of being cold. According to this ontological view, whether or not the wind is cold is relative to each individual human: the wind may be cold in relation to one human (say, Socrates) and not cold in relation to another human (say, Theaetetus).[18] Accordingly, 'The wind is cold for Socrates' means 'The wind is cold *in relation to* Socrates.'

On the ontic interpretation, Socrates' question ('Shall we assert that the wind *itself, taken by itself*, is cold or not cold?': 152b6-7)—which, according to Protagoras, should be answered in the negative—implies that, according to Protagoras, we should assert that coldness is a *relation* between the wind and a human. In this context, to assert that the wind *itself, taken by itself* is cold or not cold is to assert that coldness is *not* a relation between the wind and a human, but that the wind is or is not cold *irrespective of the way it is related to individual humans*.

Accordingly, NP amounts to the following claim, which presupposes the ontological view that whether or not a perceptual object x has a perceptual property F is relative to each individual human a:

> $\forall x \forall F \forall a$ (If a believes on the basis of perception that x is F, then x is F in relation to a).

[18] Cf. Lee (2005), 5.2 and Evans (2015), II.

1.2.2 Epistemic interpretation

On the epistemic interpretation, 'The wind is cold for Socrates' means 'Socrates believes that the wind is cold.'[19] Accordingly, NP amounts to the following claim:

> $\forall x \forall F \forall a$ (If a believes on the basis of perception that x is F, then a believes that x is F).

The epistemic interpretation may seem a non-starter: it renders NP tautological. However, on the epistemic interpretation, the point of NP consists in its application to the phenomenon of conflicting perceptual beliefs. This application should be understood in light of Socrates' questions: 'Shall we assert that the wind *itself, taken by itself*, is cold or not cold? Or shall we accept it from Protagoras that it's cold *for the one who is shivering*, and not *for the one who is not*?' (152b6-8) According to the epistemic interpretation, the contrast between (on the one hand) how the wind *itself, taken by itself*, is and (on the other hand) how the wind is *for someone*, is a contrast between (on the one hand) how the wind, *in fact*, is and (on the other hand) how the wind is *believed* to be *by someone*. The implication is that, according to Protagoras, we should not express our

[19] Guy L. Cooper, *Attic Greek Prose Syntax* (University of Michigan Press, 1998) Volume I, 48.5.0, mentions the datives in MD′ ('ἐμοὶ' and 'σοί' at 152a6-8) as instances of the 'dative of judgement': a dative expressing 'the person in relation to whom a statement is valid or meaningful'. Cooper presumably takes 'The wind is cold for Socrates' to mean 'That the wind is cold is true in Socrates' view' (which is equivalent to 'Socrates believes that the wind is cold'). Even if this is grammatically the most plausible construal of the dative as used MD′, this should not be given too much weight given that Protagoras' use of the dative may be idiosyncratic: cf. Erginel (2009), footnote 42. It is not clear to me whether Fine's interpretation of 'The wind is cold for Socrates' is epistemic. In one paper (Fine (2003a), pp. 133-4), Fine takes 'The wind is cold for me' to mean 'It is true for me that the wind is cold.' Fine does not explain in this context what she takes 'It is true for me that the wind is cold' to mean. However, elsewhere (Fine (2003c), p. 187) Fine writes: 'I think it's difficult to be sure precisely what 'p is true for A' means, if not 'A believes p''. This suggests that she takes 'The wind is cold for me' to mean 'I believe that the wind is cold.' However, in another paper (Fine (2003b), p. 161), Fine takes MD′ to say that 'However I believe things are, so they *in fact* are (for me)' (my emphasis), and she takes this to be a 'striking claim' (and therefore, presumably, not a tautology): this suggests that she understands 'The wind is cold for Socrates' in accordance with the ontic interpretation, according to which MD′ entails that things are in relation to me as I believe them to be.

perceptual belief that the wind is (say) cold by asserting that the wind is cold: in doing so, we would be making an assertion as to how the wind, *in fact*, is. Instead, we should restrict ourselves to making assertions about people's conflicting perceptual *beliefs* concerning the wind. For instance, instead of expressing our perceptual belief that the wind is cold by asserting that the wind is cold, we should restrict ourselves to asserting that (say) Socrates believes that the wind is cold ('the wind is cold for Socrates') and that (say) Theaetetus believes that the wind is not cold ('the wind is not cold for Theaetetus'). Here are two accounts of why, according to Protagoras, we should refrain from making assertions about how the wind is and instead make assertions about the conflicting perceptual beliefs people have concerning the wind.

According to the *sceptical* account, Protagoras holds that no perceptual belief is justified. According to the sceptical account, Protagoras makes the following two assumptions. First, there are pairs of equally justifiable conflicting perceptual beliefs concerning any perceptual property of any perceptual object. Second, if two conflicting beliefs are equally justifiable, then neither of the two beliefs is justified. The two premisses together entail that no perceptual belief is justified. Instead of expressing our unjustified perceptual beliefs by making assertions as to how perceptual objects are, we should restrict ourselves to making assertions about people's conflicting perceptual beliefs. In doing so, we bring to light how widespread the phenomenon of conflicting perceptual beliefs is, thereby making it plausible that all perceptual beliefs are unjustified in light of the two premisses.

According to the *subjectivist* account, Protagoras holds that each perceptual belief is *either* false *or* true but unjustified. According to the subjectivist account, Protagoras has the following metaphysical view: what we ordinarily think of as perceptual objects do not, in fact, have perceptual properties: peo-

ple mistakenly project perceptual properties onto objects on the basis of their perceptual experience. Let us define a *positive perceptual belief* as a perceptual belief to the effect that an object x has a perceptual property F. Further, let us define a *negative perceptual belief* as a perceptual belief to the effect that an object x does not have a perceptual property F. Given the metaphysical view, all positive perceptual beliefs are false. Further, given the metaphysical view, all negative perceptual beliefs are true but unjustified: they are unjustified because they are based on perception instead of the metaphysical view, and perception cannot justify any beliefs given its illusory nature. Instead of expressing our false or unjustified perceptual beliefs by making assertions as to how (alleged) perceptual objects (supposedly) are, we should restrict ourselves to making assertions about people's conflicting perceptual beliefs. In doing so, we bring to light how widespread the phenomenon of conflicting perceptual beliefs is, thereby making it plausible that each perceptual belief is either false or true but unjustified.

1.2.3 Why the ontic interpretation is correct

Here are three reasons why I believe that the ontic interpretation is correct.

First, Protagoras' Secret Doctrine (152d2-160c10) supports the ontic interpretation and is incompatible with the subjectivist version of the epistemic interpretation. (I shall discuss the Secret Doctrine and substantiate my claims about it in section 2.)

According to the Secret Doctrine, perceptual properties are processes involving a perceptual object and a perceiver: this process ontology entails that whether or not a perceptual object has a given perceptual property is relative to each individual human. Therefore, the Secret Doctrine entails precisely the kind of view that NP presupposes according to the ontic interpretation.

Further, the Secret Doctrine is inconsistent with the subjectivist version of

the epistemic interpretation: the Secret Doctrine entails that perceptual objects have perceptual properties. The Secret Doctrine departs from the ordinary view not in denying that (supposed) perceptual objects have perceptual properties, but in providing a revisionary account of *how* perceptual objects have perceptual properties: whether or not a perceptual object has a given perceptual property is relative to each individual human.

Second, Protagoras accepts perceptual infallibilism: all perceptual beliefs are true. (I shall substantiate this claim in chapter 2.) Perceptual infallibilism is at odds with the sceptical version of the epistemic interpretation and incompatible with the subjectivist version of the epistemic interpretation.

Perceptual infallibilism is at odds with the sceptical version of the epistemic interpretation: the sceptical version of the epistemic interpretation says that no perceptual belief is justified. If one holds that all perceptual beliefs are true, one presumably holds that perception is an infallible mode of cognition. That perception is an infallible mode of cognition is at odds with the view that all perceptual beliefs are unjustified: if perception is infallible, then presumably all perceptual beliefs are justified by the very fact that they are perceptual.

Further, perceptual infallibilism is incompatible with the subjectivist version of the epistemic interpretation: the subjectivist version of the epistemic interpretation says that all positive perceptual beliefs are false.

Third, only the ontic interpretation can make sense of Socrates' argument in support of the claim that TH commits Theaetetus to NP. (152c1-7) Socrates argues for two claims that together entail Theaetetus' commitment to NP: first, NP amounts to the view that perception is factive (152c1-3); second, TH implies that perception is factive (152c5-6).[20]

[20]I agree with Fine (2003a), p. 135-6, and footnote 10, that Socrates does not (purport to) establish that TH is equivalent to NP, or even that TH entails NP. Rather, Socrates argues that TH is best supported by NP. Burnyeat (1982), section I, in particular footnote 2, argues for a

This is how Socrates' argument goes. Socrates assumes the following equivalence between perceptual appearances (with which NP is concerned) and perceptions ('the appearance/perception equivalence'): x appears F to a if and only if a perceives x as F. (152c1-2)[21] Socrates then argues that, given the appearance/perception equivalence (which allows for substitution of 'perceive' for 'being appeared to perceptually'), NP amounts to the view that perception is factive: if I perceive things in a certain way, then they are that way for me. (152c2-3)[22] Socrates then points out that this is precisely what must be the case if knowledge is indeed perception (as Theaetetus has proposed): knowledge is factive, so if knowledge is perception, perception must be factive. (152c5-6)[23]

The ontic interpretation of NP can make sense of how NP amounts to the view that perception is factive. Given the appearance/perception equivalence, the ontic interpretation of NP amounts to the claim that perception is factive: if I perceive things in a certain way, then they are that way in relation to me.[24]

similar connection between TH and (what I call) NP (although Burnyeat does not distinguish between NP and BP). See also footnote 23.

[21] Φαντασία ἄρα καὶ αἴσθησις ταὐτὸν ἔν τε θερμοῖς καὶ πᾶσι τοῖς τοιούτοις. ('So appearing and perception are the same, in the case of that which is hot and everything of that sort.') I understand the qualification 'in the case of that which is hot and everything of that sort' as a restriction to *perceptual* appearances.

[22] οἷα γ᾽ἄρ αἰσθάνεται ἕκαστος, τοιαῦτα ἑκάστῳ καὶ κινδυνεύει εἶναι. ('So it looks as though things are, for each person, the way he perceives them.') I read γ᾽ἄρ᾽ instead of the MSS' 'γὰρ' at 152c2, following Badham and McDowell: see McDowell (1973) on 152b1-c7 and note on 152c2 on p. 110.

[23] Αἴσθησις ἄρα τοῦ ὄντος ἀεί ἐστιν καὶ ἀψευδὲς ὡς ἐπιστήμη οὖσα. ('So perception is always of what is, and free from falsehood, because it is knowledge.') Note that the conjunction of TH and the appearance/perception equivalence does not entail NP. Therefore, even if Theaetetus is committed to both TH and the appearance/perception equivalence, he is not *strictly speaking* committed to NP. Given the appearance/perception equivalence, NP amounts to (i): if I perceive things in a certain way, then they are that way for me. (i) amounts to the view that perception is factive. TH entails that perception is factive. However, TH does not entail that perception is factive *in precisely the way in which (i) says it is*: perception may be factive in a different way. Rather, I agree with Fine (2003a), p. 135-6 and footnote 10, that Socrates argues that TH is best supported by NP. When I say that Socrates takes Theaetetus to be committed to NP, this should be understood accordingly: Socrates takes Theaetetus to be committed to NP in that Socrates takes NP to be the best support for TH.

[24] Given the appearance/perception equivalence and the ontic interpretation of NP, things are *in relation to me* as I perceive them to be. If how things are were not relative to the perceiver, the factivity of perception would be hard to reconcile with the fact that different

The epistemic interpretation of NP, however, cannot make sense of the supposed equivalence between NP and the claim that perception is factive. In conjunction with the appearance/perception equivalence, the epistemic interpretation of NP implies the following: if I perceive things in a certain way, then I believe that they are that way. This implication does not amount to the view that perception is factive.[25]

1.3 Narrow Protagoreanism and perceptual infallibilism

NP amounts to the following claim:[26]

> **Narrow Protagoreanism (NP)**: $\forall x \forall F \forall a$ (If a believes on the basis of perception that x is F, then x is F in relation to a).

NP presupposes that any perceptual property (F) is a relation between a perceptual object (x) and a perceiving subject (a). I shall argue (in sections 2 and 3) that Protagoras' Secret Doctrine (set out at 152d2-160c10) explains how perceptual properties are relational in this sense. In chapter 2, I shall argue that Protagoras takes NP to entail *perceptual infallibilism*:[27]

> **Perceptual infallibilism**: all perceptual beliefs are true.

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people sometimes perceive things in incompatible ways (as in the example concerning the wind, which Socrates has just given).

[25] Another argument against the epistemic interpretation (both the sceptical and the subjectivist version) is that there is less emphasis on what one is warranted to assert than one would expect given either version of the epistemic interpretation: rather than claiming that, according to Protagoras, we should *assert* that the wind is cold for the one who is shivering and not cold for the one who is not, Socrates claims that, according to Protagoras, the wind is cold for the one who is shivering and not cold for the one who is not.

[26] The domain of the xs consists in all perceptual objects, the domain of the Fs consists in all perceptual properties, and the domain of the as consists in all humans.

[27] Cf. **2**.1.3.3.

2 Introduction to the Secret Doctrine: relativity and becoming in Protagoras' metaphysics (152d-e)

2.1 Text (152d2-e1) and preliminary discussion

Socrates proceeds to unfold Protagoras' 'Secret Doctrine'[28] (152d2-e1):[29]

> [**Text 2**] SOC: I'll tell you. It's certainly no ordinary theory: it's to the effect that nothing is one thing just by itself, and that you can't correctly speak of anything either as some thing or as qualified in some way. If you speak of something as big, it will also appear small; if you speak of it as heavy, it will also appear light; and similarly with everything, since nothing is one—either one thing or qualified in one way. The fact is that, as a result of movement, change, and mixture with one another, all the things which we say are—which is not the right way to speak of them—are becoming; because nothing ever is, but things are always becoming.

The introduction to the Secret Doctrine contains two key claims: the Relationalist Thesis and the Flux Thesis.

Relationalist Thesis: nothing is one thing just by itself. (152d2-3)[30]

Flux Thesis: nothing ever is, but things are always becoming. (152e1)[31]

I take the Secret Doctrine to be a doctrine about perceptual objects that is meant to underpin NP. Accordingly, I assume that the Relationalist Thesis and

[28] It is secret in the sense that Protagoras supposedly only revealed it to his own students, not to the general public: 152c8-11.

[29] ΣΩ. Ἐγὼ ἐρῶ καὶ μάλ' οὐ φαῦλον λόγον, ὡς ἄρα ἓν μὲν αὐτὸ καθ' αὑτὸ οὐδέν ἐστιν, οὐδ' ἄν τι προσείποις ὀρθῶς οὐδ' ὁποιονοῦν τι, ἀλλ' ἐὰν ὡς μέγα προσαγορεύῃς, καὶ σμικρὸν φανεῖται, καὶ ἐὰν βαρύ, κοῦφον, σύμπαντά τε οὕτως, ὡς μηδενὸς ὄντος ἑνὸς μήτε τινὸς μήτε ὁποιουοῦν· ἐκ δὲ δὴ φορᾶς τε καὶ κινήσεως καὶ κράσεως πρὸς ἄλληλα γίγνεται πάντα ἃ δή φαμεν εἶναι, οὐκ ὀρθῶς προσαγορεύοντες· ἔστι μὲν γὰρ οὐδέποτ' οὐδέν, ἀεὶ δὲ γίγνεται.

[30] ἓν μὲν αὐτὸ καθ' αὑτὸ οὐδέν ἐστιν

[31] ἔστι μὲν [...] οὐδέποτ' οὐδέν, ἀεὶ δὲ γίγνεται.

the Flux Thesis are equivalent to, respectively, the Relationalist Thesis′ and the Flux Thesis′:

> **Relationalist Thesis′**: no perceptual object is one thing just by itself.
>
> **Flux Thesis′**: no perceptual object ever is, but perceptual objects are always becoming.

I shall give accounts of the Relationalist Thesis (2.2) and the Flux Thesis (2.3-4).

2.2 Relationalist Thesis: nothing is one thing just by itself

2.2.1 The Relationalist Thesis and ontic relationalism

> 'It's to the effect that nothing is one thing just by itself, and that you can't correctly speak of anything either as some thing or as qualified in some way.' (152d2-4)

I take the Relationalist Thesis to generalize what Protagoras claims about the wind: the wind is not by itself cold or not cold, but whether it is cold or not cold is relative to each individual human. I take 'just by itself' in the Relationalist Thesis to contrast with 'in relation to an individual human'.[32] Accordingly, the Relationalist Thesis should be understood in terms of *ontic relationalism*:

> **Ontic relationalism**: a property F falls within the scope of ontic relationalism if and only if whether or not an object x is F is relative to each individual human: x may be F in relation to one human and not F in relation to another human.

[32] Cf. 'αὐτὸ ἐφ' ἑαυτοῦ' ('itself, taken by itself') at 152b6 and 'αὐτὸ καθ' αὑτὸ' 'just by itself' at 152d3.

The Relationalist Thesis says that all perceptual properties fall within the scope of ontic relationalism:[33]

> **Relationalist Thesis**: whether or not a perceptual object x has a perceptual property F is relative to each individual human: x may be F in relation to one human and not F in relation to another human.

The Relationalist Thesis supports NP: NP presupposes that all perceptual properties fall within the scope of ontic relationalism.

Protagoras claims that one cannot speak correctly (*prosagoreuein orthōs*) of anything either as some thing (*ti*) or as qualified in some way (*hopoionoun ti*). (152d3-4) I take this claim to entail that, for instance, one cannot speak correctly of the wind as cold: to speak of the wind as cold is to speak of the wind as qualified in some way. Further, I take speaking of, for instance, the wind as cold to amount to asserting that the wind is cold.[34] Therefore, Protagoras claims that it is incorrect to assert that the wind is cold. I assume that this is supposed to be a consequence of ontic relationalism with regard to coldness. But why does ontic relationalism with regard to coldness imply that it is incorrect to assert that the wind is cold? Ontic relationalism with regard to coldness implies that it is incorrect to assert that the wind is cold *by itself* (as opposed to: *in relation to* a given person), and that it is correct to assert that the wind is cold *in*

[33]Perhaps the Relationalist Thesis also says that the substantial properties of perceptual objects are within the scope of ontic relationalism: see following footnote.

[34]I take speaking of something as some thing (τι) to amount to answering the question 'What is it?', whereas speaking of something as qualified in some way (ὁποιονοῦν τι) amounts to answering the question 'What is it like?' Cf. McDowell (1973) on 152d2-e1. Consequently, speaking of the wind as cold (or as having any other perceptual property) falls under speaking of something (the wind) as qualified in some way. Speaking of the wind as a wind amounts to speaking of the wind as some thing. The distinction presumably implies that not only perceptual properties (such as coldness), but even the substantial properties of perceptual objects (such as being a wind) are within the scope of ontic relationalism. This would mean that not only the wind's being cold is relative to individual humans, but even the wind's being a wind. See final footnote to 5.3 on 157b8-c1.

relation to Socrates (if the wind is indeed cold in relation to Socrates). However, Protagoras does not claim that it is incorrect to assert that the wind is cold *by itself*: Protagoras claims that it is incorrect to assert that the wind is cold.

2.2.2 Ontic relationalism and propositions: why it is incorrect to assert that the wind is cold

I shall make the following assumptions concerning propositions. First, propositions are truth-bearers: propositions are true or false. Second, propositions constitute the meanings of declarative sentences, the contents of beliefs, and the contents of assertions. Third, propositions are the *primary* truth-bearers: the truth value of other truth-bearers (such as sentences, beliefs, or assertions) is to be explained in terms of the truth value of the propositions that constitute their meanings or contents.

I propose that Protagoras assumes that the assertion that the wind is cold is made by uttering a sentence of the following form: 'The wind is cold.' Further, I propose that Protagoras accordingly assumes that the meaning of the sentence 'The wind is cold' constitutes the content of the assertion that the wind is cold. Protagoras' assumptions explain why he claims that the assertion that the wind is cold is incorrect. As on ontic relationalist with regard to coldness, Protagoras holds that the sentence 'The wind is cold' (which does not relativize the predicate *cold* to a person) does not express a genuine proposition: the supposed proposition that the wind is cold (the meaning of the sentence 'The wind is cold') is neither true nor false and is therefore not a genuine proposition. The proposition that the wind is cold *in relation to Socrates* (which is expressed by the sentence 'The wind is cold in relation to Socrates') *is* a genuine proposition: it is true or false. The reason why 'the wind is cold' does not express a genuine proposition (and why 'The wind is cold in relation to Socrates' does) is the same as the

reason why 'London is west' does not express a genuine proposition (and why 'London is west of Amsterdam' does): a prerequisite complement ('in relation to Socrates' or 'of Amsterdam') is missing.[35] Given Protagoras' assumption that the meaning of the sentence 'The wind is cold' is the content of the assertion that the wind is cold, the content of the assertion that the wind is cold is not a genuine proposition either. Protagoras therefore implies that it *is* correct to assert that the wind is cold *in relation to Socrates* (by uttering the sentence 'The wind is cold in relation to Socrates'). Furthermore, it follows that what is incorrect about the assertion that the wind is cold is *not* that it is false. Rather, what is incorrect about the assertion is that its content is not a genuine proposition: it is neither true nor false.

2.3 Flux Thesis: nothing ever is, but things are always becoming

> 'The fact is that, as the result of movement, change, and mixing with one another, all the things which we say are—which is not the right way to speak of them—are becoming; because nothing ever is, but things are always becoming.' (152d7-e1)

Protagoras claims that we are wrong in asserting that things *are* (*esti*): according to his Flux Thesis, nothing ever *is*, but things are always *becoming*. In order to understand Protagoras' claim, we have to answer three questions. First, what does asserting that things *are* consist in? Second, what does asserting that things are *becoming* consist in? Third, what is the relationship between the Relationalist Thesis and the Flux Thesis?

Here are partial answers to the first two questions. In relation to the first

[35] My example is a variant of an example Denyer (1991), pp. 90-4, gives ('Ankara is east') in his discussion of the linguistic reforms (157a7-b7 and 160b5-c2, discussed in my section 5).

question, I take it that 'to be' ('*einai*') in the Flux Thesis is predicative: to assert that something *is*, in the context of the Flux Thesis, is to assert that something *is F*, where *F* is a perceptual property. In relation to the second question, I also take 'to become' ('*gignesthai*') in the Flux Thesis to be predicative: to assert that something *is becoming*, in the context of the Flux Thesis, is to assert that something *is becoming F*, where *F* is a perceptual property. Furthermore, I take it that we can supply the same complements in both cases: the things about which we incorrectly assert that they *are F*, are, in fact, *becoming F*. Accordingly, I understand the Flux Thesis in the following way (where the domain of the *F*s consists in all perceptual properties):

> **Flux Thesis**: $\forall F$ (No perceptual object ever is F: perceptual objects are always becoming F).

Protagoras' point may seem to be that we should assert that the wind *is becoming* cold instead of asserting that the wind *is* cold. This would yield the following interpretation of the incorrect view and the correct view:

> **Account A:**
>
> Incorrect view: the wind *is* cold.
>
> Correct view: the wind *is becoming* cold.

However, account A is very puzzling, for the following two reasons.

First, it is not at all clear why Protagoras claims that the wind *is becoming* cold instead of *being* cold. We do have an explanation of why Protagoras holds that the view that the wind is cold is incorrect (in line with the explanation of why he holds that the assertion that the wind is cold is incorrect): the proposition

that the wind is cold is not a genuine proposition.[36] However, according to that explanation, the problem with the incorrect view consists in the fact that the predicate *cold* is not relativized: therefore, given that explanation, one would expect that the correct view is the properly relativized, genuine proposition:

Incorrect view: the wind is cold.

Correct view: the wind is cold *in relation to* Socrates.

However, what makes the incorrect view incorrect, according to the Flux Thesis, is *not* the absence of relativization: it is (in linguistic terms) the use of the copula 'be' instead of the copula 'become'.

Second, in order for the correct view to be consistent with the Relationalist Thesis, we have to understand the correct view in the light of a suppressed relativizer—at least, if 'become' as used in the correct view has its ordinary meaning. I take the ordinary meaning of 'becoming F' to be 'getting closer to the state of being F but not being F yet'. (For instance, that the plant is becoming brown means that the plant is getting closer to the state of being brown but is not brown yet.) Let us assume that 'becoming F' in the correct view has the ordinary meaning. Further, let us stipulate that x is *impersonally* F or not F if and only if F is not within the scope of ontic relationalism. Furthermore, x is *impersonally* (not) F if and only if x is (not) F and F is not within the scope of ontic relationalism. Given the absence of a relativizer, the correct view in account A can be understood as presupposing the view that the wind is impersonally cold or not cold: the correct view can be taken to be that the wind is impersonally not cold and is getting closer to the state of being impersonally cold. But that cannot be Protagoras' view, given the Relationalist Thesis: Protagoras holds

[36] Cf. 2.2.2.

that the wind is *not* impersonally cold or not cold, but is cold or not cold *in relation to a given person.* Therefore, if the correct view is to be consistent with the Relationalist Thesis, we have to read a relativizer into the correct view: the wind is becoming cold *in relation to a given person.*[37]

Perhaps Protagoras does not make explicit the relativizer in the Flux Thesis because the Flux Thesis focuses on an entirely new element of Protagoras' theory: the replacement of *being* by *becoming.* Perhaps what is incorrect about the incorrect view is not the absence of relativization but the presence of being instead of becoming. Consequently, we may have to read suppressed relativizers into *both* the incorrect view *and* the correct view: Protagoras does not bother to mention them here, as he is concerned with a different aspect of his doctrine here. Let us provide both views with relativizers:

Account B:

Incorrect view: the wind *is* cold in relation to Socrates.

Correct view: the wind *is becoming* cold in relation to Socrates.

However, Protagoras accepts the following instance of NP:

NP(i) If Socrates believes on the basis of perception that the wind is cold, then the wind is cold in relation to Socrates.

[37]Dancy (1987), 4.1, claims that the Relationalist Thesis and the Flux Thesis are incompatible: Dancy understands the correct view without relativizers. Fine (2003a), V, in particular p. 142, and VIII and Fine (2003b), IX, understands the correct view in the Flux Thesis as a doctrine of constant succession of properties: for instance, the stone constantly changes colour. Fine leaves it open whether the doctrine of constant succession should be understood *impersonally*: the stone changes from being impersonally white to being impersonally yellow, etc. A doctrine of impersonal constant succession, however, is incompatible with the Relationalist Thesis. On the other hand, if the doctrine of constant succession is to be understood in relationalist terms (in that the stone is constantly changing colour in relation to any given human), it is unclear why such a doctrine supports NP: it is unclear why NP requires that the stone be constantly changing colour in relation to (say) Socrates. Lee (2005), 5.2-3 and 5.9, like Fine, understands the Flux Thesis as a doctrine of constant succession, but, like me, she argues that it is unclear how a doctrine of constant succession supports NP.

Given account B, the incorrect view is the consequent of NP(i). This makes account B very implausible: Protagoras holds that the consequent of NP(i) is true in cases in which Socrates believes on the basis of perception that the wind is cold.[38]

One may argue that account B is nonetheless correct. Accordingly, one could argue that at this stage Protagoras rejects NP(i) in favour of NP(i)′:

> NP(i)′: If Socrates believes on the basis of perception that the wind is cold, then the wind *is becoming* cold in relation to Socrates.

Given the ordinary meaning of 'becoming cold', NP(i)′ amounts to a strange view: if Socrates believes on the basis of perception that the wind is cold, then the wind is not cold yet in relation to Socrates, but is getting closer to the state of being cold in relation to Socrates. Furthermore, given the ordinary meaning of 'becoming cold', NP(i)′ implies that the wind is not, in relation to Socrates, as Socrates believes it is on the basis of perception: NP(i)′ implies that, if Socrates believes on the basis of perception that the wind is cold, the wind is not cold yet in relation to Socrates. This implication of NP(i)′ contradicts Protagoras' view that Socrates is a *measure* of all things: if Socrates is supposed to be a *measure* of the wind, we would expect that the wind is, in relation to Socrates, as he believes it is. Further, given account B, it is entirely unclear what the relationship is between the Relationalist Thesis and the Flux Thesis: given account B, they are logically independent elements of the correct view.

[38]Note that MD′ (152a6-8) contains the copula 'ἔστιν' ('is'): 'things *are* (ἔστιν) for me the way they appear to me.'

2.4 Relativity and becoming: my account of the Flux Thesis

2.4.1 Preliminary discussion

I propose that the Flux Thesis *supports* the Relationalist Thesis: the replacement of being by becoming underwrites Protagoras' ontic relationalism with regard to perceptual properties. I propose that we should read *only* the correct view in the light of suppressed relativizers:

Account C:

Incorrect view: the wind *is* cold.

Correct view: the wind *is becoming* cold in relation to Socrates.

Further, I propose that the incorrect view and the correct view are two rival metaphysical views: the incorrect view is the view that the wind is impersonally cold, whereas the correct view is the view that the wind's being cold is within the scope of Protagoras' ontic relationalism. The role of becoming in the correct view is part of the *explanation* of Protagoras' ontic relationalism with regard to perceptual properties. I shall first discuss the correct view: in order to understand the correct view, we have to understand the connection between becoming and ontic relationalism with regard to perceptual properties. (2.4.2) I shall then discuss the incorrect view: in order to understand the incorrect view, we have to understand how the view that the wind *is* cold is supposed to amount to the view that the wind is *impersonally* cold. (2.4.3)

2.4.2 The correct view: the wind *is becoming* cold in relation to Socrates

According to Protagoras, the instantiation of perceptual properties depends both on the perceptual object and on the perceiving subject: whether or not the wind is cold in relation to Socrates depends both on the wind and on Socrates. I propose that, according to Protagoras, perceptual properties are *processes* that involve both the perceptual object (e.g., the wind) and the perceiving subject (e.g., Socrates).[39] For instance, coldness may consist in *making someone shiver*: the token of coldness that Socrates perceives when he is exposed to the wind consists in the fact that the wind is making Socrates shiver. From his view that perceptual properties are processes involving perceptual objects and perceiving subjects, Protagoras infers that tokens of perceptual properties exist when, and only when, those processes are going on. For instance, from his view that coldness consists in (say) making someone shiver, Protagoras infers that the token of coldness Socrates perceives exists only for as long as Socrates is shivering due to his exposure to the wind.[40] Suppose that Socrates is shivering due to his exposure to the wind from 3pm until 4pm today, and at no other time today: he is inside during the rest of the day. Protagoras infers that the token of coldness Socrates perceives from 3pm until 4pm today exists *only* from 3pm until 4pm today: the token of coldness consists in making Socrates shiver, and the wind is only making Socrates shiver from 3pm until 4pm today.

Given this metaphysical picture, we begin to see what Protagoras means when he claims that the wind *is becoming* cold in relation to Socrates. Socrates' exposure to the wind constitutes a sense in which the wind *becomes* cold in

[39] Van Eck (2009), 5.1, takes the Flux Thesis to entail that perceptual objects are processes. I disagree: I take the Flux Thesis to entail that perceptual properties are processes, but *not* that perceptual objects are processes.

[40] I assume that Socrates perceives the wind as cold when he is shivering.

relation to Socrates: the interaction between the wind and Socrates constitutes a token of coldness. There is a transition from an *old* situation in which there is no coldness token consisting in an interaction between the wind and Socrates to a *new* situation in which there is a coldness token consisting in an interaction between the wind and Socrates.[41] The emergence of the new situation constitutes a sense in which the wind *becomes* cold in relation to Socrates. There are two ways of understanding the truth-maker of 'The wind is becoming cold in relation to Socrates'.

The wind is becoming cold in relation to Socrates:

Liminal interpretation: the coldness token perceived by Socrates is coming into existence.[42]

Persistent interpretation: the coldness token perceived by Socrates exists.

On the liminal interpretation, 'The wind is becoming cold in relation to Socrates' refers to a state of affairs that obtains only at 3pm: the coming into existence of a coldness token (perceived by Socrates). On the persistent interpretation, 'The wind is becoming cold in relation to Socrates' refers to a state of affairs that obtains from 3pm until 4pm, but at no other times: the existence of a coldness token (perceived by Socrates).

On each interpretation, 'become' is used in a peculiar way, deviant from the ordinary usage. On each interpretation, that the wind is becoming cold in relation to Socrates does *not* mean (as it would, given the ordinary meaning) that the temperature of the wind is changing in relation to Socrates (say, from warm

[41] I largely agree with Sedley's analysis: Sedley (2004), 2.2.

[42] This seems to be Sedley's interpretation: Sedley (2004), p. 40 (final two paragraphs) and p. 41 (first paragraph).

to cold). Nonetheless, on each interpretation there is a plausible sense in which the wind *is becoming* cold in relation to Socrates. On the liminal interpretation this is so because a transition is going on from a situation in which there was no coldness token to a situation in which a there is a coldness token. On the persistent interpretation this is so because a process is going on (making Socrates shiver) that constitutes the existence of the coldness token: as long as the process is going on, the wind is constantly newly becoming cold in relation to Socrates.

To avoid conflation with the ordinary use of 'become', I shall use the term 'become*' for the special use of 'become' by each of the two interpretations. Accordingly, the wind is becoming* cold in relation to Socrates *in the liminal sense* if and only if the coldness token perceived by Socrates is coming into existence. The wind is becoming* cold in relation to Socrates *in the persistent sense* if and only if the coldness token perceived by Socrates exists. Further, the wind is becoming* cold in relation to Socrates if and only if the wind is either becoming* cold in relation to Socrates *in the liminal sense* or becoming* cold in relation to Socrates in the *persistent sense*. I understand '*gignetai*' in the correct view as 'become*'. The correct view is ambiguous between the liminal and the persistent sense of become*. I think that we should not choose between the liminal and the persistent interpretation. There is only one subsequent occurrence of 'become*' in the Secret Doctrine (at 156e5) that favours the liminal interpretation: I shall discuss this occurrence later on.[43] On the other hand, I shall show (in chapter 3) that in the refutation of Radical Flux Socrates uses 'flow' ('*rhein*') (at 182d1) as equivalent to 'become*' in the persistent sense: given that Socrates may take 'flow' to be a synonym of 'become*' as used in the Secret Doctrine, he may, at least in the context of the refutation of Radical Flux, understand 'become*' in

[43]See 4.2. Other occurrences of becoming* can be found at 160b1-3, 160b5-c2 (see 5.4), and 182b7 (see **3**.2).

the persistent sense.[44]

That the sense in which the wind *becomes* cold should indeed be explained in terms of an interaction between the wind and Socrates, is suggested by what Protagoras claims: 'the fact is that, as the result of movement, change, and mixing with one another, all the things which we say *are*, are *becoming*.'[45] Protagoras claims that something's becoming* F in relation to someone is the result of a process: movement, change, and mixing with one another. I take this process to be the process in which the property F consists. For instance, that the wind is becoming* cold in relation to Socrates is the result of the wind's making Socrates shiver. Given the persistent sense of becoming*, the wind's becoming* cold in relation to Socrates *consists in* the wind's making Socrates shiver:

> **Persistent interpretation:** that the wind is becoming* cold in relation to Socrates consists in the fact that the wind is currently making Socrates shiver.

Given the liminal interpretation, the wind's becoming* cold in relation to Socrates does not consist in making Socrates shiver: on the liminal interpretation, the becoming* takes place *prior to* the existence of the coldness token, whereas the coldness token exists only for as long as (and, indeed, consists in the fact that) the wind is making Socrates shiver:

> **Liminal interpretation:** that the wind is becoming* cold in relation to Socrates consists in the fact that the wind is changing from a wind that is not currently making Socrates shiver to a wind that is currently making Socrates shiver.

[44] Cf. **3**.3.2.
[45] 152d7-8.

On each interpretation, 'movement, change, and mixing with one another' refers to the process in which a perceptual property (say, coldness) consists (say, making Socrates shiver). On the persistent interpretation, the wind's becoming* cold in relation to Socrates is a result of this process in that it consists in this process.[46] On the liminal interpretation, the wind's becoming* cold in relation to Socrates is a result of this process in that it consists in the fact that this process begins to unfold:[47] Socrates is beginning to shiver due to his exposure to the wind.

We now have to ask how the following two claims are related:

(1.) The wind is cold in relation to Socrates.

(2.) The wind is becoming* cold in relation to Socrates.

(1.) is the consequent of the following instance of NP: if Socrates believes on the basis of perception that the wind is cold, then the wind is cold in relation to Socrates. I take claim (2.) to figure in the explanation of claim (1.): Protagoras' doctrine of becoming* grounds his ontic relationalism with regard to perceptual properties. There are two ways of understanding how claim (2.) grounds claim (1.): a non-modal and a modal interpretation. On the non-modal interpretation, that the wind is cold in relation to Socrates consists in the fact that a token of coldness perceived by Socrates (due to his exposure to the wind) exists. On the modal interpretation, the wind may be cold in relation to Socrates even when no token of coldness perceived by Socrates (due to his exposure to the wind) exists, provided that a coldness token perceived by Socrates (due to his exposure to the wind) *would* exist were Socrates to expose himself to the wind. Combined

[46]Given the persistent interpretation, the 'ἐκ'-clause (152d7) expresses a constitutive connection.

[47]Given the liminal interpretation, 'ἐκ'-clause (152d7) expresses an efficiently causal connection.

with the distinction between the liminal and the persistent interpretation, the distinction between the non-modal and the modal interpretation gives rise to four interpretations of how (2.) grounds (1.), in which the right-hand side of the biconditionals is explanatory of the left-hand side:

Liminal interpretation of becoming*

+ non-modal interpretation: the wind is cold in relation to Socrates if and only if the following condition obtains: (i) the wind became* cold in relation to Socrates at some time t in the past and the coldness token that thereby emerged still exists at present.

+ modal interpretation: the wind is cold in relation to Socrates if and only if one of the following three conditions obtains: condition (i) (see non-modal interpretation); condition (ii): if Socrates were exposed to the wind now, there would be a past time t at which the wind would have become* cold in relation to Socrates and the coldness token that would thereby have emerged would still exist at present; condition (iii): if Socrates were becoming exposed to the wind now, the wind would now be becoming* cold in relation to Socrates.[48]

Persistent interpretation of becoming*

+ non-modal interpretation: the wind is cold in relation to Socrates if and only if the following condition obtains: (i)* the wind is becoming* cold in relation to Socrates.

+ modal interpretation: the wind is cold in relation to Socrates if and only if one of the following three conditions obtains: condition (i)* (see

[48]I take the antecedents of (ii) and (iii) to be true in the special cases in which Socrates is, respectively, *in fact* exposed to the wind now or is, *in fact*, becoming exposed to the wind now. I assume the same with regard to (ii)* and (iii)* in the persistent interpretation.

non-modal interpretation); condition (ii)*: if Socrates were exposed to the wind now, the wind would now be becoming* cold in relation to Socrates; condition (iii)*: if Socrates were becoming exposed to the wind now, the wind would now start becoming* cold in relation to Socrates.

Each modal interpretation is more plausible than the corresponding non-modal interpretation. Consider the following instance of NP:

NP(i) If Socrates believes on the basis of perception that the wind is cold, then the wind is cold in relation to Socrates.

The following assumption seems very plausible: there are times t at which Socrates believes on the basis of perception that the wind is cold and at which he is not exposed to the wind. One such time is when Socrates has entered his house after having shivered due to his exposure to the wind. This assumption is incompatible with NP(i) given either non-modal interpretation. Given NP(i), the wind is cold in relation to Socrates at such times t. However, given either non-modal interpretation, it is not the case that the wind is cold in relation to Socrates at such times t: Socrates is not exposed to the wind at such times t, and therefore no coldness token perceived by Socrates exists at such times t.

Henceforth, I shall assume that the modal interpretation is correct.

Each modal interpretation implies another sense in which the meaning of 'become*' deviates from the ordinary meaning of 'become': given the ordinary meaning of 'become', that the wind is becoming cold implies that it is not (yet) the case that the wind is cold. However, given the liminal modal interpretation, that the wind is becoming* cold in relation to Socrates is compatible with the wind being cold in relation to Socrates. Further, given the persistent modal interpretation, that the wind is becoming* cold in relation to Socrates implies that the wind is cold in relation to Socrates: condition (i)* is satisfied.

I can now set out my interpretation of the correct view in terms of the notion of becoming*:

> **The wind is becoming* cold (correct view)**: coldness is within the scope of ontic relationalism. That the wind is cold in relation to Socrates is to be explained in terms of a process involving the wind and Socrates that is currently taking place or that would currently be taking place if Socrates were currently exposed to the wind: in the context of this process the wind becomes* cold in relation to Socrates.

2.4.3 The incorrect view: the wind *is* cold

At the linguistic level, the only difference between the incorrect view and the correct view consists in the copula: respectively, 'is' ('*esti*') and 'become' ('*gignetai*'). Therefore, we have to explain why the incorrect view is the impersonal view on the basis of the fact that it is expressed by means of the copula 'is' instead of 'become'.

Let us define a *Protagorean complement* as a complement relativizing the predicate to a person in accordance with ontic relationalism. For instance, 'in relation to Socrates' is a Protagorean complement in the sentence 'The wind is cold in relation to Socrates.' Further, let us define the copula 'is*' as the copula 'is' as used to link a subject term and a predicate term *without a Protagorean complement*. For instance, 'is' as used in the sentence 'The wind is cold' is an instance of 'is*', but 'is' as used in the sentence 'The wind is cold in relation to Socrates' is not.

I propose that, at the linguistic level, the incorrect view is incorrect because it uses 'is*' in a domain (perceptual properties) that is within the scope of ontic relationalism.

One may argue that my interpretation of the incorrect view is ad hoc: why is only 'is*' supposed to be incorrect, and not the copula 'is' in general (regardless of whether the copula 'is' is combined with a Protagorean complement or not)? Here are two considerations in support of my interpretation.

First, the rejection of 'is*' within the perceptual domain is a rejection of the ordinary usage of the copula within the perceptual domain. Therefore, 'is*' is not just a very specific usage of the copula: 'is*' is the ordinary way of using the copula.

Second, it would be strange if Protagoras rejected 'is' in sentences with Protagorean complements in the perceptual domain, such as 'The stone *is* white in relation to Socrates.' Such sentences form the consequents of instances of NP, such as NP(white stone): if Socrates believes on the basis of perception that the stone is white, the stone is white in relation to Socrates.

Let us stipulate that *being** is the notion of being expressed by the copula 'is*': the stone is* white if and only if the stone is impersonally white. Further, let us stipulate that 'become*' is the copula 'become' as used to express becoming*. For instance, the sentence 'The stone is becoming* white in relation to Socrates' contains the copula 'become*'.

We can now explain the contrast between the incorrect view and the correct view in terms of the contrast between being* and becoming*:

> ***Becoming and relativity***:
>
> **The wind is* cold (incorrect view)**: coldness is not within the scope of ontic relationalism. The wind is impersonally cold.
>
> **The wind is becoming* cold (correct view)**: coldness is within the scope of ontic relationalism. That the wind is cold in relation to Socrates

is to be explained in terms of a process involving the wind and Socrates that is currently taking place or that would currently be taking place if Socrates were currently exposed to the wind: in the context of this process the wind becomes* cold in relation to Socrates.

3 Ontic relationalism and the way in which the stone becomes white (153e-155d)

3.1 Colours and collisions: text (153e4-154a3) and general analysis

Socrates explains Protagoras' view of the nature of colours (153e4-154a3):[49]

> [**Text 3**] SOC: [a] Let's follow what we said just now, and lay it down that nothing is one thing just by itself. [b] On those lines, we'll find that black, white, or any other colour will turn out to have been begotten as the result of the collision of the eyes with the appropriate motion. What we say a given colour is will be neither the thing which collides, nor the thing it collides with, but something which has come into being between them; something peculiar to each one.

I take [a] to express Protagoras' ontic relationalism with regard to perceptual properties: [a] expresses the Relationalist Thesis.

I understand [b] in the following way. A token of (say) whiteness comes into existence by virtue of a collison (*prosbolē*) of the eyes with the appropriate motion (*prosēkousan phoran*).[50] The token of whiteness coming into existence in

[49] ΣΩ. Ἐπώμεθα τῷ ἄρτι λόγῳ, μηδὲν αὐτὸ καθ' αὑτὸ ἓν ὂν τιθέντες· καὶ ἡμῖν οὕτω μέλαν τε καὶ λευκὸν καὶ ὁτιοῦν ἄλλο χρῶμα ἐκ τῆς προσβολῆς τῶν ὀμμάτων πρὸς τὴν προσήκουσαν φορὰν φανεῖται γεγενημένον, καὶ ὃ δὴ ἕκαστον εἶναί φαμεν χρῶμα οὔτε τὸ προσβάλλον οὔτε τὸ προσβαλλόμενον ἔσται, ἀλλὰ μεταξύ τι ἑκάστῳ ἴδιον γεγονός·

[50] Burnyeat (1979), p. 77, footnote 7, finds McDowell's rendering of 'προσβολή' as 'collision' 'exaggeratedly somatic' and suggests that the προσβολή of the eyes with the appropriate motion consists in the eyes' *lighting on* (say) a stone. However, Burnyeat fails to explain why the προσβολή is not with the stone as such, but with the *appropriate motion*.

this way is peculiar (*idion*) to each of the parties in the collision: the eyes *and* the appropriate motion.

We have to answer two questions. First, what is the appropriate motion? Second, what does the collision of the eyes with the appropriate motion consist in? I shall answer both questions in light of the account of vision in the *Timaeus*.[51] According to that account, the eyes emit an efflux of fire particles that touches (*ephaptētai*: *Timaeus* 45d1) an efflux of fire particles emitted by visible objects (stones, sticks, etc.) on their part. As a result of this touching, the efflux from the eyes influences the soul of the perceiving subject in such a way that the perceiving subject sees colours.[52]

In relation to the first question, I propose that the appropriate motion is an efflux emitted by the visible object.[53] Further, the efflux is appropriate in that it is such that, if it touches the efflux from the eyes, two things happen: (i) tokens of colours are generated; (ii) the efflux from the eyes influences the soul in such a way that the perceiving subject sees those same colours.[54]

In relation to the second question, I propose that the eyes collide with the appropriate motion in that the efflux from the eyes collides with the efflux from the visible object, so that the two effluxes touch one another. Consequently, 'the eyes' should be construed broadly as comprising both the eyes properly speaking and the efflux from the eyes.

[51]Cf. 45b2-46c6 and 67c4-68d7. Cf. McDowell on 156e1-2.

[52]Cf. *Timaeus* 45c7-d3.

[53]An efflux is a motion (*phora*) in that it is a moving body, moving away from the visible object.

[54](i) and (ii) guarantee that seeing is infallible: seeing is an infallible awareness of the colours generated by the touch between the effluxes. In this regard the *Timaeus* account may be different: see conclusions, section 2.

3.2 How an ontology of becoming underwrites ontic relationalism

Text 3 supports my interpretation of the Flux Thesis: it shows how Protagoras' ontic relationalism with regard to perceptual properties (expressed by [a]) is underwritten by a metaphysics of becoming* (expressed by [b]).

