

The Ontology of the Secret Doctrine in Plato's *Theaetetus*

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Abstract

The paper offers an interpretation of a disputed portion of Plato's *Theaetetus* that is often called the 'Secret Doctrine'. It argues that the Secret Doctrine is a process ontology which takes two types of process, swift and slow motions, as fundamental building blocks for ordinary material objects. Slow motions are powers which, when realized, generate swift motions, and these in turn are subjectively bundled to compose sensible objects and perceivers.

Keywords

Plato – *Theaetetus* – metaphysics – powers – flux – Secret Doctrine

1 Introduction

The 'Secret Doctrine' of Protagoras, Socrates tells us, was held in some form by nearly every wise man in the past, including Heraclitus and Homer (*Theaetetus* 152c8-eg).¹ While it may be that only a fictional Protagoras ever held it, the Secret Doctrine (SD) is a metaphysical thesis in Plato's *Theaetetus* which is supposed to support the historical Protagoras' epistemological thesis that a thing is for a person as it appears to that person.² SD provides the metaphysical

1 Unless otherwise noted, all citations are to the latest OCT edition of the *Theaetetus*, in E. A. Duke et al. (eds.), *Platonis Opera* vol. 1 (Oxford, 1995). Translations are my own.

2 Cf. M. F. Burnyeat, *The Theaetetus of Plato* (Indianapolis, 1990), 10-19, who argues for the stronger position that Plato believes SD to be implied by Protagoras' Measure Doctrine, which in

underpinning to that thesis by maintaining that everything is continually coming to be; nothing is one stable thing, itself by itself, but all things are constantly changing from one state to another in relation to one another (152d2-e1); this metaphysical position is often called a doctrine of radical flux. Such flux supports Protagoras' epistemological position by ensuring that perception is infallible and that it grasps truth, the two conditions that Theaetetus and Socrates agree knowledge must meet, because each occasion of perception is unique and private (cf. 152c5, 186c7-e7).

I examine SD and two prominent approaches to it, the Causal Theory Interpretation (CTI) and the Phenomenalist Interpretation (PI), both of which face grave difficulties. Although I develop an improved version of CTI, it proves to be incompatible with Protagoras' Measure Doctrine. Plato, however, acknowledges this difficulty; a metaphysics compatible with the Measure Doctrine would have to be, in the final reckoning, exempt from it. In Section 2, I lay out the basics of SD. In Section 3, I examine CTI and PI and the difficulties that beset these interpretations, and I develop replies to the difficulties on their behalf; each reply requires some significant concession. In Section 4, I develop an improved version of CTI. Finally, Section 5 considers a puzzle that arises from my version of CTI, but which also shows that Plato acknowledges CTI's major concession.

2 The Secret Doctrine, Radical Flux and Perception

Our introduction to SD is in the deceptively simple claim that 'nothing is one, either one thing or one kind of thing, but all things that we say *are* actually *come to be* in relation to one another from motion and change and blending' (152d6-8). As Socrates spells this out, the implications become clearer: each thing comes to be in relation to something else; nothing is one thing, itself by itself, nor is it some determinate thing or kind of thing, but appears differently in relation to different observers, in comparison with different objects, at different times, and in different contexts. His first examples are colors, which (153e6-154a3):³

turn is implied by Theaetetus' definition of knowledge as perception. For arguments against Burnyeat's view, see T. Chappell, *Reading Plato's Theaetetus* (Indianapolis, 2005), 49-63, and M.-K. Lee, *Epistemology After Protagoras: Responses to Relativism in Plato, Aristotle, and Democritus* (Oxford, 2005), 88-92.

3 ἐκ τῆς προσβολῆς τῶν ὀμμάτων πρὸς τὴν προσήκουσαν φορὰν φανεῖται γεγενημένον, καὶ ὁ δὲ ἕκαστον εἶναι φαμεν χρῶμα οὔτε τὸ προσβάλλον οὔτε τὸ προσβαλλόμενον ἔσται, ἀλλὰ μεταξύ τι ἐκάστω ἴδιον γεγονός.

... appear to have come to be from the approach of the eyes to the appropriate motion, and what we say each color is will be neither that which approaches nor that which is approached, but something private to each that has come to be between these.

Colors are, Socrates claims, private objects that arise from the relation between an observer and a visible thing, that is, as a byproduct of two motions (that of the eyes and that of the visible thing). In fact, Socrates goes on to say, each observer and each visible object is always changing (154a6-9). Thus any color that arises between me and an object at one time is distinct from the color that arises between us at another time, since I fail to be the same observer at the one time as I am at the other. We are left with fragmented, momentary entities that exist only in relation to other such entities, all of which are in constant motion, changing into different momentary entities.