According to the metaphysical view in [b], the token of whiteness comes into existence by virtue of an interaction ('collision') between Socrates (or, specifically, his eyes and their efflux) and the stone (or, specifically, the efflux from the stone). This agrees with my account of the Flux Thesis: perceptual properties such as whiteness are processes involving the perceptual object (the stone) and the perceiving subject (Socrates). Let us call the process in which a whiteness token consists the *whitening process*. The whitening process could be a psychophysical process: it could consist in the efflux from the stone's affecting the efflux from Socrates' eyes in such a way (when touching it) that Socrates sees whiteness. How exactly we are to understand the stone's becoming* white in relation to Socrates depends on the relationship between the whitening process and the collision.

On one interpretation, the collision *is* the whitening process. Accordingly, given the liminal sense of 'become*', the stone's becoming* white in relation to Socrates consists in the transition from the situation in which the collision is not going on to the situation in which the collision is going on. Given the persistent sense of become*, the stone's becoming* white in relation to Socrates consists in the fact that the collision is going on.[55]

On another interpretation, the collision happens immediately prior to the

[55]The liminal and the persistent interpretation correspond with, respectively, an efficiently causal and a constitutive understanding of the clause 'ἐκ τῆς προσβολῆς τῶν ὀμμάτων πρὸς τὴν προσήκουσαν φορὰν': 'as a result of the collision of the eyes with the appropriate motion'.

whitening process and causes the whitening process to begin. Accordingly, given the liminal sense of become*, the stone's becoming white* in relation to Socrates consists in the collision. Given the persistent sense of become*, the stone's becoming* white in relation to Socrates consists in the fact that the collision has happened and that the whitening process is now going on.[56]

Further, the token of whiteness is peculiar (*idion*: 154a2) to *both* the appropriate motion *and* the eyes in that a token of whiteness is the result of a collision between the two parties. If the stone were impersonally white, the token of whiteness would *exclusively* belong to the stone (or its efflux: the appropriate motion): the token of whiteness would not be dependent on the perceiving subject. However, given the metaphysics of becoming*, a token of whiteness belongs to *both* the perceptual object (or its efflux) *and* the perceiving subject (or the perceiving subject's eyes): a token of whiteness consists in an interaction between the perceptual object and the perceiving subject.

3.3 Narrow Protagoreanism, ontic relationalism, and the metaphysics of becoming

Protagoras' metaphysics of becoming* explains what it means for the stone to be white in relation to Socrates in terms of the whitening process:

> **White Stone′**: the stone is white in relation to Socrates if and only if one of the following two conditions obtains: (i) the whitening process is going on between the stone and Socrates; (ii) the whitening process would be going on between the stone and Socrates if and only if Socrates were suitably situated relative to the stone.

[56]Both the liminal and the persistent interpretation presuppose an efficiently causal understanding of the clause 'ἐκ τῆς προσβολῆς τῶν ὀμμάτων πρὸς τὴν προσήκουσαν φορὰν': 'as a result of the collision of the eyes with the appropriate motion'.

Being 'suitably situated relative to the stone' in White Stone′ has to be spelled out further.

Given his commitment to NP, Protagoras holds that perception is infallible: if Socrates perceives the stone as white, then the stone is white in relation to Socrates. In this light, I propose that Protagoras accepts the following:

> **Perceptual Criterion**: the whitening process is going on between the stone and Socrates if and only if Socrates is looking at the stone and perceiving it as white.

Accordingly, I propose that Socrates is 'suitably situated relative to the stone' (in the context of White Stone′) if and only if Socrates is looking at the stone and perceiving it as having a specific colour:

> **White Stone**: the stone is white in relation to Socrates if and only if one of the following two conditions obtains: (i) the whitening process is going on between the stone and Socrates; (ii) if Socrates were looking at the stone and perceiving it as having a specific colour, the whitening process would be going on between the stone and Socrates.

White Stone and Perceptual Criterion jointly make Socrates' perception of the stone an infallible criterion of whether the stone is white in relation to Socrates. In order to determine whether the stone is white in relation to himself, Socrates has to take a look at the stone: if he perceives the stone as white, the stone is white in relation to himself; if, on the other hand, he perceives the stone as having another colour, it is not the case that the stone is white in relation to himself. Further, White Stone and Perceptual Criterion entail NP(white stone): if Socrates believes on the basis of perception that the stone is white, the stone is white in relation to Socrates.[57]

[57] Given White Stone, Protagoras is not committed to the converse of NP. White Stone forms

3.4 Changing perceptions and Protagorean changes (154b1-3)

3.4.1 Text (154b1-3) and general analysis

Socrates goes on to say (154b1-3):[58]

> [**Text 4**] SOC: Well now, if what we measure ourselves against or touch had been large, white, or hot, it would never have become different when bumping into a different person, at any rate not if it didn't undergo any change itself.

The point of Text 4 is disputed. I shall first discuss my own account, which is largely in agreement with Burnyeat's.[59] (3.4.2) I shall then defend this account against the objections to such an account put forward by McDowell and Fine. (3.4.3-4)

3.4.2 My account

I understand Text 4 as a counterfactual concerned with the question of what happens to a perceptual object that is perceived differently by different perceivers. The following is a an instance of the counterfactual:

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an implausible combination with the converse of NP(white stone) (NP(white stone)^{converse}): if the stone is white in relation to Socrates, then Socrates believes on the basis of perception that the stone is white. Condition (ii) of White Stone is satisfied in a case in which the whitening process would be going on if Socrates were looking at the stone, but in which Socrates is not actually looking at the stone and does not believe on the basis of perception that the stone is white. In such a case the antecedent of NP(white stone)^{converse} ('The stone is white in relation to Socrates') is true according to White Stone, but the consequent of NP(white stone)^{converse} ('Socrates believes on the basis of perception that the stone is white') is false. Ketchum (1992), pp. 77-9, agrees. Castagnoli (2004), p. 7, disagrees.

[58] ΣΩ. Οὐκοῦν εἰ μὲν ᾧ παραμετρούμεθα ἢ οὗ ἐφαπτόμεθα μέγα ἢ λευκὸν ἢ θερμὸν ἦν, οὐκ ἄν ποτε ἄλλῳ προσπεσὸν μέγα ἢ λευκὸν ἢ θερμὸν ἦν, οὐκ ἄν ποτε ἄλλῳ προσπεσὸν ἄλλο ἂν ἐγεγόνει, αὐτό γε μηδὲν μεταβάλλον·

[59] In Burnyeat (1979), III. I agree with Burnyeat that the main point of Text 4 is that perceptual properties are subject to (what I call) ontic relationalism.

(A.) If the stone I saw had been white (when I perceived it as white), it would never have become different when seen by a different person, at any rate not if it didn't undergo any change itself.

The antecedent of (A.) is a (from Protagoras' perspective) counterfactual assumption about the past: the stone I saw was white (when I perceived it as white). The consequent of (A.) is itself a conditional: the stone would not have become different when seen by a different person, at any rate not if it didn't undergo any change itself.

I understand the relevance of (A.) to Protagoras' doctrine in the following way. Protagoras holds that the stone was not impersonally ('by itself') white or not white. According to Protagoras, the stone was white *in relation to the one who perceived it as white* (e.g., in relation to me) and not white *in relation to the one who perceived it as not white*. The antecedent of (A.) is the view that Protagoras rejects: the stone was impersonally white. (One may object here that there is nothing corresponding to 'impersonally' in the antecedent: the antecedent says 'If the stone *had been* white'; it does *not* say 'If the stone had been white *by itself*'. I shall address this objection in 3.4.3-4) The consequent of (A.) is the following conditional:

Difference and Change (DC): if the stone became different when seen by a different perceiver, then it underwent a change itself.

The point of DC is the following. Suppose that you are looking at the stone that I looked at before and am no longer looking at. Further, suppose that you perceive it differently from the way I did: I saw the stone as white and now you see the stone as yellow. Furthermore, suppose, as Protagoras does, that both our perceptions are correct. If we assume that the stone was impersonally white

(as the antecedent of (A.) does), we can reason in the following way. Given that both our perceptions are correct, the stone became different in between our perceptions: it was impersonally white (when I looked at it) and now it is impersonally yellow (as you are looking at it). According to DC, this entails that the stone underwent a change itself. The stone did indeed undergo a change itself: a change from being impersonally white to being impersonally yellow.

According to (A.), DC follows from the assumption that the stone was impersonally white when I looked at it. However, Protagoras rejects the assumption that the stone was impersonally white when I looked at it. The relevance of (A.) to Protagoras' view is precisely that (A.) makes us wonder what, *in Protagoras' view*, happened to the stone in between my perception of it (as white) and your perception of it (as yellow).

On Protagoras' view, the stone has not changed colour in the way it has on the impersonal view: from being impersonally white (when I looked at it) to being impersonally yellow (now that you are looking at it). Nor does it follow from Protagoras' view that the stone has changed colour in relation to me or in relation to you: the stone may have been constantly white in relation to me (even now that you are looking at it) and yellow in relation to you (even when I was looking at it). What Protagoras' theory *does* entail, is that the stone was first *becoming* white in relation to me* (when I started looking at it (liminal sense) or whilst I was looking at it (persistent sense)) and then *becoming* yellow in relation to you* (when you started looking at it (liminal sense) or now that your are looking at it (persistent sense)). However, the change from *becoming* white in relation to me* to *becoming* yellow in relation to you* is a different type of change from the change taking place on the impersonal view, namely a change from *being impersonally white* to *being impersonally yellow*.

Let us stipulate that a perceptual object x has undergone a *Protagorean change* in between t_1 and t_2 if and only if the following two conditions obtain (where F and G are two different perceptual properties, such as whiteness and yellowness): (i) at t_1 x is becoming* F in relation to some person a and is not becoming* G in relation to some person b (possibly different from a); (ii) at t_2 x is no longer becoming* F in relation to the same person a but x is becoming* G in relation to the same person b. On Protagoras' view, the stone has undergone a Protagorean change: it has changed from becoming* white in relation to me to becoming* yellow in relation to you.

Let us stipulate that the *intrinsic properties* of the stone are those features of the stone that concern how the stone is by itself, irrespective of its relationship to or interaction with things or persons in its environment. On the impersonal view, colour is amongst the intrinsic properties of the stone: the stone was first white by itself and then yellow by itself.[60] On Protagoras' view, however, colour is not amongst the intrinsic properties of the stone: on Protagoras' view, a colour is an interaction between a perceptual object and a person. Moreover, *becoming* white in relation to me* and *becoming* yellow in relation to you* are not intrinsic properties of the stone either: they are features concerning the way in which the stone interacts with persons in its environment. The way in which the stone had the property of *becoming* white in relation to me* is the same as the way in which Mary had the property of *making John blush by smiling at him*: both properties are non-intrinsic in that they concern interactions between the bearer of the property and persons in its or her environment.

Further, let us stipulate that an object *intrinsically changes* in respect of a

[60]In fact, being intrinsic does not follow from being impersonal: being impersonal only implies not being relative to individual humans. However, I assume here that if the impersonal view of colours is correct, then the ordinary view of colours is correct. Further, I assume that according to the ordinary view colours are intrinsic properties of perceptual objects.

property F if and only if it changes from being F to being not F, where F was amongst its intrinsic properties when it was F. On the impersonal view, the stone has intrinsically changed in respect of whiteness: it has changed from being white to being not white (being yellow), and whiteness was amongst the intrinsic properties of the stone. The Protagorean change taking place on Protagoras' view (from *becoming* white in relation to me* to *becoming* yellow in relation to you*) is not intrinsic: it does not concern intrinsic properties of the stone. The Protagorean change the stone has undergone on Protagoras' view is like the change Mary underwent when she first made John blush by smiling at John and then turned to James and made James blush by smiling at James: both changes concern interactions with the environment. Further, unlike the properties involved in intrinsic changes (e.g., being impersonally white and being impersonally yellow), some of the properties involved in non-intrinsic changes (and specifically in Protagorean changes) can be instantiated simultaneously: just as it is possible for Mary to be simultaneously making John and James blush by smiling at each of them simultaneously, so it is possible for the stone to be simultaneously becoming* white in relation to me and becoming* yellow in relation to you.

Does Protagoras accept DC? This depends on Protagoras' view of the antecedent ('The stone became different') and the consequent ('The stone underwent a change itself').

Let us first consider the consequent of DC. Perhaps the consequent only concerns *intrinsic* change: undergoing a change itself (*auto metaballein*) amounts to changing intrinsically. That the consequent only concerns intrinsic change may be suggested by 'itself' ('*auto*'), which may imply a contrast with changes concerning the way in which the stone relates to *other things or persons*.[61] If the consequent indeed only concerns intrinsic change, then the Protagorean change

[61] Fine (2003b), footnote 13, disagrees.

taking place on Protagoras' view does not make the consequent true. On the other hand, if the consequent does not only concern intrinsic change and if the change taking place on Protagoras' view does make the consequent true, the consequent would be true by virtue of a different kind of change from the one taking place on the impersonal view: a non-intrinsic, Protagorean change as opposed to an intrinsic change.

I take becoming different (in the antecedent of DC) to be at least as generic as changing itself (in the consequent of DC): changing itself implies becoming different, but the converse may not apply (as changing itself may be a species of becoming different, namely changing intrinsically). Therefore, if the stone's undergoing a Protagorean change implies the stone's undergoing a change itself, it also implies the stone's becoming different. Thus, if the consequent of DC is true, so is the antecedent of DC. If, on the other hand, the stone's undergoing a Protagorean change does not make the consequent true (as the consequent only concerns intrinsic change), it may nonetheless make the antecedent true: perhaps becoming different is a more generic notion of change, covering non-intrinsic changes and in particular Protagorean changes. On the other hand, possibly both becoming different *and* changing itself consist in changing intrinsically, in which case neither the antecedent nor the consequent is made true by a Protagorean change.

These possibilities yield three interpretations of Protagoras' view of DC: (i) both the antecedent and the consequent are true (and, hence, DC is true); (ii) the antecedent is true and the consequent is false (and, hence, DC is false); (iii) both the antecedent and the consequent are false (and, hence, DC is true). Even if Protagoras holds that DC is true, and in that sense agrees with the impersonal view, (A.) is still relevant: (A.) makes us wonder how exactly DC

applies to Protagoras' view. Furthermore, even if Protagoras agrees with the impersonal view that both the antecedent and the consequent of DC are true, they are true by virtue of a different kind of change on Protagoras' view, namely a non-intrinsic, Protagorean change as opposed to an intrinsic change. However, I shall argue that Protagoras rejects DC: he holds that the antecedent is true and the consequent false.[62]

3.4.3 Changing perceptions: McDowell's and Fine's interpretations of 154b1-3

Both McDowell and Fine reject the account I have given of Text 4.[63] They reject one assumption of my account in particular: the antecedent of (A.) is the (from Protagoras' perspective) counterfactual assumption that the stone was impersonally white. McDowell and Fine rightly point out that there is nothing corresponding to 'impersonally' in the Greek (such as 'just by itself' ('*auto kath' hauto*'), as it occurs in the Relationalist Thesis): the Greek says 'If the stone had been ($\bar{e}n$) white.'[64]

McDowell claims that Protagoras' denial of the antecedent of (A.) implies that the stone was *becoming* white, rather than having *been* white: according to McDowell, the antecedent of (A.) and its implied alternative instantiate (respectively) the view rejected by the Flux Thesis ('The stone *was* white') and the view endorsed by the Flux Thesis ('The stone *was becoming* white').

Fine, on the other hand, denies that (A.) is a counterfactual: Fine claims that (A.) leaves it open whether the stone was white or not. According to Fine, it will turn out (later in the discussion) that Protagoras endorses both the antecedent of

[62] Cf. 3.5.2.

[63] Cf. McDowell (1973) on 154b1-6 (I assume that McDowell's view is his preferred view: (2) on p. 133) and Fine (2003b), IV-IX.

[64] Cf. Fine (2003b), footnote 13.

(A.) and the antecedent and consequent of DC: Protagoras holds that the stone was white (when I perceived it as white), then became different (in between my perception of it as white and your perception of it as yellow) and changed itself (from being white to being yellow).[65]

3.4.4 Changing perceptions: defence of my account of 154b1-3

I do not see how Fine's reading can be correct: (A.) is a counterfactual in light of its grammar ('*ei*' + past tense in the antecedent, '*an*' + past tense in the consequent).[66] Therefore, Protagoras *does* deny the antecedent of (A.).

I agree with McDowell that Protagoras' denial of the antecedent of (A.) implies the view endorsed by the Flux Thesis, namely (according to my interpretation) the view that the stone *was becoming** white in relation to the person who perceived it as white (instead of having *been** white). The antecedent of (A.) instantiates the view denied by the Flux Thesis ('The stone was* white'), whereas the implied alternative is the view endorsed by the Flux Thesis ('The stone was becoming* white in relation to the person who perceived it as white'). However, I have argued that the view denied by the Flux Thesis is the impersonal view: the Flux Thesis' denial of the view that the stone *was** white is, in effect, a denial of the view that the stone was impersonally white. Furthermore, I have argued that the view endorsed by the Flux Thesis amounts to ontic relationalism: the Flux Thesis' endorsement of the view that the stone *was becoming** white in relation to the person who perceived it as white is, in effect, an endorsement of a metaphysics of becoming* white, which grounds ontic relationalism with regard to whiteness.[67] Therefore, whilst I agree with McDowell that the antecedent

[65] Cf. Fine (2003b), IX.
[66] Cf. Lee (2005), p. 99 and Van Eck (2009), footnote 2.
[67] See section 2.

of (A.) and Protagoras' alternative to it correspond to the views that are (respectively) denied and endorsed by the Flux Thesis, I also believe—contrary to McDowell's interpretation—that the antecedent of (A.) amounts to the impersonal view: I believe that the view denied by the Flux Thesis is the impersonal view.[68]

3.5 Protagorean change and mere Cambridge change (154b6-155d8)

3.5.1 Puzzles concerning mere Cambridge changes

Socrates proceeds to discuss cases in which something becomes different (first it was *F*, then it was not *F*), but seemingly without undergoing change. (154b6-155d8) For example, suppose that you have a collection of six dice. If you put a collection of four dice next to it, the six dice are *more* than the four dice. If you put a collection of twelve dice next to it, the six dice are *fewer* than the twelve dice. The collection of six dice has become different between the two situations (from being more numerous to being less numerous than the adjacent collection), but it seems that the collection of the six dice has not

[68] 154b3-6 says 'And on the other hand, if what does the measuring or touching had been any of those things [i.e., something that is measuring the large or the white or touching the hot], then again, it wouldn't have become different when another thing came up against it, or the thing which came up against it had something happen to it: not if it hadn't itself, had anything happen to it.' (εἰ δὲ αὖ τὸ παραμετρούμενον ἢ ἐφαπτόμενον ἕκαστον ἦν τούτων, οὐκ ἂν αὖ ἄλλου προσελθόντος ἤ τι παθόντος αὐτὸ μηδὲν παθὸν ἄλλο ἂν ἐγένετο.) Following McDowell (1973) on 154b1-6 (p. 132) and Van Eck (2009), footnote 9, I take 154b3-6 to supplement 154b1-3 in the following way: not only a perceptual object's having a perceptual property is relative to a perceiver (the point of 154b1-3), but also a perceiver's being a perceiver of a perceptual property is relative to a perceptual object. (Pace Burnyeat (1979), pp. 80-86.) The passage says that *if* I had been* a perceiver of whiteness, then I could not have become a different kind of perceiver (say of yellowness, in a case in which I turn my eyes to another stone, which I perceive as yellow) without myself changing (i.e. from a perceiver of whiteness into a perceiver of yellowness). The implication is that it is not the case that I was* a perceiver of whiteness, but that I became* a perceiver of whiteness in relation to the stone (which, on its part, became* white in relation to me).

changed. (154c1-5) Having laid out this case (154c1-5), Socrates asks Theaetetus, 'Theaetetus, is there any way in which something can become larger or more numerous, other than by undergoing increase?' (154c7-9) Theaetetus is puzzled: thinking about the present question he would say that such a thing is impossible, but considering the case just described he would say that it is possible (154c10-d2).

Let us stipulate that an object *genuinely changes* in respect of a property F (where, before the change, F is amongst its intrinsic properties, its relations to other objects, or its interactions with other objects) if and only if the following two conditions obtain: (i) it changes from being F to being not F; (ii) the change involves a change in the object's condition (and is not solely due to changes in other objects). Note that genuine changes need not be intrinsic changes:[69] a genuine change may concern non-intrinsic properties of an object (or person). For instance, Mary genuinely and non-instrinsically changes in respect of *smiling at John* when she first smiles only at John for a few seconds and then turns to James and smiles only at James for a few seconds. The change Mary undergoes is genuine: it involves a change in Mary's condition (first she is smiling only at John, then she is smiling only at James). However, the change Mary undergoes is not instrinsic: *smiling at John* is not one of Mary's intrinsic properties, but one of her interactions with other people.

The collection of six dice does not genuinely change: its 'change' (first being more numerous than the adjacent collection, then being less numerous than the adjacent collection) is due—not to a change in the condition of the collection of the six dice (in the form of decrease), but—*solely* to a change in the condition of the adjacent collection (increase from four to twelve). In that sense, the 'change' undergone by the collection of six dice is *merely relational*: it is due

[69] Cf. 3.4.2.

solely to a change in the condition of *another object*, a change resulting in a different relationship between the collection of six dice and that other object. Let stipulate that something is a *Cambridge change* if and only if it is either a genuine change or a merely relational change. Further, something is a *mere Cambridge change* if and only if it is a merely relational change. Furthermore, a *relational Cambridge change* is a Cambridge change that is not an intrinsic change.[70]

When he is thinking about 'the present question', Theaetetus has in mind genuine change: something cannot genuinely change in terms of how large or numerous it is without undergoing increase or decrease. However, the case Socrates had just described concerns a mere Cambridge change: something can merely Cambridge change in terms of how large or numerous it is (in relation to another object) without undergoing increase or decrease.

3.5.2 Protagorean changes and mere Cambridge changes: similarities and differences

Consider again the Protagorean change with which 154b1-3 is concerned: first the stone was becoming* white in relation to me and now the stone is becoming* yellow in relation to you. Both the mere Cambridge change undergone by the collection of six dice and the Protagorean change undergone by the stone are relational Cambridge changes: both are changes in the way in which the subject of change relates to other objects or persons. This is the reason why Socrates discusses the dice puzzle: it is relevant to Protagoras' doctrine in that

[70]Cambridge change is a notion defined by Peter Geach (Geach (1969), p. 71): 'The thing called 'x' has [Cambridge] changed if we have '*F(x)* at time t' true and '*F(x)* at time t^*' false, for some interpretations of 'F', 't', and 't^*'.' I quote Fine's example (Fine (2003a), footnote 40): 'I undergo a Cambridge change if I grow from being $5'1''$ to $5'2''$; I also undergo one if I come to be shorter than Theaetetus in virtue of his growth. 'Mere Cambridge changes' are the subclass of Cambridge changes that are not intuitively taken to be genuine changes.'

Protagorean changes, like the change undergone by the collection of six dice, are relational Cambridge changes. However, unlike the mere Cambridge change undergone by the collection of six dice, the Protagorean change undergone by the stone is a genuine change: it is a genuine relational Cambridge change. The Protagorean change undergone by the stone is like the change Mary undergoes when she first smiles only at John and then smiles only at James: the change concerns interactions with other objects or persons.[71]

I propose that the connection between the dice puzzle and DC is the following. *Becoming different* in the antecedent of DC consists in undergoing a Cambridge change. Further, *changing itself* in the consequent of DC consists in changing intrinsically. Therefore, DC is false: the Protagorean change undergone by the stone is a Cambridge change but not an intrinsic change.[72]

4 The theory of perception (156a-157c)

4.1 General analysis and text (156d3-e7)

The theory of perception postulates an ontology of changes (*kinēseis*): 'The universe is change and besides that there is nothing else.' (156a5)[73] It first

[71] Van Eck (2009), 2.3 and 6.1, claims that the way in which the stone changes according to 154b1-3 (what I call a Protagorean change) is a mere Cambridge change. I disagree: Protagorean changes are relational changes (and in that sense they are similar to the mere Cambridge change in the dice case), but they are not *merely* relational changes. I agree with Fine (2003b), IX, that, according to Protagoras, the stone changes genuinely. However, Fine claims that Protagoras is confused in believing that the stone changes genuinely. Fine presumably claims this because she believes that Protagoras holds that the stone changes genuinely by changing *intrinsically*: the stone does indeed not change intrinsically. I do not believe that Protagoras is confused: Protagoras holds that the stone changes genuinely, but not by changing intrinsically.

[72] On an alternative account, *becoming different* in the antecedent of DC consists in changing genuinely and *changing itself* in the consequent of DC consists in changing intrinsically. On that account, too, DC is false: the Protagorean change undergone by the stone is a genuine change but not an intrinsic change.

[73] τὸ πᾶν κίνησις ἦν καὶ ἄλλο παρὰ τοῦτο οὐδέν

divides changes into two types: changes with the power (*dunamis*) of acting (*poiein*) and changes with the power of suffering (*paschein*). (156a5-7) (I take suffering to amount to *being acted on* by a change with the power of acting.) Let us call the two types of changes, respectively, changes with active power and changes with passive power. The theory says that, by virtue of 'intercourse and friction against one another (*homilias te kai tripseōs pros allēla*)' (156a7-8) of a change with active power and a change with passive power, offspring come into existence, invariably in the form of a set of twins: (a token of) a perceived property (*aisthēton*) and (a token of) a corresponding perceiving (*aisthēsis*). (156a7-b2)

I take it that the twins are themselves changes, so that there are four classes of changes: changes with active power, changes with passive power, perceived properties, and corresponding perceivings.[74]

Further, I take the entities in the four classes to be changes in that they are change-involving items: they are processes.[75] I have argued that Protagoras takes perceptual properties to be processes. The theory now adds three further classes of processes: changes with active power, changes with passive power, and perceivings.

This ontology of changes is applied to analyse what happens when we perceive something (156d3-e7):[76]

[74] According to 156c7-d3, the offspring are quick *changes*: this confirms that the offspring also consist of changes.

[75] Van Eck (2009), 5.1 and 5.3, also takes the κινήσεις (changes) to be processes. However, unlike me, Van Eck identifies changes with active power and passive power with, respectively, perceptual objects and perceivers.

[76] ΣΩ. ἐπειδὰν οὖν ὄμμα καὶ ἄλλο τι τῶν τούτῳ συμμέτρων πλησιάσαν γεννήσῃ τὴν λευκότητά τε καὶ αἴσθησιν αὐτῇ σύμφυτον, ἃ οὐκ ἄν ποτε ἐγένετο ἑκατέρου ἐκείνων πρὸς ἄλλο ἐλθόντος, τότε δὴ μεταξὺ φερομένων τῆς μὲν ὄψεως πρὸς τῶν ὀφθαλμῶν, τῆς δὲ λευκότητος πρὸς τοῦ ὄψεως πρὸς τῶν ὀφθαλμῶν, τῆς δὲ λευκότητος πρὸς τοῦ συναποτίκτοντος τὸ χρῶμα, ὁ μὲν ὀφθαλμὸς ἄρα ὄψεως ἔμπλεως ἐγένετο καὶ ὁρᾷ δὴ τότε καὶ ἐγένετο οὔ τι ὄψις ἀλλ' ὀφθαλμὸς ὁρῶν, τὸ δὲ συγγεννῆσαν τὸ χρῶμα λευκότητος περιεπλήσθη καὶ ἐγένετο οὐ λευκότης αὖ ἀλλὰ λευκόν, εἴτε ξύλον εἴτε λίθος εἴτε ὁτιοῦν συνέβη χρῆμα χρωσθῆναι τῷ τοιούτῳ χρώματι.

> [**Text 5**] SOC: When an eye, then, and something else, one of the things commensurable with it, approach one another and beget the whiteness they do, and a perceiving cognate with it—things which would never have come into being if either of the former pair had come up against something different—then at that moment, when the seeing, from the eyes, and the whiteness, from the thing which joins in giving birth to the colour, are moving in between, the eye has become full of seeing; it sees at that moment, and has come to be, not by any means seeing, but an eye that sees. And the thing which joined in generating the colour has been filled all round with whiteness; it has become, again, not whiteness, but white—a white piece of wood, or stone, or whatever it is that happens to have that sort of colour.

Text 5 illustrates the following view. A token of a perceived property and a token of the corresponding perceiving (the 'twin offspring') come into existence by virtue of an interaction (a jointly begetting) between a perceptual object and a perceiver (the 'parents'), in which the perceptual object is the active party (the *poioun*) and the perceiver the passive party (the *paschon*).[77] By virtue of the coming into existence of the perceived property F and the corresponding perceiving of F, the perceptual object becomes* (*egeneto*: 156e5) F in relation to the perceiver.[78]

The theory Socrates lays out here is broadly in agreement with the metaphysical picture emerging from earlier passages. According to the earlier passages, a token of whiteness is a process involving the perceptual object and the perceiving subject and it belongs to both: its existence depends on both. According to the theory Socrates lays out here, a token of whiteness is a process and it belongs to both the perceptual object and the perceiving subject: its existence depends on both. Before discussing how the theory of perception supports NP (4.3), I shall

[77] Cf. 156a5-7, 157a2-7, 159e7-160a4, and 160c4-5. In Text 5, the perceiver's sense organ is the passive party. Like Socrates, I assume that both the sense organ and the perceiver can properly be called the passive party: cf. 159c15-d6 (tongue) and 159e7-160a4 (Socrates).

[78] Further, the perceiver becomes* (ἐγένετο) (cf. 156e3) a perceiver of F in relation to the perceptual object: see final footnote to 3.4 re 154b3-6.

discuss four points concerning its content and relationship to earlier passages (4.2).

4.2 A closer look at the theory of perception: four points

First, the theory gives two explanations of how (say) whiteness and the seeing of whiteness come into existence: (1) by virtue of an interaction between a change with active power and a change with passive power; (156a2-b2) (2) by virtue of an interaction in which the perceptual object (say, a stone) is the active party and the perceiving subject or (more specifically) the sense organ (say, an eye) is the passive party. (Text 5) Is there a way of integrating the two explanations?

The vocabulary used by the first explanation (intercourse (*homilia*: 156a7) resulting in offspring) implies an analogy between sexual intercourse and the interaction between the changes with active or passive power. Further, according to the second explanation, the stone (as the active party) and the eye (as the passive party) beget (*gennēsēi*: 156d4) whiteness and the seeing of whiteness. Therefore, the second explanation implies that the stone and the eye are analogous to the two parties in sexual intercourse that results in offspring. Further, the second explanation implies that the relationship between (on the one hand) the perceptual object and the perceiving subject and (on the other hand) the perceived property and the corresponding perceiving is analogous to the relationship between parents and their offspring.

I propose that we integrate the two explanations in light of the following assumption: the change with active power and the change with passive power are analogous to the respective parts played by the two parties in sexual intercourse resulting in offspring. Accordingly, changes with active or passive power are the roles played by (respectively) the stone and the eye when they interact in such a

way that whiteness and the seeing of whiteness come into existence. Furthermore, the part played by the stone is an *acting on* the eye, whereas the part played by the eye is a *being acted on* by the stone.

What remains somewhat odd is that the first explanation implies an analogy—not between sexual intercourse and the interaction between the stone and the eye, but—between sexual intercourse and the interaction between the *acting on* and the *being acted on*, of which the stone and the eye are the respective subjects. The first explanation abstracts away from the subjects of the interactions and takes the interactions themselves to be the interacting subjects.[79]

Presumably, the changes with active or passive power are processes that jointly cause the whitening process and the seeing of whiteness to begin. For instance, the changes with active or passive power could consist in a certain modification of the eye (done by the stone via its efflux and undergone by the eye via its efflux) that causes the whitening process and the seeing of whiteness to begin.[80]

Second, I propose that 'The stone *has become* (*egeneto*) white' (cf. 156e5-6) should be understood as 'The stone has become* white in relation to the perceiver under consideration.' Accordingly, Text 5 favours the liminal interpretation of become*: the aorist ('*egeneto*') suggests that the becoming has been completed once the offspring have been born.

Third, the interaction between the parents not only produces a token of whiteness, but also a token of the seeing of whiteness: not only the *object* of Socrates' seeing (a token of whiteness) but also Socrates' seeing whiteness itself comes into existence by virtue of an interaction between the stone and Socrates'

[79]The claim that the universe is change and that there is nothing else besides (156a5) suggests that even perceptual objects and perceivers are somehow constituted by processes. One possibility is that (say) a stone is constituted by the ways it can act on perceivers.

[80]See 3.1-2 on effluxes.

eye. I propose that the twins are temporally co-extensive: not only are they born simultaneously, they also die simultaneously. Further, I propose that the twins are constitutively interdependent processes, like teaching and being taught. They are constitutively interdependent processes if, for instance, the whitening process (in the case of the stone and Socrates) consists in *the stone's affecting Socrates' eyes in such a way that Socrates sees whiteness*, whereas the seeing of whiteness consists in *Socrates' eyes being affected by the stone in such a way that Socrates sees whiteness*. That the twins are constitutively interdependent processes implies that they are temporally co-extensive. I take a change with active power and the corresponding change with passive power, too, to be constitutively interdependent processes.

Fourth, according to Text 3, whiteness comes into existence as the result of a 'collision of the eyes with the appropriate motion'. (153e6-7) I have argued that there are two ways of understanding the collision: either as the whitening process or as a happening that causes the whitening process to begin.[81] Given the first interpretation, the collision is to be identified with (the interdependent processes that constitute) the twins. Given the second interpretation, the collision is to be identified with (the interdependent processes that constitute) the changes with active or passive power.

4.3 How the theory of perception supports Narrow Protagoreanism

I have argued that White Stone and Perceptual Criterion entail NP(white stone): if Socrates believes on the basis of perception that the stone is white, the stone is white in relation to Socrates.[82] According to Perceptual Criterion, the whitening

[81] See 3.2.
[82] See 3.3.

process between the stone and Socrates is going on if and only if Socrates is looking at the stone and perceiving it as white. According to the theory of perception, the twins are temporally co-extensive: the whitening process and the seeing of whiteness are temporally co-extensive. Therefore, the theory of perception entails Perceptual Criterion.

5 The linguistic reforms (157a-b and 160b-c)

5.1 First passage (157a7-b7): general analysis

We now encounter a linguistic turn (157a7-b7):[83]

> [**Text 6**] SOC: The upshot of all of this is that, as we've been saying since the beginning, nothing is one thing just by itself, but things are always becoming for someone. We should exclude 'be' from everywhere; not that we haven't been forced to use it many times, even recently, by habit and lack of knowledge. But we oughtn't to, according to what these wise people say; nor ought we to admit 'something', 'of something', 'my', 'this', 'that', or any other word that brings things to a standstill. We ought, rather, to use expressions that conform to the nature of things, and speak of them as coming to be, being acted on, ceasing to be, and altering.

Text 6 starts by recapitulating the Relationalist Thesis ('Nothing is one thing just by itself': 157a8)[84] and the positive component of the Flux Thesis ('Things are always becoming* in relation to someone': 157a8-b1)[85]. Unlike Text 2, Text 6 makes explicit the relativizer in the positive component of the Flux Thesis: 'Things are always becoming* *for someone* [i.e., in relation to someone].'

[83] ΣΩ. ὥστε ἐξ ἁπάντων τούτων, ὅπερ ἐξ ἀρχῆς ἐλέγομεν, οὐδὲν εἶναι ἓν αὐτὸ καθ' αὑτό, ἀλλά τινι ἀεὶ γίγνεσθαι, τὸ δ' εἶναι πανταχόθεν ἐξαιρετέον, οὐχ ὅτι ἡμεῖς πολλὰ καὶ ἄρτι ἠναγκάσμεθα ὑπὸ συνηθείας καὶ ἀνεπιστημοσύνης χρῆσθαι αὐτῷ. τὸ δ' οὐ δεῖ, ὡς ὁ τῶν σοφῶν λόγος, οὔτε τι συγχωρεῖν οὔτε του οὔτ' ἐμοῦ οὔτε τόδε οὔτ' ἐκεῖνο οὔτε ἄλλο οὐδὲν ὄνομα ὅτι ἂν ἱστῇ, ἀλλὰ κατὰ φύσιν φθέγγεσθαι γιγνόμενα καὶ ποιούμενα καὶ ἀπολλύμενα καὶ ἀλλοιούμενα·

[84] οὐδὲν εἶναι ἓν αὐτὸ καθ' αὑτό

[85] ἀλλά τινι ἀεὶ γίγνεσθαι

Text 6 goes on to introduce 'linguistic reforms': the proscription of 'to be' ('*einai*') and other 'static vocabulary' in favour of 'kinetic vocabulary'.[86] I take the Secret Doctrine to be a doctrine about perceptual properties: accordingly, I take the linguistic reforms to be restricted to discourse concerning perceptual properties.

The linguistic reforms are based on the Flux Thesis: the outlawed vocabulary presupposes the impersonal view (denied by the Flux Thesis), whereas the prescribed vocabulary is in accordance with the Flux Thesis. As in the case of the rejection of 'is*' implied by the Flux Thesis, I take the linguistic reforms to proscribe the *ordinary* way of using the static vocabulary.[87] Further, as in the case of the introduction of 'become*' by the Flux Thesis, I take the linguistic reforms to prescribe an *idiosyncratic* way of using the kinetic vocabulary, able to capture the metaphysics of the Secret Doctrine.

I shall discuss the proscription of 'to be' (5.2) and the other static vocabulary (5.3) in turn.

5.2 First passage: the proscription of 'to be'

I propose that the proscription of 'to be' is to be understood as a proscription of 'to be*'.[88]

To avoid unnecessary complications, I shall focus on simple sentences: sentences with one subject term referring to one object and one predicate term referring to one property, with or without a Protagorean complement attached to the predicate term.[89]

[86]Hestir (2016), 4.4, uses the same labels: I shall discuss Hestir's interpretation in chapter 3.

[87]Cf. 2.4.3.

[88]Cf. 2.4.3 on 'is*'.

[89]See 2.4.3 on Protagorean complements.

Let us stipulate that an *impersonal sentence* is a sentence that does not have a Protagorean complement attached to its predicate term. Here are two impersonal sentences: (i.) 'The stone is white'; (ii.) 'The stone is becoming white.' Sentences containing 'to be*' (such as (i.)) are impersonal sentences. Furthermore, a *Protagorean sentence* is a sentence that does have a Protagorean complement attached to its predicate term. Here are two Protagorean sentences: (i.) 'The stone is white in relation to Socrates'; (ii.) 'The stone is becoming* white in relation to Socrates.' Accordingly, the meaning of an impersonal sentence is an *impersonal proposition*, whereas the meaning of a Protagorean sentence is a *Protagorean proposition*.

Let us stipulate that a *perceptual sentence* is a sentence in which the subject term refers to a perceptual object and the predicate term refers to a perceptual property. For instance, 'The stone is white' and 'The stone is white in relation to Socrates' are perceptual sentences.

The proscription of 'to be*' is restricted to perceptual sentences. Accordingly, the proscription of 'to be*' entails a proscription of impersonal perceptual sentences with the copula 'to be*', such as 'The stone is white.' Protagoras proscribes such sentences because—given his ontic relationalism with regard to perceptual properties—their meanings are pseudo-propositions. For instance, the meaning of 'The stone is white' is a pseudo-proposition.[90]

5.3 First passage: the other linguistic reforms

The ordinary way of using the pronouns Protagoras proscribes ('something', 'of something', 'my', 'this', 'that') presupposes the impersonal view. For instance, we say things such as 'There is *something* white (*leukon ti*) on the lawn', 'The

[90]Cf. 2.2.2. Cf. Denyer (1991), pp. 90-4.

colour *of something*', or '*This* thing here is white.' When we use pronouns in this way to identify or describe objects on the basis of their perceptual properties, we presuppose that those objects have those perceptual properties impersonally. There are two ways in which ordinary usage presupposes the impersonal view. First, we do not use Protagorean complements: we use impersonal perceptual sentences. Second, we presuppose that the properties we talk about are inter-subjective: for instance, when I describe an object as white to you, I presuppose that its whiteness is not relative to me, but is also the object of your perception (if you are well-positioned).

We can use the kinetic vocabulary ('coming to be*', 'being acted on', 'ceasing to be', and 'altering') to make assertions in accordance with the Secret Doctrine. For instance, the stone *becomes** white in relation to me when I look at it. Further, my eye is *being acted on* by the stone when I look at it. Furthermore, the whiteness I perceive when looking at the stone *ceases to be* when I shut my eyes. Moreover, the stone *alters* in relation to me when the sun is veiled by a cloud and I perceive the stone as grey instead of white: it alters from being white in relation to me to being grey in relation to me.[91]

[91] According to 157b8-c1, humans, stones, and animals are somehow to be identified with 'collections' ('ἀθροίσματα'). Day (1997), pp. 60-61 and 65-70, takes the collections to consist of tokens of perceptual properties (in some cases) or tokens of perceivings (in other cases) and she claims that particular perceptual objects and perceivers are identified with, respectively, collections of tokens of perceptual properties and collections of tokens of perceivings. Day infers from this identification that active and passive parents are reduced to (respectively) collections of perceptual properties and collections of perceivings. (On an alternative interpretation, the collections are classes of objects: humans, stones, etc.: cf. Brown (1993), pp. 207-208.) Van Eck (2009), 4.2, argues compellingly that Day's inference is fallacious: *all* that follows if the collections consist of perceptual properties or perceivings and if particular perceptual objects and perceivers are identified with them, is that even what kind of thing (τι) a particular perceptual object or perceiver is (a human being, a stone, etc.), is to be accounted for in terms of the theory of perception. Cf. footnote 34. For instance, something is a stone in relation to me because an underlying active parent produces a 'stony' collection of perceptual properties (whiteness, hardness, coldness, etc.) when interacting with me. Cf. Matthen (1985), 1.1.

5.4 Second passage (160b5-c2): general analysis

The following is another passage in which Socrates discusses the linguistic repercussions of Protagoras' theory (160b5-c2):[92]

> [**Text 7**] SOC: Then what we're left with, I think, is that it's for each other that we [i.e., the perceptual object and I (the perceiver)] are, if we are, or come to be, if we come to be, since necessity ties our being together, but doesn't tie it to anything else, or indeed to ourselves. So what we're left with is that we're tied to each other. It follows that, whether one uses 'be' or 'come to be' of something, one should speak of it as being, or coming to be, for someone or of something or in relation to something. As for speaking of a thing as being or coming to be anything just by itself, one shouldn't do that oneself, and one shouldn't accept it from anyone else either. That's what's indicated by the argument we've been setting out.

The context of this passage is an objection to NP. NP's implication that all perceptions are correct flies in the face of the common sense view that we *misperceive* things when we are in suboptimal conditions, such as sickness.[93] One example Socrates discusses in this context is that of a person (Socrates) who is healthy on one occasion and sick on another occasion. The wine tastes sweet to Socrates when he is healthy ('healthy Socrates'), whereas it tastes bitter to Socrates when he is sick ('sick Socrates'). Common sense would say that sick Socrates 'misperceives' due to his illness: the wine is really sweet, and sick Socrates' perception of it is false.

In this case it would not suffice to point out that the wine's sweetness and bitterness are relative to a person: in the case at hand it is the *same person*

[92] ΣΩ. Λείπεται δὴ οἶμαι ἡμῖν ἀλλήλοις, εἴτ' ἐσμέν, εἶναι, εἴτε γιγνόμεθα, γίγνεσθαι, ἐπείπερ ἡμῶν ἡ ἀνάγκη τὴν οὐσίαν συνδεῖ μέν, συνδεῖ δὲ οὐδενὶ τῶν ἄλλων οὐδ' αὖ ἡμῖν αὐτοῖς. ἀλλήλοις δὴ λείπεται συνδεδέσθαι. ὥστε εἴτε τις εἶναί τι ὀνομάζει, τινὶ εἶναι ἢ τινὸς ἢ πρός τι ῥητέον αὐτῷ, εἴτε γίγνεσθαι· αὐτὸ δὲ ἐφ' αὐτοῦ τι ἢ ὂν ἢ γιγνόμενον οὔτε αὐτῷ λεκτέον οὔτ' ἄλλου λέγοντος ἀποδεκτέον, ὡς ὁ λόγος αὐτῷ λεκτέον οὔτ' ἄλλου λέγοντος ἀποδεκτέον, ὡς ὁ λόγος ὃν διεληλύθαμεν σημαίνει.

[93] 157e1-160b4, in particular 157e1-158a3.

(Socrates) who perceives the wine as sweet on one occasion (when he is healthy) and as bitter on another occasion (when he is sick). Socrates explains how both perceivings are correct in terms of Protagoras' ontology of becoming*. Suppose that Socrates fell ill yesterday: he tasted the wine as a healthy person the day before yesterday, and he tasted the wine as a sick person today. When healthy Socrates tasted the wine the day before yesterday, the wine became* sweet in relation to Socrates: consequently, the wine was sweet in relation to Socrates the day before yesterday. When sick Socrates tasted the wine this morning, the wine became* bitter in relation to Socrates: consequently, the wine is bitter in relation to Socrates today. Protagoras' theory explains the difference in terms of the different condition of Socrates' tongue qua thing that is acted on by the wine (qua thing that acts on Socrates' tongue). On the one hand, healthy Socrates' tongue, by virtue of its peculiar condition, produced a sweetness token when acted on by the wine: it engaged in the 'sweetening process' with the wine. On the other hand, sick Socrates' tongue, by virtue of its peculiar condition, produced a bitterness token when acted on by the wine: it engaged in the 'bittering process' with the wine.[94] Consequently, the wine was sweet in relation to Socrates the day before yesterday and is bitter in relation to Socrates today: both perceptions are true.

Prior to Text 7, Socrates concludes from this account that 'whenever [the wine] becomes (*gignetai*) sweet, bitter, or anything of that kind, it necessarily becomes so *for someone* (*tini*): because it's impossible to become sweet, but not sweet for anyone.' (160a9-b3)[95] In this light, I take 'being' and 'becoming' in Text 7 (160b5-6 and 9-10) to be predicative: the *being sweet* and *becoming sweet* of the wine are 'tied' to a perceiver in that the wine neither is* sweet nor

[94]See in particular 159c4-e5.

[95]Ἀνάγκη [...] ἐκεῖνό τε τινὶ γίγνεσθαι, ὅταν γλυκὺ ἢ πικρὸν ἤ τι τοιοῦτον γίγνηται· γλυκὺ γάρ, μηδενὶ δὲ γλυκὺ ἀδύνατον γενέσθαι.

becomes sweet by itself, but is or becomes* sweet *in relation to a perceiver* (such as Socrates when he is healthy).[96]

5.5 Second passage: the proscription of 'to be' revisited

Text 7 supports my claim that the linguistic reforms only proscribe the *ordinary* way of using the static vocabulary and prescribe an *idiosyncratic* way of using the kinetic vocabulary. Text 7 allows the copula 'to be', as well as 'become', provided that a sentence with either of those copulas contains a Protagorean complement: 'for someone' ('*tini*'), 'of something' ('*tinos*'), or 'in relation to something' ('*pros ti*'). (160b8-10) In other words, Text 7 bans 'is*' or the use of 'become' *without a Protagorean complement*, but allows the use of 'is' with a Protagorean complement or the use of 'become*': whilst 'The stone is white' and 'The stone is becoming white' are banned, 'The stone is white in relation to Socrates' and 'The stone is becoming* white in relation to Socrates' are allowed.[97]

[96]See final footnote to 3.4 on how Socrates qua perceiver is 'tied' to the wine.

[97]Thaler (2013), footnote 38, argues that the linguistic reforms 'show that there is no real difference for the theory between an object's being white and an object's being white in itself.' I take it that by 'being white in itself' Thaler means being* white. I agree with Thaler to the extent that the proscription of 'being white' should be understood as a proscription of 'being* white'. Further, Thaler implies (in the same footnote) that the proscription of 'being white' entails that objects are not really white. If by 'really white' Thaler means 'impersonally white', I agree. However, on my interpretation Protagoras does hold that objects are really white in relation to people.

Chapter 2

Protagoras on the truth of all beliefs

Introduction

Protagoras' view of the truth of beliefs is a controversial issue in the literature. According to the relativist interpretation, Protagoras is a relativist about truth: he holds that each belief is true—not *simpliciter*, but—*in relation to the believer*.[1] According to the infallibilist interpretation, Protagoras is an infallibilist: he holds that all beliefs are true *simpliciter*.[2] Socrates' characterization of Protagoras' view of truth does not settle the issue: Socrates both uses a formulation that ascribes relative truth to beliefs ('Beliefs are true for the believer') and a formulation that ascribes simple truth to beliefs ('Beliefs are true'). I shall argue that Protagoras is an infallibilist: he holds that all beliefs are true *simpliciter*.

In section 1, I shall set out my infallibilist interpretation (1.1-4 and 1.8) and

[1] Cf. McDowell (1973) (in particular on 170a3-171c7), Burnyeat (1976b), Burnyeat (1976c), Burnyeat (1979), Castagnoli (2004), Sedley (2004), chapter 3, Erginel (2009), Castagnoli (2010), 4.2, and Evans (2015).

[2] Cf. Waterlow (1977), Fine (2003a), Fine (2003b), and Fine (2003c).

contrast it with the relativist interpretation (1.5-7). I shall argue that Protagoras has a revisionary view of the truth conditions of certain beliefs: if a given believer's belief concerns a property or state of affairs within the scope of ontic relationalism, then the belief is true *simpliciter* if and only if the Protagorean proposition relativizing the property or state of affairs to the believer is true *simpliciter*. In the case of a belief with revisionary truth conditions, its truth-evaluable content (i.e., the proposition in the truth of which the truth of the belief consists) is a Protagorean proposition. (1.3) I shall relate my account to Socrates' two formulations (1.2) and the scope of Protagoras' ontic relationalism (1.1 and 1.4). I shall then contrast my infallibilist interpretation with the relativist interpretation. (1.5-7) I shall distinguish between two forms of relativism about truth: weak relativism and strong relativism. According to weak relativism, the truth-evaluable content of each belief is true—not *simpliciter*, but—in relation to the believer. According to strong relativism, no proposition is true or false *simpliciter*: a proposition is true in relation to a believer if and only if it forms the truth-evaluable content of one of the believer's beliefs. (1.5) I shall first analyse and criticize the *weakly relativist argument*: an argument put forward by some relativist interpreters that purports to establish that Protagoras is a weak relativist. (1.6) The weakly relativist interpretation assumes that the truth-evaluable content of each belief is an impersonal proposition and it explains what it means for an impersonal proposition to be true in relation to a believer in terms of a Protagorean proposition. The weakly relativist interpretation leaves it open whether the truth of Protagorean propositions is also relative. I shall argue that the weakly relativist interpretation is wrong in assuming that the truth-evaluable content of each belief is an impersonal proposition: in at least some cases, the truth-evaluable content of a belief is a Protagorean proposition.

I shall then argue that *if* Protagoras is a weak relativist, he is also a strong relativist. Accordingly, if Protagoras is a weak relativist, the truth of Protagorean propositions is relative. I shall then discuss strong relativism, including three accounts of what it means for a proposition to be true in relation to a believer given strong relativism. (1.7) I shall argue that Protagoras is not a strong relativist: I shall argue that Protagorean propositions are true or false *simpliciter*. I shall then provide an account of Socrates' two formulations in line with my infallibilist interpretation. (1.8) In section 2, I shall argue that the self-refutation argument (170c2-171c7) targets infallibilism rather than strong relativism. I shall discuss the four stages of the self-refutation argument: the dilemma (170c2-d3, 2.1), second-order beliefs (170d4-e6, 2.2), beliefs as to whether man is the measure of all things (170e7-171a5, 2.3), and the 'most exquisite' argument (171a6-c7, 2.4).

1 Ontic relationalism and the truth of beliefs

1.1 The scope of Protagoras' ontic relationalism

Socrates explicated MD in the following way (MD′): 'Everything is for me the way it appears to me, and everything is for you the way it appears to you.' (152a6-8) I have distinguished between two ways of understanding MD′: NP (restricted to perceptual beliefs) and BP (unrestricted).[3] In the texts discussed in chapter 1 (from 151a1-160c10), the discussion focuses on NP. I have argued that NP presupposes ontic relationalism with regard to perceptual properties. The Secret Doctrine (152d2-160c10) underpins NP: the Secret Doctrine entails NP.[4]

If Protagoras is committed to BP, then he is committed to ontic relation-

[3] Cf. 152a1-c7. See **1**.1.
[4] See **1**.3.3.

alism with regard to all properties (perceptual or non-perceptual): just as NP presupposes ontic relationalism with regard to all perceptual properties, so does BP presuppose ontic relationalism with regard to all properties. However, the *Theaetetus* does not provide Protagoras with a metaphysical theory that makes non-perceptual properties subject to ontic relationalism.

I shall argue that Protagoras is not best understood as committed to BP. Rather, Protagoras' fundamental commitment is *infallibilism*: all beliefs are true *simpliciter*. MD amounts to infallibilism. MD′ (which is initially interpreted as NP) shows how Protagoras underwrites his infallibilism in at least some domains (such as the domain of perceptual properties) with ontic relationalism. The scope of Protagoras' ontic relationalism outside the domain of perceptual properties is indefinite: perhaps it has a broader scope than only perceptual properties, even though Protagoras does not have a metaphysical theory to ground it outside the perceptual domain.

I shall revisit the scope of Protagoras' ontic relationalism and his commitment to MD′ in 1.4

1.2 'True for' and 'true': Socrates' two formulations concerning truth

When discussing the example about the wind, Socrates understands the logical structure of MD′ in the following way:[5]

Formulation 1 (F1): If a believes that x is F, then x is F for a.

Socrates sometimes characterizes Protagoras' position on beliefs in terms of truth.[6] Sometimes Socrates claims that, according to Protagoras, beliefs are

[5]Cf. 152a1-b8

[6]In terms of the adjective 'true' (ἀληθής), a veridical use of 'to be' ('εἶναι'), or equivalent terminology.

true *for the believer* (Formulation 2), whereas at other times Socrates claims that, according to Protagoras, beliefs are true (Formulation 3):

> **Formulation 2 (F2):** beliefs are true *for the believer*.
>
> **Formulation 3 (F3):** beliefs are true.

In F2, 'for the believer' is expressed by means of a dative, just as the Protagorean complement ('for *a*') in F1 is. The difference between F2 and F3 is that the qualification 'for the believer' is absent from F3. Both F2 and F3 have an indeterminate scope: it is not clear whether they are supposed to apply to only some or all beliefs. I shall assume that when Socrates claims that, according to Protagoras, a belief is true *for a*, he means that, according to Protagoras, a belief is true *in relation to a*: just as the Protagorean complement 'for *a*' in F1 relativizes the property of an object to a believer, so the qualification 'for *a*' in F2 relativizes the truth of a belief to a believer.

Here are two examples of F2:[7]

> **F2-(i):** [....that] what seems on any occasion is true for the person to whom it seems so [*ta aei dokounta tōi dokounti einai alēthē*].
>
> **F2-(ii):** whatever anyone judges by means of perception will be true for him [*hekastōi alēthes estai ho an di' aisthēseōs doxazēi*].

Suppose that F2 is an accurate characterization of Protagoras' view of *each* belief. Then Protagoras holds that each belief is true in relation to the believer.

[7]Respectively, 158e5-6 and 161d2-3 (see 1.8.2). See also 170a3-4, 170d5-6 (see 2.2), 170e7-171a3 (see 2.3), and 171c5-7 (see 2.4). See also 160c7: 'my perception is true for me' (Ἀληθὴς [...] ἐμοὶ ἡ ἐμὴ αἴσθησις), which I take to mean 'my perceptual belief is true for me.' Some occurrences of F2 are expressed in terms of the veridical use of 'to be' ('εἶναι'). One example is 158a6-7: 'what appears to each person is for the person to whom it appears' (τὰ φαινόμενα ἑκάστῳ ταῦτα καὶ εἶναι τούτῳ ᾧ φαίνεται).

Here are some examples of F3:[8]

F3-(i): each person will himself be the only one who will judge their own things, and they will all be correct and true [*autos ta hautou hekastos monos doxasei, tauta de panta ortha kai alēthē*].

F3-(ii): it isn't possible to judge the things which are not, or anything other than the things one is experiencing, and those are always true [*oute gar ta mē onta dunaton doxasai, oute alla par' ha an paschēi, tauta de aei alēthē*].

F3-(iii): [...that] people always judge things which are true [*aei tous anthropous alēthē doxazein*].

F3-(iv): [...that] everyone judges the things that are [*to onta doxazein hapantas*].[9]

F3-(v): beliefs [...] are true [*doxai [...] alētheis*].

Suppose that F3 is an accurate characterization of Protagoras' view of *each* belief. Then F3 implies that Protagoras does not relativize the truth of any belief: he simply holds that all beliefs are true, without qualification.

According to 'relativist interpreters', F2 is an accurate characterization of Protagoras' position with regard to each belief. Further, according to relativist interpreters, F3 is an inaccurate characterization of Protagoras' position with regard to any belief: Socrates 'drops the qualifier' when using F3.[10] I shall argue that F3 is an accurate characterization of Protagoras' position with regard

[8]Respectively, 161d6-7 (see 1.8.2), 167a7-8 (see 1.8.2), 170c3 (see 2.1), 171a9 (see 2.4), and 179c4-5.

[9]I take judging *the things that are* to amount to making a true judgement: 'τὰ ὄντα' is used veridically.

[10]Cf. Burnyeat (1976c), pp. 183-5 and Castagnoli (2004), pp. 12-3.

to each belief *given Protagoras' view of the truth-evaluable content of beliefs*. Further, I shall argue that F2 is an inaccurate characterization of Protagoras' position with regard to any belief *given Protagoras' view of the truth-evaluable content of beliefs*. However, F2 is an accurate characterization of Protagoras' position with regard to a certain class of beliefs *given the ordinary view of the truth-evalauble content of beliefs within that class*.

1.3 My interpretation: all beliefs are true *simpliciter*

1.3.1 General statement

I propose that Protagoras is an *infallibilist*: he holds that all beliefs are true *simpliciter*. Further, I propose that Protagoras has the following revisionary account of the truth conditions of beliefs concerning properties within the scope of ontic relationalism, in which the domain of the xs consists in everything, the domain of the Fs consists in all properties, and the domain of the as consists in all humans:

> **Truth Conditions (TC):** $\forall x \forall F \forall a$ (If F is a property within the scope of ontic relationalism, then the following principle concerning the truth conditions of beliefs involving F holds: a's belief that x is F is true *simpliciter* if and only if x is F in relation to a; further, a's belief that x is not F is true *simpliciter* if and only if x is not F in relation to a). Beliefs of which the truth conditions are not determined by the previous sentence have truth conditions in accordance with the ordinary view.[11]

[11] x may also be within the scope of Protagoras' ontic relationalism: see chapter 1, footnote 34. If both x and F are within the scope of Protagoras' ontic relationalism, a's belief that x is F is true *simpliciter* if and only if what is x in relation to a is F in relation to a. Further, a's belief that x is not F is true *simpliciter* if and only if what is x in relation to a is not F in relation to a.

Here are some illustrations of TC:

— *Socrates' belief* that the stone is white is true *simpliciter* if and only if the stone is white in relation to Socrates.

— *Theaetetus' belief* that the stone is white is true *simpliciter* if and only if the stone is white in relation to Theaetetus.

— *Theodorus' belief* that the stone is yellow is true *simpliciter* if and only if the stone is yellow in relation to Theodorus.

Let us stipulate that *TC-beliefs* are beliefs of which the truth conditions are determined by the first sentence of TC. I shall assume that the truth conditions of TC-beliefs are impersonal propositions according to the ordinary view.[12] For instance, according to the ordinary view, Socrates' belief that the stone is white is true *simpliciter* if and only if the stone is white.

Further, let us stipulate that y and z are the same t-belief if and only if y and z have the same truth condition. TC has revisionary implications for the individuation of beliefs on the basis of truth conditions. On the ordinary view, Socrates' belief and Theaetetus' belief are the same t-belief: they are both true *simpliciter* if and only if the impersonal proposition that the stone is white is true. On the Protagorean view, however, they are different t-beliefs: they have different truth conditions.

Furthermore, y and z are incompatible t-beliefs if and only if it is impossible for y and z both to be true *simpliciter*. TC has revisionary implications for the compatibility of t-beliefs. On the ordinary view, Theaetetus' belief and Theodorus' belief are incompatible: they cannot both be true *simpliciter*. On the Protagorean view, however, they are compatible.

[12] See **1**.5.2 on impersonal propositions and Protagorean propositions.

Protagoras' infallibilism should be understood in terms of t-beliefs individuated on the basis of TC:

> **Infallibilism:** all t-beliefs individuated on the basis of TC are true *simpliciter*.

Let us call a proposition p the *truth-evaluable content* of a t-belief z if and only if the truth or falsity of z consists in the truth or falsity of p. Further, let us stipulate that the proposition at the right-hand side of the biconditionals in TC is the truth-evaluable content of the TC-belief at the left-hand side:[13]

> **Truth-Evaluable Content:** $\forall x \forall F \forall a$ (If F is a property within the scope of ontic relationalism, then the following principle concerning the truth-evaluable content of beliefs involving F holds: the truth-evaluable content of a's belief that x is F is the proposition that x is F in relation to a; further, the truth-evaluable content of a's belief that x is not F is the proposition that x is not F in relation to a). Beliefs of which the truth-evaluable contents are not determined by the previous sentence have truth-evaluable contents in accordance with the ordinary view.

I shall assume that the truth-evaluable contents of TC-beliefs are impersonal propositions according to the ordinary view. For instance, according to the ordinary view, the truth-evaluable content of Socrates' belief that the stone is white is the impersonal proposition that the stone is white. Consequently, Protagoras' account of the truth-evaluable content of a belief may differ from the *believer's own view* of the truth-evaluable content of her belief. For instance, suppose that Socrates, in accordance with the ordinary view, takes the truth-evaluable content of his belief that the stone is white to be the impersonal proposition

[13]The domain of the variables is identical to the domain of the variables in TC.

that the stone is white. Protagoras' view differs from Socrates' view: according to Protagoras, the truth-evaluable content of Socrates' belief is the Protagorean proposition that the stone is white in relation to Socrates. Protagoras need not reject that there is a sense in which the impersonal proposition that the stone is white is the content of Socrates' belief: Protagoras may hold that the *cognitive content* of Socrates' belief—the truth-evaluable content of Socrates' belief *as understood by Socrates*—is the impersonal proposition that the stone is white:

> **Cognitive content:** the cognitive content of a's t-belief z is the (in some cases from Protagoras' perspective non-genuine) proposition p that a takes to be the truth-evaluable content of her t-belief z.

The cognitive content of a's t-belief z is the meaning of the sentence that a would use to express her t-belief z. Furthermore, the cognitive content of a's t-belief z is the proposition embedded in a *that*-clause of a correct attribution of z to a. For instance, the cognitive content of a's t-belief that the stone is white is the impersonal (and, according to Protagoras, non-genuine) proposition that the stone is white: a would express her belief by means of the impersonal sentence 'The stone is white' and it is correct to say that a believes *that the stone is white*. According to Truth-Evaluable Content, the truth-evaluable content of a's t-belief that the stone is white is the Protagorean proposition that the stone is white in relation to a. Therefore, given Protagoras' view, the truth-evaluable content and the cognitive content of a's belief differ both in terms of the concepts (and persons) featuring in them and in terms of their logical properties. Concerning conceptual differences, only the truth-evaluable content involves the concept of *being white in relation to someone*. Concerning logical differences, only the cognitive content is incompatible with the impersonal (and, according to Protagoras, non-genuine) proposition that the stone is yellow.

1.3.2 Justification of Protagoras' account of truth conditions in the case of perceptual beliefs

In the case of perceptual beliefs, Protagoras' revisionary account of truth conditions can be justified in the light of Protagoras' theory of perception. According to Protagoras' theory of perception, the colour of the stone is subject to ontic relationalism. Further, according to Protagoras' theory of perception, the object of Socrates' seeing is a token of whiteness belonging to the stone *and* to Socrates: the object of Socrates' seeing is how the stone is *in relation to Socrates*. Given such an analysis of the object of perception, it makes sense that the truth of Socrates' perceptual belief that the stone is white should be assessed in the light of the colour the stone has *in relation to Socrates*: the object of Socrates' seeing is how the stone is *in relation to Socrates*. The mere fact that colours are subject to ontic relationalism does not justify the revisionary view of how the truth of Socrates' perceptual belief should be assessed. Without the assumption that the object of Socrates' seeing is the colour the stone has *in relation to Socrates*, it is not justified to assess the truth of Socrates' perceptual belief in light of how the stone is *in relation to Socrates*: after all, it is not part of the cognitive content of Socrates' belief that it is concerned with the colour the stone has in relation to Socrates himself.

Such a justification of TC is restricted to perceptual beliefs. The justification does not cover *indirectly perceptual beliefs*: non-perceptual beliefs to the effect that some perceptual object x has some perceptual property F or to the effect that some perceptual object x does not have some perceptual property F. For instance, the justification does not cover James' non-perceptual belief that the stone in Mary's room is red, which James has formed on the basis of John's testimony. According to TC, James' belief is true *simpliciter* if and only if the

stone in Mary's room is red in relation to James. Further, the justification does not cover TC-beliefs concerning non-perceptual properties (if there are any such TC-beliefs: this depends on the scope of Protagoras' ontic relationalism).[14]

1.3.3 Perceptual infallibilism

NP and TC together entail perceptual infallibilism: all perceptual beliefs are true *simpliciter*. Suppose that a believes on the basis of perception that x is F. Given NP, x is F in relation to a. Given TC, a's belief is true *simpliciter* if and

[14]Waterlow (1977), footnote 18, writes: 'Commentators who use 'True for S' in expounding Protagoras' view are, I suggest, drawn to this locution because they assume that propositions are bearers of truth-value. In terms of propositions, Protagoras' view that if A holds that p and B that not-p, both A and B are right, seems to amount to the view that one and the same thing (the proposition that p) both has and has not a certain property (truth). [...] It therefore seems as if he must really mean to be saying that the proposition is true-for-A and not true-for-B. Thus Plato's use of 'True' (unqualified) in his account of Protagoras' view seems no more than a careless abbreviation. But the concept of the proposition is alien to Protagoras, and to Plato (in the *Theaetetus* at least). It is beliefs or opinions that have truth-value [...]. And beliefs are differentiated not merely by content but by subject and occasion of being held. Thus if A holds that p and B that not-p, there are two beliefs, not one proposition affirmed and denied by one and the other subject. Protagoras' factual relativism ensures that both beliefs are true, and there is no need of a further relativising of 'True' in order to avoid contradiction.' I agree with Waterlow that Protagoras does not relativize the truth of beliefs. Further, I agree with Waterlow that 'beliefs are differentiated not merely by content but by subject and occasion of being held' to the extent that—given Protagoras' theory—the individuation of t-beliefs does not only rest on cognitive content or truth-evaluable content *as ordinarily understood* (impersonal propositions): the believer (the 'subject') is also a factor in the individuation of the belief. However, if one knows the *truth-evaluable content* of a t-belief, one does not need to know the subject in addition in order to assess its truth: if relevant, reference to the subject is built into the truth-evaluable content. I do not agree with Waterlow's claim that the concept of the proposition is alien to Protagoras: propositions play a crucial role in Protagoras' linguistic reforms and his account of truth conditions. Evans (2015), pp. 68, discusses *content relativism*: 'The content of each person's belief—that is, *what each person believes*—is relative to that person.' Given one of the versions of content relativism Evans discusses, 'what Mark believes [when the wind appears cold to him] is [...] that the wind is cold *to him*' (p. 69). I take Evans to mean that the truth-evaluable content of Mark's belief that the wind is cold is the Protagorean proposition that the wind is cold in relation to Mark. Accordingly, my TC entails this version of content relativism. Evans takes this version of content relativism to be incompatible with the following instance of NP: (a) if Mark believes that the wind is cold, then the wind is cold in relation to Mark. (Cf. p. 73.) According to Evans, the antecedent of (a) contradicts the content relativist's view that the truth-evaluable content of Mark's belief is (in my terminology) a Protagorean proposition: the antecedent of (a) does not say that Mark believes that the wind is cold *in relation to Mark*. I do not see why there is a contradiction: the antecedent of (a) reflects the cognitive content of Mark's belief (an impersonal proposition), not its truth-evaluable content.

only if x is F in relation to a. Therefore, a's belief is true *simpliciter*.[15]

1.3.4 The scope of Protagoras' revisionary account of truth conditions

Not all beliefs are TC-beliefs. Here are two important classes of beliefs that have ordinary truth conditions according to Protagoras.

First, beliefs of which the cognitive content is a Protagorean proposition. For instance, suppose that Theodorus (having accepted Protagoras' ontic relationalism) forms a belief with the following cognitive content: the stone is yellow in relation to myself. Theodorus' belief is not a TC-belief: in accordance with the ordinary view, Theodorus' belief is true *simpliciter* if and only if the stone is yellow in relation to Theodorus. A particularly interesting kind of belief belonging to this class is a belief concerning how things are *in relation to someone other than the believer*. Suppose that Protagoras forms the belief that the stone is white in relation to Socrates (after Socrates tells him that he believes that the stone is white). Protagoras' belief is true *simpliciter* if and only if the stone is white in relation to Socrates. This means that, contrary to the ordinary view, Socrates' belief that the stone is white and Protagoras' belief that the stone is white in relation to Socrates are the same t-belief.

Second, beliefs concerning properties or states of affairs[16] that are not within

[15] I make the following two assumptions: (i.) perceptual beliefs are to the effect that a perceptual object x has a perceptual property F; (ii.) perceptual beliefs may involve the identification of the perceptual object as a certain kind of object (e.g., a stone). My claim that NP and TC together entail perceptual infallibilism does not depend on (ii.). One may object that (i.) is false: perceptual beliefs only involve the identification of instances of perceptual properties, not the ascription of perceptual properties to objects. If this objection is correct, Protagoras is nonetheless a perceptual infallibilist, but NP and TC are irrelevant: the theory of perception by itself entails that if I believe that what I see is an instance of whiteness, then what I see is indeed an instance of whiteness. Further, if (i.) is false, TC nonetheless has the interesting implication that the beliefs NP focuses on—beliefs to the effect that a perceptual object x has a perceptual property F—are all true *simpliciter*.

[16] See 1.4 on states of affairs.

the scope of ontic relationalism. I shall argue that Protagoras' philosophical beliefs fall within this class: Protagoras does not apply his ontic relationalism to the subject matters of his own philosophical beliefs. For instance, Protagoras does not apply his ontic relationalism to the state of affairs that man is the measure of all things. Consequently, Protagoras holds that his own belief that man is the measure of all things is true *simpliciter* if and only if man is the measure of all things.

1.4 Infallibilism and the scope of ontic relationalism

1.4.1 Broad Protagoreanism

I have proposed that MD amounts to infallibilism. Further, MD′ ('Everything is for me the way it appears to me, and everything is for you the way it appears to you') expresses how Protagoras underwrites his infallibilism with ontic relationalism. MD′ can be interpreted in two ways: NP and BP. I have shown how NP (combined with TC) entails perceptual infallibilsm. We now have to consider two further propositions: (i) Protagoras is committed to BP; (ii) BP (combined with TC) entails infallibilism. I think that the text leaves it open whether (i) is true. Further, I think that (ii.) is false.

In relation to (i), Protagoras has no theory to ground ontic relationalism with regard non-perceptual properties: the Secret Doctrine underpins NP, but not BP. However, that Protagoras has no such theory, does not mean that he does not accept BP. I shall return to (i) in 1.4.3.

In relation to (ii), BP (combined with TC) does not entail infallibilism. BP says that if a believes that x is F, then x is F in relation to a. The domain of the xs consists in all objects and the domain of the Fs consists in all properties. BP (combined with TC) entails infallibilism with regard to beliefs to the effect that

an object x has a property F, but many beliefs have a different logical structure. For instance, beliefs concerning the existence of things (such as the belief that there is extraterrestrial life), beliefs concerning general facts (such as the belief that all humans are animals), or beliefs concerning the weather (such as the belief that it is raining) have a different logical structure. In order to underpin infallibilism with regard to such beliefs by means of ontic relationalism, Protagoras would have to include *states of affairs* within the scope of his ontic relationalism. For instance, it would have to be the case that the state of affairs that it is raining obtains in relation to Socrates if Socrates believes that it is raining, whereas it does not obtain in relation to Theaetetus if Theaetetus believes that it is not raining. Accordingly, Protagoras' revisionary account of truth conditions would have to encompass states of affairs: for instance, Socrates' belief that it is raining is true *simpliciter* if and only if the state of affairs that it is raining obtains in relation to Socrates.

1.4.2 Ontic relationalism with regard to (philosophical) states of affairs

Are there states of affairs within the scope of Protagoras' ontic relationalism? This is not clear: all examples of ontic relationalism in the text except one concern properties of objects (mostly perceptual properties of perceptual objects). There is one exception, in the self-refutation argument: an application of ontic relationalism to the state of affairs that man is the measure of all things. (170e7-171a5) However, I shall argue that the application of ontic relationalism to the state of affairs that man is the measure of all things goes against Protagoras' views: it is an *extension* of Protagoras' theory that Socrates considers for certain dialectical reasons but that Protagoras himself would reject. I shall argue that it is one of the points of the self-refutation argument that in order to maintain his

infallibilism, Protagoras has no choice but to apply his ontic relationalism to the state of affairs that man is the measure of all things: this point has force precisely because such an application of ontic relationalism goes against Protagoras' own views.[17]

1.4.3 Infallibilism and ontic relationalism

I take Protagoras' fundamental commitment to be infallibilism. Protagoras' ontic relationalism (implied by MD′) is an ancillary theory, which allows him to defend his infallibilism in the light of seemingly conflicting beliefs. (*Seemingly* conflicting in that, given TC, they do not really conflict: they are not really incompatible.) It is unclear whether, or to what extent, Protagoras resorts to ontic relationalism in the case of beliefs that are not (indirectly) perceptual. On the one hand, ontic relationalism with regard to non-perceptual properties or with regard to states of affairs would provide Protagoras with a way of underpinning his infallibilism with regard to beliefs that are not (indirectly) perceptual. On the other hand, he does not have a theory, analogous to his theory of perception, that makes non-perceptual properties or states of affairs subject to ontic relationalism. In any case, I do not think that Protagoras subsumes all states of affairs under his ontic relationalism: he does not subsume the states of affairs that form the subject matter of his own philosophical beliefs under his ontic relationalism. Protagoras could resort to ontic relationalism outside the perceptual sphere to deal with seemingly conflicting beliefs that are not (indirectly) perceptual. However, as Burnyeat puts it, Protagoras 'would have little but bluff to support it' in the way of a metaphysical theory.[18]

[17] Cf. 2.3.

[18] Cf. Burnyeat (1976b), pp. 45-6.

1.5 The relativist interpretation

On my interpretation, Protagoras' theory is to be understood in terms of a syntactically monadic truth predicate:[19] the truth-evaluable content of each belief is true *simpliciter*. Relativist interpreters, on the other hand, hold that Protagoras' position on the truth of beliefs is to be understood in terms of a syntactically relational truth predicate: the truth-evaluable content of each belief is true *in relation to the believer*.

Let us use *broad truth* as a general notion covering both truth *simpliciter* and truth *in relation to the believer*: given a believer a, a truth-bearer b is broadly true if and only if b is either true *simpliciter* or true in relation to a. I assume that a broadly true truth-bearer is broadly true in only one way: if a truth-bearer x is broadly true, then x is *either* true *simpliciter or* true in relation to some given believer a, but *not* both. I shall presuppose a more generic notion of the truth-evaluable content of a belief, which is neutral on the question of whether truth is syntactically monadic or relational:

> **Truth-evaluable content (broadly construed):** the truth-evaluable content of a t-belief z is the unique[20] proposition p such that the broad truth of z consists in the broad truth of p.

Accordingly, I shall presuppose a neutral notion of cognitive content:

> **Cognitive content (broadly construed):** the cognitive content of a's t-belief z is the proposition p that a takes to be the truth-evaluable content (broadly construed) of her t-belief z.

[19] I take the truth predicate to be the predicate term 'true' ('ἀληθής') expressing the property of truth.

[20] I assume that each belief has exactly one proposition as its truth-evaluable content.

On the infallibilist interpretation, the truth-evaluable content of each belief is true *simpliciter*. On the relativist interpretation, on the other hand, the truth-evaluable content of each belief is true—not *simpliciter*, but—*in relation to the believer*. I take it that the notion of truth *simpliciter* is an ordinary notion of truth: we have a pre-theoretical, intuitive understanding of what it means for a proposition to be true *simpliciter*. On the other hand, I take the idea that truth is a relation between a proposition and a believer to be revisionary: we do not have a pre-theoretical, intuitive understanding of what it means for a proposition to be true *in relation to a believer*. Therefore, the relativist interpretation gives rise to an important question: what does Protagoras mean when he claims that each belief is true *in relation to the believer*?

Let us distinguish between weak relativism and strong relativism:[21]

> **Weak relativism:** if a proposition p is the truth-evaluable content of someone's belief, then: (i) p is not true or false *simpliciter*; (ii) p is true in relation to a believer a if and only if p is the truth-evaluable content of one of a's beliefs.
>
> **Strong relativism:** no proposition is true or false *simpliciter*; rather, a proposition p is true in relation to a believer a if and only if p is the truth-evaluable content of one of a's beliefs.

Weak relativism does not imply strong relativism: weak relativism allows

[21] Burnyeat (1976c), pp. 194-5, is the only interpreter who claims that Protagoras is (what I call) a weak relativist but not (what I call) a strong relativist. Burnyeat claims that, according to Protagoras, beliefs are true in relation to the believer but (what I call) Protagorean propositions are true or false *simpliciter* and do not form the truth-evaluable content of beliefs. Castagnoli (2004), 2, Castagnoli (2010), 4.2, Erginel (2009), I-III (in particular footnote 42), and Evans (2015), I-III, take Protagoras to be a weak relativist, but it is not clear whether they take him to be a strong relativist. In any case, one argument Castagnoli and Evans provide for the claim that Protagoras is a weak relativist would, if sound, *not* establish that he is also a strong relativist: see 1.6.1. Fine (2003a), IV, only discusses (and rejects) strong relativism as an interpretation.

that there are propositions that are true or false *simpliciter*, provided that those propositions do not form the truth-evaluable content of anyone's beliefs. Strong relativism does imply weak relativism.

On my interpretation, Protagoras is not a weak relativist: he holds that the propositions that form the truth-evaluable contents of beliefs are true *simpliciter*. A fortiori, Protagoras is not a strong relativist on my interpretation.

I shall first discuss the *weakly relativist argument*: an argument put forward by *weakly relativist interpreters* that purports to establish that Protagoras is a weak relativist. (1.6.1) The weakly relativist interpreter assumes that the truth-evaluable content of each belief is an impersonal proposition. She explains what it means for any given impersonal proposition to be true in relation to a given believer in terms of a corresponding Protagorean proposition. A weakly relativist interpreter leaves open the possibility that Protagorean propositions are true or false *simpliciter*. I shall put forward two objections to the assumption that the truth-evaluable content of each belief is an impersonal proposition. (1.6.2) First, I shall argue that impersonal propositions do not form the truth-evaluable content of perceptual beliefs or indirectly perceptual beliefs. Second, I shall argue that not all beliefs of Protagoreans have impersonal propositions as their truth-evaluable content. I shall consider two ways in which the weakly relativist interpreter could respond. (1.6.3) The *moderate response* is not to ascribe weak relativism to Protagoras, but only *exoteric weak relativism*: weak relativism restricted to the beliefs of *non-Protagoreans*. The *resolute response* is to claim that Protagoras is not only a weak relativist, but also a strong relativist: no proposition (in particular no Protagorean proposition) is true or false *simpliciter*. The resolute response entails that the explanation of relative truth offered by the weakly relativist argument is not complete: it does not cover Protagorean

propositions. I shall argue that only the resolute response is promising enough to deserve further consideration: it is implausible that Protagoras is an exoteric weak relativist but not a strong relativist. I shall then consider strong relativism, including a number of accounts of relative truth that are complete in the context of strong relativism. (1.7) I shall argue that strong relativism is an implausible interpretation: it is more plausible that Protagorean propositions are true or false *simpliciter*.

1.6 Weak relativism

1.6.1 The weakly relativist argument

This is how the weakly relativist interpreter argues that Protagoras is a weak relativist.[22]

First, Socrates sometimes ascribes to Protagoras the view that *what is believed* is true *for the believer*. We should understand Socrates' ascription in the following way: (i) *what is believed*, in connection with a given believer's belief x, is the truth-evaluable content of x; (ii) that what is believed is true *for the believer* means that what is believed is true *in relation to the believer*. Socrates seems to suppose that Protagoras has this view with regard to *any* belief: Socrates does not restrict the ascription of the view to a specific set of beliefs. This makes sense if Protagoras is a weak relativist: a weak relativist does indeed hold that the truth-evaluable content of each belief is true *in relation to the believer*.

Second, what Protagoras means when claiming that what is believed is true *in relation to the believer* can be made sense of in light of his ontic relationalism. The connection between ontic relationalism and weak relativism is the following.

[22]Variants of this argument can be found in Burnyeat (1976c), pp. 192-4, Castagnoli (2004), pp. 7-8, Evans (2015), I-III, in particular III and footnote 31.

Let us start with an example: Socrates' belief that the stone is white. Let us suppose that the truth-evaluable content of Socrates' belief is the following impersonal proposition: the stone is white. Given that whiteness is within the scope of Protagoras' ontic relationalism, the truth-evaluable content of Socrates' belief is not true *simpliciter*: the truth-evaluable content does not relativize the stone's whiteness to Socrates. Instead of being true *simpliciter*, the truth-evaluable content of Socrates' belief is true *in relation to Socrates*. That the impersonal proposition that the stone is white is true *in relation to Socrates* means that the stone is white *in relation to Socrates*.[23]

Let us generalize this account. Let us focus on simple beliefs: beliefs to the effect that an object x has a property F or to the effect that an object x does not have a property F. (An extension of the weakly relativist argument to more complex beliefs would involve considerable complications, but I am not interested in those complications here.) The following holds:[24]

> **Impersonal Relative Truths (IRT)**: 'It is true in relation to a that x is F' means 'x is F in relation to a.' Further, 'It is true in relation to a that x is not F' means 'x is not F in relation to a.'[25]

[23]Evans (2015), footnote 31, writes: 'For [Protagoras] pretty clearly wants to say that what makes the content of a particular person's belief true for that person is that things are, to that person, the way that person believes them to be. If we were then to ask him what he means when he says that something is some way 'to' someone, he would presumably appeal to the familiar formulation of property relativism on offer in passages such as 156c7-157a4 and 159c4-d6.' Evans defines 'property relativism' in the following way: 'In all contrast cases ['case[s] in which the same thing, at the same time, appears one way to one person, and another way to another person' (p. 62)], the thing each person's belief is about has whatever (relevant) properties it has only relative to each person.' (p. 72) The component of Protagoras' view that Evans interprets as property relativism, I interpret as ontic relationalism.

[24]Burnyeat (1976c), p. 193, puts the idea in terms of the 'principle of translation': 'A proposition of the form 'x is F' is true (relatively) for a person a, if and only if 'x is F for a' is true (absolutely).' Unlike IRT, Burnyeat's principle of translation presupposes that Protagoras is not a strong relativist: Protagorean propositions are true or false *simpliciter*.

[25]Where 'It is true in relation to a that x is (not) F' represents any claim to the effect that the proposition that x is (not) F is true in relation to a, whether the claim is expressed by means of the predicate term 'true' ('ἀληθής'), a veridical use of 'to be' ('εἶναι'), or otherwise.

IRT explains any impersonal relative truth in terms of a Protagorean proposition: IRT explains what is means for the impersonal proposition that x is (not) F to be true in relation to a in terms of the Protagorean proposition that x is (not) F in relation to a. According to weakly relativist interpreters, IRT explains how any given belief is true *in relation to the believer*: IRT explains how the impersonal proposition that (supposedly) forms the truth-evaluable content of a belief is true in relation to the believer.

Protagoras' supposed commitment to IRT would indeed entail that Protagoras is a weak relativist given the following two ancillary assumptions about Protagoras' position:

(1.) The truth-evaluable content of *each* belief is an impersonal proposition.

(2.) All properties F are within the scope of Protagoras' ontic relationalism.[26]

(1.) guarantees that each belief falls within the scope of IRT. (2.) guarantees that there are Protagorean propositions with regard to each property, as IRT presupposes. I shall assume that the weakly relativist interpreter accepts both (1.) and (2.).

Note that the weakly relativist interpreter does not establish that Protagoras is a strong relativist: she does not deny that Protagorean propositions (which supposedly explain the relative truth of impersonal propositions) are true or false *simpliciter*. (1.) does imply that no belief has a Protagorean proposition as its truth-evaluable content.

[26]Cf. Castagnoli (2004), footnote 29.

1.6.2 Two objections to the weakly relativist argument

1.6.2.1 Why not each belief has an impersonal proposition as its truth-evaluable content

I shall argue that Protagoras rejects (1.): the truth-evaluable content of each belief is an impersonal proposition. First, the linguistic reforms are incompatible with the view that (indirectly) perceptual beliefs have impersonal propositions as their truth-evaluable content. (1.6.2.2) Second, not all beliefs of Protagoreans have impersonal propositions as their truth-evaluable content. (1.6.2.3-4)

1.6.2.2 First objection: the linguistic reforms and (indirectly) perceptual beliefs

Let us stipulate that x is a broadly perceptual belief if and only if x is either a perceptual belief or an indirectly perceptual belief.[27] Further, let us stipulate that the propositions that constitute the meaning of perceptual sentences are *perceptual propositions*.[28]

Protagoras' linguistic reforms proscribe impersonal perceptual sentences because the perceptual propositions that constitute their meaning are, given Protagoras' ontic relationalism, pseudo-propositions.[29] By implication, the linguistic reforms reject impersonal perceptual propositions as pseudo-propositions. I take Protagoras' rejection of impersonal perceptual propositions to entail that impersonal perceptual propositions have no role to play in Protagoras' theory. However, that impersonal perceptual propositions have no role to play in Protagoras' theory is incompatible with (1.): (1.) presupposes that broadly perceptual beliefs have impersonal perceptual propositions as their truth-evaluable content. For in-

[27] See 1.3.2 on indirectly perceptual beliefs.
[28] See **1**.5.2 on perceptual sentences.
[29] Cf. **1**.5.2.

stance, (1.) presupposes that the truth-evaluable content of Socrates' broadly perceptual belief that the stone is white is the impersonal perceptual proposition that the stone is white.[30]

I shall consider two alternative accounts of the linguistic reforms, meant to make them compatible with (1.).

According to the first alternative account, the linguistic reforms reject impersonal propositions precisely because their truth is relative: the linguistic reforms prescribe Protagorean sentences because they express propositions that are true or false *simpliciter*.[31] Note, however, that the linguistic reforms say nothing about different ways of being true. According to the linguistic reforms, the proscribed vocabulary is not 'in accordance with nature'.[32] There is no indication that it nonetheless fulfils a positive role in that it can be used in sentences expressing relative truths.

According to the second alternative account, Protagorean propositions fulfil an explanatory role that impersonal propositions do not fulfil: Protagorean propositions explain the relative truth of all beliefs (in terms of IRT), whereas impersonal propositions play no role in explaining relative truth. The linguistic reforms reject impersonal propositions in favour of Protagorean propositions because only the latter fulfil this explanatory role. This is a very deflationary interpretation of the linguistic reforms: it is at odds with the fact that the linguistic reforms reject impersonal propositions without qualification—not just in so far as they are explanatorily less fundamental with regard to relative truth.

[30]Cf. Thaler (2013), footnote 38.
[31]Cf. Evans (2015), VIII.
[32]κατὰ φύσιν: 157b5

1.6.2.3 Second objection: Protagoreans' beliefs

Protagoreans form some beliefs with Protagorean propositions as their cognitive content. In particular, Protagoreans' broadly perceptual beliefs have Protagorean propositions as their cognitive content. For instance, when a Protagorean perceives a stone as white, she forms the belief that the stone is white in relation to herself. Or, when Socrates tells her that he perceives the stone as yellow, she forms the belief that the stone is yellow in relation to Socrates. Those beliefs have Protagorean propositions as their cognitive content: respectively, the proposition that the stone is white in relation to the Protagorean under consideration and the proposition that the stone is yellow in relation to Socrates.

To assume that Protagoreans only form beliefs with impersonal propositions as their cognitive content is to ascribe a form of cognitive schizophrenia to Protagoreans: whilst Protagoreans hold that the broad truths[33] about the world (at least in some domains, but, given (2.), in all domains) are Protagorean, they fail to believe any Protagorean propositions and instead believe propositions that are not in accordance with their metaphysical views.

Given that Protagoreans form beliefs with Protagorean propositions as their cognitive content, they take those Protagorean propositions to be the truth-evaluable content of those beliefs: by definition, a believer takes the cognitive content of her belief to be its truth-evaluable content.[34] Therefore, Protagoreans hold that some of their beliefs have Protagorean propositions as their truth-evaluable content.

Therefore, a Protagorean's view of her own beliefs is incompatible with (1.). Does that mean that Protagoras rejects (1.)? Not necessarily. However, if Pro-

[33] See 1.5.

[34] I assume a neutral notion of cognitive content here: see 1.5.

tagoras accepts (1.), Protagoras is confused: he both holds that each belief has an impersonal proposition as its truth-evaluable content *and* he takes some of his own beliefs to have Protagorean propositions as their truth-evaluable content. Protagoras could be confused in this way, but an interpretation that does not ascribe such confusion to him is to be preferred, in particular given the fact that there is no evidence that Plato takes Protagoras to be confused in this way.

1.6.2.4 The second objection and the alternative accounts of the linguistic reforms

The second objection also undermines the alternative accounts of the linguistic reforms discussed in relation to the first objection.

The first alternative account assumes that Protagorean propositions are true or false *simpliciter*. However, if Protagorean propositions form the truth-evaluable content of some beliefs of Protagoreans, as the second objection says they do, then this assumption is incompatible with weak relativism.

According to the second alternative account, Protagorean propositions explain the relative truth of *all* beliefs in terms of IRT. However, according to the second objection, Protagorean propositions form the truth-evaluable content of some beliefs of Protagoreans, and IRT does not explain the relative truth of those beliefs.

1.6.3 Two responses to my two objections

1.6.3.1 In general

I shall discuss two ways in which the weakly relativist interpreter could respond to my objections. The *moderate response* is not to ascribe weak relativism to Protagoras, but only *exoteric weak relativism*: weak relativism restricted to the

beliefs of non-Protagoreans. The moderate response leaves it open whether Protagoras holds that the truth of his own beliefs is relative. The *resolute response* is to ascribe strong relativism to Protagoras: the resolute response implies that Protagoras relativizes the truth of his own beliefs. I shall argue that only the resolute response is promising enough to deserve further consideration.

1.6.3.2 The moderate response: exoteric weak relativism

According to the moderate response, Protagoras is an exoteric weak relativist:

> **Exoteric weak relativism:** if a proposition p is the truth-evaluable content of the belief of a non-Protagorean, then: (i) p is not true or false *simpliciter*; (ii) p is true in relation to a believer a if and only if p is the truth-evaluable content of one of a's beliefs.

Like the weakly relativist interpreter, the moderate responder explains relative truth in terms of IRT. The moderate responder weakens her assumption about the truth-evaluable content of beliefs:

> (1.)* Each belief of a non-Protagorean has an impersonal proposition as its truth-evaluable content

Like the weakly relativist interpreter, the moderate responder leaves it open whether Protagorean propositions are true or false *simpliciter*.

The moderate response is not vulnerable to my second objection: (1.)* allows that some—or, indeed, all—beliefs of Protagoreans have Protagorean propositions as their truth-evaluable content. Further, the moderate responder could resort to the first alternative account of the linguistic reforms or a variant of the second alternative account. According to the first alternative account, only

Protagorean sentences express absolute truths or falsehoods. If the moderate responder accepts the first alternative account, she denies that Protagoras is a weak relativist: given that Protagorean propositions form the truth-evaluable content of some of Protagoreans' beliefs, some of Protagoreans' beliefs are true *simpliciter*. According to the variant of the second alternative account, Protagorean propositions explain the relative truth of each belief of non-Protagoreans (in terms of IRT): this makes Protagorean propositions explanatorily more fundamental than impersonal propositions.

The moderate responder leaves open the possibility that all beliefs of Protagoreans have Protagorean propositions as their truth-evaluable content. Therefore, given that the moderate response leaves open the possibility that Protagorean propositions are true or false *simpliciter*, the moderate response is compatible with esoteric infallibilism:

Esoteric infallibilism: all beliefs of Protagoreans are true *simpliciter*.

1.6.3.3 Why only the resolute response deserves further consideration

First, *if* Protagoras is an exoteric weak relativist (as the moderate responder claims), then Protagoras must be a weak relativist.

It is implausible that Protagoras accepts the following combination of views: (i.) exoteric weak relativism; (ii.) some of his own beliefs are true *simpliciter*. This combination of views entails that non-Protagoreans' beliefs and some of Protagoreans' beliefs are broadly true in different ways:[35] all non-Protagoreans' beliefs are true in relation to the believer, whereas some of Protagoreans' beliefs are true *simpliciter*. However, there is no evidence that Protagoras makes a

[35] See 1.5.

distinction between the way in which non-Protagoreans' beliefs are broadly true and the way in which some of Protagoreans' beliefs are broadly true. Indeed, given the absence of any evidence that Protagoras differentiates between the way in which different beliefs are true, I find it plausible that Protagoras has a uniform view of the truth of all beliefs:

> **Uniformity:** *either* each belief is true in relation to the believer *or* all beliefs are true *simpliciter*.

Given that Protagoras accepts Uniformity, Protagoras is a weak relativist if he is an exoteric weak relativist.

Second, if Protagoras is a weak relativist, he holds that not only the truth of impersonal propositions (if there are any), but also the truth of Protagorean propositions is relative: in some cases Protagorean propositions form the truth-evaluable content of Protagoreans' beliefs. Thus, if Protagoras is a weak relativist, he holds that the truth of *all* propositions is relative: he is a strong relativist.

It follows by transitivity that if Protagoras is an exoteric weak relativist, he must be a strong relativist. That Protagoras is a strong relativist is the resolute response.

1.6.3.4 The resolute response: strong relativism

The resolute response entails that IRT cannot completely explain relative truth: IRT at most explains relative truth in the case of impersonal propositions. The resolute responder could ascribe a different and complete account of relative truth to Protagoras. Alternatively, the resolute responder could argue that Protagoras has no complete account of relative truth: Protagoras may be a strong relativist without having a complete account of relative truth.

The resolute responder does not make any assumptions about the nature of truth-evaluable content: in particular, the resolute responder allows that Protagorean propositions form the truth-evaluable content of some of Protagoreans' beliefs. Therefore, the resolute response is not vulnerable to my second objection.