Socrates, who reveals *SD* in several stages, goes on to say that the basic entities of this ontology are not merely *in motion* but *are* motions. Thus *SD* is a process ontology, where motions rather than objects are basic. A double dichotomy results in four kinds of motion, active and passive on the one hand, and slow and swift on the other. The slow motions move 'in the same place' and 'in relation to what comes near', but when an active slow motion and a passive slow motion interact, they generate swift motions, active and passive, which move about from place to place.⁴ His main example is seeing a stone; I quote 156d3-e7 in full, since it figures prominently in interpreting *SD*:⁵

Whenever an eye and something else that has come near it, something symmetric to it, beget whiteness and the sensation appropriate to it, those things that are begotten would never arise if each of the two of

4 J. M. Cooper, *Plato's Theaetetus* (New York, 1990), 39 suggests that slow motions are changes in quality and swift are changes in location. But this cannot be the whole story, since slow motions have their motion in relation to things that come close (τὰ πλησιάζοντα, 156c10). If two slow motions must draw near to each other to generate swift motions, at least one of these interacting slow motions must actually change place. Cf. J. M. Day, 'The Theory of Perception in Plato's *Theaetetus* 152-183', *Oxford Studies in Ancient Philosophy* 15 (1997), 51-80 at 64, and Lee, *Epistemology*, n. 2 above, 106.

5 ἐπειδὴν 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 μεταξύ φερομένων τῆς μὲν ὄψεως πρὸς τῶν ὀφθαλμῶν, τῆς δὲ λευκότητος πρὸς τοῦ συναποτίκτοντος τὸ χρῶμα, ὃ μὲν ὀφθαλμὸς ἄρα ὄψεως ἔμπλεως ἐγένετο καὶ ὄρα δὴ τότε καὶ ἐγένετο οὐ τι ὄψις ἀλλ' ὀφθαλμὸς ὁρών, τὸ δὲ συγγενήσαν τὸ χρῶμα λευκότητος περιεπλήσθη καὶ ἐγένετο οὐ λευκότης ἀλλὰ λευκόν, εἴτε ξύλον εἴτε λίθος εἴτε ὄψου ἢ συνέβη χρῆμα χρωσθῆναι τῷ τοιοῦτῳ χρώματι.

them had gone to another thing, and at that time, while sight from the eyes and whiteness from that from which color was generated are moving about between them, the eye becomes filled with sight and sees, and at that time becomes not at all sight, but a seeing eye, and that which begot the color is filled with whiteness and becomes, in turn, not whiteness, but white, either wood or stone or whatever happens to have such a color.

The eye and stone, which play the roles of slow motions, generate twins when they are close enough: sensible whiteness and the sensation of seeing white. These twins—swift motions—move about between the parents; while they move, the eye becomes a seeing eye and the stone becomes a white stone. Proximity causes those slow motions to generate those swift motions, and the seeing eye and a white stone exist only in relation to each other. If the interaction were instead between a stone and hand, the stone would generate roughness, or heaviness, etc. But even in the case of a different eye—two people looking at one rock—the stone generates distinct swift motions for each eye. *This* whiteness and *this* act of seeing whiteness have never existed before, nor will they ever exist again; they are private to the stone and the eye. In fact, an observer cannot see that same whiteness on two separate occasions, for there can be no same observer at different times. Each observer that seems to be a unified object across times is really an infinite succession of observers, each distinct from the last (166b7-c2). The eye that sees whiteness at one time differs from the eye that sees whiteness at another. Thus SD denies these apparent cases of identity over time. It is also clear that we are left with a world that is radically dependent on perceivers, where it seems that to be is to be perceived, since nothing *is* absolutely, but only in relation to some perceiver.

When Socrates returns to refute SD, he reveals alteration and locomotion as kinds of motion and that all things move in both ways (181c1-e8). This information is not completely surprising; when slow motions were introduced, they could not be stationary, despite being described as moving in the same place, since they must approach each other to interact. They must also, it seems, be changing qualitatively; perhaps they are continually altering into powers of different sorts. Likewise, swift motions continually change place, but they must also continually change quality. A swift motion of whiteness must change almost immediately into a different color.⁶ This consequence is revealed at 182d1-e6: the sensation and sensible are already changing at the very moment they are generated. While someone calls the stone ‘white’, its color is already changing; indeed, the very whiteness of the white is changing into something else.

6 Cf. Lee, *Epistemology*, n. 2 above, 105.

Socrates then contends that Theaetetus' thesis, that knowledge is perception, is no more true than false, since knowledge changes into non-perception at the very moment Theaetetus utters his thesis. Although Socrates, Theaetetus and Theodorus abandon the theory, we may still ask if the theory is consistent and whether Plato endorses any part of it. In the next section, we examine two interpretations that try to make sense of SD, as well as the problems they face.