Given that the resolute responder does not make any assumptions about the nature of truth-evaluable content, she is not vulnerable to the first objection either: the resolute responder does not assume that broadly perceptual beliefs have impersonal propositions as their truth-evaluable content. However, I shall argue that the resolute responder faces a more fundamental problem: she cannot explain why Protagoras is an ontic relationalist and why there are Protagorean propositions to begin with.

1.7 Strong relativism

1.7.1 General characterization

According to *strong* relativism, no proposition is true or false *simpliciter*; rather, a proposition p is true in relation to a believer a if and only if p is the truth-evaluable content of one of a's beliefs.

1.7.2 Accounts of relative truth

1.7.2.1 In general

IRT is not a complete account of relative truth with regard to strong relativism: IRT does not cover Protagorean propositions. Protagoras may be a strong relativist without having a complete account of relative truth. Nonetheless, I shall discuss three accounts of relative truth that are complete with regard to strong

relativism, based on accounts considered in the literature.[36]

1.7.2.2 Account 1: infinite repeatability of the relativizers

One way of explaining the notion of relative truth given strong relativism is to make the Protagorean relativizers infinitely repeatable, so that each given relative truth can be explained in terms of a further relativized Protagorean proposition.[37] For instance, one starts with:

> (i) 'It is true in relation to Socrates that the stone is white' means 'The stone is white in relation to Socrates.'

One then postulates a second-order Protagorean proposition—relativizing the state of affairs that the stone is white in relation to Socrates—in order to explain the relative truth of the first-order Protagorean proposition:

> (ii) 'It is true in relation to Socrates that the stone is white in relation to Socrates' means 'It is the case in relation to Socrates that the stone is white in relation to Socrates.'

This procedure is repeated *ad infinitum*, generating an infinite sequence of Protagorean propositions and Protagorean relative truths.

There is no textual evidence for account 1: in particular, there are no examples of higher-order Protagorean propositions. Furthermore, account 1 does not, in fact, explain relative truth.

[36]The first account is based on an idea discussed by Denyer (cf. Denyer (1991), pp. 90-4), which Denyer believes Protagoras does not accept: the qualifiers in Protagorean propositions are repeatable. Fine (2003a), IV, considers the second account as Protagoras' account of relative truth, but she believes that Protagoras is not a relativist about truth. Burnyeat (1976c), p. 181-3, Sedley (2004), pp. 57-62, and Erginel (2009), footnote 42 and text thereto, ascribe variants of the third account to Protagoras. The account considered by Fine is explicitly meant as an account of relative truth in the context of *strong* relativism, applying to *all* proposition. The scope of Burnyeat's account is more limited: Burnyeat believes that Protagoras is not a strong relativist (cf. my footnote 21). The same may apply to Sedley's and Erginel's accounts. However, the third type of account allows that its domain contains all propositions.

[37]Cf. Denyer (1991), pp. 90-4.

First, if the account is to explain relative truth, we must be able to understand the Protagorean propositions it uses to explain relative truths. However, we are only able to understand a proper subset of those Protagorean propositions: first-order perceptual Protagorean propositions. Protagoras does not provide a theory to help us understand Protagorean propositions outside this subset.

Second, even if Protagoras had a counterpart of the theory of perception to make sense of the first-order non-perceptual Protagorean propositions and the higher-order Protagorean propositions, we could not understand the Protagorean propositions *in the right way*, namely *as relative truths*. We have a pre-theoretical ability to understand propositions as having an absolute truth value: indeed, understanding a proposition in accordance with our pre-theoretical ability involves taking it to have an absolute truth value. However, we do not have a pre-theoretical ability to understand a proposition as having a relative truth value. Therefore, we can only understand the explanatory propositions in the right way if we already have the ability to understand relative truths. As an explanation of relative truth, the account is therefore an infinite regress.

Note that the weakly relativist argument is not vulnerable to the second objection: the weakly relativist interpreter leaves open the possibility that Protagorean propositions are true or false *simpliciter*.[38] If IRT is to succeed in explaining the relative truth of impersonal propositions, the explanatory Protagorean propositions must indeed be true or false *simpliciter*.

1.7.2.3 Account 2: anti-realism

According to the anti-realist account, 'p is true in relation to a' means 'p is the truth-evaluable content of one of a's beliefs.'[39] Given the anti-realist account,

[38] Cf. 1.6.1.

[39] Cf. Fine (2003a), IV. Fine formulates the view slightly differently: 'true in relation to a' means 'believed by a'. I formulate the account in terms of truth-evaluable content to avoid

the second conjunct of strong relativism ('a proposition p is true in relation to a believer a if and only if p is the truth-evaluable content of one of a's beliefs') is a tautology.

The anti-realist account is a plausible account of relative truth given strong relativism. Strong relativism implies that there is no such thing as the world: if the world existed, there would be propositions that are true *simpliciter*, namely those propositions that accord with how the world is. If there is no world to determine the truth or falsehood of our beliefs, only our beliefs themselves are left. This may then be taken to entail that truth collapses into belief. The anti-realist account of relative truth agrees with this understanding of the implications of strong relativism: the notion of truth is, in effect, reduced to the notion of belief.

However, I do not find the anti-realist account plausible as an account of Protagoras' theory: Protagoras puts forward metaphysical views about the world, thereby presupposing that the world exists.[40]

1.7.2.4 Account 3: private worlds

According to the private world account, strong relativism does not imply that there is no world, but that there are *several* worlds: each believer has a 'private world'.[41] Let us define this account in the following way: (i) each believer a has exactly one private world w: a is w's believer if and only if w is a's private world; (ii) each private world has exactly one believer; (iii) a private world w agrees exactly with w's believer's beliefs; let a be w's believer: p is the case in

ambiguity between cognitive content and truth-evaluable content. Presumably, Fine takes 'p is believed by a' to be equivalent to 'p the truth-evaluable content of a's belief.'

[40] Cf. Fine (2003a), pp. 142-3.

[41] Cf. Burnyeat (1976c), p. 181-3, Sedley (2004), pp. 57-62, and Erginel (2009), footnote 42 and text thereto. In the same paper (p. 93), Burnyeat ascribes to Protagoras an account of relative truth similar to the one offered by the weakly relativist interpretation, but such an account is, in fact, fundamentally different from the private world account.

w if and only if p forms the truth-evaluable content of one of a's beliefs; (iv) 'is true in relation to a' means 'is the case in a's private world'.[42]

There is no evidence for the private world account. The only entities that are private in some sense are tokens of perceptual properties: only Socrates sees the token of whiteness he sees when looking at the stone and no one else can see it. However, that tokens of perceptual properties are private in this sense does not entail that worlds are private in the sense of the private world account: although Socrates' token of whiteness cannot be perceived by Theaetetus and Theaetetus' token of whiteness cannot be perceived by Socrates, the two tokens are part of *the* world. For instance, the privacy of the tokens does not exclude that if Theaetetus were to form the belief that the stone is becoming* white in relation to Socrates, then Theaetetus' belief would be true *simpliciter* (if it is indeed true): it is the case in *the* world that the stone is *becoming** white in relation to Socrates.

1.7.2.5 General assessment

I conclude that none of the three accounts of relative truth is plausible as an account of Protagoras' theory. By itself, that does not mean that Protagoras is not a strong relativist: perhaps he is a strong relativist without a complete account of relative truth. In particular, he may be a strong relativist with an incomplete account of relative truth, such as IRT.

However, I shall argue that Protagoras is not a strong relativist. In particular, I shall argue that Protagorean propositions are true or false *simpliciter*. I shall

[42] I assume that p is the case in a's private world if and only if p is true *simpliciter* in a's private world. Bostock (1988), p. 91, and Fine (1998b), pp 155-9, claim that the private world account so understood contradicts strong relativism in that it accepts truths *simpliciter*. I believe that there is no contradiction: strong relativism denies that any proposition is true *simpliciter* according to *the ordinary understanding* of truth *simpliciter*, namely true in *the* world. However, the private world account is incoherent in that it is ineffable: any attempt at expressing it purports to describe *the* world, which contradicts the content of the account.

first distinguish the claim that the truth of Protagorean propositions is relative from two other claims, neither of which entails that their truth is relative: (i) they are propositions concerning relations between a thing and an individual human; (ii) they are subjective truths.[43] (1.7.3.1-2) I shall then argue in light of their role in Protagoras' theory that they are true or false *simpliciter*. (1.7.4) Further, I shall propose an account of Socrates' use of F2. (1.8)

1.7.3 What it means for Protagorean propositions to be true or false *simpliciter*

1.7.3.1 Truths concerning relations between a thing and an individual human

Suppose that the following perceptual Protagorean proposition is true:

(a) The stone is white in relation to Socrates.

(a) is a truth concerning a relation between a thing and an individual human: (a) is a truth concerning a relation between the stone and Socrates. That (a) is a truth concerning a relation between a thing and an individual human does not mean that the truth of (a) is relative to a believer. Suppose that (b) is true:

(b) Amsterdam is west of me.

(b) is a truth concerning a relation between a thing (Amsterdam) and an individual human (me). However, that does not mean that the truth of (b) is relative to anyone: presumably, (b) is true *simpliciter* (if it is indeed true).

Ontic relationalism with regard to perceptual properties implies that (a)* is not a genuine proposition:[44]

[43] Fine (2003a), VII, also distinguishes the claim that a proposition is relatively true from the claim that a proposition concerns a relation between a thing and a person and the claim that a proposition is non-objectively true.

[44] Cf. **1**.5.2.

(a)* The stone is white.

Truths in domains within the scope of ontic relationalism have the form of (a) rather than (a)*. However, ontic relationalism with regard to perceptual properties does not imply that the truth of (a) is relative. Nor does ontic relationalism with regard to perceptual properties imply that the truth of (a)* is relative. Rather, ontic relationalism with regard to perceptual properties implies that (a)* is not a genuine proposition. Given ontic relationalism with regard to perceptual properties, the semantic status of (a)* is similar to that of the following pseudo-proposition:[45]

(b)* Amsterdam is west.

1.7.3.2 Subjective truths

Let us stipulate that t is the *target believer* of a Protagorean proposition p if and only if p concerns a relation between a thing and the individual human t. For instance, only Socrates is the target believer of (a): the stone is white in relation to Socrates. Consider the following definition of what it would mean for a true Protagorean proposition (a Protagorean truth) to be a *subjective truth*:

> **Subjective Truth:** a Protagorean truth p is a *subjective truth* if and only if p's target believer's epistemic states are (partly or wholly) constitutive of the fact that p is true.

Let us suppose that (a) is true. Is (a) a subjective truth? Protagoras accepts (p):[46]

(p) (a) is true if and only if Socrates perceives the stone as white when he looks at it.

[45] Cf. Denyer (1991), pp. 90-4.
[46] See **1**.3.3.

However, (p) does not entail that (a) is a subjective truth. (p) entails that (a) can be inferred from Socrates' epistemic states: (a) can be inferred from the way Socrates perceives the stone. However, (p) does not entail that Socrates' epistemic states are constitutive of the truth of (a). But perhaps Protagoras also accepts (p)*:

(p)* That the stone is white in relation to Socrates cannot be explained without essential reference to the fact that Socrates perceives the stone as white: Socrates' perceiving the stone as white is (partly or wholly) constitutive of the fact that the stone is white in relation to Socrates.

(p)* does imply that (a) is a subjective truth: Socrates' perceiving the stone as white (part of Socrates' epistemic states) is (partly or wholly) constitutive of its being true that the stone is white in relation to Socrates.

Suppose that (p)* is true and that (a) is therefore a subjective truth. That (a) is a subjective truth does not entail that the truth of (a) is relative: (a) may be a subjective truth and a truth *simpliciter*.

Let us stipulate that a Protagorean truth p is *metaphysically monadic* if and only if the epistemic states of p's target believer are not (partly or wholly) constitutive of p's truth. Further, a Protagorean truth p is *metaphysically relational* if and only if it is not metaphysically monadic. It follows that a Protagorean truth p is subjective if and only if it is metaphysically relational.

My claim that Protagorean propositions are true or false *simpliciter* is a *syntactic* claim: it is a claim to the effect that the truth predicate as predicated of Protagorean propositions is *syntactically monadic*. For instance, (q) is a genuine proposition if and only if the truth predicate is syntactically monadic with regard to (a):

(q) (a) is true.

I am inclined to think that at least perceptual Protagorean truths are metaphysically relational. In chapter 1, I suggested that the whitening process between the stone and Socrates may consist in the stone's efflux affecting Socrates' eyes in such a way that Socrates sees whiteness.[47] This understanding of the whitening process entails that (a) is metaphysically relational: the way Socrates sees the stone is constitutive of the stone's becoming*—and, by implication, being—white in relation to Socrates. However, that perceptual Protagorean truths are metaphysically relational does not entail that they are syntactically relational.

Subjective truth *is* incompatible with syntactically monadic truth if the subjective truth of a proposition depends on which of *several* subjects' epistemic states are *severally* taken to be (partly or wholly) constitutive of the truth of the proposition. For instance, one may hold that the truth of the proposition that Theaetetus is beautiful is subjective and that whether or not it is true depends on whose beliefs are taken to be constitutive: if Theodorus' beliefs about Theaetetus are constitutive, it is not a subjective truth, whereas if Socrates' beliefs about Theaetetus are constitutive, it is a subjective truth. In such a case, a syntactic relativization of truth is required: that Theaetetus is beautiful is not true in relation to Theodorus and is true in relation to Socrates.

However, if Protagorean truths are subjective, it is not the case that *several* believers' epistemic states can *severally* be taken to be constitutive of their truth: if they are subjective, they only constitutively depend on the epistemic states of their target believer, which is exactly one individual.[48]

[47] Cf. **1**.3.2.

[48] I have focused on perceptual Protagorean truths. Whether non-perceptual Protagorean truths (if there are any) are subjective can also be assessed in light of my definition, which is not specific to perceptual truths.

1.7.4 Why Protagoras is not a strong relativist

1.7.4.1 In general

I shall put forward three objections to the strongly relativist interpretation. First, the purpose of Protagoras' ontic relationalism is to help explain why the beliefs of different people never conflict, but given strong relativism such an explanation is not needed: strong relativism implies that the beliefs of different people never conflict. (1.7.4.2) Second, Protagoras' Secret Doctrine is a theory about the world, but strong relativism implies that it is not. (1.7.4.3) Third, Protagoras takes his Secret Doctrine to be true *simpliciter*. (1.7.4.4) I shall conclude that Protagoras is not a strong relativist. (1.7.4.5)

1.7.4.2 Ontic relationalism and conflicting beliefs

The purpose of Protagoras' ontic relationalism is to help explain why the beliefs of different people never conflict. Let us define the notion of conflicting beliefs in terms of broad truth, which is neutral as to whether truth is syntactically monadic or relational.[49] Two beliefs x and y are conflicting if and only if the broad truth of x (given a believer a) is incompatible with the broad truth of y (given a believer b). Further, x and y are *interpersonally* conflicting beliefs if and only if x and y are conflicting beliefs and x and y are beliefs of different believers.

Infallibilism is incompatible with the existence of conflicting beliefs. Suppose that there are two conflicting beliefs x and y. According to infallibilism, x and y are both true *simpliciter*. However, that x and y are both true *simpliciter* contradicts the supposition that x and y are conflicting: if x and y are conflicting, they cannot both be true *simpliciter*. Given my infallibilist interpretation,

[49] See 1.5.

Protagoras' ontic relationalism helps explain why there are no interpersonally conflicting beliefs. Consider two seemingly conflicting beliefs of the interpersonal kind: Socrates' belief that the stone is white and Theaetetus' belief that the stone is yellow. Protagoras' ontic relationalism plays an important role in explaining why Socrates' belief and Theaetetus' belief do no really conflict. According to TC, Socrates' belief is true *simpliciter* if and only if the stone is white in relation to Socrates. Further, according to TC, Theaetetus' belief is true *simpliciter* if and only if the stone is yellow in relation to Theaetetus. Therefore, TC implies that Socrates' belief and Theaetetus' belief are compatible and therefore not conflicting. TC presupposes ontic relationalism: the truth conditions TC entails (with respect to Socrates' belief and Theaetetus' belief) presuppose ontic relationalism with regard to colours. Therefore, ontic relationalism plays an important role in Protagoras' account of why there are no interpersonally conflicting beliefs.

However, if Protagoras is a strong relativist, he does not need to resort to ontic relationalism to explain why there are no interpersonally conflicting beliefs: strong relativism implies that there are no interpersonally conflicting beliefs. Consider Socrates' belief that the stone is white and Theaetetus' belief that the stone is yellow. According to strong relativism, Socrates' belief is true in relation to Socrates and Theaetetus' belief is true in relation to Theaetetus. I assume that, according to a strong relativist, that Socrates' belief is true in relation to Socrates is compatible with Theaetetus' belief being true in relation to Theaetetus. Indeed, the two beliefs are compatible given any of the three accounts of relative truth in the context of strong relativism I have considered.[50] Given the infinite repeatability account, that the stone is white in relation to Socrates is compatible with the stone being yellow in relation to Theaetetus.

[50]Cf. 1.7.2.

Given the anti-realist account, that the truth-evaluable content of Socrates' belief that the stone is white is the truth-evaluable content of one of Socrates' beliefs is compatible with the truth-evaluable content of Theaetetus' belief that the stone is yellow being the truth-evaluable content of one of Theaetetus' beliefs. Given the private world account, that the truth-evaluable content of Socrates' belief that the stone is white is true in Socrates' private world is compatible with the truth-evaluable content of Theaetetus' belief being true in Theaetetus' private world.

Therefore, if Protagoras is a strong relativist, he does not need ontic relationalism to explain why there are no interpersonally conflicting beliefs: strong relativism implies that there are no interpersonally conflicting beliefs. Therefore, the strongly relativist interpretation cannot explain why Protagoras is an ontic relatioanlist: the purpose of ontic relationalism is to explain why there are no interpersonally conflicting beliefs. By implication, the strongly relativist interpretation cannot explain why Protagoras holds that there are Protagorean propositions in certain domains: Protagoras' commitment to Protagorean propositions is based on Protagoras' commitment to ontic relationalism.

The strongly relativist interpreter may argue that Protagoras' ontic relationalism is meant to explain relative truth in terms of Protagorean propositions: for instance, that the impersonal proposition that the stone is white is true in relation to Socrates means that the stone is white in relation to Socrates. However, I have argued that such an explanation of relative truth leads to an infinite regress: any supposedly explanatory proposition is itself a relative truth, and cannot be understood in the right way without a prior understanding of what it means for a proposition to be relatively true.[51]

[51]See 1.7.2.2.

1.7.4.3 Strong relativism implies that the Secret Doctrine is not a theory about the world

The Secret Doctrine (152d2-160c10) is a theory about the world: it consists of claims about the nature of reality.[52] However, if Protagoras is a strong relativist, the Secret Doctrine is not a theory about the world: strong relativism entails that there is no such thing as the world, but there are at most private worlds.[53] Let me illustrate this in terms of Protagoras' theory of perception (156a2-157c3), part of Protagoras' Secret Doctrine.[54]

Suppose that Socrates is tasting the wine and is having a sensation of sweetness. Let us presuppose the persistent sense of become*. (My argument does not hinge on this.) The theory of perception explains that the wine is becoming* sweet in relation to Socrates precisely as long as Socrates is having the sensation of sweetness: by providing this explanation, the theory of perception supports NP. Given strong relativism, this explanation is not true *simpliciter*. Further, the explanation is presumably not true in relation to Socrates: Socrates, as a non-Protagorean, has no beliefs involving the notion of becoming*. What would it mean for the explanation provided by the theory of perception to be true in relation to someone?[55]

Given the infinite repeatability account, that the explanation is true in relation to a means that it is the case in relation to a that the wine is becoming* bitter in relation to Socrates. That it is the case in relation to a that the wine is becoming* bitter in relation to Socrates is itself relatively true: its relative truth is to be explained in terms of a third-order Protagorean proposition, and so on.

Given the anti-realist account, that the explanation is true in relation to

[52] Cf. **1**.2-5.
[53] See 1.7.2.3-4. Cf. Fine (2003a), pp. 142-3.
[54] Cf. **1**.4.
[55] Cf 1.7.2.

a means that the proposition that the wine is becoming* bitter in relation to Socrates is the truth-evaluable content of one of a's beliefs.

Given the private world account, that the explanation is true in relation to a means that it is the case in a's private world that the wine is becoming* bitter in relation to Socrates.

Given any of the three accounts of relative truth, the theory of perception is not a metaphysical theory about the world. Given the infinite repeatability account, it does not explain phenomena in the world but postulates a proposition that is part of an infinite sequence of relative truths. Given the anti-realist account, it does not explain phenomena in the world but merely postulates possible truth-evaluable contents of beliefs. Given the private world account, it does not explain phenomena in the world but describes possible private worlds.

1.7.4.4 Strong relativism and Protagoras' attitude towards the truth of the Secret Doctrine

Strong relativism implies that the Secret Doctrine is not true or false *simpliciter*: rather, the Secret Doctrine is true in relation to a if and only if the Secret Doctrine forms the truth-evaluable content of one of a's beliefs. Therefore, if Protagoras is a strong relativist, he cannot consistently purport to describe the world in putting forward his Secret Doctrine: given strong relativism, there is no such thing as the world. I assume that Protagoras is not inconsistent in this sense. Further, I assume that a sincere strong relativist takes her own assertions to be true in relation to herself:

> **Strong relativism and assertion:** if a strong relativist sincerely asserts that p, then she takes p to be true in relation to herself.

I assume that Protagoras is sincere. What is Protagoras describing when he

puts forward his Secret Doctrine? This depends on what relative truth consists in. For instance, given the anti-realist interpretation, he is describing the truth-evaluable content of his own beliefs *without thereby purporting to describe the world*. Given the private world interpretation, he is describing his private world. Given any account of relative truth, Protagoras is not describing the world in putting forward the Secret Doctrine: strong relativism implies that there is no such thing as the world.

However, Protagoras *does* purport to describe the world in putting forward his Secret Doctrine: the Secret Doctrine is a metaphysical theory about the world. Furthermore, Socrates does not add any qualification when he claims that the Secret Doctrine is Protagoras' *truth*: Socrates assumes that Protagoras takes the Secret Doctrine to be true *simpliciter*.[56]

That Protagoras takes the Secret Doctrine to be true *simpliciter* does not mean that he is not a strong relativist: perhaps Protagoras is confused and fails to apply his strong relativism to his Secret Doctrine. However, Plato does not argue that Protagoras is confused in this way. Furthermore, there is an alternative interpretation (infallibilism) that does not entail that Protagoras is confused in this way. Therefore, there is no good reason to ascribe such confusion to Protagoras.

1.7.4.5 Conclusion

I conclude that Protagoras is not a strong relativist. In particular, I conclude that Protagorean propositions are true or false *simpliciter*.

[56]Cf. 152c10.

1.8 My account of 'true for the believer': pseudo-relativism

1.8.1 In general

F3 ('Beliefs are true') is an accurate characterization of Protagoras' position with regard to each belief *given Protagoras' view of the truth-evaluable content of the belief*: as an infallibilist, Protagoras claims that the truth-evaluable content of each belief is true *simpliciter*. Further, F2 ('Beliefs are true in relation to the believer') is an inaccurate characterization of Protagoras' position with regard to any belief *given Protagoras' view of the truth-evaluable content of the belief*: as an infallibilist, Protagoras claims that there is no belief of which the truth-evaluable content is true in relation to the believer. However, I propose that F2 is an accurate characterization of Protagoras' position with regard to a certain class of beliefs *given the ordinary view of the truth-evaluable content of the beliefs in the class*.

Let us stipulate that the truth-evaluable content* of a belief z is z's truth-evaluable content *according to the ordinary view*. For instance, the truth-evaluable content* of Socrates' belief that the stone is white is the impersonal proposition that the stone is white. Further, the truth-evaluable content of a belief z is z's truth-evaluable content *according to Protagoras' view*. For instance, the truth-evaluable content of Socrates' belief is the Protagorean proposition that the stone is white in relation to Socrates.

The class of beliefs in relation to which F2 is accurate is defined by *pseudo-relativism*:[57]

[57]The domain of the x's consists in all objects, the domain of the Fs consists in all properties, and the domain of the a's consists in all humans. For the sake of simplicity, I disregard ontic relationalism with regard to states of affairs. My explanation of 'true for a' is congenial to the ones offered by Waterlow (1977) pp. 33-4 and Lee (2005), chapter 3, p. 45, to the extent that Waterlow and Lee also think that the role of 'true for a' should not be understood in light of Protagoras' supposed commitment to relativism about truth, but rather in light of (what Waterlow and Lee call) Protagoras' relativism about facts or (what I call) his ontic

Pseudo-relativism: $\forall a \forall x \forall F$ (Suppose that F is within the scope of ontic relationalism. Then the following holds: if the cognitive content of a's belief z is the impersonal proposition that x is (not) F, then the truth-evaluable content* of a's belief z (the proposition that x is (not) F) is true in relation to a).

Further, I propose that IRT is correct:[58] 'It is true in relation to a that x is (not) F' means 'x is (not) F in relation to a.'

Let us stipulate that a belief is within the scope of pseudo-relativism if and only if its truth-evaluable content* is true in relation to the believer according to pseudo-relativism. By implication, all and only all TC-beliefs are within the scope of pseudo-relativism.[59] It follows that F2 accurately represents Protagoras' view with regard to the truth-evaluable content* of all and only all beliefs within the scope of pseudo-relativism: according to Protagoras, the truth-evaluable content* of all and only all beliefs within the scope of pseudo-relativism is true in relation to the believer.

Let me illustrate the different ways in which F2 and F3 are accurate as representations of Protagoras' position concerning Socrates' belief that the wine is bitter:[60]

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relationalism. Cf. Lee (p. 45) : 'Thus when Plato represents Protagoras as saying, 'Socrates' belief that the wind is hot is true', this means that Socrates' belief is true *simpliciter* and that the property of being hot belongs to the wind relative to Socrates. One could put it by saying that 'Socrates' belief that the wind is hot is true for him.' But this doesn't say anything more than 'The wind is hot for Socrates,' and all occurrences of '"x is F" is true for A' can be replaced by statements of the form 'x is F for A."

[58] See 1.6.1.

[59] Cf. 1.3.1.

[60] Fine (2003c), p. 188, writes about statements of Protagoras' position: 'The move from 'p is true for A' to 'p is true' is always legitimate.' On my interpretation of 'p is true for A' in terms of pseudo-relativism, this move is not legitimate. The reason is that the applicability of 'p is true for A' is restricted to impersonal propositions in domains within the scope of ontic relationalism. However, such propositions cannot be true *simpliciter* in Protagoras' view, given that they are not genuine propositions in his view.

F2: Socrates' belief is true *in relation to Socrates* in that its truth-evaluable content* is true *in relation to Socrates*: it is true in relation to Socrates that the wine is bitter. That it is true in relation to Socrates that the wine is bitter means that the wine is bitter in relation to Socrates.

F3: Socrates' belief is true in that its truth-evaluable content is true *simpliciter*: it is true *simpliciter* that the wine is bitter in relation to Socrates.

1.8.2 Discussion of two passages: 161d2-e3 and 167a6-8

Consider the following passage (161d2-e3):[61]

> [**Text 8**] SOC: For if whatever anyone judges by means of perception will be true for him; if no one will be better at discriminating someone else's experience, or more authoritative in investigating whether someone else's judgement is correct or false; if, on the contrary, as we've said several times, each person will himself be the only one who will judge their own things, and they will all be correct and true—if all that's to be so, then how on earth can it be the case that Protagoras is wise, so that he can justly think himself fit to be a teacher of others at high fees, whereas we're more ignorant, and have to go to his lessons, though each of us is himself the measure of his own wisdom?

Socrates initially uses F2: he claims that, according to Protagoras, 'whatever anyone judges by means of perception will be true for him.' (161d2-3) I take 'what one judges by means of perception' as used here to be the truth-evaluable content* of one's perceptual belief: therefore, Socrates ascribes to Protagoras the view that the truth-evaluable content* of each perceptual belief is true in relation to the believer. Socrates accurately represents Protagoras' position with

[61] ΣΩ. εἰ γὰρ δὴ ἑκάστῳ ἀληθὲς ἔσται ὃ ἂν δι' αἰσθήσεως δοξάζῃ, καὶ μήτε τὸ ἄλλου πάθος ἄλλος βέλτιον διακρινεῖ, μήτε τὴν δόξαν κυριώτερος ἔσται ἐπισκέψασθαι ἕτερος τὴν ἑτέρου ὀρθὴ ἢ ψευδής, ἀλλ' ὃ πολλάκις εἴρηται, αὐτὸς τὰ αὑτοῦ ἕκαστος μόνος δοξάσει, ταῦτα δὲ πάντα ὀρθὰ καὶ ἀληθῆ, τί δή ποτε, ὦ ἑταῖρε, Πρωταγόρας μὲν σοφός, ὥστε καὶ ἄλλων διδάσκαλος ἀξιοῦσθαι δικαίως μετὰ μεγάλων μισθῶν, ἡμεῖς δὲ ἀμαθέστεροί τε καὶ φοιτητέον ἡμῖν ἧν παρ' ἐκεῖνον, μέτρῳ ὄντι αὐτῷ ἑκάστῳ τῆς αὑτοῦ σοφίας;

regard to all and only all perceptual beliefs of which the cognitive content is an impersonal proposition. For instance, suppose that Theaetetus believes on the basis of perception that the stone is white. Protagoras holds that the truth-evaluable content* of Theaetetus' belief (the impersonal proposition that the stone is white) is true in relation to Theaetetus: Protagoras holds that the stone is white in relation to Theaetetus.

Later in the passage, Socrates uses F3: he claims that, according to Protagoras, 'each person will himself be the only one who will judge their own things (*ta hautou*), and they will all be correct and true.' (161d6-7) I take 'what one judges' as used here to be the truth-evaluable content of one's belief: therefore, Socrates ascribes to Protagoras the view that the truth-evaluable content of each belief is true (without qualification). Socrates accurately represents Protagoras' positions with regard to each perceptual belief: Protagoras does indeed hold that the truth evaluable content of each perceptual belief is true *simpliciter*. (I assume that Socrates focuses on perceptual beliefs here: cf. 161d2-3.)

Further, Socrates claims that the truth-evaluable content of a person's perceptual belief ('one's own things', which one judges) is private (161d6-7): 'each person will himself be the only one who will judge their own things.' (161d6) Protagoras does indeed hold that the truth-evaluable content of perceptual beliefs is private in the following sense: no proposition p can form the truth-evaluable content of the perceptual beliefs of two different people. For instance, the Protagorean proposition that the stone is white in relation to Theaetetus can only form the truth-evaluable content of one of *Theaetetus'* perceptual beliefs. (The Protagorean proposition that the stone is white in relation to Theaetetus can also form the truth-evaluable content of one of Protagoras' beliefs, but not of one of Protagoras' *perceptual* beliefs.) Note that the truth-evaluable content* of

perceptual beliefs is not private in this sense: the impersonal proposition that the stone is white is the truth-evaluable content* of both Theaetetus' perceptual belief that the stone is white and of Socrates' perceptual belief that the stone is white.

In a later passage, Socrates only uses F3 (167a6-8):[62]

> [**Text 9**] SOC: For it's not that anyone has ever made someone who was making false judgements come, later on, to judge what's true: after all, it isn't possible to judge the things which are not, or anything other than the things one is experiencing, and those are always true.

I take 'what one judges' to be the truth-evaluable content of one's belief: therefore, Socrates claims that, according to Protagoras, the truth-evaluable content of each belief is true (without qualification).[63] Socrates accurately represents Protagoras' position with regard to each belief: Protagoras does indeed hold that the truth-evaluable content of each belief is true *simpliciter*.

2 The self-refutation argument (170c-171c)

2.1 The dilemma (170c2-d3)

2.1.1 Text (170c3-5) and general analysis

First, Socrates sets up a dilemma (170c3-5):[64]

> [**Text 10**] Should we say that people always judge things which are true? Or that they sometimes judge things which are true and

[62] ΣΩ. ἐπεὶ οὔ τί γε ψευδῆ δοξάζοντά τίς τινα ὕστερον ἀληθῆ ἐποίησε δοξάζειν· οὔτε γὰρ τὰ μὴ ὄντα δυνατὸν δοξάσαι, οὔτε ἄλλα παρ' ἃ ἂν πάσχῃ, ταῦτα δὲ ἀεὶ ἀληθῆ.

[63] Further, I take *the things which are not* (167a7) to be falsehoods: 'τὰ μὴ ὄντα' is used veridically.

[64] ΣΩ. πότερον ἀληθῆ φῶμεν ἀεὶ τοὺς ἀνθρώπους δοξάζειν, ἢ τοτὲ μὲν ἀληθῆ, τοτὲ δὲ ψευδῆ; ἐξ ἀμφοτέρων γάρ που συμβαίνει μὴ ἀεὶ ἀληθῆ ἀλλ' ἀμφότερα αὐτοὺς δοξάζειν.

> sometimes things which are false? Because from both alternatives it follows, I think, that they don't always judge things which are true, but judge both truths and falsehoods.

This is how I understand the dilemma:

(p1) Either all beliefs are true, or some beliefs are true and some beliefs are false.

(p2) If all beliefs are true, then some beliefs are true and some beliefs are false.

(p3) If some beliefs are true and some beliefs are false, then some beliefs are true and some beliefs are false.

(c) From (p1), (p2), and (p3): some beliefs are true and some beliefs are false.

Socrates then asks Theodorus whether the Protagoreans or he himself would be willing to maintain that no one ever believes that someone else judges falsely. (170c6-8) Theodorus responds that this would be incredible to maintain. (170c9) Socrates responds that nonetheless adherents of the doctrine that man is the measure of all things have to maintain this. (170d1-2)

I shall first argue that the dilemma can be understood as an argument against infallibilism.[65] (2.1.2) I shall then argue that the dilemma cannot be understood as an argument against strong relativism given any of the three accounts of relative truth in the context of strong relativism.[66] (2.1.3)[67]

2.1.2 Infallibilist interpretation

If Protagoras is an infallibilist, it is clear how the dilemma bears on his doctrine. If he is an infallibilist, Protagoras holds that all beliefs are true *simpliciter*. Ac-

[65] Cf. 1.3.

[66] Cf. 1.7, in particular 1.7.2.

[67] The self-refutation argument is discussed, amongst many other scholars, by Burnyeat (1976c), Fine (2003c), Denyer (1991), pp. 97-100, Castagnoli (2004), Sedley (2004), 3.2, Lee (2005), chapter 4, Erginel (2009), and Castagnoli (2010), 4.2.

cording to the conlusion of the dilemma, however, some beliefs are true and some beliefs are false. Socrates and Theodorus agree that it would be incredible to maintain that no one ever believes that someone else judges falsely. However, Socrates claims that Protagoras must maintain this. Indeed, if Protagoras were to acknowledge that some people sometimes believe that someone else judges falsely, he would be committed to (p2) by virtue of the following ancillary argument:

(p'1) Some people sometimes believe that someone else judges falsely.

(ass.) All beliefs are true. (Infallibilism.)

(c'1) From (p'1) and (ass.): some beliefs are true and some beliefs are false. Proof: let a be one of the people who sometimes believes that someone else judges falsely: such people exist according to (p'1). For instance, a believes that b judges falsely. Given (ass.), a's belief that b judges falsely is true. Therefore, b's belief is false. Therefore, some beliefs are true and some beliefs are false.

(c'2) From (ass.) and (c'1): if all beliefs are true, some beliefs are true and some beliefs are false (= (p2)).

The ancillary argument establishes that (p'1) in conjunction with infallibilism implies (p2). When Socrates claims that Protagoras has to deny (p'1), he means that *if* Protagoras accepts (p'1), he is committed to (p2). If Protagoras is committed to (p2), the dilemma can be used against him to establish that infallibilism is false. Protagoras can only avoid a commitment to (p2) by denying (p'1): he has to maintain that no one ever believes that someone else judges falsely.

2.1.3 Strongly relativist interpretation

2.1.3.1 In general

I shall discuss two accounts of the dilemma on which it targets strong relativism.

2.1.3.2 Account 1: some beliefs are not true in relation to the believer

According to account 1, the dilemma purports to establish, against strong relativism, that some beliefs are true in relation to the believer and that some beliefs are not true in relation to the believer. Further, according to account 1, a belief is false in relation to the believer if and only if it is not true in relation to the believer. Accordingly, the dilemma should be understood in terms of implicit relativizers: true *in relation to the believer* and false *in relation to the believer*. Here I have made explicit the relativizers, and substituted 'not true in relation to the believer' for 'false in relation to the believer':

(p1)* Either each belief is true in relation to the believer, or some beliefs are true in relation to the believer and some beliefs are not true in relation to the believer.

(p2)* If each belief is true in relation to the believer, then some beliefs are true in relation to the believer and some beliefs are not true in relation to the believer.

(p3)* If some beliefs are true in relation to the believer and some beliefs are not true in relation to the believer, then some beliefs are true in relation to the believer and some beliefs are not true in relation to the believer.

(c)* From (p1), (p2), and (p3): some beliefs are true in relation to the believer and some beliefs are not true in relation to the believer.

Further, according to account 1, Protagoras has to deny (p'1) ('some people sometimes believe that someone else judges falsely') in order to avoid a commitment to (p2)*.

However, it is not clear why accepting (p'1) would commit Protagoras to (p2)* if he is a strong relativist: the combination of (p'1) and strong relativism (the antecedent of (p2)*) does not entail the consequent of (p2)*. Suppose that Protagoras accepts (p'1). Accordingly, Protagoras accepts that there is some a who believes that some b judges falsely in judging that p. Given strong relativism, it follows that a's belief is true in relation to a. However, given any of the three accounts of the notion of relative truth in the context of strong relativism, that a's belief is true in relation to a is compatible with b's belief being true in relation to b.

Given the infinite repeatability account, that it is the case in relation to a that b judges falsely in judging that p (i.e., that a's belief is true in relation to a) is compatible with its being the case in relation to b that p (i.e., with b's belief being true in relation to b).

Given the anti-realist account, that the truth-evaluable content of a's belief that b judges falsely in judging that p is the truth-evaluable content of one of a's beliefs (i.e., that a's belief is true in relation to a) is compatible with the truth-evaluable content of b's belief that p being the truth-evaluable content of one of b's beliefs (i.e., with b's belief being true in relation to b).

Given the private world account, that the truth-evaluable content of a's belief that b judges falsely in judging that p is true in a's private world (i.e., that a's belief is true in relation to a) is compatible with the truth-evaluable content of b's belief that p being true in b's private world (i.e., with b's belief being true in relation to b).

Therefore, if Protagoras is a strong relativist, (p'1) does not commit him to (p2)* given any of the three accounts of the notion of relative truth in the context of strong relativism.

There may be alternative accounts of relative truth on which the fact that a's belief is true in relation to a does entail that b's belief is not true in relation to b. However, there is no evidence that Protagoras has such an alternative account. Therefore, there is no ground for believing that (p'1) commits Protagoras (p2)* if he is a strong relativist.

2.1.3.3 Account 2: some beliefs are false *simpliciter*

According to account 2, the dilemma purports to establish, against strong relativism, that some beliefs are true in relation to the believer and that some beliefs are false *simpliciter*. That some beliefs are false *simpliciter* means that some beliefs are not in accordance with the way the world is. I shall assume that *if* a belief is true in relation to the believer, it is not false *simpliciter*. Given this assumption, strong relativism does indeed entail that no belief is false *simpliciter*.

According to account 2, relativizers should only be added to the truth predicates in the dilemma, not to the falsehood predicates. Accordingly, (p'1) is supposed to commit Protagoras to the following premiss:

(p2)** If each belief is true in relation to the believer, then some beliefs are true in relation to the believer and some beliefs are false *simpliciter*.

However, it is not clear why accepting (p'1) would commit Protagoras to (p2)** if he is a strong relativist: the combination of (p'1) and strong relativism (the antecedent of (p2)**) does not entail the consequent of (p2)**. According to the consequent of (p2)**, some beliefs are false *simpliciter*: some beliefs are not in accordance with the way the world is. Suppose that Protagoras accepts

(p'1). (p'1) implies that some a believes that some b judges falsely in judging that p. Given strong relativism, a's belief is true in relation to a. However, given any of the three accounts of relative truth in the context of strong relativism, that a's belief is true in relation to a neither entails that there is a way the world is, nor (*a fortiori*) does it entail that b's belief does not accord with the way the world is.

Given the infinite repeatability account, that it is the case in relation to a that b judges falsely in judging that p (i.e., that a's belief is true in relation to a)[68] neither entails that there is a way the world is, nor (*a fortiori*) does it entail that b's belief that p does not agree with the world (i.e, that b's belief is false).

Given the anti-realist account, that the truth-evaluable content of a's belief that b judges falsely in judging that p is the truth-evaluable content of one of a's beliefs (i.e., that a's belief is true in relation to a) neither entails that there is a way the world is, nor (*a fortiori*) does it entail that b's belief that p does not agree with the world (i.e, that b's belief is false).[69]

Given the private world account, that the truth-evaluable content of a's belief that b judges falsely in judging that p is true in a's private world (i.e., that a's belief is true in relation to a) neither entails that there is a way the world is, nor (*a fortiori*) does it entail that b's belief that p does not agree with the world (i.e, that b's belief is false).

[68] According to the infinite repeatability account, it is not true *simpliciter* that it is the case in relation to a that b judges falsely in judging that p.

[69] I assume that *the world* is mind-independent reality: the anti-realist account does presuppose that beliefs exist. However, I take it that the dilemma does not hinge on the very specific assumption that b's belief concerns facts about what a believes.

2.2 Second-order beliefs (170d4-e6)

2.2.1 General analysis

Let us stipulate that a second-order belief is a belief about the truth value of a belief. Further, a first-order belief is a belief that is not about the truth value of a belief.

Socrates describes a case in which Theodorus has a belief x and in which many other people ('the countless people' (cf. 170e1-5)) have a second-order belief to the effect that Theodorus' belief x is false. (170d4-9) Socrates claims that it follows from Protagoras' theory (*logos*) that what Theodorus believes is true *for Theodorus* and false *for the countless people*.[70] (Cf. 170d5-6 and 170e4-5.)

I shall discuss two accounts of Socrates' claim. On account A, which I favour, Socrates claims that the truth-evaluable content* of Theodorus' belief is true in relation to Theodorus and false in relation to the countless people. On account B, Socrates claims that the truth-evaluable content of Theodorus' belief is true in relation to Theodorus and false in relation to the countless people.[71] I shall argue that both accounts can be understood in line with the infallibilist interpretation.

Let us suppose that Theodorus' belief is a first-order belief to the effect that some object x has some property F. (Accounts A and B can be extended to cover more complex beliefs, but that would involve unnecessary complications.) Consequently, the countless people have the second-order belief that Theodorus' belief that x is F is false. I assume that the countless people also have the

[70] Cf. 170d5-6: 'Let that [which you [Theodorus] have judged] be true for you according to his [Protagoras'] theory.' (σοὶ μὲν δὴ τοῦτο κατὰ τὸν ἐκείνου λόγον ἀληθὲς ἔστω) Cf. 170e4-5: 'Well now do you want us to say that on that occasion you [Theodorus] judge truths for yourself and falsehoods for the countless people?' (βούλει λέγωμεν ὡς σὺ τότε σαυτῷ μὲν ἀληθῆ δοξάζεις, τοῖς δὲ μυρίοις ψευδῆ;) I take the latter to entail that what Theodorus believes is true for Theodorus and false for the countless people.

[71] See 1.8.1 on truth-evaluable content* and truth-evaluable content.

first-order belief that x is not F.

2.2.2 Account A: the truth-evaluable content* of Theodorus' belief is true in relation to Theodorus and false in relation to the countless people

According to account A, Socrates claims that the truth-evaluable content* of Theodorus' belief is true in relation to Theodorus and false in relation to the countless people. The truth-evaluable content* of Theodorus' belief is the impersonal proposition that x is F. In accordance with IRT, 'It is true in relation to a that x is F' means 'x is F in relation to a.'[72] Further, according to account A, 'It is false in relation to a that x is F' means 'x is not F in relation to a.'

Accordingly, Socrates' claim entails that x is F in relation to Theodorus and that x is not F in relation to the countless people.

Given account A, Socrates understands Protagoras' theory in accordance with the infallibilist interpretation. Socrates takes F to be within the scope of ontic relationalism, and he claims that x is F in relation to Theodorus and that x is not F in relation to the countless people. Given TC, this means that both Theodorus' first-order belief that x is F and the countless people's first-order belief that x is not F are true *simpliciter*.[73]

2.2.3 Account B: the truth-evaluable content of Theodorus' belief is true in relation to Theodorus and false in relation to the countless people

According to account B, Socrates claims that the truth-evaluable content of Theodorus' belief is true in relation to Theodorus and false in relation to the

[72] See 1.8.1.
[73] See 1.3.1.

countless people.

Given account B, Socrates does not understand Protagoras' theory in accordance with the infallibilist interpretation: as an infallibilist, Protagoras holds that the truth-evaluable content of each belief is true *simpliciter*.

Does account B imply that Protagoras is not an infallibilist, but a strong relativist? I do not think so: I think that if account B is correct, Protagoras is an infallibilist.

I propose that if account B is correct, Socrates should be taken to extend Protagoras' ontic relationalism to truth qua property of beliefs. This extension of ontic relationalism contradicts infallibilism: given infallibilism, beliefs are true *simpliciter*. However, it makes sense for Socrates to extend Protagoras' ontic relationalism to truth qua property of beliefs.

Protagoras underwrites his infallibilism with ontic relationalism: ontic relationalism helps explain how two seemingly conflicting beliefs can both be true. The conflicting beliefs considered so far were all first-order beliefs. In particular, the discussion of perceptual infallibilism (152d2-160c10) focused on conflicting perceptual beliefs: perceptual beliefs are first-order beliefs. Consequently, the question of whether ontic relationalism applies to truth qua property of beliefs has not been considered so far: first-order beliefs are not about truth qua property of beliefs. The case currently under consideration, however, involves a second-order belief: the countless people's belief that Theodorus' belief is false.

As an infallibilist, Protagoras cannot give a consistent account of second-order beliefs to the effect that someone else's belief is false: the dilemma (combined with the ancillary argument) shows that Protagoras has to deny the existence of such second-order beliefs. Protagoras could extend his ontic relationalism to truth qua property of beliefs so that (say) Theodorus' belief is true in relation to

Theodorus and false in relation to the countless people. Such an extension of his ontic relationalism would offer him a an escape from the dilemma (if combined with a suitable account of relative truth). However, if he were to resort to ontic relationalism to escape from the dilemma, he would thereby give up his infallibilism.

I propose that, if account B is correct, Socrates presupposes precisely such an extension of ontic relationalism to truth qua property of beliefs. However, we should not infer from this that Protagoras would be happy with such an extension of his ontic relationalism. We should suppose that Protagoras would reject such an extension: it contradicts his infallibilism. However, we should suppose that Protagoras has never considered second-order beliefs to the effect that other beliefs are false and is not aware of the dilemma showing that he cannot give a consistent account of them. Nonetheless, Socrates' extension is fair: it is an extension of the way Protagoras relies on ontic relationalism in the context of first-order beliefs to the case of second-order beliefs.[74]

Therefore, I propose that if account B is correct, Protagoras is an infallibilist. However, given account B, Socrates presupposes an extension of Protagoras' ontic relationalism that is inconsistent with infallibilism. Protagoras himself has

[74]Lee (2005), chapters 3 and 4 (in particular pp. 52-3), argues that Protagoras' relativism as portrayed before the self-refutation argument amounts to 'relativism about facts', which I take to be equivalent to ontic relationalism. Further, Lee argues that relativization of truth to the believer—as a special case of relativism about facts, applied to truth qua property of beliefs—is only considered in the context of the self-refutation argument. It is not clear whether Lee believes that Protagoras' position as initially discussed (before relativization of truth to the believer is considered) amounts to infallibilism. At one point she suggests that the difference between infallibilism and relativism about truth is not important when it comes to first-order beliefs (the beliefs considered initially): on p. 51 she writes that (in the initial context) 'there is not much difference between saying they [the belief that the wine is sweet and the belief that the wine is dry] are true both *simpliciter* and saying each is true for each, since what makes each belief true is a different set of relativized facts, the wine's being sweet for one and its being dry for the other.' On the other hand, on p. 45 she writes: 'Thus when Plato represents Protagoras as saying, 'Socrates' belief that the wind is hot is true', this means that Socrates' belief is true *simpliciter* and that the property of being hot belongs to the wind relative to Socrates.'

never considered such an extension and would reject it: Protagoras has never considered second-order beliefs to the effect that other beliefs are false.[75]

2.3 Conflicting beliefs as to whether man is the measure of all things (170e7-171a5)

Socrates proceeds (170e7-171a5):[76]

> [**Text 11**] SOC: And what about Protagoras himself? Isn't it necessarily the case that, if he didn't himself believe that man is the measure, and if the many don't either, as in fact they don't, then the truth which he wrote is not for anyone? Whereas if he did believe so himself, but the masses don't share his view, then, in the first place, it is not more than it is: more in the proportion by which those to whom his truth doesn't seem to be true outnumber those to whom it does seem to be true. THE: Yes, that must be so, if it's to depend on each individual judgement whether it will be or will not be.

I take believing that man is the measure of all things to consist in believing that all beliefs are true *simpliciter*. Further, I take the 'truth Protagoras wrote' (or 'Protagoras' truth') (170e9-170a1) to be the proposition that all beliefs are true *simpliciter*. Furthermore, I take it that 'Protagoras' truth is for a' means 'Protagoras' truth is true in relation to a', whereas 'Protagoras' truth is not for a' means 'Protagoras' truth is not true in relation to a.' I take the many to be everyone except Protagoras.[77] Accordingly, I take Socrates to be making the

[75] Fine (2003c), p. 199, in particular footnote 39, takes 'true for a' at 170d5-6 and e4-5 to mean 'true in a's view'. This seems implausible to me given that Socrates means to apply Protagoras' theory (λόγος) to the case at hand in inferring that Theodorus' belief is true for Theodorus (at 170d5-6). However, on Fine's interpretation, the inference is trivial and does not require Protagoras' account as a premiss: it is true by definition that Theodorus' belief is true in Theodorus' view.

[76] ΣΩ. Τί δὲ αὐτῷ Πρωταγόρᾳ· ἆρ' οὐχὶ ἀνάγκη, εἰ μὲν μηδὲ αὐτὸς ᾤετο μέτρον εἶναι ἄνθρωπον μηδὲ οἱ πολλοί, ὥσπερ οὐδὲ οἴονται, μηδενὶ δὴ εἶναι ταύτην τὴν ἀλήθειαν ἣν ἐκεῖνος ἔγραψεν; εἰ δὲ αὐτὸς μὲν ᾤετο, τὸ δὲ πλῆθος μὴ συνοίεται, οἴσθ' ὅτι πρῶτον μὲν ὅσῳ πλείους οἷς μὴ δοκεῖ ἢ οἷς δοκεῖ, τοσούτῳ μᾶλλον οὐκ ἔστιν ἢ ἔστιν. ΘΕΟ. Ἀνάγκη, εἴπερ γε καθ' ἑκάστην δόξαν ἔσται καὶ οὐκ ἔσται.

[77] For the sake of simplicity, I assume that Protagoras is the only Protagorean.

following two claims:

C1: if Protagoras and the many believe that it is not the case that all beliefs are true *simpliciter*, then, whichever human you take, it is not true in relation to that human that all beliefs are true *simpliciter*. (170e7-171a1)

C2: if Protagoras does believe that all beliefs are true *simpliciter* and the many believe that it is not the case that all beliefs are true *simpliciter*, then there are more people in relation to whom it is not true that all beliefs are true *simpliciter* than people in relation to whom it is true that all beliefs are true *simpliciter*.[78] (171a1-a3)

Further, Socrates claims that the many believe that it is not the case that all beliefs are true *simpliciter*. (170e9)[79]

I propose that 'It is true in relation to *a* that all beliefs are true *simpliciter*' means 'It is the case in relation to *a* that all beliefs are true *simpliciter*.' Further, 'It is not true in relation to *a* that all beliefs are true *simpliciter*' means 'It is not the case in relation to *a* that all beliefs are true *simpliciter*.'

Socrates presupposes that the state of affairs that all beliefs are true *simpliciter* is within the scope of Protagoras' ontic relationalism. Accordingly, he presupposes that if *a* believes that all beliefs are true *simpliciter*, then it is the case in relation to *a* that all beliefs are true *simpliciter*. Further, he presupposes that if *a* believes that it is not the case that all beliefs are true *simpliciter*, then it is not the case in relation to *a* that all beliefs are true *simpliciter*.

[78] I understand the consequent of C2 in the light of relativizers that are not explicit in the Greek: there are more people *in relation to whom* it is not true that all beliefs are true *simpliciter* than people *in relation to whom* it is true that all beliefs are true *simpliciter*. Cf. McDowell on 170a3-171c7, p. 170, penultimate paragraph.

[79] Cf. 'as in fact they don't' (ὥσπερ οὐδὲ οἴονται) (170e9). At 170a6-b10, Socrates argued that the many believe that people sometimes have false beliefs, from which it follows that they believe that it is not the case that all beliefs are true *simpliciter*.

Protagoras rejects the presupposition that the state of affairs that all beliefs are true *simpliciter* is within the scope of ontic relationalism. However, Protagoras has never considered the implications of the fact that the many reject MD. Consequently, it has never occurred to him that the state of affairs that all beliefs are true *simpliciter* is the subject matter of conflicting beliefs. It has never occurred to Protagoras that conflicting beliefs about the state of affairs that all beliefs are true *simpliciter* require him to include the state of affairs that all beliefs are true *simpliciter* within the scope of his ontic relationalism: inclusion of this state affairs within the scope of his ontic relationalism is needed to explain how the conflicting beliefs about it are all true *simpliciter*.

Protagoras takes the truth-evaluable content of his belief in the Measure Doctrine to be the impersonal proposition that all beliefs are true *simpliciter*: Protagoras holds that the state of affairs that all beliefs are true *simpliciter* is not within the scope of his ontic relationalism, so that the impersonal proposition that all beliefs are true *simpliciter* is a genuine proposition. Socrates' claims draw attention to the fact that there are conflicting beliefs concerning the state of affairs that all beliefs are true *simpliciter*: Protagoras believes in MD, whereas the many believe that MD is false. Socrates accordingly extends Protagoras' ontic relationalism so as to include the state of affairs that all beliefs are true *simpliciter*. Given the extension of ontic relationalism to the state of affairs that all beliefs are true *simpliciter*, the impersonal proposition that all beliefs are true *simpliciter* is a pseudo-proposition. Given the extension, the following two Protagorean propositions are genuine propositions: (i) it is the case in relation to *a* that all beliefs are true *simpliciter*; (ii) it is not the case in relation to *a* that all beliefs are true *simpliciter*.

Let us assume that Socrates extends TC to states of affairs in the following

way:[80]

TC′ : TC and **TC**^{s}, where **TC**^{s} says: $\forall s \forall a$ (If s is a state of affairs within the scope of ontic relationalism, then the following principle concerning the truth conditions of beliefs involving s holds: a's belief that s obtains is true *simpliciter* if and only if it is the case in relation to a that s obtains; a's belief that s does not obtain is true *simpliciter* if and only if it is not the case in relation to a that s obtains).

Socrates' extension of Protagoras' ontic relationalism is in agreement with the infallibilist interpretation.

Given TC^s, Protagoras' belief that all beliefs are true *simpliciter* is true *simpliciter* if and only if it is the case in relation to Protagoras that all beliefs are true *simpliciter*. Further, given TC^s, the many's belief that it is not the case that all beliefs are true *simpliciter* is true *simpliciter* if and only if it is not the case in relation to the many that all beliefs are true *simpliciter*. Given Socrates' extension of Protagoras' ontic relationalism to the state of affairs that all beliefs are true *simpliciter*, TC^s implies that Protagoras' belief that all beliefs are true *simpliciter* is true *simpliciter* and that the many's belief that it is not the case that all beliefs are true *simpliciter* is true *simpliciter*.

Why does Socrates make claim C1, of which the antecedent says that Protagoras and the many believe that it is not the case that all beliefs are true *simpliciter*? Isn't the antecedent of C1 false, given that Protagoras does believe that all beliefs are true *simpliciter*? The reason why Socrates makes claim C1 will emerge in the ensuing argument: by appealing to MD, Protagoras' opponents (representing the view of the many) can make Protagoras concede that he believes that it is not the case that all beliefs are true *simpliciter*.

[80]The domain of the ss consists in all states of affairs, and the domain of the as consists in all humans.

2.4 The 'most exquisite' ('*kompsotaton*') argument (171a6-c7)

2.4.1 Text and general analysis

Socrates' continues (171a6-c7):[81]

> [**Text 12**] SOC: And secondly, it has this most exquisite implication. Protagoras says that everyone judges the things which are. In saying that, he's surely conceding that the opinion of those who make opposing judgements about his own opinion, whereby they believe that he judges falsely, is true.
> THE: Certainly.
> SOC: So if he admits that their opinion is true—that is, the opinion of those who believe that he judges falsely—he would seem to be conceding that his own opinion is false?
> THE: He must be.
> SOC: But the others don't concede that they judge falsely?[82]
> THE: No.
> SOC: And Protagoras, again, admits that that judgements of theirs is true, too, according to what he has written.
> THE: Evidently.
> SOC: So his theory will be disputed by everyone, beginning with Protagoras himself; or, rather, it will be admitted by Protagoras himself that it's wrong. When he concedes to someone who contradicts him that he is making a true judgement, Protagoras will himself be conceding that a dog, or an ordinary man, isn't the measure of so much as one thing that he hasn't come to know. Isn't that so?
> THE: Yes.
> SOC: Well then, since it's disputed by everyone, it would seem that

[81] ΣΩ. Ἔπειτά γε τοῦτ' ἔχει κομψότατον· ἐκεῖνος μὲν περὶ τῆς αὐτοῦ οἰήσεως τὴν τῶν ἀντιδοξαζόντων οἴησιν, ἣ ἐκεῖνον ἡγοῦνται ψεύδεσθαι, συγχωρεῖ που ἀληθῆ εἶναι ὁμολογῶν τὰ ὄντα δοξάζειν ἅπαντας. ΘΕΟ. Πάνυ μὲν οὖν. ΣΩ. Οὐκοῦν τὴν αὐτοῦ ἂν ψευδῆ συγχωροῖ, εἰ τὴν τῶν ἡγουμένων αὐτὸν ψεύδεσθαι ὁμολογεῖ ἀληθῆ εἶναι; ΘΕΟ. Ἀνάγκη. ΣΩ. Οἱ δέ γ' ἄλλοι οὐ συγχωροῦσιν ἑαυτοὺς ψεύδεσθαι; ΘΕΟ. Οὐ γὰρ οὖν. ΣΩ. Ὁ δέ γ' αὖ ὁμολογεῖ καὶ ταύτην ἀληθῆ τὴν δόξαν ἐξ ὧν γέγραφεν. ΘΕΟ. Φαίνεται. ΣΩ. Ἐξ ἁπάντων ἄρα ἀπὸ Πρωταγόρου ἀρξαμένων ἀμφισβητήσεται, μᾶλλον δὲ ὑπό γε ἐκείνου ὁμολογήσεται, ὅταν τῷ τἀναντία λέγοντι συγχωρῇ ἀληθῆ αὐτὸν δοξάζειν, τότε καὶ ὁ Πρωταγόρας αὐτὸς συγχωρήσεται μήτε κύνα μήτε τὸν ἐπιτυχόντα ἄνθρωπον μέτρον εἶναι μηδὲ περὶ ἑνὸς οὗ ἂν μὴ μάθῃ. οὐχ οὕτως; ΘΕΟ. Οὕτως. ΣΩ. Οὐκοῦν ἐπειδὴ ἀμφισβητεῖται ὑπὸ πάντων, οὐδενὶ ἂν εἴη ἡ Πρωταγόρου Ἀλήθεια ἀληθής, οὔτε τινὶ ἄλλῳ οὔτ' αὐτῷ ἐκείνῳ.

[82] I read 'ἑαυτοὺς' at 171b4, with W. β and T have 'ἑαυτοῖς'.

> Protagoras' *Truth* isn't true for anyone: not for anyone else, and not for Protagoras himself.

The 'most exquisite argument' consists of two stages. (I leave it open for now what exactly the content of Protagoras' Measure Doctrine (MD) is.) First, the argument purports to show that Protagoras' opponents (who are supposed to represent the view of the many) can make Protagoras concede that he believes the contradictory of MD. (Cf. 171a6-c4) Second, from Protagoras' concession to his opponents that he believes the contradictory of MD, the most exquisite argument infers that whichever human you take, MD is not true in relation to that human. (Cf. 171c5-7)

I shall first argue that the most exquisite argument can be understood as an argument against infallibilism. (2.4.2) I shall then argue that the most exquisite argument cannot be understood as an argument against strong relativism given any of the three accounts of the notion of relative truth in the context of strong relativism. (2.4.3)

2.4.2 The infallibilist interpretation

According to the infallibilist interpretation, MD is the doctrine that all beliefs are true *simpliciter*. According to the infallibilist interpretation, the gist of the two stages of the most exquisite argument is the following.

First, the opponents confront Protagoras with their second-order belief that Protagoras' belief that all beliefs are true *simpliciter* is false. In light of his belief that all beliefs are true *simpliciter*, Protagoras has to concede that his opponents' second-order belief is true *simpliciter*.[83] Consequently, Protagoras

[83]Denyer (1991), pp. 99-100, argues that, even though Protagoras claims in the case of other beliefs that they are true *in relation to the believer*, in the specific case of his opponents' second-order belief that his belief in MD is false he must claim that it is true *simpliciter*: merely conceding the relative truth of his opponents' belief would not suffice, as it is part of

has to concede that his own belief that all beliefs are true *simpliciter* is false. Therefore, Protagoras has to concede that he believes that it is not the case that all beliefs are true *simpliciter*. (Cf. 171a4-c4)

Second, given that Protagoras' opponents represent the view of the many, it follows that everyone (including Protagoras) believes that it is not the case that all beliefs are true *simpliciter*. Given C1, it follows that whichever human you take, it is not true in relation to that human that all beliefs are true *simpliciter*. This means that whichever human you take, it is not the case in relation to that human that all beliefs are true *simpliciter*.

This is a reconstruction of the argument, supplying some premisses and inferences that are not made explicit:[84]

(i.) Protagoras believes that all beliefs are true *simpliciter*. (Cf. 171a9.)

(ii.) Protagoras' opponents believe that it is not the case that all beliefs are true *simpliciter*. (Cf. 171a6-8.)

(iii.) Protagoras' opponents have the second-order belief that Protagoras' belief [that all beliefs are true *simpliciter*] is false. (Cf. 171a6-8.)

(iv.) Protagoras admits that his opponents' second-order belief [that his belief that all beliefs are true *simpliciter* is false] is true. (From (i.) and (iii.); cf. 171a6-8.)

(v.) If a admits that a belief that p is true, a concedes that p is true. (Assumption; implicit.)

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the very content of his opponents' belief that truth is not relative, so a relativized concession would not be a concession at all. Castagnoli (2010), 4.2.4, proposes a similar interpretation. On my interpretation, that Protagoras has to concede the truth *simpliciter* of his opponents' belief is not a consequence of the specific content of his opponents' belief: Protagoras holds that each belief is true *simpliciter*.

[84] My reconstruction is largely in agreement with Fine's (cf. Fine (2003c), V), except for the final steps ((xv.) ff.): unlike Fine, I do not take 'p is true for a' to mean 'a believes that p is true.'

(vi.) Protagoras concedes that it is true that his belief [that all beliefs are true *simpliciter*] is false. (From (iv.) and (v.). Implicit.)

(vii.) If a concedes that it is true that p, then a concedes that p. (Assumption; implicit.)

(viii.) Protagoras concedes that his belief [that all beliefs are true *simpliciter*] is false. (From (vi.) and (vii.). Cf. 171b1-2.)

(ix.) The opponents do not concede that their second-order belief [that Protagoras' belief that all beliefs are true *simpliciter* is false] is false. (Cf. 171b4-5.)

(x.) Protagras admits that his opponents' second-order belief [that his belief that all beliefs are true *simpliciter* is false] is true. ((i.) and (ix.); cf. 171b7-8.)

(xi.) If a concedes that a belief that p is false, a concedes that p is false. (Assumption.)

(xii.) Protagoras concedes that it is false that all beliefs are true *simpliciter*. (From (viii.) and (xi.).) (Cf. 171b10-c3.)

(xiii.) If a concedes that p is false, then a believes that it is not the case that p. (Assumption.)

(xiv.) Protagoras believes that it is not the case that all beliefs are true *simpliciter*. (From (xii.) and (xiii.); cf. 171b10-c3.)

(xv.) The opponents represent the view of the many. (Assumption.)

(xvi.) The many believe that it is not the case that all beliefs are true *simpliciter*. (From (ii.) and (xv.): cf. 171b10-c3.)

(xvii.) Protagoras and the many believe that it is not the case that all beliefs are true *simpliciter*. (From (xiv.) and (xvi.); cf. 171b10-c3.)

(xviii.) If Protagoras and the many believe that it is not the case that all beliefs are true *simpliciter*, then, whichever human you take, it is not true in relation to that human that all beliefs are true *simpliciter*. (Assumption: C1; cf. 170e7-a1.)

(xix.) Whichever human you take, it is not true in relation to that human that all beliefs are true *simpliciter*. (From (xvii.) and (xviii.); cf. 171c5-7.)

2.4.3 The strongly relativist interpretation

According to the strongly relativist interpretation, MD amounts to strong relativism. The strongly relativist interpretation requires that the truth and falsehood predicates in the argument be read in the light of suppressed relativizers. Further, the strongly relativist interpretation assumes that p is false in relation to a if and only if p is not true in relation to a. According to the strongly relativist interpretation, the gist of the two stages of the most exquisite argument is the following.

First, the opponents confront Protagoras with their second-order belief that Protagoras' belief in strong relativism is false. In light of his belief in strong relativism, Protagoras has to concede that his opponents' second-order belief is true in relation to his opponents. Protagoras thereby has to concede that the contradictory of strong relativism is true in relation to his opponents and that strong relativism is not true in relation to his opponents. Consequently, Protagoras has to concede that the contradictory of strong relativism is true in relation to himself and that strong relativism is not true in relation to himself. Given the definition of strong relativism, this entails that both Protagoras and

the opponents believe in the contradictory of strong relativism and do not believe in strong relativism. (Cf. 171a6-c4)

Second, given that Protagoras' opponents represent the view of the many, it follows that no one believes in strong relativism and that everyone believes in the contradictory of strong relativism. Given strong relativism, this entails that, whichever human you take, strong relativism is not true in relation to that human. (Cf. 171c5-7)

Note that C1, or the preceding argument in general (170e7-a3), plays no role in the second stage given the strongly relativist interpretation: instead of assuming C1, the second stage assumes strong relativism to infer that whichever human you take, strong relativism is not true in relation to that human.

The strongly relativist interpretation of the first stage of the argument contains a dubious inference: it is unclear why Protagoras' concession that the contradictory of strong relativism is true in relation to his opponents and that strong relativism is not true in relation to his opponents ('the first concession') commits him to a concession that the contradictory of strong relativism is true in relation to himself and that strong relativism is not true in relation to himself ('the second concession').

Given any of the three accounts of the notion of relative truth in the context of strong relativism, the first concession does not commit Protagoras to the second concession.

Given the infinite repeatability account, that it is not the case in relation to his opponents that the state of affairs postulated by strong relativism obtains (the first concession) does not entail that it is not the case in relation to Protagoras that the state of affairs postulated by strong relativism obtains (the second concession).

Given the anti-realist account, that the contradictory of strong relativism forms the truth-evaluable content of one of the beliefs of his opponents and that strong relativism does not form the truth-evaluable content of one of the beliefs of his opponents (first concession) does not entail that the contradictory of strong relativism forms the truth-evaluable content of one of Protagoras' beliefs and that strong relativism does not form the truth-evaluable content of one of Protagoras' beliefs (second concession).

Given the private world account, that the contradictory of strong relativism is true in his opponents' private worlds and that strong relativism is not true in his opponents' private worlds (first concession) does not entail that the contradictory of strong relativism is true in Protagoras' private world and that strong relativism is not true in Protagoras' private world (second concession).

Chapter 3

The refutation of Radical Flux: *Theaetetus* 179d-183c

Introduction

This chapter is concerned with the refutation of the Radical Flux doctrine: everything is always changing with every kind of change in every respect. (179d4-183c3) Socrates first argues that Radical Flux implies that there are no cases in which a positive characterization of the changing thing ('x is F') is more true than the corresponding negative characterization ('x is not F'). (182c9-182e7) Socrates then specifically concludes that Radical Flux renders Theaetetus' definition ('Knowledge is perception'; TH) no more true than its negation ('Knowledge is not perception'). (182e8-183a1) Socrates proceeds to argue that Radical Flux has an even more radical consequence: all positive characterizations are false and all negative characterizations are true. (183a2-b6) Finally, Socrates concludes that Theaetetus' definition cannot be underpinned by the 'method of universal change'. (183b7-c3)

Initially (at 182c9-182e7), Socrates only assumes that certain *particulars* (per-

ceptual objects and perceivers) are subject to Radical Flux (or so I shall argue). However, Theaetetus' definition is a statement about two *universals*: the universal knowledge (i.e., the universal of which individual acts of knowing are instances) and the universal perception (i.e., the universal of which individual acts of perceiving are instances). Theaetetus' definition states that knowledge (one universal) consists in perception (another universal). It is not evident how the supposed fact that *individual* knowers and perceivers are subject to Radical Flux has implications for the truth of a definitional statement about the *universals* knowledge and perception. In this light, some interpreters have argued that Socrates assumes that not only particulars but also universals are subject to Radical Flux.[1] I shall argue instead that we can and should understand Socrates' argument as solely based on the assumption that certain particulars are subject to Radical Flux.[2]

In section 1, I shall make four assumptions concerning what universals are. In section 2, I shall discuss the nature of Radical Flux. In section 3, I shall distinguish between an epistemic and an ontic explanation of why there are no cases in which a positive characterization is more true than the corresponding negative characterization. According to the epistemic explanation, the changing thing cannot retain the positive characteristic continuously during the time it would take to assert that it has the characteristic: consequently, the positive

[1] E.g. Cornford (1935), p. 99, Silverman (2000), pp. 109-112, pp. 143-144, and pp. 151-152, and Hestir (2016), chapter 4, pp. 68-71. Cornford, Silverman, and Hestir put this interpretation in different terms: Cornford speaks of *meanings* being in flux, whereas both Silverman and Hestir speak of both *Forms* being in flux and of *properties* being in flux. I take it that meanings as understood by Cornford are universals: I take it that Cornford presupposes that the meaning of a predicate term is the universal to which it refers, and that when he speaks of meanings, he speaks exclusively of the meanings of predicate terms. Further, I take it that Silverman and Hestir use 'Form' and 'property' as equivalents (cf. Silverman (2000), p 152), and I take it that the things Silverman and Hestir call Forms or properties are universals by my light.

[2] A recent defence of this position is Thaler (2013): see final footnote to section 4. Other interpreters who believe that Socrates only assumes that particulars are in flux are Cooper (1967), chapter III, Burnyeat (1990), pp. 42-52, Fine (1993), p. 134, Sedley (2004), 4.1 (in particular footnote 5), and Castagnoli (2010), 13.2.

characterization is at most 'semi-true' (in between true and false). If the positive characterization is semi-true, the corresponding negative characterization is also semi-true. The epistemic explanation leaves it open whether things sometimes instantiate properties: it only excludes that a property is instantiated for longer than an instant. According to the ontic explanation, things do not instantiate properties. According to the ontic explanation, things at most 'semi-instantiate' properties: if something semi-instantiates a property, it is in a state in between instantiating the property and not instantiating it. If something semi-instantiates a property, the positive characterization (to the effect that it has the property) and the corresponding negative characterization (to the effect that it does not have the property) are both semi-true. I shall argue that the first stage of the refutation (182c9-d7; 3.1-3) is best understood in terms of the epistemic explanation, whereas the second stage of the refutation (182d8-e7;3.4-5) is ambiguous between the epistemic and the ontic explanation. Further, I shall argue that the ontic explanation probably reflects Plato's view, even if Socrates reasons in terms of the epistemic explanation. In section 4, I shall argue that the conclusion Socrates draws with regard to Theaetetus' definition (at 182e8-183a1) can only be accounted for on the basis of the ontic explanation. Further, I shall argue that Socrates' conclusion with regard to Theaetetus' definition is not based on the assumption that universals are subject to Radical Flux. In section 5, I shall argue that the more radical conclusion of the refutation (183a2-b6) is the same regardless of whether the repercussions of Radical Flux are understood epistemically or ontically: because Radical Flux precludes things from instantiating or semi-instantiating properties, things do not have any positive characteristics. Consequently, all positive characterizations are false and all negative characterizations are true. I shall argue that this more radical conclusion constitutes a

refutation of Radical Flux: if things have no positive characteristics, there is no Radical Flux. In section 6, I shall discuss Socrates' claim that the method of universal change cannot underpin Theaetetus' definition. Interpreters disagree on whether the Secret Doctrine entails Radical Flux.[3] If the Secret Doctrine entails Radical Flux, it makes sense to identify the method of universal change with the Secret Doctrine: given that Radical Flux undermines Theaetetus' definition, the refutation would have shown that the Secret Doctrine cannot underpin Theaetetus' definition. However, I shall argue that the Secret Doctrine does not entail Radical Flux: the method of universal change is the Secret Doctrine *in conjunction with* Radical Flux (the 'Radical Secret Doctrine'). I shall argue that the refutation of Radical Flux has two stages. It first shows that the Radical Secret Doctrine and Theaetetus' definition are incompatible. It then shows that the Radical Secret Doctrine by itself is incoherent.

1 Four assumptions concerning universals

1.1 The assumptions

First, I shall assume that universals are objective realities:

> Objectivity of Universals (OU): if x is a universal, then the existence of x does not depend on x's being believed to exist.

Second, I shall assume—as a matter of logical truth—that the existence of instances of a universal implies the existence of the universal:

[3]It does according to Cornford (1935), pp. 100-1, Cherniss (1936), pp. 453-4, Cooper (1967), chapters I (in particular part B) and III, Sayre (1969), chapter II, Day (1997), pp. 75-6, Lee (2005), pp. 115-7, and Rowett (2018), pp. 173-4. It does not according to Owen (1953), pp. 85-86, Crombie (1963 II), 1.I.B.ii, pp. 10-13, McDowell (1973), pp. 183-4, Bostock (1988), pp. 106-9, Burnyeat (1990), pp. 42-52, Denyer (1991), pp. 102-3, Sedley (2004), p. 95-6, Castagnoli (2010), 13.2, pp. 210-11, Ademollo (2011), 9.1.5, in particular pp. 472-3, and Thaler (2013), pp. 23-5.

Instances of Universals (IU): if x is an instance of the universal y, then the universal y exists.

Third, I shall assume that if something is a universal, it is a property:

Universals and Properties: if x a universal, then x is a property.

Fourth, I shall assume that TH purports to define the universal knowledge by means of the universal perception:

TH and Universals (THU): according to TH, the universal knowledge consists in the universal perception.

1.2 Discussion of the assumptions

On the one hand, I assume that OU allows that the following things exist: the universal water (the universal of which individual amounts of water are instances), the universal mankind (the universal of which individual humans are instances), and indeed any universal corresponding to natural kinds. Further, OU allows that the universal knowledge (the universal of which individual acts of knowing are instances) and the universal perception (the universal of which individual acts of perceiving are instances) exist.

It is disputable whether OU allows that the following things exist: the universal table (of which individual tables are instances), the universal democracy (of which individual democracies are instances), and the universal academic institution (of which individual academic institutions are instances). Whether OU allows that these universals exist, depends on whether their existence could be independent of their being believed to exist: if it could, then OU allows that they exist. Suppose that OU implies that the universal table does not exist. That neither means that OU and IU imply that no individual tables exist nor that OU

and IU imply that no entity exists of which individual tables are instances: it just means that individual tables are not instances of the *universal* table. This leaves it open that individual tables are instances of the *property* of being a table or the *concept* of a table, and that the property of being a table or the concept of a table exists.

Furthermore, OU and IU are neutral as to whether universals can exist without ever being instantiated.

According to THU, TH presupposes that the universal knowledge and the universal perception exist: TH purports to define the universal knowledge by means of the universal perception. Given that OU allows that the universal knowledge and the universal perception exist, OU and THU are consistent.

2 Setting the stage (179d-182c)

The target of the refutation is the doctrine of the followers of Heraclitus ('the fluxists'). The fluxists wage war on *anything* that is stable (*stasimon*: 180b2). (179d4-180c6)

Socrates proposes that they start by clarifying what the fluxists mean when they assert that everything is changing (*ta panta kineitai*: 181c2). (181b8-c2) Socrates and Theodorus distinguish between two kinds of change: locomotion (*phora*) (which is itself subdivided into rotation and change of location) and alteration (*alloiōsis*). (181c2-d7) Socrates asks whether the fluxists hold that everything undergoes both kinds of change, or that some things undergo both kinds of change, and some one but not the other. (181d8-e2) Socrates and Theodorus agree that the fluxists hold that everything undergoes *both* kinds of change. (181e3-4) Socrates offers the following argument in support of this answer: if it were not the case that everything is undergoing both kinds of change,

it would turn out that things are both changing and at rest and it would be no more correct to assert that everything is changing than to assert that everything is at rest. (181e5-7)

As it stands, Socrates' argument is invalid: if everything undergoes at least one kind of change, then it *is* correct to assert that everything is changing—or, in any case, it is *more* correct to assert that everything is changing than to assert that everything is at rest: only the latter amounts to asserting something that is simply *incorrect*. However, I propose that Socrates attempts to understand the doctrine that *underlies* the fluxists' assertion that everything is changing. Given that the fluxists reject any form of stability, their doctrine must be the most radical doctrine of change. Accordingly, it will turn out that Socrates understands the fluxists' doctrine in the following way:[4]

[4]Socrates does not explicitly formulate the Radical Flux doctrine. However, Socrates clearly assumes that the doctrine that forms the target of the refutation amounts to Radical Flux. Later on, Socrates will discuss what is clearly meant to be an *arbitrary* perceptual object (or so I shall argue) x, an *arbitrary* time t, and an *arbitrary* perceptual property F (colour) and Socrates will assume that the doctrine to be refuted entails that x is changing with respect to F at t: cf. 182d1-5 (discussed in section 3). This assumption is warranted if and only if the doctrine amounts to Radical Flux.

Radical Flux (RF): everything is always changing with every kind of change in every respect.

Socrates and Theodorus will apply RF to the ontology of Protagoras' theory of perception (156a2-157c3), which they first recapitulate (182a4-b7). According to the theory of perception, perceived properties (*aisthēta*) and corresponding perceivings (*aisthēseis*) are the twin offspring resulting from intercourse between an 'active parent' and a 'passive parent'. Let us say that a token of a perceived property is an *active child* and that a token of the corresponding perceiving is a *passive child*. As a result of the birth of the active child in the form of a token of *F*ness and the passive child in the form of a token of the perception of *F*ness, the active parent becomes* *F* in relation to the passive parent.[5] I assume that the domain of 'everything' in RF consists in all active and all passive parents: the theoretical counterparts of, respectively, perceptual objects and perceiving subjects.[6] I shall show that this assumption is in accordance with Socrates' analysis of Radical Flux. The domain of 'every kind of change' is indefinite, but it includes at least locomotion and alteration. The domain of 'in every respect' is also indefinite, but I assume that in the case of alteration it includes all perceptual properties and all forms of perception: Socrates assumes this too, as I shall show.

[5]Further, the passive parent becomes* a perceiver of *F*ness in relation to the active parent: see final footnote to **1**.3.4. See **1**.2 on becoming* and **1**.4 on the theory of perception.

[6]I use 'active parent' and 'passive parent' in a broad sense: anything that can produce offspring with a passive parent is an active parent and anything that can produce offspring with an active parent is a passive parent. Consequently, I take 'active parent' and 'passive parent' to be extensionally equivalent to (respectively) 'perceptual object' and 'perceiving subject'. I use 'perceiving subject' as equivalent to 'human'. Perceiving subjects are also perceptual objects, but not all perceptual objects are perceiving subjects. I shall use 'active parent' and 'passive parent' as interchangeable with (respectively) 'perceptual object' and 'perceiving subject'.

3 The flux of colours and the flux of seeings (182c-182e)

3.1 The flux of colours (182c9-d7)

Socrates and Theodorus proceed to consider the consequences of RF for the possibility of describing things (182c9-d7):[7]

> [**Text 13**] SOC: Well now, if things were only locomoting, and not undergoing alteration, we would be able to say, surely, with which quality the locomoting things are flowing.[8] Isn't that right? THE: Yes. SOC: Whereas since not even this stays constant, that the flowing thing is flowing white, but it is changing, so that there's a flow of this thing also, of whiteness, and change to another colour, in order not to be convicted of staying constant in that respect—since that's so, is it ever possible to refer to any colour in such a way as to be speaking of it correctly? THE: How could it be, Socrates? Indeed, how could it be possible to do so with any other thing of that kind, if it's always slipping away while one is speaking; as it must be, given that it's flowing?

Socrates starts by claiming that if things were only locomoting and not undergoing alteration, they would be able to say 'with which quality the locomoting things are flowing' (182c9-11). Socrates then points out that RF implies that things are *also* altering, in particular with respect to their colour. As Socrates puts it: 'Not even this stays constant, that the flowing thing is flowing white' (182d1-2). Before discussing the supposed implications of this for the possibility

[7] ΣΩ. Εἰ μὲν τοίνυν ἐφέρετο μόνον, ἠλλοιοῦτο δὲ μή, εἴχομεν ἄν που εἰπεῖν οἷα ἅττα ῥεῖ τὰ φερόμενα· ἢ πῶς λέγομεν; ΘΕΟ. Οὕτως. ΣΩ. Ἐπειδὴ δὲ οὐδὲ τοῦτο μένει, τὸ λευκὸν ῥεῖν τὸ ῥέον, ἀλλὰ μεταβάλλει, ὥστε καὶ αὐτοῦ τούτου εἶναι ῥοήν, τῆς λευκότητος, καὶ μεταβολὴν εἰς ἄλλην χρόαν, ἵνα μὴ ἀλῷ ταύτῃ μένον, ἆρά ποτε οἷόν τέ τι προσειπεῖν χρῶμα, ὥστε καὶ ὀρθῶς προσαγορεύειν; ΘΕΟ. Καὶ τίς μηχανή, ὦ Σώκρατες; ἢ ἄλλο γέ τι τῶν τοιούτων, εἴπερ ἀεὶ λέγοντος ὑπεξέρχεται ἅτε δὴ ῥέον;

[8] I have adopted a variant of Thaler's helpful translation of the indirect question at 182c10: 'with what quality the moving things flow.' Cf. Thaler (2013), p. 28.

of characterizing the flowing thing in terms of the quality with which it is flowing (3.3), I shall discuss two preliminary issues (3.2). First, what is the flowing thing (*to rheon*: 182d1-2)? Second, what does flowing white (*leukon rhein*: 182d1) consist in?

3.2 Radical Flux and colours: the flowing thing that is flowing white

3.2.1 The flowing thing

On the *parental interpretation*, the flowing thing is a token active parent, which, together with a token passive parent, has given birth to twin offspring in the form of a token of whiteness and a token of the seeing of whiteness.[9] On the *filial interpretation*, the flowing thing is a token active child, namely a token of whiteness: the flowing thing and its twin sibling, a token of the seeing of whiteness, are the offspring produced by an active and a passive parent.[10] On the *type interpretation*, the flowing thing is not a *token* of one of the entities in the theory of perception, but a *type*: it is the universal whiteness.[11] I favour the parental interpretation.

3.2.2 Flowing white

I propose that flowing white consists in becoming* white in the persistent sense.[12] Consequently, that the flowing thing is flowing white means that the flowing thing has an active child in the form of a whiteness token with some passive parent.

[9] Cf. Boter (2009), pp. 31-4 and Thaler (2013), pp. 28-30.

[10] Cf. McDowell (1973) last paragraph p. 182, first paragraph p. 183, and Castagnoli (2010), pp. 209-10.

[11] Silverman (2000), pp. 141-4, claims that the identity of the flowing thing is ambiguous between the filial and the type interpretation and Hestir (2016), pp. 69-70, claims that the identity of the flowing thing is ambiguous between the three interpretations.

[12] Cf. **1**.2.4.2.

3.2.3 A closer look at the evidence

Here are two ways in which my interpretations can account for the text.

First, Socrates claims that due to RF 'not even this stays constant, that the flowing thing is flowing white.' (182d1-2) Socrates' claim implies that, *had there been no RF*, the flowing thing *could* have continued flowing white. This suggests that flowing white is a state of affairs that by its nature can continue obtaining for awhile provided that it is not precluded from doing so (by things such as RF). This is indeed the case if flowing white consists in becoming* white in the persistent sense: by its nature, the flowing thing's having an active child is a state of affairs that can continue obtaining for awhile. By contrast, becoming* white in the liminal sense is not a state of affairs that can continue obtaining for awhile provided that it is not precluded from doing so (by things such as RF). The flowing thing's becoming* white in the liminal sense amounts to its giving birth to an active child in the form of a token of whiteness: once the child has been born, the flowing thing is no longer becoming* white in the liminal sense. Therefore, becoming* white in the liminal sense is not a state of affairs that by its nature can continue obtaining for awhile.

Second, Socrates claims that due to the fact that the flowing thing does not continue flowing white 'there's a flow (*rhoēn*) of that very thing (*autou toutou*), whiteness (*tēs leukotētos*), and change (*metabolēn*) to another colour (*chrōan*).' (182d2-3) Whiteness here is the flowing thing's active child. The change to another colour is a replacement of one active child (a token of whiteness) by another active child (say, a token of yellowness). This change is a consequence of the fact that the flowing thing does not continue becoming* white in the persistent sense: the flowing thing's whiteness child immediately ceases to exist

and is replaced by a yellowness child.[13]

3.3 Radical Flux and colours: the epistemic explanation versus the ontic explanation

3.3.1 Radical Flux and colours: introduction of the epistemic and the ontic explanation

I shall make the following assumptions. First, the flowing thing *instantiates* a colour F in relation to a perceiver a if and only if the flowing thing is flowing F in relation to a. For instance, the flowing thing instantiates whiteness in relation to Socrates if and only if the flowing thing is flowing white in relation to Socrates. Accordingly, the flowing thing *changes colour* in relation to a perceiver a if and only if the colour the flowing thing instantiates in relation to a changes. For instance, the flowing thing changes colour in relation to Socrates when it is first flowing white in relation to Socrates and then flowing yellow in relation to Socrates. Third, the flowing thing instantiates a colour F if and only if it is flowing F in relation to some perceiver a.[14]

Further, let us stipulate that the flowing thing is flowing *with the property* F if and only if the flowing thing is flowing F.

RF is supposed to make it impossible for a given perceiver to give a true

[13] Cf. Boter (2009), pp. 33-4 and Thaler (2013), pp. 31-2.

[14] Arguably, the following two claims are true, given my interpretation of the theory of perception: cf. **1**.2.4.2. (i.) The flowing thing instantiates whiteness in relation to Socrates if and only if it is white in relation to Socrates; consequently, the flowing thing may instantiate whiteness in relation to Socrates when it is not flowing white in relation to Socrates. (ii.) The flowing thing can change colour in relation to Socrates by changing from being white in relation to Socrates to being yellow in relation to Socrates *without* changing from flowing white in relation to Socrates to flowing yellow in relation to Socrates. My assumptions imply that (i.) and (ii.) are false. My assumptions could be refined so as to allow for (i.) and (ii.), but doing so is not essential to understanding the argument and involves unnecessary complications: Socrates' argument exclusively focuses on 'observed change': one active child is replaced by another active child.

answer to the following question: with which property is the flowing thing flowing in relation to oneself? A true answer is supposed to be given by making a true assertion to the effect that the flowing thing is flowing F in relation to oneself (where F is a perceptual property). Specifically, RF is supposed to make it impossible to give a true answer to the following question: with which colour is the flowing thing flowing in relation to oneself? In the specific case, a true answer is supposed to be given by making a true assertion to the effect that the flowing thing is flowing G in relation to oneself (where G is a colour). I shall discuss the supposed impossibility in terms of the specific problem.[15] Henceforth, I shall omit the qualification 'in relation to oneself'.

I shall distinguish between an epistemic and an ontic explanation of why RF is supposed to make it impossible for the perceiver to give a true answer to the question of with which colour the flowing thing is flowing.

According to the *epistemic explanation*, RF precludes true answers because the flowing thing changes colour too fast in relation to any given perceiver. According to the *ontic explanation*, RF precludes true answers because the flowing

[15]Theodorus generalizes the problem at 182d6-7: 'How could it be possible to do so with any other thing of that kind?' Thaler (2013), pp. 33-34 and footnote 58, construes 'τι' at 182d4 as an independent object of 'προσαγορεύειν' ('χρῶμα' being the other object) and translates 'Is it ever possible to call anything by the name 'colour', so that this naming will also be correct?' Thaler takes this to imply that it cannot be truly asserted that the flowing thing is flowing *coloured*: what is said to be impossible is not the predication of a *specific* colour of the flowing thing, but the predication of *being coloured* of the flowing thing. I take the inference at 182d4-5 ('Since that's so, is it ever possible to refer to any colour in such a way as to be speaking of it correctly?') to be an application of the following principle: if there are no cases in which the flowing thing's flowing F is a state of affairs that lasts, then there are no cases in which the assertion that the flowing thing is flowing F is true. An application of this principle to the flux described at 182d1-4 warrants the conclusion that there are no cases in which an assertion that the flowing thing is flowing with *some specific colour* G is true. It does *not* warrant the conclusion that there are no cases in which an assertion that the flowing thing is flowing *coloured* is true: the flux described at 182d1-4 concerned the state of affairs of flowing with some specific colour, not the state of affairs of flowing coloured. Suppose that Thaler is right that 'τι' at 182d4 is an independent object of 'προσαγορεύειν'. Then the Greek could still be rendered in accordance with my interpretation: 'Is it ever possible to call anything (τι) *a colour* (χρῶμα)', where (in light of the context) calling x *a colour* amounts to asserting that x is an instance of whiteness or asserting that x is an instance of yellowness, etc.

thing does not instantiate colours. I shall first discuss the epistemic explanation. (3.3.2) I shall argue that the epistemic explanation makes Socrates' argument philosophically trivial and flawed to the extent that Socrates fails to acknowledge an important alternative way of making true assertions, namely by referring to points in time in the past. I shall then discuss the ontic explanation. (3.3.3) I shall argue that the ontic explanation makes Socrates' argument philosophically more substantial and also rules out the important alternative way of making true assertions left open by the epistemic explanation. (3.3.3.1) Further, I shall defend the ontic explanation in the light of two philosophical objections. (3.3.3.2) Finally, I shall argue that, even though Socrates' and Theodorus' argument is most easily understood in accordance with the epistemic explanation, it is plausible that the ontic explanation reflects Plato's view. (3.3.4)

3.3.2 Radical Flux and colours: the epistemic explanation

The epistemic explanation accounts for the impossibility of true answers in the following way. Suppose that the flowing thing is flowing white in relation to the perceiver. Suppose that the perceiver attempts to give a true answer by asserting that the flowing thing is flowing white. Given RF, the flowing thing is altering with respect to its colour (as it is always altering in every respect), and it is doing so whilst the perceiver is making the assertion. Consequently, the assertion is not true:[16] once the perceiver has made the assertion, the flowing thing is no longer flowing white.[17]

The epistemic explanation presupposes the following principle: an assertion that the flowing thing is flowing F is true if and only if the flowing thing is flowing

[16] I leave it open whether this entails that the assertion is false: see 3.4 on 182d8-e7.

[17] Sedley (2004), p. 95, compares the impossibility of making true assertions to the difficulty involved in commenting on fast-moving sports. Silverman (2000), pp. 144-5, discusses some interpretations that are similar to my epistemic interpretation in that they make the impossibility of true assertions hinge on the speed of the change.

F continuously during the time the assertion is being made. RF implies very rapid alteration in all respects: staying the same in some respect, even if just for a very short time, amounts to staying constant in that respect.[18] Therefore, the principle and RF do indeed entail that assertions of the kind at stake cannot be true: RF precludes the flowing thing from continuously instantiating any given perceptual property throughout the time it would take to assert that it instantiates that property.

However, as Bostock notes, this does not mean that there is no possibility at all of making true assertions regarding the colours instantiated by the flowing thing: by using references to points in time, it is possible to assert truly that the flowing thing was flowing white at t_1, yellow at t_2, etc.[19] Therefore, the epistemic explanation makes Socrates' argument philosophically trivial: even though true assertions in the present tense are ruled out, true assertions in the past tense making reference to points in time are not.

The epistemic interpreter may respond by arguing that even true assertions making reference to points in time in the past are ruled out: the flowing thing changes so fast that the perceiver is unable to determine at which time t it was flowing with which colour G. The perceiver faces two problems when trying to determine this: (i) she needs to be able to refer to points in time in a sufficiently fine-grained way to be able to refer to the very short periods of time (or the instants) at which the flowing thing flows with a given colour; (ii) given a sufficiently fine-grained way of making reference to points in time, she needs to discern at which time the flowing thing was flowing with which colour.

This line of thought warrants the conclusion that it is impossible for the perceiver to make a *justified* assertion to the effect that the flowing thing was

[18] Cf. 182d3-4: 'in order not to be convicted of staying constant in that respect.'
[19] Cf. Bostock (1988), pp. 105-6.

flowing with some colour G at some time t: given that the perceiver cannot determine at which time t the flowing thing was flowing with which colour G, she cannot justifiably make any assertion to that effect. However, the line of thought does *not* warrant the conclusion that it is impossible for the perceiver to make *true* assertions to the effect that the flowing thing was flowing with some colour G at some time t. That the perceiver cannot determine that the flowing thing was (say) flowing white at time t_1 and yellow at time t_2, is compatible with the flowing thing, in fact, having flowed white at t_1 and yellow at t_2. Presumably, it is possible for the perceiver to assert that the flowing was flowing white at t_1 and yellow at t_2, in particular under circumstances under which it was, in fact, flowing white at t_1 and yellow at t_2 (even though it is not possible for the perceiver to assert this *justifiably*).[20] But this means that it is possible for the perceiver to make a *true* assertion to the effect that the flowing thing was flowing white at t_1 and yellow at t_2.[21]

Therefore, the response I considered does not help to make Socrates' argument more philosophically substantial: the response fails to explain how the scope of Socrates' argument extends beyond assertions in the present tense, and it leaves open the possibility of giving true—albeit unjustified—answers in the past tense.

[20] Even if it is not possible for the perceiver to have a sufficiently fine-grained way of referring to points in time the problem is purely epistemic: that sufficiently fine-grained reference is not possible does not entail that there are no instantiations.