3 Interpretations of the Secret Doctrine

There are two prominent approaches to resolving SD's difficulties, which Jane Day, following Crombie, labels the 'Causal Theory' interpretation (CTI) and the 'Phenomenalist' interpretation (PI).⁷ According to CTI, SD gives a physical explanation of how perceivers and objects, which are slow motions, generate sensations and sensible properties, which are, in turn, swift motions. In Day's words (with her emphasis): 'Physical objects in interacting *cause* perceived qualities to arise, which in turn *constitute* perceptual objects.' This interpretation assumes the existence of physical objects, which is why proponents of PI reject it; they take sensations and sensibles—swift motions—as the basic entities of this flux ontology. According to PI, swift motions explain and even compose perceivers and ordinary objects. Day explains: "The "slow" fluxes are identified with the "aggregates", and thus are taken as being logically dependent on the "quicker" fluxes, as opposed to causing them.' In other words, slow motions are constituted by swift motions. Although PI seems to give a better theory of perception, since it uses only phenomenally-accessible entities, namely swift motions, it is problematic because it reverses the causal dependency indicated in the text, making slow motions dependent on swift motions rather than vice versa.

Day admits that both interpretations are problematic but argues that CTI is more so. As she explains CTI, slow motions are physical objects which beget swift motions, and these swift motions produce sensible objects.⁸ Thus there are two types of entity, physical and sensible. Physical objects, it seems, are not sensible, nor are sensible objects physical; the problem is that the text does

7 Day, 'Perception', n. 4 above, 65; cf. Burnyeat, *Theaetetus*, n. 2 above, 16 (calling the two interpretations the 'physical' and 'metaphysical' theories, respectively); Lee, *Epistemology*, n. 2 above, 96 n. 38.

8 Day appears to be following J. W. Yolton, 'The Ontological Status of Sense-Data in Plato's Theory of Perception', *Review of Metaphysics* 3 (1949), 21-58, in describing the Causal Theory interpretation.

not make this distinction. One may also press CTI about these entities: how can an object be physical but non-sensible? Day attacks details of CTI's proposed causal story: 'How can it be said that when sight travels *from* the eye the eye comes to be "full of sight", or that when the whiteness travels *from* the object the object is "filled up with whiteness"? (156d6-e5).'⁹ To explain this causally seems hopeless, as the eye should be empty of sight if sight travels *from* it, not full of sight. Finally, Day compares perception in the *Theaetetus* with the *Timaeus*, which makes clear, she argues, that 'Plato makes no move to explain perception causally' in the *Theaetetus*, since he does try to do this in the markedly different *Timaeus*. Thus the causal story portrayed in the text is, according to Day, mostly figurative: Plato is not trying to give us a causal theory of perception.

Although PI looks fairly attractive according to this reasoning, it takes the text to be so figurative as to be unreliable as the basis of a theory.¹⁰ The text explicitly states that swift motions are generated from slow motions, so an interpretation should be able to explain this rather than explaining it away. The theory might be in tension with itself, as Day ultimately claims, but it should not obviously be so, as it would be if swift motions are generated by slow motions and also compose them.¹¹ On the one hand, it is implausible that Plato intends slow motions to be dependent upon swift motions and yet, on the other, it is also implausible to distinguish physical and sensible objects.

It would be helpful to clarify what is at stake between the two interpretations. *Prima facie*, very little: Socrates ultimately refutes SD, and either interpretation can be used to show that a metaphysics that can support Protagoras' Measure Doctrine—that man is the measure of what is—must ultimately fail in some way. But the interesting question is precisely *how* the theory fails. According to PI, sensations and sensible properties come from nowhere, which gives us a dubitable metaphysics from the start. A reader should question whether Plato has given us *any* support for the Measure Doctrine: surely he could do better! But, according to CTI, support comes via physical objects that are exceptions to the Measure Doctrine, which hardly seems better. In the next section, I hope to give a more satisfying alternative to these.

9 Day, 'Perception', n. 4 above, 66. Day indicates that she is taking this question from Crombie.

10 Day ('Perception', n. 4 above, 68) shares this worry, but she writes that we can 'nevertheless describe the theory as *predominantly*, even if not *consistently*' phenomenalist.

11 Day, 'Perception', n. 4 above, 70: 'Such a theory [as we get on her interpretation] is of course logically incoherent, as there is no fixed term by reference to which the others can be explained or defined.'

First, though, let us investigate the two interpretations in more detail, beginning with Day's arguments against CT1. One is directed against the causal credentials of the theory: how can an eye be full of sight when sight moves *from* the eye? In the relevant passage, 156d3-e7, Socrates says: 'while sight from the eyes and whiteness from that which generated the color are moving about between them, at that time the eye becomes filled with sight and sees, and then it becomes not at all sight, but a seeing eye.' The text tells us that swift motions move between two slow motions that have come close to each another. But commentators often add an extra detail, borrowed from the *Timaeus*: swift motions, they say, move *from* one slow motion *to* another.¹² Some commentators even write that two swift motions meet and commingle.¹³ This meeting is not, however, in the text. Of course these details seem natural supplementations, as one might imagine one swift motion as a ray of light that leaps from eye to stone and the other as a ray of light that emanates or bounces from stone to eye. Perhaps these rays meet in the middle and rebound to their parents, or perhaps they continue on their way to stone and eye, respectively. The rays might even fuse into a 'pencil of energy' or 'pencil of light'.¹⁴

But the *Theaetetus* does not supply such details.¹⁵ Instead, swift motions are said to move *from* slow motions and to move about *between* them. If proximity suffices to cause slow motions to beget swift, why must swift motions make contact with each other or either slow motion? We should leave it as the text does: swift motions move between slow motions, and the eye is filled with sight and the stone with whiteness *at the same time* as the swift motions are

12 E.g. J. McDowell, *Plato: Theaetetus* (Oxford, 1973), 139-40. Cf. Day, 'Perception', n. 4 above, 66.

13 E.g. Yolton, 'The Ontological Status', n. 8 above; George Nakhnikian, 'Plato's Theory of Sensation', *Review of Metaphysics* 9 (1955), 129-48 and 306-27 at 139.

14 Nakhnikian, 'Plato's Theory', n. 13 above, 142-3, 149-50: 'According to *Theaetetus* 156E, *προσβάλλον* and *προσβαλλόμενον* meet and form a continuous "pencil" of light.' The only claim in 156e that appears to give any support to this statement is the claim that sight and whiteness are 'moving between' the eye and stone (*μεταξὺ φερομένων*, 156d6-e1). Nakhnikian appears to be incorporating the *Timaeus*' account of vision and relying, in part, on Taylor's interpretation thereof. Cf. F. M. Cornford, *Plato's Theory of Knowledge: The Theaetetus and the Sophist of Plato* (New York, 1957), 50.

15 One could, of course, show how the *Timaeus* and *Theaetetus* do not contradict, and one could even try to show how the *Timaeus* develops the *Theaetetus*' account of perception, but this is not necessary for understanding the *Theaetetus* itself, and it might actually hinder understanding.

moving about in the middle.¹⁶ It is not said that swift motions need complete any particular course of movement at all: they simply move in the ‘in-between’. The text is fully compatible with sight returning to the eye (to fill it with sight) or with the eye being filled with sight merely by proximity to sight moving about nearby. Since proximity suffices for generating swift motions, it should also suffice for producing a seeing eye. There is, then, no problem with a causal explanation of the eye becoming filled with sight.

Day could grant this claim but press another criticism: if Plato merely leaves open ways to build a causal account of perception from the text, then he is not detailing such an account. If he were, he would certainly include such relevant causal details as how the eye becomes filled with sight. He does include such detail, after all, in the *Timaeus*. But this hardly seems an objection: the *Timaeus* is the right place for Plato to give all the physical details relevant to an account of perception. The *Theaetetus*, by contrast, is not, just as it is not the right place to solve, for example, the problem of not being. One must go to the *Sophist* to find this task taken up, just as one must go to the *Timaeus* to find a complete physical account of perception. In the *Theaetetus* Plato simply lays the foundations of a plausible theory of perception—whether he endorses it or not—in order to examine the contention that knowledge is perception, along with the accompanying and supporting contention that nothing is one thing, itself by itself, but everything becomes what it becomes in relation to something else.¹⁷

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- 16 The claim that swift motions make contact with the sense organ and object of sensation may be due, in part, to how related passages are translated. At 153e6-154a3 (quoted above in the main text), colors are said to come to be from the approach (*προσβολή*) of the eyes to the appropriate (*προσήκουσαν*) motion. Many translators render *προσβολή* as ‘impact’: e.g. Burnyeat, *Theaetetus*, n. 2 above, ad loc., and H. N. Fowler, *Plato: Theaetetus* (Cambridge, Mass., 1921), ad loc. Cf. Day, ‘Perception’, n. 4 above, who uses ‘encounter’ (53), and Cornford, *Plato’s Theory of Knowledge*, n. 14 above, 40, who uses ‘meeting’. While ‘impact’ is a common meaning of *προσβολή*, it is an over-translation here, since an impact requires contact and *προσβολή* does not. If there were contact, it is difficult to see how color could arise ‘between’ the two motions. Instead, the notion *προσβολή* conveys is that of something ‘thrown toward’ another thing, often in an attack. Accordingly, we should not translate *τὸ προσβάλλον* and *τὸ προσβαλλόμενον* as requiring contact, e.g. that which collides and that with which it collides, but as that which approaches and that which is approached; Cf. McDowell, *Theaetetus*, n. 12 above, followed by Lee, *Epistemology*, n. 2 above, 95.
- 17 Plato need not endorse the theory himself, even if Theaetetus agrees with Socrates that it is a plausible theory. It need only be plausible to the characters and, perhaps, the intended audience.

The foundations of a causal theory are sufficient for that purpose—it matters not how the eye is filled with whiteness, just that this happens while and because sight is moving about between the eye and object. Thus we can lay aside these two criticisms of CTI.