[21] Cf. Silverman (2000), pp. 144-5.

3.3.3 Radical Flux and colours: the ontic explanation

3.3.3.1 General characterization

According to the ontic explanation, RF entails that the flowing thing does not instantiate colours:[22] if the flowing thing does not instantiate colours, then any assertion to the effect that the flowing thing is flowing G (where G is a colour) is not true.

The ontic explanation is philosophically substantial: that RF precludes the flowing thing from instantiating colours is a philosophically interesting claim. Further, the ontic explanation has more wide-ranging implications than the epistemic explanation: not only does the ontic explanation rule out that the assertions in the present tense Socrates focuses are true, it also rules out true assertions of the alternative sort: true assertions in the past tense to the effect that the flowing thing was flowing with some colour G at some time t.

3.3.3.2 Defence of the philosophical plausibility of the ontic explanation

Let us stipulate that the segment of time starting at the beginning of a happening x and ending at the end of a happening x is the *temporal locus* of x. A happening x is *instantaneous* if and only if x's temporal locus is an instant. A happening x is *non-instantaneous* if and only if x's temporal locus is a period.

Here are two philosophical objections to the claim that RF precludes the

[22]Denyer (1991), p. 104, Silverman (2000), pp. 143-4, and Hestir (2016), chapter 4, also argue that the impossibility of true assertions is to be explained not in terms of the speed of the change but in terms of deeper metaphysical implications of RF: all three interpreters argue that RF implies that the Principle of Non-Contradiction is false. I do not believe that RF implies that the Principle of Non-Contradiction is false. According to McDowell (1973), p. 181, RF makes it impossible to identify an instance of whiteness, but it is unclear whether McDowell believes that this is impossible because the instance of whiteness is too short-lived (epistemic explanation) or because there is no instance of whiteness to identify in the first place (ontic explanation).

flowing thing from instantiating colours.

First, one may argue that RF is, in fact, compatible with the instantiation of colours by the flowing thing. That RF excludes any form of continuity is compatible with *instantaneous* instantiations of colours: that the flowing thing's flowing white cannot continue, is compatible with its flowing white being *instantaneous*.[23]

Second, one may argue that RF is not only compatible with instantaneous instantiations of colours, but *presupposes* instantaneous instantiations of colours. RF implies (and is taken to imply, by Socrates) that the flowing thing is always changing colour in relation to the perceiver. But this means, by definition, that the flowing thing instantiates colours in relation to the perceiver: the flowing thing changes colour in relation to the perceiver if and only if it first instantiates one colour in relation to the perceiver and then instantiates another colour in relation to the perceiver.[24] Therefore, RF presupposes that the flowing thing instantiates colours. Furthermore, the instantiations of colours RF presupposes are instantaneous: non-instantaneous instantiations are incompatible with RF given that they entail continuity.

Let me first consider the first objection: RF is compatible with instantaneous instantiations of colours. The philosophical plausibility of the first objection can be challenged. The objection presupposes that time has indivisible constituents (instants): the temporal loci of the instantaneous instantiations. The underlying conception of time as a dense sequence of instants is arguably artificially mathematicalized and anachronistic.[25] From a phenomenal perspective, it is plausible

[23]Cooper (1967), pp. 22-4, claims that the Secret Doctrine excludes non-instantaneous instantiations of perceptual properties but does not exclude instantaneous instantiations of perceptual properties. Given that Cooper believes that the Secret Doctrine entails RF (cf. chapters I (in particular part B) and III), he believes that RF does not exclude instantaneous instantiations of perceptual properties either.

[24]See 3.3.1.

[25]A sequence is dense if and only if in between any two items x and y in the sequence there

that each amount of continuous time, however small, is a period. Given that perspective, the temporal locus of any happening, such as the instantiation of a property, is a period. But that would mean that the instantiation of a property ipso facto involves some continuity: during the period that is the temporal locus of the instantiation, there is continuity to the extent that in each proper part of that period the property is instantiated. That would mean that RF is incompatible with the instantiation of properties: RF excludes any form of continuity.

Furthermore, given that perceptual properties, such as colours, are processes according to the Secret Doctrine, it is even more plausible that the temporal loci of their instantiations are periods: a process cannot be instantaneous.[26]

There is evidence in the *Cratylus* that Plato accepts the following three claims: (i.) RF is incompatible with the instantiation of properties; (ii.) the temporal locus of any instantiation of a property is a period; (iii.) (ii.) explains why (i.) is true. At *Cratylus* 439b10-440c1, Socrates considers consequences of the hypothesis that Forms are subject to RF. At one point, Socrates claims that a Form that is never the same in any respect—in that it is subject to RF—never is anything. (439e1-2)[27] In this context, being something amounts to instantiating a property: Socrates claims that RF precludes Forms from instantiating properties. (Cf. (i.).) Socrates justifies his claim as follows: 'For if it is ever the same, it is clear that it does not change at that time.' (439e2-3)[28] This is how I understand the argument:[29] if x is always changing in every respect, then x can never stay the same in any respect; consequently, x cannot ever be anything.

is an item z. In the setting of RF, this would imply that in between any two instantaneous instantiations i_x and i_y, there is an instantaneous instantiation i_z.

[26]Cf. **1**.2-4.

[27]I take 'in any respect' to be implicitly understood. 'Πῶς οὖν ἂν εἴη τὶ ἐκεῖνο ὃ μηδέποτε ὡσαύτως ἔχει;': 'How could that which is never the same be something?'

[28]εἰ γάρ ποτε ὡσαύτως ἴσχει, ἔν γ' ἐκείνῳ τῷ χρόνῳ δῆλον ὅτι οὐδὲν μεταβαίνει·

[29]I supply the qualifiers 'in every/any respect', which I take to be implicitly understood.

This argument disregards the possibility (if it is a possibility) that x instantiates a property F without there being continuity in respect of x's instantiating F: the temporal locus of x's instantiation of F is an instant. But perhaps Socrates' argument disregards this supposed possibility because Plato believes that it is not, in fact, a possibility: Plato believes that the temporal locus of any instantiation of a property is a period. (Cf. (ii.).) If the temporal locus of an instantiation of F by x must be a period, then an instantiation of F by x ipso facto involves continuity during that period: during that period, x is continuously F. Therefore, given that RF in particular excludes continuity in respect of F, RF excludes instantiation of F.[30] (Cf. (iii.).)

Let me now turn to the second objection: RF *presupposes* that the flowing thing instantiates colours as the flowing thing could not change with respect to colour if it did not instantiate colours. I think that the point motivating this objection is correct: RF does indeed presuppose that the flowing thing instantiates colours as without instantiation of colours there could be no change with respect to colour. However, I do not infer from this point that the ontic explanation is wrong in claiming that RF precludes the flowing thing from instantiating colours. RF may be inconsistent: it both presupposes that the flowing thing instantiates colours and it precludes the flowing thing from instantiating colours. If the ontic explanation is correct, RF is inconsistent in this way. Indeed, I shall argue that RF is inconsistent in this way, and that Plato takes RF to be inconsistent in this way.[31]

[30] Cf. Ademollo (2011), 9.1.6, on this passage. The only interpreter to discuss the implications of RF for what happens to the changing thing at an instant is Strang in Strang and Mills (1974), I. On Strang's ontic interpretation, multiple incompatible properties are instantiated at the same instant.

[31] Cf. 5.3.

3.3.4 Radical Flux and colours: why both the epistemic and the ontic explanation may play a role

Socrates' and Theodorus' reasoning is best understood in light of the epistemic explanation. Here are three reasons why this is so.

First, Socrates claims that the flowing thing does not continue flowing white and that there is, consequently, a replacement of a token of whiteness by a token of another colour.[32] Socrates' claim presupposes that the flowing thing is initially flowing white and that there is initially a token of whiteness. This is exactly what the epistemic explanation says: there is a rapid succession of one colour by another. By contrast, the ontic explanation says, contrary to what Socrates presupposes, that the flowing thing does not instantiate colours.

Second, Socrates claims that RF makes it impossible to refer to any colour in such a way as to be speaking of it correctly.[33] Socrates' claim presupposes, in accordance with the epistemic explanation, that there are tokens of colours, but that it impossible to refer to them correctly (by giving a true answer to the effect that the flowing thing is flowing with some colour G). The ontic explanation, on the other hand, contradicts the supposition of Socrates' claim: given the ontic explanation, there are no tokens of colours to refer to (whether correctly or incorrectly).

Third, Theodorus claims that, given RF, the properties of the flowing thing one is trying to capture by means of one's assertions are 'slipping away while one is speaking'.[34] This again presupposes—in accordance with the epistemic explanation, but contrary to the ontic explanation—that there are instances of properties: the problem is just that they vanish too quickly to be captured by

[32] Cf. 182d1-3.
[33] Cf. 182d4-5.
[34] Cf. 182d6-7.

one's assertions.

Therefore, Socrates' and Theodorus' argument is best understood in light of the epistemic explanation, and to this extent the argument is philosophically disappointing. However, we should not exclude that the ontic explanation reflects Plato's view of why RF makes a true answer impossible. I have argued that the ontic explanation is philosophically plausible and that there is evidence in the *Cratylus* that Plato accepts its core idea: RF precludes things from instantiating properties. Furthermore, Socrates' and Theodorus' argument need not be taken to commit Socrates and Theodorus to the view that RF is compatible with the instantiation of colours. Perhaps Socrates and Theodorus are focusing on what the repercussions of RF would be for a *hypothetical* instance of whiteness: the instance of whiteness would vanish immediately. This does not mean that Socrates and Theodorus are committed to the view that RF allows for the existence of an instance of whiteness: that there is an instance of whiteness may be a hypothesis. Socrates and Theodorus may conclude at a later stage of the argument that RF entails that there could not have been an instance of whiteness in the first place. Indeed, I shall argue that Socrates and Theodorus will conclude this at a later stage of the argument.

3.4 The flux of seeings (182d8-e7) and positive and negative assertions

Socrates now turns to instances of forms of perception (182d8-e7):[35]

> [**Text 14**] SOC: And what shall we say about a perception of any given kind, for instance that of seeing or hearing? Shall we say it

[35] ΣΩ. Τί δὲ περὶ αἰσθήσεως ἐροῦμεν ὁποιασοῦν, οἷον τῆς τοῦ ὁρᾶν ἢ ἀκούειν; μένειν ποτὲ ἐν αὐτῷ τῷ ὁρᾶν ἢ ἀκούειν; ΘΕΟ. Οὔκουν δεῖ γε, εἴπερ πάντα κινεῖται. ΣΩ. Οὔτε ἄρα ὁρᾶν προσρητέον τι μᾶλλον ἢ μὴ ὁρᾶν, οὐδέ τιν' ἄλλην αἴσθησιν μᾶλλον ἢ μή, πάντων γε πάντως κινουμένων. ΘΕΟ. Οὐ γὰρ οὖν.

> ever lasts within seeing or hearing itself? THE: No, we mustn't, if everything is changing. SOC: So we shouldn't speak of anything as seeing, any more than as not seeing, or as any other perception any more than as not that perception; at any rate, we shouldn't do so if everything is changing in every way. THE: No.

Socrates claims that RF precludes instances of specific forms of perception (seeing, hearing, etc.) from lasting (*menein*): no instance of seeing can last, no instance of hearing can last, etc.[36] I understand the conclusion Socrates draws from this (at 182e4-6) in the following way:

> **(S.)**: we should not assert about anything that it is an instance of seeing any more than not an instance of seeing. The same applies, mutatis mutandis, to instances of other forms of perception.

I assume that asserting about something that it is an instance of seeing consists in asserting about a given token activity, under a description other than 'instance of seeing', that it is an instance of seeing.[37] For instance, one asserts that something is an instance of seeing by asserting that what Socrates is doing now is an instance of seeing. The same applies, mutatis mutandis, to asserting

[36] At 182d1-2 Socrates claims that the *instantiation* of whiteness by a perceptual object ('the flowing thing's flowing white') cannot last, from which he inferred that an *instance* (i.e., token) of whiteness cannot last. In the current passage, Socrates formulates the implications of RF in terms of instances that do not last. I take an instance of a form of perception (say, of seeing) to be a token passive child (say, a token of seeing). Boter (2009), 2 and 3, proposes a different interpretation, based on a different reading of 182e1-2 ('[...] μένειν ποτὲ ἐν αὐτῷ τῷ ὁρᾶν ἢ ἀκούειν'): '[does it [sight or hearing]] ever remain in its own place within sight or hearing itself?' (p. 42). Boter takes the implication to be that (say) an instance of seeing does not remain constant *within the domain of seeing*: it changes from seeing white to seeing yellow to seeing some other specific colour. On my interpretation, on the other hand, 182e1-2 in effect says that such change within the domain of seeing is not radical enough: an instance of seeing cannot linger (μένειν) within the domain of seeing (by *merely* changing its object), but it has to leave the domain of seeing, thereby in effect ceasing to exist. Socrates' conclusion ((S): see below) is not warranted on Boter's interpretation: Boter's interpretation implies—contrary to Socrates' conclusion—that we *should* assert that the thing under consideration is an instance of seeing, as it *remains* an instance of seeing.

[37] I shall omit the qualification 'under a description other than 'instance of *F*'' from subsequent formulations of analogous cases.

that something is an instance of another form of perception.[38]

Let us stipulate that a *positive assertion* concerning instances of seeing is an assertion to the effect that some token activity x *is* an instance of seeing. Further, the corresponding *negative assertion* concerning instances of seeing is the assertion to the effect that the same token activity x *is not* an instance of seeing. The same applies, mutatis mutandis, to assertions concerning instances of other forms of perception.

Furthermore, let us stipulate that a *case* is a combination of an individual ('the individual in the case') and a point in time ('the point in time in the case'). A type of assertion is warranted in a case if and only if it would be warranted for the individual in the case to make the assertion at the point in time in the case. A type of assertion is true in a case if and only if it would be true if made by the individual in the case at the point in time in the case.

I take (S.) to say that, within the domain of instances of forms of perception, there are no cases in which a given positive assertion (to the effect that x is an instance of a form of perception F) is more warranted than the corresponding negative assertion (to the effect that x is not an instance of the form of perception F).[39] Further, I assume that an assertion is warranted to the degree to which it is true. Consequently, (S.) says that, within the domain of instances of forms of perception, there are no cases in which a given positive assertion is more true than the corresponding negative assertion.

How should we understand (S.), and why is it supposed to follow from RF?

[38] I assume that whether or not something is an instance of a given form of perception is not relative to anything. 154b3-6 implies that (say) Socrates' seeing whiteness is relative to the stone (which he perceives as white): see final footnote to **1**.3.4. However, the relativity at 154b3-6 concerns the *instantiation* of a form of perception by a passive parent, not something's being an *instance* of a form of perception: I identify instances of forms of perception with passive children, and I assume that the identity of active or passive children is not relative to anything. The same aplies, mutatis mutandis, to instances of perceptual properties.

[39] See footnote to (S.)′ below on an objection to this interpretation.

I propose that, at this stage of the argument, Socrates takes RF to imply the following:

(i) There are exactly three truth values: false, semi-true, and true.[40]

An assertion that is semi-true is true to a larger degree (and hence more warranted) than an assertion that is false. Further, an assertion that is true is true to a larger degree (and hence more warranted) than an assertion that is semi-true.

(I shall discuss below why Socrates takes RF to imply (i).)[41]

Furthermore, Socrates makes the following assumptions concerning truth conditions:

(ii) A given positive assertion is true if and only if the corresponding negative assertion is false.

(iii) A given positive assertion is false if and only if the corresponding negative assertion is true.

(iv) Each assertion has exactly one truth value.

(i)-(iv) imply (v):

(v) A given positive assertion is semi-true if and only if the corresponding negative assertion is semi-true.

Further, (i)-(iv) imply that (S.) is equivalent to (S.)′ (in which the domain of x consists in all token activities):[42]

[40](i) entails that the Principle of Bivalence is false.

[41]See 3.5.

[42]Boter (2009), footnote 8, takes '*ouk mallon A ē B*' in (S.) to be used in the 'positive' sense: 'B as well as A'. Boter refers to *Meno* 74e1-2 for a similar usage of the collocation. He

(S.)′ : with regard to positive and negative assertions concerning instances of seeing, there are no cases in which a given positive assertion (to the effect that x is an instance of seeing) is true: at most, the given positive assertion and the corresponding negative assertion are both semi-true. The same applies to positive and negative assertions concerning instances of other forms of perception.

I shall again distinguish between an epistemic and an ontic explanation of why RF entails (S.). (3.5) I shall first discuss the epistemic explanation (3.5.1) and then the ontic explanation (3.5.2), and I shall argue that the ontic explanation is more philosophically substantial than the epistemic explanation. I shall then argue that the argument can be read in accordance with each of the two explanations. (3.5.3)

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contrasts this with the 'negative' sense of the collocation as used by the Sceptics according to D.L. 9.75: 'neither A nor B'. I agree that the collocation is used in the positive sense in that on my interpretation (S.) leaves open the possibility (and indeed emphasizes the possibility) that there are cases in which a given positive assertion and the corresponding negative assertion are both semi-true (and, hence, not false). Further, my interpretation entails that there are no cases in which a negative assertion is false: it is at least semi-true in each case. One may object that (S.) says something stronger: *in each case* any positive and any corresponding negative assertion are equally true. I find this interpretation philosophically implausible. First, it would have the strange consequence that the positive assertion that what Socrates is doing now is an instance of seeing is semi-true *in each case*, even if the point in time in the case is one at which Socrates is asleep with his eyes shut. Further, it would have the strange consequence that the positive assertion that what a blind person is doing now is an instance of seeing is semi-true in some cases—indeed, in each case. Second, the conclusion Socrates draws at 182e4-6 is based on the premiss that what is *supposedly* an instance of (say) seeing (e.g., what Socrates is doing now) cannot remain an instance of seeing due to RF (182d8-e2). (S.) should be interpreted accordingly: to the degree to which a positive assertion that such a *supposed* instance of seeing is an instances of seeing is true, to that same degree the corresponding negative assertion is true, too. However, (S.) does not claim that there are, in fact, instances of seeing. Accordingly, (S.) not only leaves open the possibility that some positive assertions are false in some cases (or indeed in all cases), (S.) even leaves open the possibility that *all* positive assertions are false in *all* cases.

3.5 Radical Flux and seeings: the epistemic explanation versus the ontic explanation

3.5.1 Radical Flux and seeings: the epistemic explanation

Let us stipulate that the *time of assertion* is the temporal locus of an act of assertion. Further, let us stipulate that if an individual has made an assertion, then the assertion was *made* by the individual *only* at the point in time at which the time of assertion began. The epistemic explanation is based on the following principles concerning the truth conditions of assertions:[43]

(a) A positive assertion to the effect that x is an instance of a form of perception F is true (if made by an individual i at a time t) if and only if x is continuously an instance of F during the time of assertion (of i's act of assertion, of which the temporal locus begins at t).

(b) A positive assertion to the effect that x is an instance of a form of perception F (if made by an individual i at a time t) is false if and only if x is continuously not an instance of F during the time of assertion (of i's act of assertion, of which the temporal locus begins at t).

Given (i)-(iv) in 3.4, (a) and (b) entail (c):

(c) A positive assertion to the effect that x is an instance of a form of perception F is semi-true (if made by an individual i at a time t) if and only if x is sometimes, but not continuously, an instance of F during the time of assertion (of i's act of assertion, of which the temporal locus begins at t).

[43]These definitions imply that the truth value an assertion has in a case only depends on the point in time in the case. The same will apply to the ontic interpretation.

According to the epistemic explanation, RF precludes a positive assertion from being true by precluding anything from continuously being an instance of any given form of perception during the time it takes to make an assertion. According to the epistemic explanation, a positive assertion is at most semi-true: during the time it takes to make a positive assertion to the effect that x is an instance of a form of perception F, there may be some instants at which x is indeed an instance of F, but x is not continuously an instance of F.

The epistemic explanation would again make Socrates' argument philosophically trivial. Given the epistemic explanation, it is left open that one can resort to alternative assertions that refer to points in time in the past. For instance, one can resort to the assertion that what Socrates was doing at t_1 was an instance of seeing.

3.5.2 Radical Flux and seeings: the ontic explanation

According to the ontic explanation, seeing is subject to a degree of ontic indeterminacy: it is metaphysically possible that something is neither an instance of seeing nor not an instance of seeing.[44] Let us stipulate that something is a *non-instance* of seeing if and only if it is not an instance of seeing. Further, let us stipulate that something is a *semi-instance* of seeing if and only if it is neither an instance of seeing nor a non-instance of seeing. The same applies, mutatis mutandis, to other forms of perception. Let us make the following assumptions concerning truth conditions:

[44]Consequently, the Principle of Excluded Middle is false.

(A) A positive assertion to the effect that x is an instance of a form of perception F is true (if made by an individual i at a time t) if and only if x is an instance of F (at time t).

(B) A positive assertion to the effect that x is an instance of a form of perception F is false (if made by an individual i at a time t) if and only if x is a non-instance of F (at time t).

Given (i)-(iv) in 3.4, (A) and (B) entail (C):

(C) A positive assertion to the effect that x is an instance of a form of perception F is semi-true (if made by an individual i at a time t) if and only if x is a semi-instance of F (at time t).

According to the ontic explanation, RF entails that there are no instances of forms of perception, but that there may be semi-instances of forms of perception.[45] Consequently, there are no cases in which a given positive assertion is more true than the corresponding negative assertion: at most, the positive and the negative assertion are both semi-true.

Why would RF entail that there are at most semi-instances of (say) seeing? This could be explained along the following lines. RF precludes passive parents from instantiating the property of seeing:[46] this follows from an extension of the ontic explanation of the colour case (182d1-7) to the case of seeing. Consequently, RF excludes change in the form of intermittent episodes of seeing: first the passive parent does not see, then it sees briefly, then it does not see. This may seem to leave it open that RF allows for change in the form of intermittent episodes of semi-seeing: first the passive parent non-instantiates seeing (i.e.,

[45] I assume that there are no instances of seeing if and only if nothing is an instance of seeing.

[46] I assume principles concerning instantiation analogous to the ones assumed with regard to colours in 3.3.1.

what it does is a non-instance of seeing), then it semi-instantiates seeing (i.e., what it does is a semi-instance of seeing), then it again non-instantiates seeing. That this possibility is left open could seem plausible in the following way. Initially, RF may have seemed compatible with the following picture. The changing passive parent traverses logical space by moving through three zones: the non-instantiation zone (in which it non-instantiates seeing), the semi-instantiation zone (in which it semi-instantiates seeing), and the instantiation zone (in which it instantiates seeing). According to this picture, the passive parent starts off in the non-instantiation zone (in which it non-instantiates seeing), then it traverses the semi-instantiation zone (in which it semi-instantiates seeing), until it finally enters the instantiation zone (in which it instantiates seeing), after which it reverses its course and traverses the semi-instantiation zone in the reverse direction, until it arrives where it started off, in the non-instantiation zone (and a new cycle begins). Once one has come to realize that RF prevents the passive parent from being in the instantiation zone (i.e., from instantiating seeing), one may still leave it open that the passive parent could nonetheless change by moving along a shorter trajectory: initially non-instantiating seeing, it enters the semi-instantiation zone, approaches the borderline of the instantiation zone, but reverses its course before crossing it, returning to the non-instantiation zone (and a new cycle begins). According to the ontic explanation, this line of thought explains (S.): whilst there are no cases in which a positive assertion is true, there may be cases in which a positive assertion is semi-true, namely cases in which x is a semi-instance of seeing.

In fact, if RF excludes the instantiation of seeing for reasons analogous to the ones given by the ontic explanation of the colour case, then RF also excludes semi-instantiation of seeing. Instantiation of seeing would be excluded on the

basis of the supposition that the temporal locus of any happening—in particular an instantiation of seeing—is a period. But this would then also apply to a semi-instantiation of seeing, which is also a happening. However, we do not need to take Socrates to be committed to the view that RF is compatible with semi-instances of seeing: perhaps Socrates is just considering the hypothesis that RF allows for semi-instances of seeing, without committing himself to the truth of that hypothesis. Furthermore, (S.) does not claim that there *are* semi-instances of seeing. (S.) claims that there are no instances of seeing, but that there may be semi-instances of seeing. (S.) leaves open the possibility that everything is a non-instance of seeing and that any negative assertion concerning instances of seeing is true in each case.

3.5.3 Radical Flux and seeings: why the argument can be read in accordance with each of the two explanations

The argument can be read in accordance with each of the two explanations.

What may seem to favour the epistemic explanation, is that Socrates at least initially presupposes that there are instances of seeing and hearing. Socrates asks: 'What shall we say about a perception of any given kind, for instance that of seeing or hearing? Shall we say it ever lasts within seeing or hearing itself?' (182d8-e2) Rather than asking whether an instance of seeing or of hearing could exist, Socrates asks what we should assert in relation to a supposed instance of seeing or hearing. However, the ontic explanation can accommodate this. Perhaps the very point of Socrates' subsequent conclusion (i.e., (S.)) is that his supposition is incompatible with RF: contrary to the initial supposition, we should say that any given thing is either a non-instance of seeing or of hearing or a semi-instance of seeing or of hearing

One may argue that we should favour the epistemic explanation in light of the

fact that Socrates and Theodorus reasoned in terms of the epistemic explanation in the *preceding passage* (182d1-7). However, I shall show that the inference Socrates goes on to draw in the *subsequent passage* (concerning the repercussions of RF for Theaetetus' definition) is valid if and only if understood in light of the ontic explanation.

4 Flux and Theaetetus' definition (182e-183a)

4.1 Three key claims

The following three claims will play an important role.

First, (Perception)^{particular}, in which the domain of the xs consists in all token activities:

> **(Perception)^{particular}**: there are no cases in which the positive assertion that x is an instance of perceiving is more true than the corresponding negative assertion that x is not an instance of perceiving.

(Perception)^{particular} is analogous to (S.). (Perception)^{particular} differs from (S.) in one respect:[47] whereas (S.) concerns instances of forms of perception, (Perception)^{particular} concerns instances of perceiving as such.

Second, (Perception)^{universal}, in which the domain of the xs consists in all things (including all universals):

> **(Perception)^{universal}**: there are no cases in which the positive assertion that x is the universal perception is more true than the corresponding negative assertion that x is not the universal perception.

[47] Cf. 3.4.

(Perception)^{universal} is analogous to (S.). (Perception)^{universal} differs from (S.) in two respects. First, whereas (S.) concerns *forms of perception*, (Perception)^{universal} concerns *perceiving as such*. Second, whereas (S.) concerns *instances* of universals, (Perception)^{universal} concerns *universals*.

Third, the *Universalist Assumption*:

> **Universalist Assumption (UA)**: the universal perception is within the domain of 'everything' in RF ('Everything is always changing with every kind of change in every respect') and RF is true.

UA implies that the universal perception is always changing with every kind of change in every respect. Given my interpretation of RF, the first conjunct of UA ('The universal perception is within the domain of 'everything' in RF) is false: given my interpretation, the domain of 'everything' in RF consists in all perceptual objects and all perceivers.[48]

4.2 Text (182e8-183a1) and preliminary discussion

The discussion continues as follows (182e8-183a1):[49]

> [**Text 15**] SOC: But Theaetetus and I were saying that knowledge is perception. THE: Yes. SOC: So when we were asked what knowledge is, we gave as our answer something which is no more knowledge than not knowledge. THE: Apparently.

Socrates draws the following conclusion, which is meant to undermine Theaetetus' definition ('Knowledge is perception'; TH):

[48] Cf. section 2.

[49] ΣΩ. Καὶ μὴν αἴσθησίς γε ἐπιστήμη, ὡς ἔφαμεν ἐγώ τε καὶ Θεαίτητος. ΘΕΟ. Ἦν ταῦτα. ΣΩ. Οὐδὲν ἄρα ἐπιστήμην μᾶλλον ἢ μὴ ἐπιστήμην ἀπεκρινάμεθα ἐρωτώμενοι ὅτι ἐστὶν ἐπιστήμη. ΘΕΟ. Ἔοικατε.

(C.)′: perception (what we gave as our answer to the question of what knowledge is) is no more knowledge than not knowledge.

We have to answer the following two questions. (I.) What does (C.)′ mean? (II.) From which premisses is (C.)′ supposed to follow? I shall discuss (I.) in this section and (II.) in the following section (4.3).

I assume that TH is equivalent to the assertion that the universal perception is what knowledge consists in.[50] Further, I take (C.)′ to be equivalent to the following claim:

(C.): in each case, TH is at most semi-true: it is either false or semi-true.

(C.) says that regardless of which given individual asserts TH and regardless of the given time at which TH is asserted by the given individual, TH is at most semi-true if asserted by the given individual at the given time. (C.) undermines TH in that (C.) is inconsistent with TH: TH entails that TH is true in each case. (I shall defend the claim that TH entails that TH is true in each case in 4.4.) (C.), however, claims that there are no cases in which TH is true.

4.3 Why Radical Flux undermines Theaetetus' definition: the universalist interpretation and the particularist interpretation

Here are two answers to question (II.): from which premisses is (C.) supposed to follow?[51]

According to the *universalist interpretation*, (C.) is based on only two premisses: TH and UA.

[50] Cf. section 1 on TU.

[51] See 4.1 on the claims to which I shall be referring.

According to the *particularist interpretation*, which I favour, (C.) is based on only two premisses: TH and (S.).

The universalist interpretation and the particularist interpretation agree that the final step in the derivation of (C.) is the derivation of (C.) from TH and (Perception)^{universal}. However, the universalist and the particularist interpretation differ on the basis of (Perception)^{universal}.

According to the universalist interpretation, (Perception)^{universal} is supposed to be derived from UA.[52]

According to the particularist interpretation, (Perception)^{universal} is supposed to be derived from (S.) in two steps. First, (Perception)^{particular} is derived from (S.). Second, (Perception)^{universal} is derived from (Perception)^{particular}.[53]

I shall first demonstrate the final step, on which the universalist and the particularist interpretation agree: the derivation of (C.) from TH and (Perception)^{universal}. (4.4) I shall then discuss the preceding step(s), which derive(s) (Perception)^{universal}, and I shall defend the particularist interpretation of the basis of (Perception)^{universal}. (4.5-9)

[52]Several interpreters claim that the argument uses something similar to (Perception)^{universal} as an intermediate conclusion *and* claim that this intermediate conclusion is based on the assumption that the universal perception (or, in Silverman's case, the universals in the domain of forms of perception) is (are) subject to RF: cf. Cornford (1935), p. 99, Silverman (2000), p. 147-8, and Hestir (2016), chapter 4, 2.2.

[53]In footnote 1, I listed interpreters who claim that the refutation of RF, and in particular 182e8-183a1, does not assume that universals are subject to RF. Two recent reconstructions of how Socrates derives (C.) (or a variant of (C.)) without assuming that the universal perception (or any other universal) is subject to RF are Sedley (2004), pp. 96-8 and Thaler (2013), III, in particular pp. 35-7.

4.4 Theaetetus' definition undermined: reconstruction of the final step of the argument

I shall now derive (C.) from TH and (Perception)^{universal}. Let us suppose that x is an arbitrary thing:[54]

(1.) TH: 'Knowledge is perception' (Premiss.)

(2.) (Perception)^{universal}: there are no cases in which the positive assertion that x is the universal perception is more true than the corresponding negative assertion that x is not the universal perception. (Premiss.)

(3.) In each case, TH is true. (From (1.): I shall defend this inference below.)

(4.) In each case, x is the universal perception if and only if x is what knowledge consists in. (From (3.).)[55]

(5.) There are no cases in which the positive assertion that x is what knowledge consists in is more true than the corresponding negative assertion that x is not what knowledge consists in. (Substitution of 'what knowledge consists in' for 'the universal perception' applied to (2.) on the basis of (4.).)

(6.) There are no cases in which the positive assertion that the universal perception is what knowledge consists in is more true than the corresponding negative assertion that the universal perception is not what knowledge consists in. (Instantiation of (5.) by the universal perception.)

[54] My reconstruction of the argument is congenial to McDowell's: point (1) on p. 182 (on 182c9-183b6). However, McDowell seems to use (Perception)^{particular} instead of (Perception)^{universal} as the second premiss: he seems to infer (C.) from TH and (Perception)^{particular}. However, if one substitutes (Perception)^{particular} for (Perception)^{universal} in the argument as I reconstructed it, it becomes invalid.

[55] See 4.2.

(7.) In each case, the positive assertion that the universal perception is what knowledge consists in is at most semi-true: it is either false or semi-true. (Restatement of (6.).)

(C.) In each case, TH is at most semi-true: it is either false or semi-true. (Restatement of (7.).)

Let me briefly discuss the inference from (1.) to (3.): from the assumption that TH is true I infer that, regardless of who asserts TH and regardless of the time at which they assert TH, their assertion made at that time is true. I find this inference plausible. For instance, if I assert today at 3pm that knowledge is perception, I thereby commit myself to the claim that, whoever asserts that knowledge is perception and at whichever time they do so, they make a true assertion. By contrast, if I assert today at 3pm that it is raining, I do not thereby commit myself to the claim that the assertion that it is raining is true in each case: I only commit myself to the claim that the assertion that it is raining is true if made today at 3pm by myself or anyone who is not very far away from me. What makes TH different is that TH is a *definition*: a definition purports to be true regardless of who asserts it or when it is asserted.

4.5 How Radical Flux affects the universal perception: the universalist interpretation and the particularist interpretation

The universalist and the particularist interpretation disagree on the basis of $(\text{Perception})^{universal}$. According to the universalist interpretation, $(\text{Perception})^{universal}$ is supposed to be derived from UA. According to the particularist interpretation, $(\text{Perception})^{universal}$ is supposed to be derived from (S.) in two steps: first,

(Perception)^{particular} is derived from (S.); second, (Perception)^{universal} is derived from (Perception)^{particular}.

I shall first discuss the universalist interpretation and argue that it does not provide a satisfactory account of the basis of (Perception)^{universal}. (4.6) I shall then argue that the particularist interpretation does offer a satisfactory account of the basis of (Perception)^{universal}. (4.7-9)

4.6 How Radical Flux affects the universal perception: the universalist interpretation

4.6.1 In general

I shall distinguish between an epistemic and an ontic account of why UA implies (Perception)^{universal}—analogous to (respectively) the epistemic and the ontic explanation of why RF implies (S.).[56]

4.6.2 Epistemic account

Suppose that x is arbitrary. UA precludes x from continuously being the universal perception during the time a positive assertion to the effect that x is the universal perception is being made: if x is continuously the universal perception, then the universal perception is not always changing with every kind of change in every respect, contrary to what UA implies. For instance, UA precludes *the organization, identification, and interpretation of sensory information in order to represent and understand the presented information, or the environment* (the universal perception according to a textbook on psychology)[57] from continuously being the universal perception during the time it takes to assert that *the orga-*

[56]See, respectively, 3.5.1 and 3.5.2.

[57]Definition from Schacter, Daniel (2011), *Psychology.* Worth Publishers.

nization, identification, and interpretation of sensory information in order to represent and understand the presented information, or the environment is the universal perception. Consequently, given an extension of the epistemic account of (S.) to this case, a positive assertion to the effect that x is the universal perception is at most semi-true, which is what $(\text{Perception})^{universal}$ says.

4.6.3 Ontic account

According to the ontic account, the property of being the universal perception is subject to ontic indeterminacy and it is metaphysically possible that there is something which semi-instantiates the property of being the universal perception: it is neither the universal perception nor not the universal perception. Something is *semi-the universal perception* if and only if it semi-instantiates the property of being the universal perception. Further, x is semi-the universal perception if and only if the positive assertion that x is the universal perception and the negative assertion that x is not the universal perception are both semi-true.

According to the ontic account, UA implies that the universal perception does not exist, but that semi-the universal perception may exist: RF (understood as having the universal perception within its domain) precludes anything from instantiating the property of being the universal perception, but RF may allow that something semi-instantiates the property of being the universal perception.

Suppose that x is arbitrary. Given UA, x is not the universal perception, but x may be semi-the universal perception. Consequently, given an extension of the ontic explanation of (S.) to this case, a positive assertion to the effect that x is the universal perception is at most semi-true, which is what $(\text{Perception})^{universal}$ says.

4.6.4 Critique of the universalist interpretation

What speaks against the universalist interpretation is that it assumes—in assuming UA—that the universal perception is within the domain of RF.

The preceding discussion of colours (182d1-7) and of seeings and other forms of perception (182d8-e7) was only concerned with changing particulars. Nothing in the preceding arguments indicates that Socrates takes RF to imply that universals change.

Further, Socrates takes (C.) to be based on the preceding arguments, of which (S.) was the final conclusion. After Socrates has concluded (S.), he reminds Theodorus of TH and then immediately goes on to conclude (C.). This suggests that (C.) is solely based on TH and results established in the preceding arguments.[58] Therefore, given that the assumption that the universal perception is subject to RF was not discussed in the preceding arguments, I take it that (C.) is not based on UA.

4.7 How Radical Flux affects the universal perception: the particularist interpretation

According to the particularist interpretation, $(\text{Perception})^{universal}$ is derived from (S.) in two steps: first, $(\text{Perception})^{particular}$ is derived from (S.); second, $(\text{Perception})^{universal}$ is derived from $(\text{Perception})^{particular}$.

I shall discuss the two steps in reverse order. (In, respectively, 4.8 and 4.9.) I shall distinguish between epistemic and ontic accounts of the steps, analogous to (respectively) the epistemic and the ontic explanation of why RF implies (S.). I shall show that each of the two steps is only valid given the ontic account.

[58] Note the inferential 'ἄρα' ('so') at 182e11.

4.8 The particularist interpretation: from instances of perceiving to the universal perception

4.8.1 Epistemic account

Here are the epistemic explanations of (Perception)^{particular} and of (Perception)^{universal}:

> (Perception)^{particular,epistemic} says that there are no cases in which the positive assertion that x is an instance of perceiving is more true than the corresponding negative assertion that x is not an instance of perceiving: RF precludes x from continuously being an instance of perceiving during the time a positive assertion is being made.
>
> (Perception)^{universal,epistemic} says that there are no cases in which the positive assertion that x is the universal perception is more true than the corresponding negative assertion that x is not the universal perception: RF precludes x from continuously being the universal perception during the time a positive assertion is being made.

According to the epistemic account, (Perception)^{universal,epistemic} is supposed to follow from (Perception)^{particular,epistemic}. But this is clearly not the case: it is possible that (Perception)^{particular,epistemic} is true and that (Perception)^{universal,epistemic} is false. The supposed fact that instances of perceiving are always instantaneous (so that (Perception)^{particular,epistemic} is true) is compatible with the universal perception not undergoing any change (so that (Perception)^{universal,epistemic} is false). For instance, it may be the case that all instances of perceiving are instantaneous (so that (Perception)^{particular,epistemic} is true), whilst *the organization, identification, and interpretation of sensory information in order to represent and understand the presented information, or the environment* is continuously

the universal perception (so that (Perception)^{universal,epistemic} is false).[59]

4.8.2 Ontic account

4.8.2.1 General characterization

Here are the ontic explanations of (Perception)^{particular} and of (Perception)^{universal}:

> (Perception)^{particular,ontic} says that there are no cases in which the positive assertion that x is an instance of perceiving is more true than the corresponding negative assertion that x is not an instance of perceiving: due to RF, there are no instances of perceiving, but there are at most semi-instances of perceiving.
>
> (Perception)^{universal,ontic} says that there are no cases in which the positive assertion that x is the universal perception is more true than the corresponding negative assertion that x is not the universal perception: due to RF, there is no universal perception, but there is at most something that is semi-the universal perception.

Semi-instances of perceiving as mentioned in (Perception)^{particular,ontic} are analogous to semi-instances of seeing: x is a semi-instance of perceiving if and only if the positive assertion that x is an instance of perceiving and the negative assertion that x is not an instance of perceiving are both semi-true.[60] Further, semi-the universal perception as mentioned in (Perception)^{universal,ontic} should be understood as explained before: x is semi-the universal perception if and only if

[59] Sedley (2004), p. 96-8, also reconstructs the argument at 182e8-183a1 as having (S.) as a premiss and as not assuming UA. However, Sedley explains (S.) epistemically, which gives rise to a problem analogous to the one discussed here: that instances of forms of perception are always instantaneous does not entail that the universal of which they are instances is unstable.

[60] Cf. 3.5.2

the positive assertion that x is the universal perception and the negative assertion that x is not the universal perception are both semi-true.[61]

According to the ontic account, $(\text{Perception})^{universal,ontic}$ is supposed to follow from $(\text{Perception})^{particular,ontic}$.[62] It is indeed the case that $(\text{Perception})^{universal,ontic}$ follows from $(\text{Perception})^{particular,ontic}$ given two ancillary premisses. I shall first discuss the two ancillary premisses. (Respectively, in 4.8.2.2 and 4.8.2.3.) I shall then derive $(\text{Perception})^{universal,ontic}$ from $(\text{Perception})^{particular,ontic}$ by means of those two ancillary premisses. (In 4.8.2.4.) I shall argue that the second ancillary premiss is strictly speaking not needed. (In 4.8.2.4.)

4.8.2.2 First ancillary premiss: no uninstantiated universal perception

The first ancillary premiss concerns the relationship between instances of perceiving and the universal perception:

> **(a1)**: if there are never any instances of perceiving, then the universal perception does not exist.

Given the ontic explanation of RF, RF implies the antecedent of (a1): there are never any instances of perceiving. The reason is that RF precludes passive parents from instantiating the property of perceiving for reasons analogous to why RF prevents active parents from instantiating colours. Therefore, if proponents of RF want to deny (a1), they have to deny its consequent by asserting that the universal perception exists. That assertion would commit them to a

[61] Cf. 4.6.3.

[62] Given IU (see section 1), $(\text{Perception})^{universal,ontic}$ (which says that no universal perception exists) implies $(\text{Perception})^{particular,ontic}$ (which says that no instances of perceiving exist). See in this regard 4.8.2.4 on the truth conditions of $(\text{Perception})^{universal,ontic}$ and $(\text{Perception})^{particular,ontic}$.

substantial metaphysical position: some universals exist without ever being instantiated. Moreover, that assertion would commit them to the existence of some continuity (given the ontic explanation of RF): the continuity consisting in the instantiation of the property of being the universal perception by the universal perception. Given my assumption that the scope of RF is restricted to perceptual objects and perceivers, the second commitment is compatible with RF: RF only excludes continuity in the domain of perceptual objects and perceivers, and it does not exclude continuity in other domains, such as the domain of universals. Therefore, proponents of RF can consistently deny (a1). However, doing so would commit them to a substantial metaphysical position and to the existence of some stability in a domain outside the scope of RF.

Moreover, I propose that (a1) would be accepted by the *actual* proponents of RF (as portrayed at 179d4-180c6), in which case it would be fair to rely on (a1) in an argument against the actual proponents of RF. The actual proponents of RF are so radical that they reject continuity in *any* domain.[63] Therefore, the actual proponents of RF would not deny (a1): they can only deny (a1) by committing themselves to some continuity in the domain of universals, which goes against their conviction that there are no domains in which continuity exists.[64] Thus, even though a denial of (a1) is consistent with RF, it is implausible that the actual proponents of RF would deny (a1). Therefore, if the refutation of RF relies on (a1), it is more effective as a refutation of the *actual* proponents of RF than as a refutation of RF by itself: a commitment to RF does not imply a commitment to (a1), but the *actual* proponents of RF are committed to (a1).

[63]Cf. 180a6-b3. Cf. 180b2-3: 'They are totally at war with what's stationary, and, to the best of their ability, expel it from everywhere': 'τούτῳ [τῷ στάσιμῳ] δὲ πάνυ πολεμοῦσιν, καὶ καθ' ὅσον δύνανται πανταχόθεν ἐκβάλλουσιν.'

[64]On this I disagree with Thaler (2013), II and pp. 27-8.

4.8.2.3 Second ancillary premiss: being an instance of semi-the universal perception is being a semi-instance of perceiving

The second ancillary premiss concerns the relationship between semi-the universal perception and semi-instances of perceiving:

> **(a2)**: something that is semi-the universal perception is the universal such that being an instance of semi-the universal perception consists in being a semi-instance of perceiving.

(a2) says that if y is semi-the universal perception (so that 'y is the universal perception' and 'y is not the universal perception' are both semi-true), then y is the universal such that being an instance of y consists in being a semi-instance of perceiving (so that x is an instance of y if and only if 'x is an instance of perceiving' and 'x is not an instance of perceiving' are both semi-true).

Although it is natural to consider (a2) as a way of relating semi-the universal perception to semi-instances of perceiving, (a2) is disputable, for two reasons. (I shall assume that (a2) can be generalized to all universals: the plausibility of (a2) does not hinge on the specifics of the universal perception.)

First, suppose that there is a universal baldness: the universal instantiated by bald people. Suppose that baldness is subject to vagueness in such a way that borderline cases are semi-instances of baldness. (a2), if translated to the case of baldness, says that being a semi-instance of baldness amounts to being an instance of semi-the universal baldness. In other words, (a2) entails that the following two statements about the universal semi-instance of baldness (i.e., the universal of which semi-instances of baldness are instances) are both semi-true: (i.) the universal semi-instance of baldness is the universal baldness; (ii.) the universal semi-instance of baldness is not the universal baldness.

That (i.) and (ii.) are both semi-true is not obvious. The following alternative view is at least as plausible: (i.) is false and (ii.) is true.

Second, a generalized version of (a2) entails that if there are semi-instances of a universal U (such as baldness), then the identity of U is itself subject to indeterminacy: there is a semi-the universal U. This implication of a generalized version of (a2) is disputable: one may hold that, for instance, baldness is subject to vagueness in that there are semi-instances of baldness, but that the identity of the universal baldness is not itself subject to vagueness in that there is no semi-the universal baldness.

4.8.2.4 From instances of perceiving to the universal perception: reconstruction of the argument

I shall first derive (Perception)^{universal,ontic} from (Perception)^{particular,ontic} in the light of (a1) and (a2). I shall then argue that the derivation strictly speaking does not need (a2).

(Perception)^{particular,ontic} claims that there are no instances of perceiving.[65] Consequently, given (a1), there is no universal perception.

Further, (Perception)^{particular,ontic} claims that there are at most semi-instances of perceiving. Given (a2), semi-instances of perceiving are instances of semi-the universal perception. Given IU, that an instance of semi-the universal perception exists, entails that semi-the universal perception exists.[66] Therefore, that there are at most semi-instances of perceiving entails that there is at most semi-the universal perception, but no universal perception. That there is no universal perception but at most semi-the universal perception is exactly what

[65] (Perception)^{particular,ontic} quantifies over all times: there are no times at which there are instances of perceiving.

[66] See section 1 on IU. Note that, according to the second ancillary premiss, semi-the universal perception is a universal.

(Perception)^{universal,ontic} says.

Strictly speaking, we do not need (a2) to infer (Perception)^{universal,ontic} from (Perception)^{particular,ontic}. (Perception)^{universal,ontic} is true if and only if the universal perception does not exist. The second clause after the colon in (Perception)^{universal,ontic} ('But there is at most something that is semi-the universal perception') is equivalent to the first clause ('There is no universal perception').[67] Therefore, in order to establish (Perception)^{universal,ontic}, we only need to establish that the universal perception does not exist: for that, only (a1) is needed. However, (a2) allows us to explain the rationale for the second clause ('But there is at most something that is semi-the universal perception') in (Perception)^{universal,ontic} on the basis of the second clause in (Perception)^{particular,ontic} ('But there are at most semi-instances of perceiving'): (a2) allows us to infer the second clause in (Perception)^{universal,ontic} from the second clause in (Perception)^{particular,ontic}.