Let us take a closer look at PI. David Sedley, a representative thereof, writes that slow motions, or ‘parents’, are ‘simply bundles of perceptual twins’.¹⁸ This thesis streamlines SD; parents are bundles of offspring, which generate new offspring (and new parents). SD thus eliminates all entities except sensible properties and sensations, since the former completely constitute sensible objects and the latter completely constitute perceivers. Even space may be relativized, as Sedley points out, because sensibles and perceivers may be located relative to one another rather than absolutely.

Let us look more closely at swift motions. We are given such examples as *hot* and *hard* and *white* (156e6-8). These are sensible properties. In fact, they are instances of such properties, since each sensation is private and distinct from every other: *this whiteness* is distinct from *that whiteness*. Nonetheless these two can be qualitatively indistinguishable, i.e. resemble each other exactly, and so are both instances of whiteness, although SD would deny that there is a Whiteness over and above the instances. In other words, SD is a sort of trope nominalism. Tropes, or property-instances, are such things as *this heat* and *this whiteness*, and Heat, the universal, is simply the group of all heat tropes. The range of tropes in the *Theaetetus* extends beyond sensible properties. In addition to *this whiteness*, we have *this act of seeing whiteness*; in addition to *this heat*, we have *this act of feeling heat*. Both members of each pair must be of the same ontological kind, since the sensible property and the sensation are both swift motions. They are also both particular, since a different observer would see a different white from what I see, even if we both observe the same shade of white. If swift motions are tropes, then PI can identify all objects, perceivers and perceived alike, as bundles of tropes. This makes SD a single-category ontology.

So far, however, PI has not given us a response to one major objection: the text explicitly states that slow motions generate swift motions. How can this happen, if slow motions are bundles of swift motions? A regress threatens: each slow motion is constituted by previously existing swift motions, which were themselves produced by slow motions. There must be some slow motions that first began producing swift motions without themselves being constituted of

18 D. N. Sedley, *The Midwife of Platonism* (Oxford, 2005), 46.

swift motions.¹⁹ Although this argument renders PI problematic, it may push the text too hard: it seems that Plato is not laying out every detail of a theory of perception but is merely giving readers enough information to understand (and refute) SD and Protagoras' Measure Doctrine.

PI does, however, run into a more serious difficulty. Consider the case of the stone and eye: each must be, according to PI, a bundle of swift motions which in turn generates swift motions. Swift motions are sensibles and sensations: in this case, they are whiteness and sight. But Socrates clearly reveals that the stone and eye are not sensed or sensing until swift motions pass between them. The eye is not a seeing eye, nor is the stone a white stone, until two slow motions draw close enough to generate swift motions. If the stone is not white until the eye approaches, it cannot be an aggregate of sensible properties such as whiteness; an imperceptible stone cannot be a bundle of sensible properties! Likewise, the eye cannot be a bundle of sensations *before* it produces sight. We need pre-existing slow motions to generate sensation and sensibles, which PI firmly denies. So let us return to CTI, which gives us such entities, to see if it can be salvaged.

4 A Second Look at CTI

Sensibles, such as whiteness and hardness, and sensations, such as seeing and feeling, are swift motions, which are generated from slow motions coming close to one another. But, setting aside slow motions for the moment, what are people and stones? Socrates suggests an answer: human beings and stones are aggregates (*ἀθροίσματα*, 157b8-c1). He does not say *of what* they are aggregates, but, since a stone becomes a white stone by being filled with whiteness (156e4-7), and the same with hardness and heat and all the rest of such qualities (156e7-9), it seems that stones and the like are aggregates of sensibles. A stone is an aggregate of whiteness, hardness and other sensible properties. In addition, since nothing is one thing itself by itself, but all things come about from motion through their mutual interaction (156e9-157a2), the stone only exists in relation to an observer, who, in turn, exists only in relation to the stone and whatever else is observed at that moment. Thus, the observer is also an aggregate, namely an aggregate of sensations, such as a seeing eye, hearing ear etc., and in addition of sensibles, since perceivers are perceived by other

19 M. Matthen, 'Perception, Relativism, Truth: Reflections on Plato's *Theaetetus* 152-160', *Dialogue* 24 (1985), 33-58, points out that a regress develops: there must be a first parent (a first generator) somewhere along the line.

perceivers. These two aggregates (sensing and sensible) are even separable, so that Socrates *qua* perceiver is not the same as Socrates *qua* perceived by Theaetetus.²⁰ In fact, this latter Socrates would differ, in turn, from Socrates *qua* perceived by Theodorus. Where there seems to be one person, there are in fact three. As perceivers increase, so do Socrateses, until there are countless men where there seemed to be but one (cf. 166b7-c2).

It is, however, difficult to reconcile this picture with CTI's slow and swift motions. If the stone is a mere aggregate of sensible properties, which are swift motions, then what are slow motions? As Day explains CTI, slow motions are physical objects which beget swift motions, and these swift motions produce sensible objects.²¹ The distinction between physical and sensible objects is problematic, as Day argues, because it is not in the text. But is CTI committed to it? Since the distinction cannot be found in the text, let us use one

20 Yolton, 'The Ontological Status', n. 8 above, does not seem to account for this when he infers that there is a problem applying the theory of perception to other perceptions than sight. Yolton takes touch as a particular problem, since, he says, when one sees colors in an object, one does not become so colored, but when one feels hotness or coldness, one does become hot or cold (28-9). There are several things to point out in regard to this claim, but the first is that we do not see color *in* an object. In the process of perception, the eye becomes a seeing eye, and the stone, for example, becomes a white stone; but sight and whiteness move about *between* the eye and the stone. Applying this to touch, we would imagine that the skin becomes touching skin, and the stone becomes a hot stone, when touch and hotness move about between the skin and stone. It must be granted, of course, that there is not much room between these two, but this is not a serious obstacle to the theory. In touching a hot stone, the skin may indeed become hot itself, due to what Locke calls a tertiary quality, but a distinction must be made between skin that is feeling hotness, that is, the sensing skin, and skin that feels hot, that is, skin that is hot to the touch. According to SD, these skins are different objects, for one is a sense organ that has a certain unique perception, namely heat, and the other is a perceptual object that is perceived by another sense organ. So if I touch a stone that has been sitting out in the sun, I will feel a sensation of warmth in my fingers. If someone else comes over and touches my fingers at this moment, then *they* will feel hot to the touch, so that the other person may say to me: 'Your fingers feel hot.' What Yolton calls 'becoming hot' is really, then, two things, feeling heat and being felt as hot by another (or even, one might say, by one's other hand). There is no parallel to this problem in sight, since my eyes do not look white to someone else just because I see something white, but this does not make touch a problem case. Yolton assumes that skin is one thing, itself by itself, something that can both sense and be sensed, which is simply not possible in SD.

21 Day, 'Perception', n. 4 above, 65-6, appears to be following Yolton, 'The Ontological Status', n. 8 above, in describing CTI: an adherent 'must assume (with Yolton) that the theory [of perception] makes a distinction between these physical objects just mentioned [i.e. the slow motions] and "perceptual objects" such as men or sticks'.

that *is* in the text, namely the distinction between slow and swift motions. Swift motions do not *produce* sensible objects, they *are* sensibles. Recall that SD is a process ontology: the world is made up of motions, not of objects. The text does not speak of motions producing sensible objects; there is only the production of swift motions—sensibles and sensations—from slow motions. In turn, then, there are no physical objects in this ontology simply because there are no objects: slow motions are not physical objects.

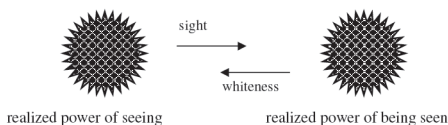
Before dividing motions into swift and slow, Socrates divided them in another way: there are *active powers* and there are *passive powers*. I suggest, on CTI's behalf, that we employ this division when considering slow motions. Some are active powers and some passive powers. The eye in Socrates' example is a *power of seeing*, and the stone that generates whiteness is a *power of being seen*. When these powers are realized, upon coming into proximity with each other, they produce swift motions: the power of seeing produces sight, and the power of being seen produces something seen, that is, whiteness. Sight and whiteness in turn produce a seeing eye and a white stone. Sight produces a seeing eye because sight is the realization of the power of seeing. Likewise, whiteness is the realization of the power of being seen, producing a seen thing, for example, a white stone.

This diagram illustrates the process of generating swift motions from slow motions and of producing a seeing eye and a white something. First, two symmetric powers, in this case, the power of seeing and the power of being seen, come into proximity. Secondly, the powers interact by generating swift motions, and this interaction realizes the two powers. The realized power of seeing is the seeing eye, which is produced when sight moves between the two powers, and the realized power of being seen is the white something, which is produced when whiteness moves between the two powers.

Stage One: Two Symmetric Slow Motions Come Close to Each Other:



Stage Two: The Slow Motions Generate Swift Motions:



It may be, however, that the powers here are too coarse: a white stone is a realized power of being *seen-as-white*, not simply a power of being seen. In fact Socrates' example of wine that tastes bitter to one tongue and sweet to another demands finer-grained powers (159c15-e5). The healthy and sick tongues have different powers and interact differently with wine: the healthy tongue has a power of tasting-sweetness that is realized when brought in contact with wine's power of being tasted-as-sweet, but the sick tongue has a power of tasting-bitterness that is realized when brought in contact with wine's power of being tasted-as-bitter. The eye and tongue, then, involve different powers, the powers of tasting-sweetness and tasting-bitterness (among others) in the tongue, and the powers of seeing-white and seeing-red (among others) in the eye.