4.9 The particularist interpretation: from instances of seeing to instances of perceiving

4.9.1 In general

Let (S.)^{epistemic} be the epistemic explanation of (S.) and let (S.)^{ontic} be the ontic explanation of (S.).[68] According to the epistemic account, (S.)^{epistemic} entails (Perception)^{particular,epistemic}. According to the ontic account, (S.)^{ontic} entails (Perception)^{particular,ontic}. I shall show that only the ontic account is correct.

[67] The truth condition of (Perception)^{universal,ontic} should be understood against the background of a metaphysics and logic that allow for semi-instances and semi-truth. Given such a background theory, to say that there is no universal perception is to say that there is at most semi-the universal perception: each thing either does not instantiate the property of being the universal perception or semi-instantiates the property of being the universal perception.

[68] Cf., respectively, 3.5.1 and 3.5.2.

4.9.2 Epistemic account

(S.)^{epistemic} says that all instantiations of forms of perception are instantaneous. (Perception)^{particular,epistemic} says that all instantiations of perceiving as such are instantaneous.

(S.)^{epistemic} does not entail (Perception)^{particular,epistemic}. It is possible that (S.)^{epistemic} is true whilst (Perception)^{particular,epistemic} is false. Here is an example in which that is the case. Suppose that a passive parent never instantiates a form of perception non-instantaneously: (S.)^{epistemic} is true. Suppose, further, that the passive parent does sometimes non-instantaneously instantiate perception as such: the passive parent sometimes non-instantaneously instantiates perception as such by sometimes being a perceiver for a period of time, without instantiating any particular form of perception for more than an instant. Consequently, (Perception)^{particular,epistemic} is false.[69]

4.9.3 Ontic account

(S.)^{ontic} says that there are no instances of forms of perception, but that there may be semi-instances of forms of perception. (Perception)^{particular,ontic} says that there are no instances of perception as such, but that there may be semi-instances of perception as such.

(S.)^{ontic} entails (Perception)^{particular,ontic}.

Suppose that (S.)^{ontic} is true: there are no instances of forms of perception, but at most semi-instances of forms of perception. This entails that there are no instances of perception as such, but at most semi-instances of perception as such: if no form of perception is instantiated, then perception as such is not

[69]Sedley (2004), p. 97, acknowledges this issue in relation to his epistemic interpretation. RF independently entails (Perception)^{particular,epistemic}: RF precludes passive parents from non-instantaneously instantiating perception as such. However, I take (C.) to be based on (S.).

instantiated either. Consequently, (Perception)^{particular,ontic} is true.[70]

5 Why all positive assertions are false (183a-b)

5.1 Radical Flux and equally true assertions (183a4-8)

5.1.1 Instantial assertions and definitional assertions

Let us recursively define the notion of a *doctrinal universal*:

(i) The universal perceptual property (the universal of which the instances are all and only all instances of perceptibles) and the universal perception are doctrinal universals.

(ii) If U is a doctrinal universal, then the species of U are doctrinal universals.

According to (i) and (ii), the following are doctrinal universals: the universal perceptual property, the universal perception, the universal colour, the universal

[70]Thaler (2013), in particular III, explains the steps in the derivation of (C.) on the basis of a different ancillary premiss: 'the cognitive Priority of the Particular' (PP). According to PP, we cannot acquire a concept of a maximally determinate species S (e.g., of specific colours or of perceivings of specific colours) if we have no familiarity with instances of S; further, we cannot acquire a concept of a genus G (e.g., of colour or of seeing) if we cannot acquire a concept of the species of G. (This is my paraphrase, Thaler does not define PP. Cf. Thaler's p. 34.) Thaler explains the argument at 182d1-183a1 in the following way. RF precludes us from having familiarity with instances of the most determinate species (see especially 182d1-7), such as (say) specific colours and the seeing of them. Therefore, given PP, we cannot acquire concepts of specific colours or of the seeing of specific colours. Further, given PP, it follows that we cannot acquire the concepts of colour or seeing or indeed perception: we cannot acquire concepts of their species. Thaler infers from this that terms designating those concepts have no 'determine sense', which Thaler seems to take to mean that any positive characterization of something as (say) an instance of perception ('x is an instance of perception') is at most as true as the corresponding negative characterization ('x is not an instance of perception'). Thaler writes in connection with 182e8-183a1 (p. 36): 'Since there is nothing in particular which can be designated 'perception' rather than 'not perception' and since (by stipulation) perception is identical with knowledge, the phenomenon of perception does not deserve to be called 'knowledge' any more than 'not-knowledge'.' I do not understand why it is supposed to follow from the premiss that we cannot acquire a concept of (say) perception that the term 'perception' has an indeterminate sense, rather than not being a term at all: it seems to me that if speakers of English could not acquire the concept of perception, then there would be no term 'perception' in English as it exists today (namely, a term referring to the universal perception).

seeing, the universal whiteness, the universal seeing whiteness, etc.

A positive *instantial assertion* is an assertion to the effect that x is an instance of a doctrinal universal U. The corresponding negative instantial assertion is an assertion to the effect that x is not an instance of U. The domain of the xs consists in all perceptual features of perceptual objects (in the case of instantial assertions concerning perceptual properties) or all token activities (in the case of instantial assertions concerning perception).

A positive *definitional assertion* is an assertion to the effect that a doctrinal universal X is what a universal F consists in. In other words, a positive definitional assertion is a definition FX (such as TH), in which F is a universal (such as knowledge) and X is a doctrinal universal (such as perception). The corresponding negative definitional assertion is an assertion to the effect that X is not what F consists in. The domain of the xs consists in all things (including all universals).

Something is a *doctrinal assertion* if and only if it is either an instantial assertion or a definitional assertion. Further, the combination of a given positive assertion and the corresponding negative assertion is a *pair* of doctrinal assertions.

5.1.2 Generalized Conclusion: text (183a4-8) and preliminary discussion

Socrates generalizes (183a4-8):[71]

> [**Text 16**] SOC: What has in fact become clear is, apparently, that if all things are changing, then every answer, whatever one is answering about, is equally correct: both to assert that it is so and

[71] τὸ δ', ὡς ἔοικεν, ἐφάνη, εἰ πάντα κινεῖται, πᾶσα ἀπόκρισις, περὶ ὅτου ἄν τις ἀποκρίνηται, ὁμοίως ὀρθὴ εἶναι, οὕτω τ' ἔχειν φάναι καὶ μὴ οὕτω, εἰ δὲ βούλει, γίγνεσθαι, ἵνα μὴ στήσωμεν αὐτοὺς τῷ λόγῳ.

> to assert that it is not so, or if you like, [both to assert that it] is becoming [so and to assert that it is becoming not so], in order that we do not bring those people to a standstill by what we say.

Here is how I understand Socrates' Generalized Conclusion ((GC.)):

> **(GC.)**: each assertion in any suitable pair of doctrinal assertions p is semi-true in each case that is suitably related to p.

We have to answer two questions. First, which pairs of doctrinal assertions are suitable? Second, which cases are suitably related to a given suitable pair of doctrinal assertions?

I take Socrates to assume that (GC.) is not vacuously true. Accordingly, I take Socrates to make the Existential Assumption:

> **Existential Assumption (EA)**: in relation to (GC.), there are some suitable pairs of doctrinal assertions and there are some cases that are suitably related to some suitable pairs of doctrinal assertions.

I shall first argue that, given EA, Socrates does not intend to generalize (S.) and (C.) in concluding (GC.).[72] (5.1.3) I shall then propose my account of the motivation for (GC.): my account will determine which pairs of doctrinal assertions are suitable and which cases are suitably related to a given suitable pair of doctrinal assertions. (5.1.4)

5.1.3 Why (GC.) does not generalize (S.) and (C.)

(GC.) is not a generalization of (S.) to all instantial assertions and of (C.) to all definitional assertions. Such a generalization of (S.) and (C.) would amount to (GC.)*, in which the domain of the xs consists in all doctrinal assertions:

[72] See, respectively, 3.4 and 4.2 on (S.) and (C.).

(GC.)*: in each case, any positive assertion x is at most semi-true.

(GC.)* generalizes (S.) to all instantial assertions.

Further, (GC.)* generalizes (C.) to all definitional assertions. Such a generalization could be justified by generalizing the derivation of (C.) from TH and (Perception)^{universal} to all positive definitional assertions:[73] one derives from a positive definitional assertion FX and (X.)^{universal} (the counterpart of (Perception)^{universal} in the case of the universal X) the conclusion that FX is at most semi-true in each case. Further, one has to demonstrate that RF implies (X.)^{universal} in relation to any doctrinal universal X.

Given EA, (GC.) differs from (GC.)*: whereas (GC.)* leaves open the possibility that all positive doctrinal assertions are false in each case, (GC.) (in light of EA) implies that there are some cases in which some positive doctrinal assertions are semi-true.

5.1.4 My account of (GC.)

In concluding (GC.), Socrates assumes for the sake of argument that RF is compatible with cases in which some positive doctrinal assertions are semi-true.

Let us call a case c *non-polar* in relation to a pair of doctrinal assertions p if and only if the positive and the negative assertion in p are both semi-true in c. Further, a case c is non-polar if and only if c is non-polar in relation to some pair p. The pairs of assertions in relation to which c is non-polar are c's *related pairs of assertions*. A case c is non-polar in relation to a positive or negative assertion a ('*c's related assertion*') if and only if c is non-polar in relation to the pair to which a belongs. Further, a pair p is non-polar if and only if some case c is non-polar in relation to p.

[73] Cf. 4.4.

Here is how I understand (GC.). First, a pair of doctrinal assertions p is suitable if and only if p is non-polar. Second, a case c is suitably related to a suitable pair p if and only if c is non-polar in relation to p. Accordingly, (GC.) is equivalent to the following statement:

> (GC.)′: each assertion in a non-polar pair of doctrinal assertions p is semi-true in each case that is non-polar in relation to p.

By implication, EA is equivalent to the following claim:

> EA′: there are some non-polar cases.

(S.), (C.) and (GC.)* leave it open whether or not there are non-polar cases. In assuming EA and concluding (GC.), Socrates assumes for the sake of argument that there are non-polar cases. In doing so, he brings into focus a possibility not ruled out by (S.) and (C.): the existence of non-polar cases. The subsequent argument (182a10-b6) rules out the existence of non-polar cases.

Henceforth, I shall omit the qualification 'doctrinal' when making claims about assertions: my claims about assertions should be taken to be restricted to doctrinal assertions.

5.2 The problem with equally true assertions (182a10-b6)

5.2.1 Token assertions and impure assertions

A *token assertion* is an assertion individuated according to a case: an assertion *qua* made by the individual in the case at the point in time in the case. Let us say that a token assertion is made *in the case* in accordance with which it is individuated. Let a^c be the assertion a individuated by the case c. I assume that the truth value of a^c is identical to the truth value a has in c.

A token assertion a^c is *impure* if and only if c is non-polar in relation to a. By definition, each impure token assertion is semi-true and each pure token assertion is either true or false.

(GC.) brings into focus impure token assertions: if the assertions in suitable pairs (i.e., non-polar pairs) are individuated by the cases that are suitable in relation to them (i.e., the cases that are non-polar in relation to them), they are impure.

5.2.2 Text (182a10-b6) and preliminary discussion

Socrates proceeds to argue that there is something wrong with (GC.) (182a10-b6):[74]

> [**Text 17**] SOC: Yes, Theodorus, except that I said 'so' and 'not so'. One oughtn't even to use this word 'so', because 'so' wouldn't any longer be changing; and, again, one oughtn't to use 'not so', because that isn't a change either. No, those who state that theory must establish some other mode of expression, because as things are they haven't got expressions for their doctrine: unless, perhaps, 'not so either', said in an indeterminate sense, might suit them best. THE: Yes, that would certainly be a most appropriate idiom for them.

I take 'so' and 'not so' to be placeholders for, respectively, predicate terms and negated predicate terms (conjunctions of a negation and a predicate term). Socrates claims that there is something wrong with the predicate term and the negated predicate term as they are used in the assertions brought into focus by (GC.): impure tokens assertions.

[74] ΣΩ. Πλήν γε, ὦ Θεόδωρε, ὅτι "οὕτω" τε εἶπον καὶ "οὐχ οὕτω." δεῖ δὲ οὐδὲ τοῦτο ⟨τὸ⟩ "οὕτω" λέγειν—οὐδὲ γὰρ ἂν ἔτι κινοῖτο ⟨τὸ⟩ "οὕτω"—οὐδ' αὖ "μὴ οὕτω" —οὐδὲ γὰρ τοῦτο κίνησις—ἀλλά τιν' ἄλλην φωνὴν θετέον τοῖς τὸν λόγον τοῦτον λέγουσιν, ὡς νῦν γε πρὸς τὴν αὑτῶν ὑπόθεσιν οὐκ ἔχουσι ῥήματα, εἰ μὴ ἄρα τὸ "οὐδ' οὕτως" μάλιστα οὐδ' ἂν αὐτοῖς ἁρμόττοι, ἄπειρον λεγόμενον. ΘΕΟ. Οἰκειοτάτη γοῦν διάλεκτος αὕτη αὐτοῖς.
a11-b1 τὸ (bis) add. Schleiermacher. There is a textual problem concerning b4: W and the scholia have 'οὐδ' οὕτως' (which Hicken adopts in the OCT), whereas β and T have 'οὐδ' ὅπως'. In the translation and in my interpretation I assume 'οὐδ' οὕτως': see following footnote.

Socrates considers an alternative way of using the negated predicate term ('not so'), which is supposed to be different from the way the negated predicate term is used in impure token assertions. The alternative usage is supposed to consist in the fact that the negated predicate term is *said in an indeterminate sense* (*apeiron legomenon*).[75]

I take Socrates' reasoning to consist of the following four steps.

First, RF entails that there are no instances or semi-instances of doctrinal universals.

Second, that there are no instances or semi-instances of doctrinal universals entails that there are no impure token assertions.

Third, that there are no instances or semi-instances of doctrinal universals is equivalent to (NOT SO):

> **(NOT SO)**: all negative instantial assertions and all negative definitional assertions are true in each case.

Fourth, (NOT SO) implies that the negated predicate term is said in an indeterminate sense in each negative token assertion.

I shall discuss each step in turn. (5.2.3) I shall then argue that the derivation of (NOT SO) from RF constitutes a refutation of RF. (5.3)

[75]There is a textual complication here and only 'not...either' ('οὐδ'') and 'said in an indeterminate sense' ('ἄπειρον λεγόμενον') are certain: see footnote to quotation. (183b4-5) I shall assume the W reading: ''οὐδ' οὕτως' ἄπειρον λεγόμενον' ("not so either' said in an indeterminate sense'). I take 'ἄπειρον λεγόμενον' to qualify the sense of 'οὐδ' οὕτως'. On my interpretation, something is supposed to be wrong with the negated predicate term as used in the negative assertions (GC.) focuses on: the negated predicate term in those assertions is not *said in an indeterminate sense*. McDowell (1973), p. 182, penultimate paragraph, who also adopts the W reading, suggests that Socrates *withdraws* his rejection of the negated predicate term as used in the assertions (GC.) focuses on, supposedly because Socrates realizes that the negated predicate term in those assertions *is* said in an indeterminate sense. I disagree: what is wrong with the negated predicate term in impure token assertions is precisely that it is *not* said in an indeterminate sense.

5.2.3 What is wrong with impure token assertions: reconstruction of Socrates' argument

5.2.3.1 RF entails that there are no instances or semi-instances of doctrinal universals

Given the epistemic explanations, (S.) and (C.) leave open the possibility that there are instantaneous instantiations of doctrinal universals. Given the ontic explanations, (S.) and (C.) leave open the possibility that there are semi-instantiations of doctrinal universals.

Given the epistemic explanation, Socrates now realizes that RF even precludes parents from instantaneously instantiating doctrinal universals. Given the ontic explanation, Socrates now realizes that RF even precludes parents from semi-instantiating doctrinal universals.[76]

Given the epistemic explanation, Socrates has not considered whether RF allows parents to semi-instantiate doctrinal universals. However, I shall assume that, regardless of whether the epistemic or the ontic explanation of the preceding arguments is correct, Socrates has now come to realize that RF precludes parents from either instantiating or semi-instantiating doctrinal universals. In other words, parents have no positive characteristics:

> **(NOPOS)**: parents have no positive characteristics: they neither instantiate nor semi-instantiate doctrinal universals.

[76] Cf. 3.5.2, final paragraph.

5.2.3.2 If there are no instances or semi-instances of doctrinal universals, there are no impure token assertions

Suppose that there are impure token assertions. I shall argue that there is either an instance or a semi-instance of a doctrinal universal.[77]

Given what I suppose, there is at least one impure positive token assertion and one impure negative token assertion (individuated by the same case). Let us focus on the positive impure token assertion *a*. By definition, *a* is semi-true.

Case 1: *a* is instantial.

Let *a* be the instantiantial assertion that *x* is an instance of the doctrinal universal *F*. Given that *a* is semi-true, *x* is either instantaneously an instance of *F* at some point during the time of assertion (epistemic explanation) or *x* is a semi-instance of *F* at the time the assertion is made (ontic explanation).

Case 2: *a* is definitional.

Let *a* be the definition FX (in which *X* is a doctrinal universal). From the fact that FX is semi-true, it follows that there is either an instance of *X* or a semi-instance of *X*. I shall argue for this by *reductio*.

Suppose that there is neither an instance of *X* nor a semi-instance of *X*.[78]

I shall assume the following principle (in which the domain of the *F*s consists in all universals and the domain of the *U*s in all doctrinal universals):

> **Principle 1**: if neither the universal *U* nor semi-the universal *U* exists, then FU is false.

Further, I shall assume the following generalized variants of (a1) and (a2) (in which the domain of the *U*s consists in all universals):[79]

[77] The claim I set out to establish quantifies over all times: there are times at which there are instances or semi-instances of doctrinal universals.

[78] The supposition quantifies over all times: there are no times at which there are instances or semi-instances of *X*.

[79] Cf. 4.8.2.2-3.

(a1)*: if there are never any instances of a universal U, then the universal U does not exist.

(a2)*: semi-the universal U is the universal such that being an instance of semi-the universal U consists in being a semi-instance of U.

According to what I suppose, there are never any instances or semi-instances of X. Given (a2)*, semi-instances of X are instances of a universal: semi-the universal X. Therefore, given (a1)*, that there never any instances or semi-instances of X entails that neither the universal X nor semi-the universal X exists. Given Principle 1, this entails that FX is false. But this contradicts the assumption that FX is semi-true.

Therefore, there is either an instance or a semi-instance of X.

5.2.3.3 That there are no instances or semi-instances of doctrinal universals is equivalent to (NOT SO)

Suppose that (NOPOS) is true. I shall argue that (NOT SO) is true, too. I shall establish (NOT SO) by establishing that all positive assertions are false in each case. Let a be an arbitrary positive assertion. I shall argue that a is false in each case.

Case 1: a is instantial.

Let a be the instantiantial assertion that x is an instance of the doctrinal universal F. Given (NOPOS), there are never any instances or semi-instances of F. Therefore, a is false in each case: x is continuously not an instance of F during the time of assertion (epistemic explanation) or x is a non-instance of F at the time the assertion is made (ontic explanation).

Case 2: a is definitional.

Let a be the definition FX (in which X is a doctrinal universal). Given (NOPOS), there are never any instances or semi-instances of X. Consequently, given (a1)* and (a2)*, neither the universal X nor semi-the universal X exists. Therefore, given Principle 1, FX is false. I did not make any assumptions about the individual who asserts FX or the time at which FX is asserted. Therefore, FX is false in each case.

Suppose that (NOT SO) is true. I shall argue, by means of a *reductio*, that (NOPOS) is true, too. Suppose that (NOPOS) is false. Then some parent p at some time t instantiates or semi-instantiates some doctrinal universal X. But that means (regardless of whether the repercussions of RF are understood epistemically or ontically) that some positive instantial assertion to the effect that x is an instance of F is either true or semi-true in some case, which contradicts (NOT SO).

5.2.3.4 (NOT SO) entails that the negated predicate term is said in an indeterminate sense

Let us stipulate that b is a *broad predicate term* if and only if b is a predicate term (e.g., 'white' or 'knowledge') or a negated predicate term (e.g., 'not white' or 'not knowledge'). Let us make the following stipulations concerning the notion of *the use of a broad predicate term with positive import*. A broad predicate term is used with positive import in a positive token assertion if and only if the positive token assertion is not false. Further, a broad predicate term is used with positive import in a negative token assertion if and only if the negative token assertion is not true. Furthermore, a positive or negative token assertion uses its broad predicate term without positive import if and only if it does not use its broad predicate term with positive import.

The broad predicate term in impure token assertions is used with positive

import: impure positive token assertions are not false (but semi-true) and impure negative token assertions are not true (but semi-true). This is precisely why Socrates takes the use of the broad predicate term in impure token assertions to be incompatible with RF: impure token assertions use their broad predicate term with positive import.

Why is the use of a broad predicate term with positive import incompatible with RF? If, as RF implies, active and passive parents have no positive characteristics, then it is *impossible* for a broad predicate term to be used with positive import: without positive characteristics, any positive token assertion is false and any negative token assertion is true.

From (NOT SO) Socrates infers that the negated predicate term in each negative token assertion is 'said in an indeterminate sense'. I propose that 'said in an indeterminate sense' means 'used without positive import'. Given (NOT SO), it is indeed the case that the negated predicate term is used without positive import in each negative token assertion: given (NOT SO), each negative token assertion is true.

I propose that using a negated predicate term without positive import amounts to 'saying it in an indeterminate sense' in that using it without positive import does not imply that active or passive parents are determinate in the sense of having positive characteristics.[80]

[80]Denyer (1991), p. 104 and footnote thereto, construes 'ἄπειρον λεγόμενον' as 'said infinitely many times' and claims that the point is that the negation should be repeated recursively infinitely many times with regard to any predicate term so as to deny not only positive characteristics to things, but even negative characteristics—and any higher-order characteristics: nothing has the positive characteristic F, nothing has the negative characteristic not-F, nothing has the higher-order characteristic of not having the negative characteristic not-F, etc. On my interpretation, only positive characteristics are ruled out: each token negative assertion is true. Cornford (1935), p. 99, Silverman (2000), introduction, and Hestir (2016), 4.4, incorrectly claim that Socrates argues that RF is incompatible with the signification of predicate terms. Sedley (2003) convincingly criticizes such semantic interpretations.

5.3 A refutation of Radical Flux

I take the derivation of (NOT SO) (or, equivalently, (NOPOS)) from RF to be a refutation of RF. (NOT SO) implies that parents do not instantiate perceptual properties or forms of perception. Change involves a succession of instantiations of properties: for instance, changing in respect of colour involves first instantiating one colour in relation to a perceiver and then instantiating another colour in relation to the perceiver.[81] Therefore, (NOT SO) implies that parents do not change in respect of perceptual properties or forms of perception. But RF says that parents are always changing in *every respect*, in particular in respect of perceptual properties and forms of perception. Therefore, if (NOT SO) follows from RF, RF is incoherent.

Here is an objection to my claim that the derivation of (NOT SO) from RF constitutes a refutation of RF. One may argue that RF only entails that parents change in respect of properties they sometimes have: RF does not entail that parents change in respect of properties they never have. Therefore, given that RF entails that parents never have perceptual properties and never instantiate forms of perception, RF does not entail that parents change in respect of perceptual properties or forms of perception.

Suppose that the objection is correct: RF only entails that parents change in respect of properties they sometimes have. (I am not sure whether it is correct.) Then the derivation of (NOT SO) from RF would still be significant: it would constitute a major deflation of RF in that it would show that RF does not entail any change in the domains of perceptual properties and forms of perception. Indeed, given that RF presumably also excludes the instantiation of substantial properties (such as the property of being a parent), the deflation could

[81] Cf. 3.3.1.

be radicalized further (even though this is not done in the actual argument): RF entails that no parents exist, so that RF is vacuously true. I assume that each of the two deflations of RF would also constitute a refutation of RF.

6 'Knowledge is perception' and Radical Flux (183b-c)

6.1 In general

I take the arguments concerning RF ('the refutation of RF') to have the following two purposes. First, they are meant to demonstrate that RF is incompatible with TH by deriving (C.) from RF and TH.[82] Second, they are meant to refute RF by deriving (NOT SO) from RF.[83] How are those two purposes relevant to the preceding discussion of TH, Narrow Protagoreanism (NP), and the Secret Doctrine? (By the 'Secret Doctrine' I mean the Protagorean doctrine as set out *before* the refutation of RF, at 152d2-160c10.)

I have argued that TH commits Theaetetus to NP and (given TC) to perceptual infallibilism.[84] Furthermore, I have argued that the Secret Doctrine is meant to underpin NP: the Secret Doctrine entails NP.[85] Interpreters disagree on whether the Secret Doctrine entails RF.[86]

Let us stipulate that someone is a *doctrinal proponent of T* if and only if she is a proponent of TH, NP, and the Secret Doctrine. Further, someone is a *doctrinal proponent of NP* if and only if she is a proponent of NP and the Secret Doctrine. Doctrinal proponents of TH are doctrinal proponents of NP,

[82] See section 4.
[83] See section 5.
[84] Cf. **1**.1-2 and **2**.1.3.3.
[85] **1**.3.3.
[86] See footnote 3.

but doctrinal proponents of NP need not be doctrinal proponents of TH: they need not be proponents of TH. Indeed, I think that the combination of views that defines a doctrinal proponent of NP (NP and the Secret Doctrine) does not entail TH.[87] Further, a *radical* doctrinal proponent of TH is a doctrinal proponent of TH and a proponent of RF. Accordingly, a *radical* doctrinal proponent of NP is a doctrinal proponent of NP and a proponent of RF.

If the Secret Doctrine entails RF, there is an obvious way in which the two purposes of the refutation of RF are relevant to the preceding discussion of the positions of doctrinal proponents of TH and doctrinal proponents of NP. By demonstrating the incompatibility between RF and TH, Plato would demonstrate that one cannot consistently be a doctrinal proponent of TH. Further, by refuting RF, Plato would demonstrate that one cannot even consistently be a doctrinal proponent of NP: indeed, one cannot consistently be a proponent of the Secret Doctrine or any other position that entails RF. However, I believe that the Secret Doctrine does not entail RF. This raises the question of what the relevance of the two purposes of the refutation is.

I shall first discuss Socrates' concluding remarks (183b7-c3), in which Socrates discusses the relationship between RF and TH. (6.2) I shall then argue that the Secret Doctrine does not entail RF. (6.3) Further, I shall criticize Burnyeat's account of the relevance of the refutation of RF: Burnyeat argues that, even though the Secret Doctrine does not entail RF, RF must be added to the Secret Doctrine for the Secret Doctrine to underpin NP successfully. (6.4) Finally, I shall explain the relevance of the two purposes of the refutation of RF in the following way. Plato believes that neither being a doctrinal proponent of NP nor being a doctrinal proponent of TH commits one to RF. However, Plato does believe that there are actual radical doctrinal proponents of NP and actual radical doctrinal

[87] See conclusions, section 2, first point.

proponents of TH, and he is interested in refuting them. In demonstrating the incompatibility between TH and RF (in the ontological setting of the Secret Doctrine), Plato intends to refute radical doctrinal proponents of TH. In refuting RF (in the ontological setting of the Secret Doctrine), Plato intends to refute both radical doctrinal proponents of TH and radical doctrinal proponents of NP. (6.5)

6.2 Theaetetus' definition and the method of universal change (183b7-c3)

Socrates concludes (183b7-c3):[88]

> [**Text 18**] [1] SOC: Well then, Theodorus, we've got rid of your friend, and we're not yet prepared to concede to him that every man is the measure of all things, if he isn't an intelligent person. [2] Moreover, we aren't going to concede that knowledge is perception, at any rate not according to the method of universal change; that is, unless Theaetetus here has anything else to say.

In [1], Socrates refers to the argument about expertise at 177c6-179b9. The argument about expertise purports to refute infallibilism by showing that laymen make false judgements in domains in which there are experts ('intelligent people').

In [2], Socrates refers to the refutation of RF. Socrates concludes that TH cannot be underpinned by the 'method of universal change' ('*hē tou panta kineisthai methodos*').

On the *non-conjunctive reading*, the method of universal change is just the Secret Doctrine: Socrates rejects the Secret Doctrine as a method of underpin-

[88] ΣΩ. Οὐκοῦν, ὦ Θεόδωρε, τοῦ τε σοῦ ἑταίρου ἀπηλλάγμεθα, καὶ οὔπω συγχωροῦμεν αὐτῷ πάντ' ἄνδρα πάντων χρημάτων μέτρον εἶναι, ἂν μὴ φρόνιμός τις ᾖ· ἐπιστήμην τε αἴσθησιν οὐ συγχωρησόμεθα κατά γε τὴν τοῦ πάντα κινεῖσθαι μέθοδον, εἰ μή πως ἄλλως Θεαίτητος ὅδε λέγει.

ning TH (by underpinning NP, which is implied by TH).[89] If one accepts the non-conjunctive reading, one holds that the Secret Doctrine entails RF. That the Secret Doctrine entails RF explains why the Secret Doctrine is rejected as a method of underpinning TH: RF has been shown to be incompatible with TH.

On the *conjunctive reading*, which I favour, the method of universal change is *not* just the Secret Doctrine, but the Secret Doctrine *in conjunction with* RF (the 'Radical Secret Doctrine'): Socrates rejects the Radical Secret Doctrine as a way of underpinning TH (by underpinning NP, which is implied by TH). The conjunctive reading can make sense of what Socrates claims if the Secret Doctrine does not entail RF: Socrates only rejects the Radical Secret Doctrine as an underpinning of TH, and he leaves it open whether the Secret Doctrine by itself could underpin TH.[90]

6.3 Why the Secret Doctrine does not entail Radical Flux

The Secret Doctrine is consistent with *Filial Existence* and *Filial Continuity*:[91]

> **Filial Existence**: there are some token active and passive children.
>
> **Filial Continuity**: the temporal locus of the existence of some token active and passive children is a period.

Concerning Filial Existence, the Secret Doctrine is consistent with the existence of a token of whiteness (an active child) and of a token of the seeing of whiteness (a passive child). Concerning Filial Continuity, the Secret Doctrine is consistent with the temporal locus of their existence not being an instant: the Secret Doctrine allows that the temporal locus of their existence is a period.

[89] Cf. Burnyeat (1990)'s reading B on pp. 52-3 and Rowett (2018), pp. 173-4.
[90] Cf. McDowell (1973) on 182c9-183b6 (in particular p. 184) and on 183b-c and Brown (1993), p. 213.
[91] Cf. Castagnoli (2010), pp. 210-11.

RF, on the other hand, excludes Filial Existence and (by implication) Filial Continuity. Given that the existence of a token of whiteness and the existence of a token of the seeing of whiteness amount to (respectively) an instantiation of whiteness (by an active parent) and of seeing whiteness (by a passive parent), RF excludes their existence: RF precludes active and passive parents from instantiating perceptual properties or forms of perception. By implication, RF excludes that the temporal locus of the existence of children is a period.

Therefore, the Secret Doctrine does not entail RF.

Burnyeat also holds that the Secret Doctrine does not entail RF. However, Burnyeat argues that the Secret Doctrine needs to be supplemented by RF in order to underpin NP successfully.

6.4 Burnyeat's account of why the Secret Doctrine needs Radical Flux

Burnyeat distinguishes between two positions:[92]

(i) If I have a *perceptual experience* of the stone as white, then the stone is white in relation to me.

(ii) If I *judge* on the basis of my perceptual experience that the stone is white, then the stone is white in relation to me.

Burnyeat claims that the Secret Doctrine renders true (i) but not (ii): the Secret Doctrine does not exclude that I misidentify my perceptual experience and thereby form a false perceptual judgement.

[92]Burnyeat (1990), p. 50. I reformulate Burnyeat's statements in terms of an example. See also Burnyeat (1990) pp. 44-45. Denyer (1991), pp. 102-3, explains the relevance of RF to the Secret Doctrine in a similar way.

Burnyeat argues that RF is needed to prevent perceivers from misidentifying their perceptual experience. Burnyeat writes:[93]

> Without alteration [with respect to colour, Burnyeat refers to 182d1-2] the perceiver would be wrong to judge that the colour they see is not white but (say) yellow. The addition of alteration ensures that they would not be wrong.
>
> But now, of course, to complete the *reductio*, all Socrates has to do is point out that nothing remains for judgement to be right about either (182d). Any statement is as right, or as wrong, as any other (183a).

Here is how I understand Burnyeat's argument. Suppose that I have a perceptual experience of the stone as white but misidentify my perceptual experience and judge that the stone is yellow. RF guarantees that my judgement is nonetheless true in some sense: one second later the stone has an active child in the form of a token of yellowness that forms the object of my perception, and, consequently, my judgement is true if evaluated one second later.

I find Burnyeat's account implausible, both from a philosophical and from an exegetical perspective.

Let me start with the philosophical perspective. Suppose that Burnyeat is right that there is a gap between the infallibility of perceptual experience and the truth of perceptual judgements.[94] Is Burnyeat right that the addition of RF could be meant to serve the purpose of making perceptual judgements true? If it is, it serves this purpose very badly: RF entails (NOT SO), and (NOT SO) implies that each positive perceptual judgement (to the effect that something has

[93] Burnyeat (1990), p. 51

[94] If perceptual truths are strongly subjective, there is no such gap: cf. **2**.1.7.3.2.

a perceptual property F) is *false*. Burnyeat only discusses (GC.) (in the final paragraph of the quotation), and he does not mention (NOT SO).[95] However, Socrates argues that RF is incompatible with (GC.) because RF implies (NOT SO).

From an exegetical perspective, there is no evidence at all that the application of RF to the Secret Doctrine is motivated by the purpose of making all perceptual judgements true. The only driving consideration behind the various stages of the argument is that RF is incompatible with *any* form of continuity.[96]

6.5 A refutation of radicals

I propose that Plato correctly believes that the Secret Doctrine does not entail RF. Further, I propose that Plato correctly believes that neither being a doctrinal proponent of NP nor being a doctrinal proponent of TH commits one to RF.[97] What then motivates him to show that TH is incompatible with RF and to refute RF?

First, I propose that Plato believes that there are some actual doctrinal proponents of NP and some actual doctrinal proponents of TH. This would explain why Socrates seems to ascribe the theory of perception (the central component of the Secret Doctrine) to actual thinkers (without mentioning them by name).[98] Let us suppose that proponents of the theory of perception are doctrinal pro-

[95] See Lee (2005), pp. 115-7, for a different criticism of Burnyeat's account.

[96] Cf. Thaler (2013), pp. 25-6. Fine (2003a), footnote 62, argues that, since it is possible that we perceive the world as being subject to RF, Protagoras is committed to the view that RF is possible: Protagoras claims that the world is as we perceive it. The refutation then shows that RF is not possible. However, given that RF is incompatible with instances of perception, I do not see how we can perceive the world as subject to RF: the very fact that we perceive something implies that RF is false.

[97] The Secret Doctrine entails NP: therefore, given that the Secret Doctrine does not entail RF, NP does not either. Consequently, doctrinal proponents of NP are not committed to RF. Further, I believe that a doctrinal proponent of NP can add TH to her commitments without thereby becoming committed to RF.

[98] Cf. 155d9-156a3.

ponents of NP: this makes sense, given that the Secret Doctrine (of which the theory of perception is the central component) entails NP. Then Socrates' ascription makes sense if Plato does indeed think that there are some actual doctrinal proponents of NP: Socrates ascribes the theory of perception to those actual doctrinal proponents of NP. I propose that Plato believes that at least some of those actual doctrinal proponents of NP are doctrinal proponents of TH: they endorse TH.

Furthermore, I propose that Plato believes that at least some actual doctrinal proponents of NP are radical and that at least some actual doctrinal proponents of TH are radical. This would explain why Socrates takes the *actual* proponents of RF he and Theodorus had portrayed to subscribe to the theory of perception: when recapitulating the theory of perception, Socrates describes the theory of perception as *their* theory.[99] Socrates thereby assumes that the actual proponents of RF he and Theodorus had portrayed are radical doctrinal proponents of NP (given the assumption that proponents of the theory of perception are doctrinal proponents of NP). Socrates' assumption makes sense if Plato himself believes that the actual proponents of RF Socrates and Theodorus had portrayed are radical doctrinal proponents of NP. I propose that Plato believes that at least some of those actual radical doctrinal proponents of NP are radical doctrinal proponents of TH: they endorse TH. Further, I propose that Plato is interested in showing that both the position of radical doctrinal proponents of TH and the position of radical doctrinal proponents of NP are inconsistent. Plato zooms in on RF, to which both radical schools are committed, and he applies RF to the ontology of the Secret Doctrine, to which both radical schools are committed. First, Plato shows that RF is incompatible with TH, thereby refuting radical doctrinal proponents of TH. Then Plato refutes RF, thereby refuting both radical

[99]Cf. 182a4: 'Σκόπει δή μοι τόδε αὐτῶν·': 'Well now, consider this point of theirs.'

doctrinal proponents of TH and radical doctrinal proponents of NP.

Chapter 4

Why knowledge is not perception: *Theaetetus* 184b-187a

Introduction

This chapter is concerned with the refutation of Theaetetus' definition ('Knowledge is perception'; TH). (184b3-187a8)

Socrates first introduces the notion of a 'common property' (*koinon*): a property instantiated by the objects of multiple senses. Two of the common properties are being (*ousia*) and not being (*to mē einai*). Socrates then argues for the *independence principle*. According to the independence principle, any instance of thinking that an object of perception x—or, indeed, any object y—has some common property F is not an instance of perceiving but of *independent thinking*: thinking without using sense organs or senses. (184d7-186b10) Socrates infers from the independence principle that perception does not attain (*tuchein*) being. Socrates then infers that perception does not attain truth: attaining be-

ing is necessary for attaining truth. Socrates concludes that perception is not knowledge: knowledge does attain truth. (186b11-187a8)

In section 1, I shall argue that Socrates makes the following two assumptions concerning (respectively) what it is to think that an object x has the common property of being and what it is to think that an object x has the common property of not being. First, any instance of thinking that an object x has some property F is an instance of thinking that x has the common property of being. Second, any instance of thinking that an object x does not have some property F is an instance of thinking that x has the common property of not being. Given the independence principle, the first assumption implies that any instance of thinking that an object of perception x has some property F is not an instance of perceiving. Further, given the independence principle, the second assumption implies that any instance of thinking that an object of perception x does not have some property F is not an instance of perceiving. I shall argue that the two assumptions entail that perception is non-conceptual and non-judgemental: perceiving does not involve thinking or judging.

In section 2, I shall argue that attaining being consists in *either* making a true judgement to the effect that some object x has some property F *or* making a true judgement to the effect that some object x does not have some property F.[1] Further, I shall argue that attaining truth consists in making a true judgement.[2] Furthermore, I shall argue that attaining being and attaining truth are supposed to be equivalent. Accordingly, the refutation implies that perceiving does not—and knowing does—involve making true judgements. I shall argue that Socrates' two assumptions about thoughts concerning the common properties of being and not being together with the independence principle imply that perception

[1]Frede (1987), p. 6, and Lott (2011), in particular 4, also claim that attaining being consists in making true judgements about the properties of objects.

[2]Cf. Frede (1987), p. 6, and Lorenz (2006), pp. 78-9.

does not attain being: attaining being entails *either* thinking that some object x has the common property of being (which, given the independence principle, is not an instance of perceiving) *or* thinking that some object x has the common property of not being (which, given the independence principle, is not an instance of perceiving).

I shall contrast my interpretations of attaining being and of attaining truth with the 'propositional interpretations'. According to the b-propositional interpretation, attaining being consists in grasping propositions.[3] According to the t-propositional interpretation, attaining truth consists in grasping true propositions.[4] I shall argue that only my interpretation can account for how the attainment of being and truth is the aim of certain complex forms of reasoning—as Socrates implies 186b11-d5.

In section 3, I shall discuss the contrast Socrates draws between 'examining (*episkopein*) by means of the soul itself' and 'examining by means of the capacities of the body'. (185e3-9) Cooper makes two claims about examining by means of the capacities of the body.[5] First, examining by means of the capacities of the body consists in perceiving. Second, examining by means of the capacities of the body involves thinking or judging that some object of perception x has some property F. On both Fine's and my interpretation, one of Cooper's claims must be false: on both Fine's and my interpretation, the refutation implies that perception is non-conceptual and non-judgemental. Fine disputes Cooper's first

[3]Cf. Burnyeat (1976a), p. 45. According to Fine (2017), pp. 71-2, that perception does not attain being consists in the fact that perception is non-conceptual: perceiving something does not involve thinking of what one perceives as something. For instance, perceiving an instance of redness does not involve thinking of what one perceives as an instance of redness. Fine takes the claim that perception is non-conceptual to be equivalent to the claim that perception does not grasp propositions: cf. her footnote 15. Therefore, Fine takes the claim that perception does not attain being to be equivalent to the claim that perception does not grasp propositions.

[4]Burnyeat (1976a), p. 45 and Fine (2017), pp. 71-2.

[5]Cf. Cooper (1970), p. 132.

claim.[6] I shall argue that *if* Cooper's second claim is true, then there are no instances of examining by means of the capacities of the body.[7]

1 Perceiving versus thinking that the objects of perception have common properties (184b-186b)

1.1 Perceiving *with* the soul *by means of* the sense organs or senses (184b3-d6)

Socrates first makes the following linguistic point, which is supposed to bring out a concomitant epistemological point. (184b3-d6) It is incorrect to say that we perceive *with* the sense organs or senses.[8] ('With' translates the dative). Instead, we ought to say that we perceive *by means of* the sense organs or senses and *with* the soul (*psuchē*). ('By means of' translates '*dia*' plus genitive). I understand the epistemological significance of the linguistic distinction in the following way. That we perceive *with* the soul means that the soul plays a central role in perception by unifying the input from the various sense organs or senses. That we perceive *by means of* the sense organs or senses means that the sense organs or senses function as *instruments* (*organa*: 184d4) in perception: the sense organs or senses do not themselves do the perceiving.[9] The view that the

[6] Cf. Fine (2017), pp. 74-5.

[7] Some discussions of 184b3-187a8 are Cornford (1935), pp. 102-9, Cooper (1970), McDowell (1973), pp. 185-193, Burnyeat (1976a), Modrak (1981), Kanayama (1987), Burnyeat (1990) pp. 52-61, Sedley (2004) 4.3-6, Lorenz (2006), chapter 6, Lott (2011), Fine (2017), and Brown (forthcoming). (Lesley Brown gave me permission to refer to her draft.)

[8] Socrates takes the point to apply to both sense organs and senses: cf. 184c5-7 (ears, eyes) and 184e8-185a2 (hearing (ἀκοή), sight (ὄψις)).

[9] Cf. Burnyeat (1976a), I-IV.

sense organs or senses themselves do the perceiving is supposed to exclude that the soul plays a central role in perception. It is not clear whether it is supposed to be part of the soul's central role in perception that the soul is the *subject* of perception. Sometimes Socrates says that *we* perceive *with* the soul, which may indicate that Socrates supposes that *we* are the subject of perception and that we are not identical to our soul. However, at other times Socrates says that *the soul* perceives, which may indicate that Socrates supposes that the soul is the subject of perception.[10]

1.2 Thinking that the objects of perception have common properties (184d7-186b10)

Socrates and Theaetetus agree on the *anti-commonality principle*: if x can be perceived by means of one sense, x cannot be perceived by means of another sense. (184e8-185a3) The domain of the anti-commonality principle is unclear, but—following Burnyeat—I shall assume that it consists in the special perceptibles (colours, sounds, smells, tastes, and tactile properties) and features of the special perceptibles.[11] Socrates uses the anti-commonality principle to establish the following. Suppose that x (e.g., a sound) and y (e.g., a colour) are objects of different senses and are within the domain of the anti-commonality principle. Further, suppose that a thinks (*dianoeitai*) that x and y both have some property F.[12] Then a's thinking that x and y are both F is not an instance of perceiving.[13] (185a4-c2)

Why is it supposed to follow from the anti-commonality principle that think-

[10]Contrast 184d4-5 (we) and 186b2-4 (the soul). Like Socrates, I shall use both ways of speaking.

[11]Cf. Burnyeat (1976a), pp. 47-8.

[12]I take thinking that p to be equivalent to entertaining the proposition that p. Consequently, thinking that p does not entail judging that p, but judging that p does entail thinking that p.

[13]Cf. McDowell on 185a8-b9.

ing that x and y are both F is not an instance of perceiving? An instance of thinking that x and y are both F is an instance of thinking that has both x and y as its objects. Given the anti-commonality principle, no instance of perceiving can have both x and y as its objects. Consequently, an instance of thinking that x and y are both F is not an instance of perceiving.

F is a *common property* (a *koinon*)[14] if and only if F is instantiated by the objects of multiple senses. The argument just discussed purports to establish the *weak claim*: if x and y are objects of different senses and are both within the domain of the anti-commonality principle, and if F is a common property, then an instance of thinking that x and y are both F is not an instance of perceiving.

In the course of the argument, Socrates and Theaetetus will assume not only the weak claim, but also the *strong claim*: if x is the object of a single sense and is within the domain of the anti-commonality principle, and if F is a common property, then an instance of thinking that x is F is not an instance of perceiving. (185c3-186b10)

The weak claim does not entail the strong claim. Suppose that x is within the domain of the anti-commonality principle. The weak claim leaves it open that an instance of thinking that x has a common property F is an instance of perceiving. Socrates and Theaetetus do not argue for the strong claim.

Socrates and Theaetetus agree that, unlike perceiving, thinking that an object of perception x—or indeed any object y—has some common property F is not done by means of a bodily or embodied instrument (such as a sense organ or a sense). Rather, the soul thinks such thoughts 'itself, by itself' ('*autē di'hautēs*'), i.e., without using a bodily organ (such as a sense organ) or an embodied faculty (such as a sense) as an instrument. (185c9-e9) I shall refer to the soul's thinking without using a bodily or embodied instrument as the soul's *indepen-*

[14]Cf. 185c5 and e1 for the term '*koinon*'.

dent thinking. Accordingly, Socrates and Theaetetus agree on the *independence principle*:

> **Independence principle**: any instance of thinking that an object x has some common property F is an instance of independent thinking.

The independence principle entails the strong claim. Suppose that x is the object of a single sense and is within the domain of the anti-commonality principle. The independence principle entails that thinking that x has a common property F is not an instance of perceiving.

1.3 Being and not being as common properties

Two of the common properties are *being* (*ousia*) and not being (*to mē einai*).[15] I take both being and not being to be incomplete: being amounts to being *something* and not being amounts to not being *something*.[16] This would explain why Socrates implies that being and not being are instantiated by everything:[17] each thing *is* some things (for instance, the instance of whiteness I see is a colour) and *is not* other things (for instance, the instance of whiteness I see is not a sound).

[15]Cf. 185c5-6 and c9.

[16]Cf. Fine (2017), p. 71.

[17]Cf. 185c3-8 (c4-5: being and not being are amongst 'what is common to everything': 'τό [...] ἐπὶ πᾶσι κοινὸν') and 186a2-3.

1.4 Thinking that something has the property of (not) being something (186b2-9)

1.4.1 Being

Consider the following passage (186b2-9):[18]

> [**Text 19**] SOC: Hold on. It [the soul] will perceive the hardness of what's hard by means of touch, won't it, and the softness of what's soft in the same way? THT: Yes. SO: But their being, and that they both are, and their oppositeness to each other, and the being, in its turn, of this oppositeness, are things which the soul itself tries to determine for us, by reviewing them and comparing them with one another.