It seems, then, that ordinary objects are aggregates of powers rather than sensibles, but this is not quite right. In a way, sensible objects *are* bundles of sensibles, but there is no objective bundling that produces these objects. If there were, objects would exist of which no man is the measure. Instead, perceivers cobble together disparate sensibles and call them objects, just as various sensations are bundled together to form perceivers. There are no unified sensible objects, just sensibles, and no unified perceivers, just sensations. There are only Socrates' aggregates (*ἀθροίσματα*, 157b8-c1): the whiteness and hardness and roughness etc. that are moving about between my sensory powers and the powers that generated them *are* the stone; and the seeing and feeling etc. moving about in between *are* me. If I were to cease sensing entirely, I would cease existing too. The stone, in turn, ceases to exist when I turn my back on it. This new version of CTI gives us exactly what Protagoras' Measure Doctrine requires: private objects, things that exist for one and only one perceiver. Along with this, it gives us perceivers who only exist in relation to what they are perceiving. And, in accord with SD, these objects exist for only a moment, the moment in which they are perceived, and they are replaced with new objects and perceivers a moment later—even if these new objects and perceivers are seemingly identical to the old ones.²² But that is not the

22 One may see in SD a temporal parts ontology, where ordinary material objects are composed of instantaneous time slices of three-dimensional objects. As with the bundling of sensibles, the aggregating of time slices into one history—which would then be one object, a stone or a tree or a person—would be subjective. No objective relations tie the time slice at t_1 of the object we call Socrates to the time slice at t_2 (which we also call Socrates, although it is not identical to the Socrates at t_1). We thus have an immaculate replacement of all properties at every instant, to take up a term from contemporary metaphysics: cf. D. Ehring, 'Temporal Parts and Bundle Theory', *Philosophical Studies* 104 (2001), 163-8.

whole story, for there is *something* still there when no one is looking: the power to be seen, or felt, or heard etc. Slow motions underlie sensible aggregates and sensory aggregates, producing them anew at every moment.

The original formulation of CTI was correct, then, but phrased misleadingly. There are swift motions which we subjectively aggregate and call sensible objects, but there are, objectively, no such objects. Those sensibles are produced by slow motions, which should not be called physical objects, since they are not physical and they are not objects. We should preserve Socrates' name for them—slow motions—or perhaps dub them powers; but 'physical objects' will not do.

This reformulation of CTI is not, however, without difficulty. In fact, it is a difficulty the adherents of PI foresaw: such an ontology is incompatible with Protagoras' Measure Doctrine, for there is no perceptual access to its basic entities, slow motions. If things are for me as they appear to me, as Protagoras maintains, how can slow motions *be* for me at all, since they never appear to me? I see colors, but I do not see the powers that generate color; these powers exist—independently of any viewer—as long as viewer and viewed are close enough to generate swift motions.²³ Man is not, then, the measure of these independently existing powers. Since commitment to entities that exist prior to being perceived is contrary to the letter and spirit of Protagoras' position, CTI still seems flawed.

The defender of CTI might respond that these 'independently existing' powers only exist, and are only independent, in a manner of speaking. Socrates has banished 'being' from the conversation, since all things come to be in relation to other things. Slow motions have, if anything, a *potential* existence, in that they *can* come to be and be realized if they are close enough to a slow motion that is symmetrical. They are only loosely 'independent', since they depend on other slow motions for their coming into being and realization. There is no slow motion present unless it is interacting with another, that is, unless a perceiver is interacting with something perceivable; and then there is only one thing that can be generated, namely, whatever the perceiver judges to be. Man is truly the measure of what is, since sensations and sensibles 'are' as he

23 An anonymous referee suggests that slow motions *can* seem to me to exist, and thus things are for me (there is a slow motion for me) as they appear to me. So, if I judge something to be white, I also judge that there is something in the world that caused me to see whiteness, that is, it seems to me that something in the world has the power to make me see whiteness. Nonetheless, these powers exist even if I do not judge them to exist, which still causes a problem for the Measure Doctrine.

perceives them to be, and the powers that generate them 'are' such that they generate exactly what he judges to be.

This reply is, unfortunately, unsatisfying. It seems that the defender of CTI is retreating to PI: do not take slow motions as *really* there, existing before any swift motions come to be, but as *potentially* existing, or having a *quasi-existence*, or, as PI holds, being somewhat metaphorical. How would such entities complete their allotted task, namely to generate *actually existing* swift motions? With this defense, CTI would give an unsatisfying reading of the text, just as PI does.

Whichever way we go, then, the defender of the Secret Doctrine has to make a major concession. Either take the text seriously and posit entities to which Protagoras's Measure Doctrine does not apply, or do not take it literally, and regard the theory as failing to supply a basis for a theory of perception. In fact, though, there is evidence that Plato is aware of this dilemma and that CTI is his intended reading. To see this, we must consider a further implication of independently existing slow motions. The resulting theory has affinities with Plato's other treatments of perception, but it also seems that the details of such a theory need not be fully worked out in order to understand the argument against SD in the *Theaetetus*. In fact, only swift motions are needed for the argument to work.²⁴

5 The Secret Doctrine: An Exceptional Ontology

Let us briefly review our reading of SD. Strictly speaking, sensible particulars are bundles of sensibles, for example whiteness, hardness, loudness etc. These sensibles can be understood as the tropes of contemporary metaphysics; they are particular instances of sensory properties, not universals. Thus *this whiteness* is numerically distinct from *that whiteness*. The bundling of tropes is not objective but subjective: man is the measure of what is, since each person bundles sensory properties into private objects. There are no objective objects: sensible particulars are subjective bundles of sensibles that exist only in relation to a (similarly bundled) perceiver.