Socrates distinguishes between perceiving hardness and softness and independent thinking[19] about the being (*ousia*) of the hardness and softness one perceives. I take it that the instances of independent thinking Socrates describes are supposed to be instances of thinking that the hardness and softness one perceives have the property of being something. Given that the property of being something is a common property, the independence principle entails that instances of thinking that the hardness and softness one perceives have the property of being something are instances of independent thinking, as Socrates assumes.

But what does thinking that the hardness and softness one perceives have the property of being something consist in?

Thinking$^{de\ dicto}$ that the hardness one perceives has the property of being something consists in thinking that the hardness one perceives is something, where one would express one's thought (in English) by means of a sentence of

[18] ΣΩ. Ἔχε δή· ἄλλο τι τοῦ μὲν σκληροῦ τὴν σκληρότητα διὰ τῆς ἐπαφῆς αἰσθήσεται, καὶ τοῦ μαλακοῦ τὴν μαλακότητα ὡσαύτως; ΘΕΑΙ. Ναί. ΣΩ. Τὴν δέ γε οὐσίαν καὶ ὅτι ἐστὸν καὶ τὴν ἐναντιότητα πρὸς ἀλλήλω καὶ τὴν οὐσίαν αὖ τῆς ἐναντιότητος αὐτὴ ἡ ψυχὴ ἐπανιοῦσα καὶ συμβάλλουσα πρὸς ἄλληλα κρίνειν πειρᾶται ἡμῖν.

[19] Cf. 186b7-8: 'αὐτὴ ἡ ψυχὴ': 'the soul itself'.

the form 'x is something', in which 'x' refers to the instance of hardness one perceives. Thinking$^{de\ dicto}$ that the hardness one perceives has the property of being something involves *de dicto* thinking about being something: it involves thinking about being something *as* being something.

Thinking$^{de\ re}$ that the hardness one perceives has the property of being something consists in thinking, about some one property F, that the hardness one perceives has the property F. One is thinking$^{de\ re}$ that the hardness one perceives has the property of being something if one would express one's thought (in English) by means of the sentence 'This is hard' (in which 'this' refers to the instance of hardness one perceives). Thinking$^{de\ re}$ that the hardness one perceives has the property of being something involves *de re* thinking about being something: it involves thinking about something (being F) that is an *instance* of being something.

In general, thinking$^{de\ dicto}$ that some object x has the property of being something consists in thinking that x is something. Further, in general, thinking$^{de\ re}$ that some object x has the property of being something consists in thinking, about some one property F, that x has the property F.

I take it that when Socrates speaks of thinking that some object x (such as the hardness one perceives) has the property of being something, Socrates is speaking of thinking$^{de\ re}$ that x (such as the hardness one perceives) has the property of being something: thinking that some object x has the property of being something consists in thinking$^{de\ re}$ that x has the property of being something.

Therefore, given the independence principle, any instance of thinking$^{de\ re}$ that some object x has the property of being something is an instance of independent thinking: any instance of thinking$^{de\ re}$ that x has the property of being something

is an instance of thinking that x has the common property of being something.

1.4.2 Not being

Thinking$^{de\ re}$ that some object x has the property of not being something consists in thinking, about some one property F, that x does not have the property F.

In line with my interpretation of thinking that some object x has the property of being something, I assume that thinking that some object x has the property of not being something consists in thinking$^{de\ re}$ that some object x has the property of not being something. Given that not being something is a common property, the independence principle implies that any instance of thinking$^{de\ re}$ that some object x has the property of not being something is an instance of independent thinking.

Thinking$^{de\ re}$ that x has the property of being^{broadly} something consists in *either* thinking, about some one property F, that x has the property F, *or* thinking, about some one property F, that x does not have the property F. The independence principle implies that any instance of thinking$^{de\ re}$ that x has the property of being^{broadly} something is an instance of independent thinking.

1.4.3 Philosophical implications: perception is non-conceptual and non-judgemental

That any instance of thinking$^{de\ re}$ that x has the property of being^{broadly} something is an instance of independent thinking has interesting philosophical implications. Here are two.

First, perception is non-conceptual. Perception is conceptual if and only if perceiving x involves thinking that x has some property F. (For instance, perception is conceptual if touching involves thinking that what one perceives is hard.) Socrates denies that perception is conceptual: given that an instance of

thinking that an object of perception x has some property F is an instance of thinking$^{de\ re}$ that x has the property of being^{broadly} something, it is an instance of independent thinking.

Second, and by implication, perception is non-judgemental. Perception is judgemental if and only if perceiving x involves judging that x has some property F. (For instance, perception is judgemental if touching involves judging that what one perceives is hard.) Socrates denies that perception is judgemental: an instance of judging that an object of perception x has some property F is an instance of thinking that x has some property F; an instance of thinking that x has some property F is an instance of thinking$^{de\ re}$ that x has the property of being^{broadly} something; an instance of thinking$^{de\ re}$ that x has the property of being^{broadly} something is an instance of independent thinking.

2 Attaining being and truth (186b-187a)

2.1 Text (186b11-d5) and preliminary discussion

Socrates proceeds in the following way (186b11-d5):[20]

> [**Text 20**] SOC: So there are some things which both humans and animals are able by nature to perceive from the moment they're born, namely all the experiences which reach the soul through the body. But as for calculations about those things, with respect to being and usefulness, they're acquired, by those who do acquire them, with toil, over time, with a great deal of difficulty, and by means of education.
> THT: Absolutely.
> SOC: Well now, is it possible that someone should attain truth if he doesn't attain being either?
> THT: No.
> SOC: And will someone ever have knowledge of something whose truth he won't attain?
> THT: Of course not, Socrates.
> SOC: So knowledge is located, not in our experiences, but in our reasoning about them; because it's possible, apparently, to grasp being and truth in the latter, but impossible in the former.

What Socrates says in Text 20 implies an argument along the following lines, which he makes fully explicit in the subsequent passage (186d7-e10):[21]

(i.) Knowledge attains (*tunchanei*) truth (*alētheias*). (Premiss: cf. 186e7.)[22]

(ii.) Attaining being is necessary for attaining truth. (Premiss: cf. 186e4-5)[23]

[20] ΣΩ. Οὐκοῦν τὰ μὲν εὐθὺς γενομένοις πάρεστι φύσει αἰσθάνεσθαι ἀνθρώποις τε καὶ θηρίοις, ὅσα διὰ τοῦ σώματος παθήματα ἐπὶ τὴν ψυχὴν τείνει· τὰ δὲ περὶ τούτων ἀναλογίσματα πρός τε οὐσίαν καὶ ὠφέλειαν μόγις καὶ ἐν χρόνῳ διὰ πολλῶν πραγμάτων καὶ παιδείας παραγίγνεται οἷς ἂν καὶ παραγίγνηται; ΘΕΑΙ. Παντάπασι μὲν οὖν. ΣΩ. Οἷόν τε οὖν ἀληθείας τυχεῖν, ᾧ μηδὲ οὐσίας; ΘΕΑΙ. Ἀδύνατον. ΣΩ. Οὗ δὲ ἀληθείας τις ἀτυχήσει, ποτὲ τούτου ἐπιστήμων ἔσται; ΘΕΑΙ. Καὶ πῶς ἄν, ὦ Σώκρατες; ΣΩ. Ἐν μὲν ἄρα τοῖς παθήμασιν οὐκ ἔνι ἐπιστήμη, ἐν δὲ τῷ περὶ ἐκείνων συλλογισμῷ· οὐσίας γὰρ καὶ ἀληθείας ἐνταῦθα μέν, ὡς ἔοικε, δυνατὸν ἅψασθαι, ἐκεῖ δὲ ἀδύνατον.

[21] I take 'τυχεῖν' (cf. 186c7 and 'ἀτυχήσει' at c9) and 'ἅψασθαι' (cf. 186d4) to be equivalent.

[22] 'SOC: So [perception is] not [able to grasp] knowledge either.' (ΣΩ. Οὐδ' ἄρ' ἐπιστήμης.) Implies that knowledge grasps truth: see 186e4-5.

[23] 'SOC: We say that [perception] is not able to grasp truth; because it is not able to grasp being either.' (Ὅτι γε, φαμέν, οὐ μέτεστιν ἀληθείας ἅψασθαι· οὐδὲ γὰρ οὐσίας.)

(iii.) Perception does not attain being (*ousias*). (Premiss: cf. 186e4-5)

(iv.) Perception does not attain truth. (From (ii.) and (iii.): cf. 186e4-5)

(v.) Knowledge is not perception. (From (i.) and (iv.): cf. 186e9-10.)[24]

There are two crucial questions. First, what do attaining being and attaining truth consist in? Second, why does perception not attain being? In relation to the first question, I shall first discuss the propositional interpretations.

2.2 Attaining being and attaining truth: the propositional interpretations and the calculations

2.2.1 The propositional interpretations

According to the *b*-propositional interpretation, attaining being consists in grasping a proposition, whether the proposition is true or false: if I have grasped a proposition p (whether p is true or false), I have thereby attained being. Accordingly, Socrates claims that knowing involves grasping propositions, whereas perceiving does not. Further, according to the *t*-propositional interpretation, attaining truth consists in grasping true propositions: if I grasp a true proposition p, I have thereby attained truth. Accordingly, Socrates claims that knowing involves grasping true propositions, whereas perceiving does not.[25] Let us assume that *propositional interpreters* accept both propositional interpretations.

2.2.2 The calculations

Here is a problem with the propositional interpretations. Before introducing the notions of attaining being and attaining truth, Socrates draws a contrast

[24] 'SOC: So knowledge and perception could never be the same thing, Theaetetus.' (ΣΩ. Οὐκ ἄρ' ἂν εἴη ποτέ, ὦ Θεαίτητε, αἴσθησίς τε καὶ ἐπιστήμη ταὐτόν.)

[25] See footnotes 3 and 4 on the proponents of the propositional interpretations.

between perceiving and doing calculations (*analogismata*)[26] about the being of what one perceives. (186b11-c5) Some of those calculations about the being of what one perceives are supposed to be very complex: Socrates claims that it requires time, a great deal of effort[27], or education to master some of them and he implies that some humans are not able to do some of them. (I assume that not each of the qualifications (it requires time, it requires a great deal of effort, it requires education, and some humans are not able to do them) applies to each calculation: Socrates has in mind a wide variety of calculations, some of which are harder than others: I shall discuss this below.)

I assume that the aim of the calculations is to attain being and truth: Socrates implies this by introducing the notions of attaining being and truth in the context of a contrast between perceiving and doing the calculations about the being of the perceived. However, I think that the aim of the calculations is not to grasp (true) propositions: Socrates emphasizes how complex some of the calculations are, whereas grasping (true) propositions is an aim that is generally very easy to achieve. (I take grasping a proposition p to consist in understanding p: consequently, whether or not p is true does not make a difference as to how hard it is to grasp p.) Therefore, I believe that attaining being does not consist in grasping propositions (contrary to the *b*-propositional interpretation) and that attaining truth does not consist in grasping true propositions (contrary to the *t*-propositional interpretation).

Here are two ways in which the propositional interpreter could respond.

First, the propositional interpreter could accept my assumption that the aim of the calculations is to attain being and truth. Let us focus on attaining being.

[26] I follow McDowell's translation of 'ἀναλογίσματα', but I do not imply that ἀναλογίσματα have anything to do with mathematics.

[27] 'a great deal of effort' paraphrases the combination of 'with toil' ('μόγις': 186c3) and 'with a great deal of difficulty' ('διὰ πολλῶν πραγμάτων': 186c4).

Accordingly, the propositional interpreter has to argue that the aim of the calculations is to grasp propositions: the calculations are the cognitive operations that enable us to grasp propositions.

The first response is incompatible with Socrates' characterization of the calculations: it does not require time, a great deal of effort, or education to master any of the cognitive operations enabling us to grasp propositions, given how simple it is to grasp propositions. Moreover, all cognitively ordinary humans master all such cognitive operations: all cognitively ordinary humans can grasp propositions. However, Socrates implies that some humans cannot do some of the calculations. I take it that Socrates does not just mean to imply that cognitively non-ordinary humans cannot do some of the calculations: Socrates implies that some cognitively ordinary humans cannot do some of the calculations either.[28] There may be propositions in some specific domains (such as mathematics) that are difficult to grasp and that some cognitively ordinary humans cannot grasp, but those are very specific propositions: in general, it is misleading to characterize the cognitive operations enabling us to grasp propositions in the way Socrates characterizes the calculations.

Alternatively, the propositional interpreter could deny my assumption: the aim of the calculations is not to attain being. But this raises the question of why Socrates introduces the notion of attaining being in the context of the contrast between perceiving and doing the calculations: Socrates suggests that the calculations are relevant to attaining being. The calculations may be relevant to attaining being without having attaining being as their aim. It is hard to see, however, how the calculations Socrates describes are in any way relevant to grasping propositions: some of the calculations are supposed to be very complex,

[28]Pace Frede (1987), pp. 7-8, and Lorenz (2006), pp. 92.

whereas grasping propositions is generally very easy.[29]

2.3 Attaining the being and the truth *of something*

Another desideratum for interpretations of the notions of attaining being and attaining truth is that they should be able to account for the fact that Socrates speaks of attaining the truth *of something*.[30] I take it that the qualification 'of something' can also be combined with attaining being: accordingly, I take it that attaining the truth of x requires attaining the being of x.[31]

2.4 My account

Let us stipulate that judging$^{de\ re}$ that x has the property of being something consists in judging, about some one property F, that x has the property F. Further, judging$^{de\ re}$ that x has the property of being^{broadly} something consists in *either* judging, about some one property F, that x has the property F *or* judging, about some one property F, that x does not have the property F.

I propose the following interpretations of attaining being and of attaining truth:

> **Attaining being**: making a true judgement$^{de\ re}$ that some object x has the property of being^{broadly} something.
>
> **Attaining truth**: making a true judgement.

[29]Fine (2017), pp. 75-6 and footnote 31, argues that the contrast between perceiving and doing the calculations is a contrast between perceiving and knowing: Fine thinks that the calculations are not directly relevant to attaining being.

[30]Cf. 186c9-10: 'And will someone ever have knowledge of something whose truth he won't attain?' ('Οὔ δὲ ἀληθείας τις ἀτυχήσει, ποτὲ τούτου ἐπιστήμων ἔσται;')

[31]Brown (forthcoming), 3, discusses the importance of this qualification. Brown argues that 'attaining the truth of something' is best interpreted as 'grasping what something really is'.

Further, I propose that attaining truth is supposed to be equivalent to attaining being: making a true judgement is supposed to be equivalent to making a true judgement$^{de\ re}$ that some object x has the property of being^{broadly} something. This equivalence does in fact hold in all and only all cases in which the object of the true judgement is either a proposition to the effect that some object x has some one property F or a proposition to the effect that some object x does not have some one property F. Accordingly, I assume that Socrates' argument and the supposed equivalence are restricted to true judgements of this type.

Accordingly, I propose the following interpretations of attaining the being *of something* and of attaining the truth *of something*:

> **Attaining the being of *x***: making a true judgement$^{de\ re}$ that x has the property of being^{broadly} something.[32]
>
> **Attaining the truth of *x***: making a true judgement that is equivalent to a true judgement$^{de\ re}$ that x has the property of being^{broadly} something.

Given my interpretations of attaining being and of attaining truth, Socrates claims that knowing involves making true judgements: knowledge attains being and truth.

Given my interpretation of attaining being, that perception does not attain being follows from what had been established before. An instance of making a

[32]Cf. Frede (1987), p. 6: '[...] by 'grasping being' Plato here means no more than that the mind in forming a true belief manages to settle the question of the being of something correctly.' Cf. Lott (2011), p. 348: 'Grasping the *ousia* of F indicates correctly apprehending a state of affairs of F *being* (about x).' Lott calls this the 'Realist Reading', which he contrasts with the 'Conceptualist Reading' (pp. 347-8): 'Grasping the *ousia* of F indicates grasping the concept of being F (about an unspecified x).' If the ability to grasp concepts is equivalent to the ability to grasp propositions (cf. footnote 3), then what Lott calls the Conceptualist Reading is equivalent to what I call the *b*-propositional interpretation. Part of Lott's objection to the Conceptualist Reading (5-6 and 8) is similar to my objection to the *b*-propositional interpretation: it cannot account for the role of the calculations. Lott, however, argues (7) that what he calls *stage one* (184b3–186a1) is also concerned with grasping (or attaining) being. I disagree: stage one is concerned with thinking$^{de\ re}$ that x has the property of being^{broadly} something, which is not equivalent to attaining being.

true judgement$^{de\ re}$ that x has the property of being^{broadly} something (i.e., attaining being) is an instance of thinking$^{de\ re}$ that x has the property of being^{broadly} something: when I truly judge that x is (not) F, I thereby also think that x is (not) F. Therefore, an instance of attaining being is *either* an instance of thinking that some object x has the common property of being something (which is not an instance of perceiving but of independent thinking) *or* an instance of thinking that some object x has the common property of not being something (which is not an instance of perceiving but of independent thinking). In other words, attaining the being (or, by implication, the truth) of some object x is not an instance of perceiving but of independent thinking, even if x is an object of perception.

2.5 How the calculations aim to attain being and truth

2.5.1 My account of the calculations

Let us stipulate that judgements about the properties of the objects of perception are *perception-related* judgements. All perceptual judgements are perception-related judgements, but not all perception-related judgements are perceptual judgements. On the one hand, the judgement that the wine is bitter is both a perceptual judgement and a perception-related judgement: it is a perception-related judgement because it concerns a property (belonging to the wine) of an object of perception (bitterness). On the other hand, the judgement that the moon is not really yellow is not a perceptual judgement but it is a perception-related judgement: it is a perception-related judgement because it concerns a property (not really belonging to the moon) of an object of perception (yellowness).

I take the calculations (at 186c2-5) to consist in thinking$^{de\ re}$ that objects

of perception x have the property of being^{broadly} something: the calculations are inquiries into whether the objects of perception do or de not have certain properties. The inquiries aim to yield true perception-related judgements that constitute answers to the following kinds of questions:

(1.) I have a sensation of bitterness when tasting the wine, but is the wine really bitter or does my fever distort the taste of the wine?

(2.) The sounds I hear when listing to this singer are very beautiful, but is it useful to listen to them? (Cf. 186c3: the calculations are also concerned with the usefulness (*ōpheleia*) of what one perceives.)

(3.) What are the musical properties of the sequence of sounds I hear?

(4.) Is the moon really yellow, as it seems to be?

(5.) Socrates believes that the stone is yellow and I believe that the stone is white: who is right?

(6.) What does being yellow or being white consist in?

It is plausible that it requires time to be able to inquire successfully into any of these issues: for instance, successful inquiry into fairly simple questions such as (1.) and (5.) requires an awareness of the distinction between appearance and reality, which young children do not have. Further, it requires a great deal of effort and education to inquire successfully into most of these issues: in order to inquire successfully into issues such as (2.), (3.), (4.), and (6.), one has to be aware of fairly complex facts of which uneducated people are not aware and one has to make a lot of effort. Furthermore, it is plausible that some cognitively ordinary humans (regardless of their age or educational background) are not able to inquire successfully into many of these questions: they lack the prerequisite philosophical mindset to be able to inquire successfully into questions such as (2.), (3.), (4.), and (6.). Specifically, it is plausible that some of these issues,

such as (3.) and (6.), can only be inquired into successfully by people who are skilled in the relevant fields. For instance, it is plausible that only someone who is skilled in music can successfully inquire into (3.).

Further, the aim of the calculations is to attain the being and the truth of the objects of perception: their aim is to make true judgements concerning the objects of perception.

2.6 Objections to my account and responses

One may object that my account, like the propositional interpretations, makes the link between the inquiries and attaining being and truth very weak. Here are two more specific objections to this effect. First, one does not have to do the inquiries to make true judgements that constitute answers to the questions with which the inquiries are concerned: such true judgements need not be based on an inquiry, even though they may be unjustified if not based on an inquiry. Second, the inquiries are concerned with difficult questions: mostly when one makes perception-related judgements, one is not concerned with such difficult questions and one does not make perception-related judgements on the basis of an inquiry.

Here are some considerations in response to (respectively) the first and the second objection.

First, doing the inquiries increases the likelihood of making true judgements that constitute answers to the questions of the inquiries. The likelihood of making true judgements is also high if one relies on the results of other people's inquiries without inquiring oneself: however, if one relies on other people's inquiries without inquiring oneself, one still relies on the inquiries indirectly.

Second, the range of inquiries and their scope is very broad: some inquiries

are fairly simple and aim to yield true answers to fairly simple questions. (Cf. (1.) and (5.).) Successfully doing such simple inquiries into simple question increases the likelihood of making true perception-related judgements in the whole domain related to the inquiry. For instance, successfully inquiring into (1.) increases the likelihood of making true judgements in the whole domain of tastes: a successful inquiry into (1.) increases one's knowledge of tastes and makes it more likely that one will make true judgements concerning tastes.

Further, having drawn the contrast between perception and the calculations (at 186b11-c5) and having introduced the notions of attaining being and truth (186c7-10), Socrates goes on to contrast perceiving with reasoning (*syllogismos*) about the perceived (at 186d2-5). Socrates claims that being and truth are attained (not in perceiving, but) in reasoning about the perceived. (Cf. 186d2-5.) I assume that the reasoning about the perceived under consideration, like the calculations at 186c2-5, consists in thinking$^{de\ re}$ that objects of perception x have the property of being^{broadly} something: inquiring into the properties of the objects of perception. When drawing the second contrast (at 186d2-5), Socrates does not emphasize the complexity of the inquiries under consideration. Whether the two contrasts (186b11-c5 and 186d2-5) are equivalent or whether the second contrast (186d2-5) is more inclusive with respect to the forms of inquiries it encompasses, the second contrast encompasses a wide range of inquiries, not all of which are very complex. Consequently, the second contrast implies that the range of cases in which one can make perception-related judgements on the basis of inquiries is very wide and that many inquiries are simple and concerned with simple questions.

3 Examining by means of the soul itself versus examining by means of the capacities of the body (185e)

3.1 Cooper on examining by means of the capacities of the body

Theaetetus proposes that any instance of thinking that an object x has a common property F is not an instance of thinking that uses a bodily instrument (and, by implication, is not an instance of perceiving), but is an instance of examining (*episkopein*) done by the soul itself, by means of itself (*autē di'hautēs*).[33] (I shall refer to the latter as 'the soul's examining by means of itself'.) (185d6-e2) Socrates agrees and claims that the soul examines some things by means of itself and examines other things by means of the capacities of the body.[34] (185e3-9)

I take the soul's examining by means of itself to consist in independent thinking: thinking without using the sense organs or senses as instruments. Consequently, Theaetetus and Socrates agree on the independence principle: any instance of thinking that an object x has a common property F is instance of independent thinking.

Cooper makes two claims about examining by means of the capacities of the

[33] 185d7-e2: 'It seems to me that there simply isn't any instrument of that kind [i.e., of the bodily kind, like the sense organs: cf. 185d2-3] peculiar to those things [common properties], as there is in the case of those others [perceptual properties]. On the contrary, it seems to me that the soul itself, by means itself, examines the common properties with regard to everything.' (μοι δοκεῖ τὴν ἀρχὴν οὐδ' εἶναι τοιοῦτον οὐδὲν τούτοις ὄργανον ἴδιον ὥσπερ ἐκείνοις, ἀλλ' αὐτὴ δι' αὑτῆς ἡ ψυχὴ τὰ κοινά μοι φαίνεται περὶ πάντων ἐπισκοπεῖν.)

[34] 185e5-7: 'And besides being beautiful, you've done me a favour: you've let me off a very long argument, if you think there are some things which the soul itself examines, by means of itself, and some which it examines by means of the capacities of the body.' (πρὸς δὲ τῷ καλῷ εὖ ἐποίησάς με μάλα συχνοῦ λόγου ἀπαλλάξας, εἰ φαίνεταί σοι τὰ μὲν αὐτὴ δι' αὑτῆς ἡ ψυχὴ ἐπισκοπεῖν, τὰ δὲ διὰ τῶν τοῦ σώματος δυνάμεων.)

body.[35] First, examining by means of the capacities of the body consists in perceiving. Second, examining by means of the capacities of the body involves (what I call) thinking$^{de\ re}$ that an object of perception x has the property of being something. In relation to the second claim, Cooper holds that examining by means of the capacities of the body involves things such as thinking that what one sees is red. Indeed, Cooper makes a stronger version of the second claim: examining by means of the capacities of the body involves (what I call) judging$^{de\ re}$ that an object of perception x has the property of being something. For instance, Cooper holds that examining by means of the capacities of the body involves things such as judging that what one sees is red.

Fine, like me, takes the refutation to imply that perceiving does not involve (what I call) thinking$^{de\ re}$ that an object of perception x has the property of being something.[36] Therefore, according to both Fine's and my interpretation of the refutation, one of Cooper's claims must be false. Fine disputes Cooper's first claim: Fine claims that examining by means of the capacities of the body does *not* consist in perceiving.[37] Fine does not dispute Cooper's second claim: indeed, Fine seems to agree with Cooper's second claim that examining by means of the capacities of the body involves thinking$^{de\ re}$ that an object of perception x has the property of being something.

I believe that *if* Cooper's second claim is true, there are no instances of examining by means of the capacities of the body. Theaetetus proposed that any instance of thinking that an object x has a common property F is an instance (not of perceiving, but) of examining by means of the soul itself. (185d6-e2) Socrates agreed. (185e3-9) Given that any instance of thinking$^{de\ re}$ that an object of perception x has the property of being something is an instance of thinking that

[35]Cf. Cooper (1970), p. 132.
[36]Cf. Fine (2017), pp. 71-2.
[37]Cf. Fine (2017), pp. 74-5.

x has a common property F (as it is an instance of thinking that x has the common property of being something), Socrates agrees by implication that any instance of thinking$^{de\ re}$ that an object of perception x has the property of being something is an instance of examining by means of the soul itself. Further, I take examining by means of the soul itself and examining by means of the capacities of the body to be mutually exclusive: no instance of examining by means of the soul itself is an instance of examining by means of the capacities of the body, and vice versa. Consequently, no instance of thinking$^{de\ re}$ that an object of perception x has the property of being something is an instance of examining by means of the capacities of the body. Therefore, *if* Cooper is right that examining by means of the capacities of the body involves thinking$^{de\ re}$ that an object of perception x has the property of being something, then examining by means of the capacities of the body must be a concept without instances: all instances of thinking$^{de\ re}$ that an object of perception x has the property of being something are instances of examining by means of the soul itself.

3.2 Examining by means of the capacities of the body and perceiving

But what does examining by means of the capacities of the body consist in? Here are two possible interpretations.

On one interpretation, Cooper's first claim is true: examining by means of the capacities of the body consists in perceiving. Given that Plato holds that perception is non-conceptual, Plato holds that perceiving does not involve thinking. One may argue that examining (*episkopein*) is a form of thinking: if examining as understood here is indeed a form of thinking, then examining by means of the capacities of the body does not consist in perceiving. However, it is not clear

whether examining as understood here is a form of thinking: possibly, examining as understood here is a broad cognitive concept covering non-conceptual forms of cognition, such as perception.

On another interpretation, Cooper's second claim is true: examining by means of the capacities of the body consists in *dependent thinking*. Something is an instance of dependent thinking if and only if (i) it involves the use of sense organs and senses as instruments and (ii) it involves thinking that some object of perception x has some non-common property F. This interpretation does not imply that perceiving involves thinking. Perceiving is part of dependent thinking (given (i)), but perceiving is not the whole of it: the thinking in dependent thinking may not be a matter of perceiving.

The independence principle implies that there are no instances of dependent thinking: (i) and (ii) are incompatible. The independence principle implies that any instance of thinking that an object x (whether x is an object of perception or not) has a property F (whether F is a common property or not) is an instance of independent thinking: any instance of thinking that an object x has a property F is an instance of thinking$^{de\ re}$ that x has the property of being something, and the latter amounts to thinking that x has the common property of being something. Therefore, any instance of thinking that satisfies (ii) is an instance of independent thinking. But that means that no instance of thinking satisfies both (i) and (ii): to satisfy (i), it has to use the sense organs and senses as instruments, whereas to satisfy (ii), it must not use the sense organs and senses as instruments.

Socrates does claim that there are instances of dependent thinking: Socrates claims that the soul examines some things by means of the capacities of the body. However, perhaps we should see Socrates' claim in light of the stage of the

argument at which he makes it: Socrates and Theaetetus have established that all instances of thinking that an object x has a common property F are instances of independent thinking, but they have not yet established that all instances of thinking that an object x has a property F are instances of thinking that x has the common property of being something. They have not established the latter yet because they have not established yet what exactly thinking that an object x has the common property of being something consists in. At this stage, it is still unclear whether thinking that an object x has the common property of being something consists in thinking$^{de\ dicto}$ that x has the property of being something or whether it consists in thinking$^{de\ re}$ that x has the property of being something. The only explicit example so far of thinking that an object x has the property of being something is the following: thinking that a sound and a colour both are. (185a8-9)[38] The example can be taken to be an instance of thinking$^{de\ dicto}$ that a sound and a colour have the property of being something: thinking a thought that one would express by means of the sentence 'This sound and this colour both are.' It is only in Text 19 and 20 (186b2-d5) that the *de re* understanding becomes mandatory: only the *de re* understanding implies that perception does not attain being. Consequently, it is not clear at this stage that even instances of thinking that an object of perception x has a non-common property F are instances of independent thinking given that they are instances of thinking that x has the common property of being something. In claiming that there are some instances of dependent thinking, Socrates assumes, for the moment, that some instances of thinking that an object of perception x has a non-common property F are instances of dependent thinking: at this point, he is mainly interested in securing Theaetetus' agreement to the view that instances of thinking that an

[38] 'SOC: Now take a sound and a colour. First of all, you think just this about them: that they both are.' (ΣΩ. Περὶ δὴ φωνῆς καὶ περὶ χρόας πρῶτον μὲν αὐτὸ τοῦτο περὶ ἀμφοτέρων ἦ διανοῇ, ὅτι ἀμφοτέρω ἐστόν;)

object x has a common property F are instances of independent thinking.

The refutation does not imply that we never use the sense organs or senses as instruments to form beliefs. What is implied is that thinking and judging are modes of cognition that do not involve using the sense organs or senses as instruments: this applies even in cases in which the thinking or judging is concerned with the objects of perception. All instances of thinking or judging are instances of independent thinking. In line with this, Socrates and Theaetetus will go on to identify examining by means of the soul itself with *forming beliefs* (*doxazein*). (Cf. 187a1-8.)[39] I take forming beliefs to be a combination of thinking and judging. Forming beliefs encompasses forming perception-related beliefs.

Plato has a modular view of the relationship between perception and the formation of beliefs. Perception and the formation of beliefs are separate modes of cognition, even in the case of perception-related beliefs: perceiving does not involve forming beliefs, and forming beliefs does not involve perceiving. However, that perception and belief formation are separate modes of cognition does not exclude that the formation of beliefs relies on perception: the formation of beliefs may draw on information made available by perception. Suppose that Socrates forms the perceptual belief that the stone is white. According to Plato's analysis, Socrates does not use the sense organs or senses as instruments in forming the belief that the stone is white: forming the belief that the stone is white is an instance of independent thinking. However, Socrates does use the sense organs and senses in looking at the stone and perceiving an instance of whiteness. Further, when Socrates forms the belief that the stone is white, he does rely on perception: he draws on information made available by his perception of the stone. According

[39] I take 187a5-6 ('ὅταν αὐτὴ καθ' αὑτὴν πραγματεύηται περὶ τὰ ὄντα': 'when [the soul] is busying itself, by itself, about the things which are') to describe independent thinking.

to this modular view, perception and the formation of perception-related beliefs are isolated to the degree that the formation of perception-related beliefs does not involve the use of the sense organs or senses as instruments: rather, belief formation 'outsources' the use of sense organs and senses to gather perceptual information to a separate mode of cognition, namely perception.

Conclusions

1. Overview of the conclusions per chapter

In chapter 1, I argued that Theaetetus' definition ('Knowledge is perception') commits Theaetetus to Narrow Protagoreanism: each perceptual belief corresponds with how things are in relation to the believer. Narrow Protagoreanism presupposes ontic relationalism with regard to perceptual properties: whether or not an object x has a perceptual property F is relative to each individual human; x may be F in relation to one human and not F in relation to another human. (151e1-152c7) The Secret Doctrine (152d2-160c10) underpins Narrow Protagoreanism by means of a process ontology: perceptual properties are processes involving objects and perceivers. The Flux Thesis rejects the view that things *are** F in favour of the view that things are *becoming** F. That x is* F means that x is *impersonally* F: F is not subject to ontic relationalism. That x is becoming* F means that x is getting involved in the F-process with a perceiver a (liminal interpretation) or that x is currently engaging in the F-process with a perceiver a (persistent interpretation): the text does not clearly favour either interpretation over the other. The linguistic reforms reject the copula 'is*' in favour of the copula 'become*': 'is*' is the copula 'is' used to express being*, whereas 'become*' is the copula 'become' used to expressed becoming*. Within the perceptual domain, the impersonal propositions expressed by sentences con-

taining 'is*' (such as 'The stone is white') are, from Protagoras' perspective, pseudo-propositions, whereas the Protagorean propositions expressed by sentences containing 'become*' (such as 'The stone is becoming white in relation to Socrates') or containing 'is' combined with a Protagorean complement (such as 'The stone is white in relation to Socrates') are, from Protagoras' perspective, genuine propositions.

In chapter 2, I argued that Protagoras has a revisionary account of the truth conditions of beliefs concerning matters within the scope of ontic relationalism. Such beliefs are true *simpliciter* if and only if they correspond with how things are in relation to the believer. Protagoras' account of truth conditions has revisionary implications for the truth-evaluable content of such beliefs: their truth-evaluable content consists in Protagorean propositions rather than impersonal propositions. Given Protagoras' revisionary account of truth conditions, Narrow Protagoreanism entails perceptual infallibilism: all perceptual beliefs are true *simpliciter*. Protagoras' Measure Doctrine amounts to infallibilism: all beliefs are true *simpliciter*. The scope of Protagoras' ontic relationalism outside the perceptual domain is indefinite: consequently, the scope of Protagoras' revisionary account of truth conditions concerning beliefs outside the perceptual domain is indefinite. When Socrates claims that, according to Protagoras, beliefs are true *in relation to the believer*, Socrates' claim should be understood in the following way: the truth-evaluable content* of beliefs with revisionary truth conditions is true in relation to the believer. The truth-evaluable content* of a belief is its truth-evaluable content as ordinarily understood: an impersonal proposition. That the truth-evaluable content* of a belief with a revisionary truth condition is true in relation to the believer means that the (revisionary) truth evaluable content of the belief (a Protagorean proposition) is true *simpliciter*. The self-

refutation argument (170c2-171c7) refutes infallibilism: it shows that infallibilism does not give a consistent account of second-order beliefs to the effect that other beliefs are false.

In chapter 3, I argued that the scope of Radical Flux (179d4-183c3) is restricted to the active and passive parents in the theory of perception: the theoretical counterparts of perceptual objects and perceivers. The refutation hinges on the view that Radical Flux precludes 'doctrinal universals' (the universals of the Secret Doctrine) from being instantiated. In combination with the premiss that any doctrinal universal has some instances, the view entails that Radical Flux is incompatible with the existence of doctrinal universals. That Radical Flux is incompatible with the existence of doctrinal universals explains why Radical Flux is incompatible with Theaetetus' definition: Theaetetus' definition presupposes the existence of the doctrinal universal perception. Further, that Radical Flux excludes the instantiation of doctrinal universals explains why Radical Flux is incoherent: change is only possible if there are instances of doctrinal universals. Neither Theaetetus nor Protagoras is committed to Radical Flux: rather, the refutation targets radical proponents of Theaetetus' definition (who endorse Theaetetus' definition, the Secret Doctrine, and Radical Flux) and radical proponents of the Secret Doctrine (who endorse the Secret Doctrine and Radical Flux).

In chapter 4, I argued that the refutation of Theaetetus' definition (184b3-187a8) hinges on the view that perceiving does not involve making true judgements, whereas knowing does. According to the refutation, knowledge is not perception: knowledge attains truth; perception, however, does not attain being, and attaining being is necessary for attaining truth. Further, that perception does not attain being follows from two premisses: (i) being and not being are

common properties: properties instantiated by the objects of multiple senses; (ii) instances of thinking that some object x has some common property F are not instances of perceiving. Attaining being consists in *either* making a true judgement that some object x has some property F *or* making a true judgement that some object x does not have some property F. Attaining truth consists in making a true judgement. Attaining being and attaining truth are supposed to be equivalent. Given (i) and (ii), perception does not attain being. Attaining being entails *either* thinking that some object x has some property F *or* thinking that some object x does not have some property F. Neither instance of thinking is an instance of perceiving: thinking that some object x has some property F is an instance of thinking that some object x has the common property of being (which is not an instance of perceiving), whereas thinking that some object x does not have some property F is an instance of thinking that some object x has the common property of not being (which is not an instance of perceiving).

2. Some open problems and directions for future work

First, the connection between Theaetetus' definition and the Measure Doctrine is weak. Theaetetus' definition commits Theaetetus to perceptual infallibilism, a variant of the Measure Doctrine restricted to perceptual beliefs: Theaetetus' definition commits Theaetetus to Narrow Protagoreanism, and Narrow Protagoreanism (given Protagoras' account of truth conditions) entails perceptual infallibilism.[1] Theaetetus' definition is not equivalent to perceptual infallibilism: perceptual infallibilism does not entail that each instance of knowing is an instance of perceiving. Furthermore, even if (contrary to the refutation of Theaetetus' definition) perception is judgemental, perceptual infallibilism arguably does not

[1]See chapter 1, footnote 20, for some relevant qualifications.

entail that each instance of perceiving is an instance of knowing: that all judgements made by perception are true arguably does not entail that each instance of perceiving is an instance of knowing. Arguably, knowing requires more than consistently making true judgements, even if those true judgements are made by means of an infallible mode of cognition.

The weakness of the connection between Theaetetus' definition and the Measure Doctrine makes one wonder why Plato embeds a discussion of the Measure Doctrine within a discussion of Theaetetus' definition. Plato does not just discuss perceptual infallibilism: the discussion includes a refutation of unrestricted infallibilism (170c2-171c7). Moreover, Plato does *not* attempt to refute perceptual infallibilism. In particular, the refutation of Theaetetus' definition (184b3-187a8) leaves it open whether perceptual infallibilism is true. This raises the question of whether Plato accepts perceptual infallibilism. If, as I believe, Plato does not accept perceptual infallibilism, this raises the question of whether Plato has any arguments against perceptual infallibilism and of why he does not provide those arguments in *Theaetetus* 151e1-187a8.

Second, I argued in chapter 1 that there are interesting similarities between Protagoras' theory of perception and the theory of perception Plato expounds in the *Timaeus*.[2] This raises the question of whether Plato accepts some or all elements of Protagoras' theory of perception. Specifically, it raises the question of whether Plato accepts any or all of the following three views:

(1.) Ontic relationalism with regard to perceptual properties

(2.) Narrow Protagoreanism

(3.) Perceptual infallibilism.

[2]See **1**.3.1. Cf. *Timaeus* 45b2-46c6 and 61d4-68d7.

Protagoras' theory of perception entails (1.). Further, Protagoras' theory of perception entails (2.), provided that there is no gap between the infallibility of perceptual experience and the infallibility of perceptual judgements.[3] Furthermore, (2.) and Protagoras' revisionary account of the truth conditions of perceptual beliefs—an account justified by Protagoras' theory of perception—entail (3.).[4]

I believe that Plato accepts none of these implications of Protagoras' theory of perception. If Plato accepts any of them, it is surprising that he distances himself so much from Protagoras' theory of perception: Plato presents the theory as part of Protagoras' Secret Doctrine and never indicates that he accepts substantial parts of it. This raises the question of how the theory of perception in the *Timaeus* differs from Protagoras' theory in such a way that it does not have any of these implications. A key difference must be that the theory of perception in the *Timaeus* does not make perception infallible: the theory of perception in the *Timaeus* must allow that Socrates perceives the stone as white, even though the stone is, in fact, yellow.[5]

Third, I argued that Plato believes that neither Theaetetus' definition nor the Secret Doctrine entails Radical Flux. This raises the question of why Plato embeds a refutation of Radical Flux within a discussion of Theaetetus' definition and of the Secret Doctrine. I argued that Plato is interested in refuting some actual proponents of the Secret Doctrine who are also proponents of Radical Flux and some actual proponents of both the Secret Doctrine and Theaetetus' definition who are also proponents of Radical Flux. However, that raises the further question of what motivates those two groups of philosophers to endorse

[3]See **3**.6.4.

[4]See **2**.1.3.2-3.

[5]I assume here that, according to the theory of perception in the *Timaeus*, the stone's colour is not subject to ontic relationalism.

Radical Flux.

Fourth, due to a lack of space, I have not been able to discuss some of the material in between the discussion of the Secret Doctrine (152d2-160c10) and the self-refutation argument (170c2-171c7) and in between the self-refutation argument and the refutation of Radical Flux (179d4-183c3). In particular, it would be interesting to examine what I take to be a social variant of ontic relationalism with regard to moral properties (mentioned at 172a1-c1): whether or not something has a moral property F is relative to political communities. In particular, it would be interesting to examine how this social variant of ontic relationalism relates to Protagoras' ontic relationalism with regard to perceptual properties.

Fifth, there seem to be interesting similarities between the common properties in the refutation of Theaetetus' definition (184b3-187a8) and the 'greatest kinds' ('*megista genē*') in the *Sophist*: both include being, sameness, and difference.[6] I wish to examine those similarities in future work.

Sixth, I intend to compare the views of perception and belief espoused in the refutation of Theaetetus' definition (184b3-187a8) with the views of perception and belief espoused elsewhere in the *Theaetetus* and the Platonic corpus, in particular *Republic* 523a1-525e5 (on the 'summoners': '*parakalounta*') and *Theaetetus* 189b12-190e3 (on 'other-judging': '*allodoxia*'). In particular, I am interested in the question of whether the 'summoners' passage in the *Republic* presupposes that perception is judgemental, a supposition that would be contradicted by the refutation of Theaetetus' definition.

Seventh, I intend to analyse Aristotle's arguments against Protagorean views and the Radical Flux doctrine in *Metaphysics* Γ, chapter 5. In arguing against those views, Aristotle seems to be engaging with the *Theaetetus*: one time he

[6] Cf. *Sophist* 254b8-d2.

explicitly refers to an argument in the *Theaetetus*.[7] I wish to carry out a comparative analysis of Aristotle's understanding and criticism of those views and the discussion of those views in the *Theaetetus*.

[7]Cf. *Met.* 1010b11-14.

Key to the acronyms and abbreviations

Term	Meaning	Introduction
(A.)	Instance of the conditional at 154b1-3: if the stone I saw had been white (when I perceived it as white), it would never have become different when seen by a different person, at any rate not if it didn't undergo any change itself.	p. 45
(a1)	A claim concerning the relationship between instances of perceiving and the universal perception.	p. 180
(a1)*	A generalized variant of (a1).	p. 195
(a2)	A claim concerning the relationship between semi-the universal perception and semi-instances of perceiving.	p. 182
(a2)*	A generalized variant of (a2).	p. 195
becoming*	The notion of becoming (*gignesthai*) in the positive component of the Flux Thesis. For the *liminal* and the *persistent* sense of becoming*, see p. 32.	p. 32

Term	Meaning	Introduction
being*	The notion of being (*einai*) in the negative component of the Flux Thesis: being something impersonally.	p. 37
being$^{broadly\ something}$	A notion of being introduced in connection with thinking$^{de\ re}$ about being.	p. 217
BP	Broad Protagoreanism.	p. 12
(C.)	Conclusion drawn at 182e11-12: in each case, TH is at most semi-true.	p. 171
DC	Difference and Change: consequent of (A.).	p. 45
EA	Existential Assumption in connection with (GC.). Equivalent to EA′: see p. 190.	p. 188
F1	Formulation 1 of the Measure Doctrine: if a believes that x is F, then x is F for a.	p. 71
F2	Formulation 2 of the Measure Doctrine: beliefs are true *for the believer*.	p. 72
F3	Formulation 3 of the Measure Doctrine: beliefs are true.	p. 72
(GC.)	Generalized Conclusion concerning the truth of doctrinal assertions.	p. 188

Term	Meaning	Introduction
	Equivalent to (GC.)′: see p. 190	
(GC.)*	Variant of the Generalized Conclusion (GC.): generalization of (S.) and (C.) to all doctrinal assertions.	p. 189
IRT	Impersonal Relative Truths: claim about the meaning of 'true in relation to *a*' in the context of impersonal propositions.	p. 88
is*	See *being**.	
IU	Instances of Universals: assumption concerning universals and their instances.	p. 142
judging$^{de\ re}$ about being	Judging that is *de re* about the common property of being something.	p. 223
MD	Measure Doctrine as initially stated (at 152a2-4): man is the measure of all things: of the things which are, that they are, and of the things which are not, that they are not.	p. 9
MD′	Measure Doctrine as explained by Socrates in terms of appearances (at 152a6-8).	p. 10

Term	Meaning	Introduction
(NOPOS)	Claim about the parents in the theory of perception: they have no positive characteristics.	p. 193
(NOT SO)	Claim about negative doctrinal assertions: they are all true in each case.	p. 192
NP	Narrow Protagoreanism.	p. 12
OU	Objectivity of Universals: assumption concerning universals.	p. 141
(Perception)^{particular}	Claim about positive and negative assertions concerning instances of perception. (Perception)^{particular,epistemic}: epistemic account of how RF implies (Perception)^{particular}. See p. 178. (Perception)^{particular,ontic}: ontic account of how RF implies (Perception)^{particular}. See p. 179.	p. 169
(Perception)^{universal}	Claim about positive and negative assertions concerning the universal perception. (Perception)^{universal,epistemic}: epistemic account of how RF implies (Perception)^{universal}. See p. 178.	p. 169

Term	Meaning	Introduction
	(Perception)^{universal,ontic}: ontic account of how RF implies (Perception)^{universal}. See p. 179.	
RF	Radical Flux	p. 145
(S.)	Claim about positive and negative assertions concerning instances of specific forms of perception (such as seeing). Equivalent to (S.)′: see p. 163. (S.)^{epistemic}: epistemic account of how RF implies (S.). See p. 184. (S.)^{ontic}: ontic account of how RF implies (S.). See p. 184.	p. 160
TC	Truth Conditions: Protagoras' revisionary view of the truth conditions of beliefs within the scope of his ontic relationalism. TC^{s}: variant of TC concerning states of affairs. See p. 130. TC′: conjunction of TC and TC^{s}. See p. 130.	p. 74
TC-belief	A belief that has revisionary truth conditions according to TC.	p. 75

Term	Meaning	Introduction
TH	Theaetetus' definition of knowledge: 'Knowledge is perception.'	p. 9
thinking$^{de\ dicto}$ about being	Thinking that is *de dicto* about the common property of being something.	p. 215
thinking$^{de\ re}$ about being	Thinking that is *de re* about the common property of being something.	p. 216
THU	TH and Universals: assumption concerning the relationship between TH and the universals knowledge and perception.	p. 142
truth-evaluable content*	Truth evaluable content as ordinarily understood (as opposed to: as understood by Protagoras (cf. p. 76)).	p. 112
UA	Universalist Assumption: RF understood as having the universal perception within its domain.	p. 170

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