24 Thus I agree with Day, 'Perception', n. 4 above, that Plato does not present his own theory of perception in the *Theaetetus*, even though it has affinities with theories he presents elsewhere.

So far this is review. But in addition to sensible particulars, there are *extended particulars*: beyond subjectively bundled sensory properties are the powers that underlie and generate those properties. Extended particulars include sensibles and the powers that generate sensibles. The white stone (a sensible particular) is a bundle of a white trope, a hard trope and so on, but the extended particular associated with the white stone also includes as constituents the power of generating whiteness, the power of generating hardness, and all other associated powers. Extended particulars are not sensible, since the powers that partially compose them are not sensible: powers are not directly, but only indirectly, sensible. Like the wind, powers are sensible through their effects. But extended particulars are subjective, inheriting their subjectivity from associated sensible particulars. Thus an extended particular is a subjective bundling of certain sensibles along with the powers that generate those sensibles.²⁵

We may now consider a puzzle about extended particulars. Recall that the stone must be symmetrical to the eye in order for the pair to produce swift motions (ὄμμα καὶ ἄλλο τι τῶν τούτῳ συμμέτρων, 156d4-5).²⁶ Thus the underlying powers—the ones that, for example, generate whiteness and seeing whiteness—must be symmetrical, or able to interact. A power to generate sight cannot interact with a power to generate hardness: it can only interact with

25 An initial puzzle that arises for extended particulars concerns their boundaries. Why include the power that generates whiteness as a constituent of the extended particular associated with the white stone but not include the power that generates sight (or, that generates *seeing whiteness*), since whiteness is generated by the interaction of both the sight power and the whiteness power? Sensible particulars are fairly easily delineated—my seeing the rock is not part of it—but extended particulars are another matter entirely. This may not be a defect, however, for SD endorses only a relative existence bound up in the interaction of two motions, an active and a passive. We may even grant that extended particulars include both the powers to generate sensibles *and* the powers to generate sensations, so that the extended particular is ‘extended between’ sensible particular and perceiver. The extended particular associated with a given perceiver would then include (1) all current sensations, (2) all powers giving rise to those sensations and (3) all powers generating the sensibles sensed in those sensations. Remember that the perceiver qua perceiver differs from the perceiver qua perceived, since a perceiver is perceived by others—it is a bundle of sensibles—and perceives others—it is a bundle of sensations. The analysis of the extended particular associated with the bundle of sensations, that is, the perceiver, can be applied *mutatis mutandis* to the extended particular associated with the bundle of sensibles, for example, the white stone.

26 This point is taken up at *Timaeus* 67c7, where portions of fire must be symmetrical to sight (ὄψει σύμμετρα μόρια ἔχουσαν πρὸς αἴσθησιν) in order to be seen by the eyes. Cf. Chappell, *Theaetetus*, n. 2 above, 77.

a power to generate color. So the underlying powers associated with eye and stone must have *some* properties before they interact, even though everything is supposed to be the product of motion. The stone must be able-to-be-seen, and the eye must be able-to-see-stones. Without these powers, neither could interact, and there would be no seeing eye or white stone. Likewise, at 153e7, the eye approaches a 'fitting' motion (*προσήκουσαν φοράν*), indicating that this motion and eye must be commensurate for sight and color to occur. The eye and motion must be capable of mutual interaction independent of any sensible properties, since perception itself depends on those powers.

In sum, then, Plato has exposed a fault in purely relational ontologies: in order for two things to interact, they must be capable of interaction. Their underlying powers must be the *right kind* of powers. Since Protagoras' Measure Doctrine requires interaction between perceivers and sensible particulars, and since sensible particulars appear to and are judged by perceivers to be as they appear, SD also requires interaction between perceivers and sensible particulars. SD's relational, subjective ontology requires a non-relational, objective underpinning, one which, furthermore, is relatively stable rather than an ever-changing process, since the eye and stone must be symmetrical for at least as long as it takes to approach each other, to generate swift motions, and to allow those swift motions to move about between them. Those underlying slow motions, finally, must have some properties to exist; SD's metaphysics does not, in other words, allow for *bare particulars*, since slow motions must have commensurate powers. Even though CTI is in tension with the Measure Doctrine, it is not a tension Plato has overlooked: it is a tension he presents as necessary! CTI does not work, then, because the Measure Doctrine does not work, as Socrates takes pains to show when he refutes Protagoras. A metaphysics that can support the Measure Doctrine must be an exception to it.²⁷

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